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Hawai'i Energy's Accessibility and Affordability Programs to Reach Rural and Low-Income Communities
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Aloha Chair Hirono, Ranking Member Hoeven, and members of the Energy Subcommittee. My name is Brian Kealoha, and I am the Executive Director of the Hawai'i Energy program administered by Leidos. I am pleased to appear before you today to discuss energy efficiency and how it is supporting rural and low-income communities in Hawai'i. My following testimony will showcase the critical role energy efficiency plays in ensuring energy and economic security for the 50th state. I'll also cover how Hawai'i Energy's diverse portfolio of residential and commercial programs, marketing, and policy efforts are effectively connecting low- to moderate-income communities, many in rural areas, to energy savings opportunities to reduce their energy burden. Since the inception of Hawai'i Energy nearly 12 years ago, the program will reduce energy use in Hawai'i by 17,000 gigawatt hours over the life of the measures installed. Most importantly, this has provided over $2 billion in electric bill savings to date, bringing immediate relief to those families and communities who need it most. On behalf of Hawai'i Energy, I am honored to highlight the hard work of the Hawai'i Energy and Leidos team.

Background

Hawai'i Energy is the energy efficiency program for the state of Hawai'i, implemented by Leidos, serving Honolulu, Maui, and Hawai'i counties. Our mission is to empower island families and businesses to make smarter energy choices to reduce energy consumption, save money, and pursue a 100% clean energy future.

Clean energy is critical to Hawai'i's economy. As the most isolated landmass on Earth, we are heavily reliant on imported fossil fuels to meet both our electricity and transportation needs. In 2019, the state imported more than six million tons of petroleum, petroleum products and coal,[1] making it one of Hawai'i's main imports. In 2018, the value of petroleum imports was $3.3 billion.[2]

[1] Hawai'i's Energy Fact & Figures, 2020 Edition, Hawai'i State Energy Office, page 2
[2] Ibid, page 3

We also have the highest electricity rates in the nation, with the state's average prices being more than double the national average[3]. In 2019, the average monthly electricity bill was $162, with the island of Lanai paying an average of $195 per month.[4] When the temperature rises, Hawaiian Electric reports energy use for homes without rooftop solar tends to increase about 10% during the months of June through October, as many households ramp up their use of air conditioners[5].

In 2015, Hawai'i was the first state in the nation to sign a 100% renewable energy mandate into law. The goal stemmed from the Hawai'i Clean Energy Initiative[6] which, in 2008, established the State's initial renewable portfolio standards and energy efficiency portfolio standards. To achieve the State's ambitious clean energy goals set by the Hawai'i Clean Energy Initiative, the Hawai'i Energy program was created as a third-party program implementer, funded by electric utility ratepayers via a Public Benefits Fee, to accelerate energy efficiency and clean energy technologies by raising awareness and inspiring action to reduce energy use across the state.

The electricity industry in Hawai'i is in a period of dramatic transition, evolving from centralized fossil-fuel-based generation to renewable energy and distributed technologies. The transition will require the adoption of increased amounts of distributed energy resources, and in particular energy efficiency, with more active engagement with the grid through smart buildings and devices.

Our program, administered by a small, dedicated team under contract with the Hawai'i Public Utilities Commission, oversees a portfolio of over 40 different offerings on equipment such as ENERGY STAR® appliances, solar water heating, and electric vehicle charging stations, to name a few. We focus on incentivizing the use of clean energy technologies and smart energy management systems, increasing opportunities for underserved communities to lower their electricity bills, and changing energy usage behaviors through education and awareness.

Through a solid network of community partners and the *kuleana*, or responsibility, of an ever-growing number of residents and businesses who lead by example, Hawai'i has saved over **$2 billion** in energy costs through efficiency efforts alone. The Hawai'i Energy program continues to rank in the top third of efficiency programs nationally for its performance, and in April 2021, was awarded the prestigious

[3] Ibid, page 7
[4] Ibid, page 9
[5] "Electricity bills expected to rise with summer heat," *Honolulu Star-Advertiser*, June 13, 2021.
[6] Hawai'i Clean Energy Initiative, Hawai'i State Energy Office.

ENERGY STAR® Partner of the Year in Energy Efficiency Program Delivery by the U.S. Environmental Protection Agency.

There is still a lot more to do.

In September 2018, the Rocky Mountain Institute highlighted that the size and cost of the potential resource base of energy efficiency is much larger and cheaper than previously believed[7]. The research stated that the potential for energy efficiency has been massively understated and its cost overstated, by analyzing not whole buildings, vehicles, and factories, but only their individual parts, thus missing valuable ways to help the parts work together to save more energy at lower cost. The path to our clean energy future relies on the reduction of emissions from the existing commercial building stock. This requires a holistic approach to building management in order to drive deeper retrofits. Hawai'i Energy offers a framework to drive deep retrofits that can combine building automation systems with other distributed energy resources like energy storage, smart inverters, and electric vehicle workplace charging.

Energy efficiency continues to be the cheapest and easiest form of clean energy, requiring less renewable energy generation to be built by first reducing energy usage. It also provides additional benefits to our community, including a little extra money back each month, money that can be used for other critical needs. During our last program year, every dollar the program invested in energy efficiency resulted in $10 of energy savings for families and businesses. Energy efficiency is something everyone can participate in, no matter their age, income, location, or whether they own or rent a home.

Reducing the Energy Burden for Low to Moderate Income and Rural Residents

Low-income households are more likely to face high energy burdens with a higher percentage of their total household income going toward paying utility bills. Energy efficiency programs provide important services to customers, not only by lowering energy bills so that money can be directed toward basic necessities, but also in making homes healthier and more comfortable, giving residents and businesses more control over how and when they use energy, and contributing to local clean environment and sustainability goals. Historically, however, it has been challenging to reach low-income populations who face unique barriers to participating, including lack of access to energy efficiency information, lack of capital, and/or lack of credit to pay for high up-front costs of energy efficiency investments. Additionally,

[7] "How big is the energy efficiency resource," Amory B Lovins 2018 Environ. Res. Lett. 13 090401

split incentives between owners and renters, coupled with an aging housing stock, further complicates the delivery of efficiency upgrades. These communities include low-income households, rural communities, renters, multi-unit building owners, senior citizens, military veterans, small businesses, non-profits, agricultural operations, and other underserved, vulnerable and geographically isolated segments.

With Hawai‘i already being one of the most expensive places in the country to live, reducing monthly energy costs is important for our families and businesses. According to Aloha United Way's ALICE® (Asset Limited, Income Constrained, Employed) report released last year, 165,013 households (37%) are ALICE households living in financial hardship while another 47,066 households (11%) live below the poverty level. Our ALICE population represents people who have one or multiple jobs but struggle to afford basic necessities to remain stable and self-sufficient. Reducing energy costs are a necessity, and not a luxury, for these families. The Hawai‘i Energy programs intend to increase investment for the ALICE population to include everyone in the clean energy transition. Understandably, with little disposable income to invest in clean energy, incentives and programs play a critical role in bridging the gap through energy efficiency.

On top of the socio-economic strains, COVID-19 further exacerbated the day-to-day financial challenges for both Hawai‘i residents and businesses. Unfortunately, when the state went into lockdown in March 2020, residential energy consumption rose as many families converted to work- and learn-from-home lifestyles. Many customers found themselves worried about their electricity bills and sought resources to help alleviate the financial strain. Hawai‘i Energy focused its efforts on increasing education around simple, low or no-cost energy-saving actions in combination with increased incentives to support longer-term investments in equipment.

Recognizing the opportunity for our programs to support vulnerable communities, Hawai‘i Energy stepped up our Accessibility & Affordability efforts. We increased our Community-Based Energy Efficiency (CBEE) efforts that target select zip codes considered to be in the low- to moderate-income category. These communities are typically rural with less access to clean energy technologies and lower awareness of clean energy opportunities.

For example, we have been working on the island of Molokai, which is home to only 7,345 residents and has no freeways, traffic lights, nor major retail stores. Our work on the "Friendly Isle" has allowed Hawai‘i Energy to build trust within the social structure and promote wider, community-centric adoption

of efficiency practices. In the last four years, Molokai received 1,500 new, energy-efficient appliances through our “Hui Up” appliance exchange program, saving households up to $168 a year and a cumulative of nearly $3.5 million on their energy bills.

Hawai‘i Energy has also recently been working with several other “hard-to-reach” communities facing similar issues: the rural district of North Kohala on Hawai‘i island; the town of Waimānalo on O‘ahu; and the Ko‘olauloa district on O‘ahu’s northeastern shore. What is perhaps most important to note about these efforts is that while these communities may face similar issues, the extent to which demographics or socio-economic structure impacts their ability to purchase efficiency products varies widely. We tailor our approach to each community and have found success through working with organizations based in those communities, such as neighborhood improvement groups, education service providers, and more, to help add credibility to our messages and build capacity. These community groups are trained by Hawai‘i Energy to collect signups and payments, schedule deliveries, and answer questions from residents about products. Through this process, many staffers subsequently become advocates for energy efficiency within their personal circles.

One of our most successful programs targeting low- to moderate-income residents is our “Energy Smart 4 Homes” program. The program provides a direct install service where trained technicians perform the installation, removing another barrier to participation. Technicians will install energy-efficient products tenants that can save up to $160 in electricity costs per year, as well as high-efficiency showerheads and faucet aerators to reduce electric water heating demand by up to 30 percent and lower water and sewer fees. Technicians also install the energy-saving Advanced Power Strip which helps manage energy consumption and can eliminate phantom electrical loads (which can then reduce total energy demand). Technicians also change out the existing lighting to LED lamps, which is 78-87% more energy efficient than incandescent lighting. On Molokai, our “Energy Smart 4 Homes” program reached nearly 22% of the island’s households, while on O‘ahu, we completed the majority of the City and County of Honolulu’s affordable housing units, along with Catholic Charities and other affordable housing managers. The program has evolved into targeted single family homes, which are often rentals, to ensure greater access.

Hawai‘i Energy also engages with renters/tenants in partnership with affordable housing providers to increase energy awareness and action through a campaign that takes advantage of a number of behavioral insight best practices to overcome known barriers in this hard-to-reach and underserved market area.

Helping Small Businesses Reduce Waste

On the commercial side, we also wanted to support small businesses that suffered financial loss due to the COVID-19 stay-at-home orders. In August 2020, we launched the Energy Relief Grant program, designed to help fund energy efficiency improvements for nonprofits, small businesses and other qualifying organizations hit hard by the pandemic. Our strategy was to offer a financial incentive for the installation of certain energy-efficient technologies at a time when many businesses were sitting empty and a few fortunate ones were using the downtime to make upgrades.

A total of $2.8 million in Energy Relief Grants was awarded to 165 businesses on Oʻahu, 31 businesses in Maui County and 55 businesses on Hawaiʻi Island. The recipients were each awarded up to $25,000 in grants and could use the funding to cover eligible energy efficiency projects including, but not limited to, upgrading inefficient air conditioning units, lighting retrofits, commercial kitchen equipment and solar water heaters. Our projections show the total annual energy savings to be around 1.8 million kWh and total annual customer bill savings over $500,000. In fact, 47% of grant recipients reported they are already seeing a lower electric bill and 66% said they plan to implement other energy efficiency upgrades. The results well exceeded our expectations, and we plan to offer another round of Energy Relief Grants later this year.

Not only was it important to help businesses save money, but we wanted to spur project development opportunities for those who work in the energy efficiency sector. The most recent numbers show that in 2018, Hawaiʻi had nearly 16,000 clean energy jobs, which paid on average $3- to $7-per-hour better than the median wage[8]. When COVID hit Hawaiʻi, many contractors saw work come to a halt. An April 2020 survey of our Clean Energy Allies — a network of contractors, equipment vendors, architects, engineers, distributors, manufacturers and retailers that provide energy-efficiency services — found that while 95% were still operating, a large majority (93%) saw project delays, 87% saw a decrease in sales, and half were forced to downsize[9]. The pandemic resulted in over 2,500 clean energy jobs lost in the state[10], but on the bright side, there was also a good level of recovery with the highest percentage of clean energy job growth by the end of 2020[11]. A follow-up survey of our Clean Energy Allies this past

[8] "Transcending Oil: Hawaiʻi's path to a clean energy economy," Rhodium Group, April 19, 2018
[9] "COVID Recovery & Resilience Plan," Hawaiʻi Energy, June 2020.
[10] "Clean energy employment initial impacts from the COVID-19 economic crisis, December 2020, revised," bw Research Partnership, February 8, 2021, page 5.
[11] Ibid, page 1.

May found that business has improved, although a majority (67%) are still experiencing supply chain disruption.

Electric Vehicle Charging Station Rebate Program

The transportation sector is a major user of energy resources in Hawai‘i, with ground transportation accounting for nearly two-thirds of our fossil fuel use[12]. The state also has some of the highest gas prices in the nation, with AAA Hawai‘i reporting the statewide average price for regular unleaded at $3.97 per gallon, as of June 10, 2021[13]. This, plus the release of more electric models and the federal tax incentives for the purchase of EVs and hybrids, has more people driving electric. Hawai‘i ranks second in the nation, behind California, for the highest plug-in vehicle registrations per capita, as of 2018[14].

Hawai‘i Energy has expanded our program offerings to include rebates for the installation of electric vehicle charging stations (EVCS). This program was funded by the Hawai‘i State Legislature in 2019 and signed into law by Gov. David Ige as Act 142. Under the direction of the Hawai‘i Public Utilities Commission, the EVCS rebate program incentivizes new installations and retrofits of existing public charging stations throughout the state to increase the public charging network. The rebates were available to properties that could offer charging to customers, employees or guests. To date, the program has resulted in the installation of 35 new Level 2 chargers, the retrofit of 58 Level 2 chargers, and one new and one retrofitted DC Fast Charger.

To help make EV charging accessible to lower income drivers, we also provided a bonus incentive on top of the abovementioned rebates for affordable housing developments, with two O‘ahu projects taking advantage of it. The additional funding helped cover the costs of installation, which is typically the main barrier for developers. While some may argue that residents in affordable housing communities are not driving electric, we see it as future-proofing so one day EVs, even second-hand vehicles, can be an option for them.

Policy and Partnerships

Hawai‘i Energy recognizes the significant role policy plays in shaping our future while balancing critical needs. At the state and county levels, we see how energy-efficient policies can help support an equitable transition to clean energy for all residents. This includes an appliance standards bill passed in

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[12] Blue Planet Foundation, Clean Transportation.

[13] “AAA Hawaii: Gas prices continue increasing,” AAA Hawaii, June 10, 2021

[14] “U.S.: West Coast had highest plug-in electric car sales per capita,” *InsideEVs*, February 17, 2021

2019 by the Hawai‘i State Legislature and signed into law as Act 141, which established minimum efficiency requirements for shower heads, faucets, high-CRI (color rendering index) fluorescent lamps, sprinkler heads, and computers, ensuring that Hawai‘i consumers have access to efficient versions of these small appliances beginning in 2021. These appliance standards also included protections against the repeal of federal standards and are projected to save Hawai‘i residents up to $38 million on their utility bills.

Other key areas are increasing the energy efficiency of government buildings and the adoption of state and county energy codes. Energy codes are critical to ensure new building inventory are meeting a minimum level of energy efficiency standards. When paired with incentives from utility and third-party energy efficiency program administrators, greater efficiency gains can be obtained. Codes are important given it is far less expensive to design energy efficiency measures into a new building versus needing to perform a retrofit.

Energy benchmarking and disclosure is an important tool used to increase building energy performance awareness and transparency among key stakeholders. Benchmarking creates demand for energy efficiency improvements by preventing active reduction of energy usage in the commercial real estate marketplace that often pass energy costs directly to tenants. It also provides the opportunity to identify and value the energy efficiency of existing buildings as tenants make decisions on where to lease space and help drive increased efficiencies in the building sector.

Key partnerships have allowed Hawai‘i Energy to further our reach, but we can’t do it alone. Earlier this year, we spearheaded the creation of an Energy Equity Hui, a gathering of industry, government and community representatives who are interested in making clean energy as accessible as possible. From efficiency and renewable energy to clean transportation, the Hui is aiming to ensure an equitable transformation in Hawai‘i’s clean energy quest.

Supporting Economic and Workforce Development

Of the nearly 16,000 Hawai‘i residents employed in clean energy, about 5,100 are specifically employed in energy efficiency. Several hundred are members of our Clean Energy Allies (CEA) network that is comprised of architects, engineers, contractors, manufacturers, and distributors to drive the adoption of energy efficiency measures while growing this important part of Hawai‘i’s economy. To best support this, one of the main goals of the Hawai‘i Energy CEA program is to increase the base of qualified contractors and augment the skill sets to implement clean energy and energy efficiency projects,

products and services. This, in turn, will help CEAs successfully educate and support their customers, while expanding their energy efficiency operations through energy-saving projects. Developing our Allies' ability to serve customers by implementing energy efficiency measures will improve the growing economic engine of our State as well as help customers reduce their energy costs. Hawai'i Energy provides educational opportunities to CEAs through technical trainings, Continuing Education Credits and professional sales and financing training. These initiatives will allow CEAs to gain a competitive edge by staying abreast of market trends by obtaining knowledge, resources and credentials that enable them to deepen their service offerings and customer base, which ultimately drives greater adoption of energy efficiency, reduces waste and grows the economy.

Conclusion

For years, Hawai'i has always been a leader in the clean energy space. Whether it's by setting the first 100% clean energy mandate in the nation or showcasing innovative solutions, the 50th state is home to a thriving clean energy industry, one that is needed to diversify an economy so heavily dependent on tourism and fossil fuel imports. Although energy efficiency can often be overlooked, it has demonstrated to be an essential first step to making clean energy more accessible to more people.

On behalf of the team at Hawai'i Energy and Leidos, I want to thank Chair Hirono for the invitation to share our story with this Senate subcommittee. We are committed to continuing our work in energy efficiency and being an example for the rest of the nation on how efficiency is a significant contributor to the clean energy conversation.