

ACTION + ADAPTABILITY = OPPORTUNITY

# NEW EQUATIONS

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LETTER FROM THE  
EXECUTIVE DIRECTOR

# ALOHA

**I am honored to share Hawai'i Energy's Annual Report for Program Year 2022-2023. This year was, once again, a period of change and complexity in the clean energy space. But if the last few years have taught us anything at Hawai'i Energy, it's to stay steady, expect the unexpected, and remain laser focused on our mission of supporting Hawai'i residents and businesses in their journey towards a cleaner, more affordable energy future.**



The pandemic's long-term grip on the economy forced our team to adapt to new circumstances and needs in Program Year 2022-2023. While the residential portfolio generally found solid footing with the easing of supply chain disruptions and more predictable consumer purchasing, there was also the grim reality that more households fell below the federal poverty line, with monthly electricity bills remaining one of the highest household expenses. For businesses, we saw labor shortages and the cost of capital keeping many commercial energy projects from getting off the ground.

Addressing these challenges required creative strategies for deeper customer engagement. We continually expanded and adapted our programming to meet changing conditions and cultivated new partnerships to ensure our work was aligned with customers' needs. We prioritized "treasure hunts" to identify opportunities for savings and assemble a critical roadmap for follow-up conversations with customers. While custom project completion slowed, we saw a marked increase in participation in our Power Move suite of rebates, which provides enhanced incentives for reducing energy usage during the utility peak period of 5-9pm. We also doubled down on technical training offerings to build workforce capacity and support longer-term project pipeline development.

Hawai'i Energy continues to prioritize energy equity, and over the last year, convened stakeholder meetings to deep-dive into the many issues related to this topic, including defining the term in the local context. The goal remains to support community members at all levels – where they live, work, shop, worship, etc. –

and to ensure that everyone benefits from the clean energy transition. We worked closely with five different communities across the state to offer appliance trade-ups and our Energy Smart 4 Homes installations so that those facing the toughest financial situations could still benefit from energy-saving programs.

For the third consecutive year, the EmPOWER grant program reached organizations who represent some of the most in-need sectors of our business communities on O'ahu, Maui, Moloka'i, and Hawai'i Island. In total, more than \$600,000 was distributed to support over 130 projects with an estimated cumulative bill savings of more than \$1.1 million. Our Energy Advantage program completed 528 projects, distributing more than \$2.7 million to the small businesses and nonprofits that chose to upgrade their lighting through the program.

I remain ever humbled by our team's perseverance and passion for our mission to help our state reach our 100% clean energy goals. Each year, there is a new equation to solve as we pivot programs to meet changing needs and deliver a diverse portfolio of energy efficiency programs. We recognize there is so much more work to do – and we cannot do it well without all of you. We are grateful to all who have supported us along this journey and optimistic for our clean energy future.

Mahalo for your support!

**CAROLINE CARL**

EXECUTIVE DIRECTOR,  
HAWAII ENERGY

# PROGRAM OVERVIEW

FIRST YEAR ENERGY SAVINGS TOTALED

56,162,776 kWh

SAVING OVER THE FIRST YEAR




\$ 18,721,298

WITH A LIFETIME SAVINGS OF




\$ 233,109,464

SAVINGS VALUES PRESENTED IN THIS REPORT ARE CLAIMED BY HAWAII ENERGY, BUT HAVE NOT YET BEEN VERIFIED.

## PBF CONTRIBUTIONS BY COUNTY

HAWAII	HONOLULU	MAUI	PY22 TOTAL
			
<b>\$2.3M</b>	<b>\$17.5M</b>	<b>\$2.7M</b>	<b>\$22.5M</b>
COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL
<b>\$2.7M</b>	<b>\$10M</b>	<b>\$2.5M</b>	<b>\$15.2M</b>
RESIDENTIAL	RESIDENTIAL	RESIDENTIAL	RESIDENTIAL

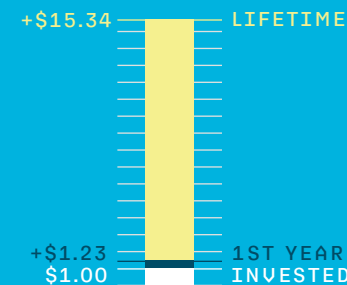
## PARTICIPANTS BY COUNTY

HAWAII	HONOLULU	MAUI	PY22 TOTAL
			
<b>197</b>	<b>1,319</b>	<b>276</b>	<b>1,792</b>
COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL
<b>1,992</b>	<b>11,255</b>	<b>1,118</b>	<b>14,365</b>
RESIDENTIAL	RESIDENTIAL	RESIDENTIAL	RESIDENTIAL

## PBF RETURN ON INVESTMENT

\$1.23 ON THE \$1.00 FOR THE 1ST YEAR

\$15.34 LIFETIME BILL SAVINGS





# 01 AFFORDABILITY & ACCESSIBILITY

This marks the fourth year of Hawai'i Energy's organizational commitment to addressing affordability and accessibility barriers within the local energy efficiency and conservation space. For the Hawai'i Energy team and their community partners – it can feel as if it's been much longer than four years, and yet our community is only at the beginning of the monumental changes it will undergo.

## \$5,716,822

IN FINANCIAL SUPPORT AWARDED

While the benefits of lowering electric bills is widely known, a common challenge persists for our “hard to reach” programs: obtaining, installing, and utilizing energy efficiency equipment can be an onerous task. Often the communities with the greatest need for Hawai'i Energy's support, struggle with the implementation efforts required, which significantly slows down and can even prevent progress. As the extreme weather and consequences of the climate crisis ultimately influence governmental and societal priorities, we have been forced to shift our approach – sometimes mid-year – and alter our existing implementation models to meet the most pressing community needs.

Still, our Hui Up appliance trade-up, Energy Smart 4 Homes, and other direct-install initiatives continue to ensure that households in rural communities and limited-income residents can receive energy-saving home equipment. These programs support the purchase and implementation of a variety of efficiency equipment, including large appliances, solar water heaters, smart power strips, and more! The Program's Energy Unplugged workshops help form foundational energy literacy in individual homes, and our Energy Advantage and EmPOWER Grant programs bring similar benefits to local small businesses and nonprofits with funding for larger-scale facility improvements. Our program continues to play a part in statewide discussions on energy equity, and over the last year, convened stakeholder meetings to deep-dive into the many issues related to this topic, including defining the term in the local context. The goal remains to support community members at all levels – where they live, work, shop, worship, etc. – and to ensure that everyone benefits from the clean energy transition.

OFTEN THE COMMUNITIES WITH THE GREATEST NEED FOR HAWAII ENERGY'S SUPPORT, STRUGGLE WITH THE IMPLEMENTATION EFFORTS REQUIRED.



“When you're retired on a fixed income any way you can save money and learn how to reduce your carbon footprint is a plus.”

**EDWARD & FAITH  
KAIAMA**

WAIMĀNALO, HI

# NAVIGATING LIMITATIONS OF HARD TO REACH COMMUNITIES

A key takeaway from the last few years of facilitating Appliance Trade-Up programs is that it takes at least one round of distribution to get a community strongly engaged with the offering. For this reason, program year 22 was largely dedicated to revisiting communities that have received support previously, leaning on the positive feedback and learning from our first engagements, and at times, creating new measures in response to requests from residents. Outside of this, the Program also completed its first round of outreach to residents in Waimānalo, O'ahu, working with well-established non-profit Partners In Development Foundation.

Hawai'i Energy continues to learn and adapt to challenges with the delivery and installation cycle with every round of implementation. We dealt with shortages or non-existence of local appliance delivery services on Maui and Hawai'i island, and across the board, community partners expressed staffing and workload capacity issues. Community partners shared that our programs created an extra lift for their staff. We also continued to see manufacturer defects in appliances this year. Our team responded quickly to ensure customer needs were being met. The team was also able to remain patient and flexible with delays, and to work closely with vendors to provide immediate solutions and alleviate inconveniences.

Overall, we delivered 356 appliances to 297 households, bringing an estimated \$615,230 in bill savings for residents over the appliances' lifetimes. We forged relationships that will continue to benefit our residential programs in years to come, and most importantly, we listened to the needs of our customers, providing a broader range of offerings that were need based.



## BUILDING TRUST

Returning to in-person outreach has been beneficial for awareness and trust-building in all target communities. Collected feedback from our applications continue to show that this and word-of-mouth outreach are the most effective tactics for increasing sign ups, particularly when utilizing already-existing community events like neighborhood farmers markets, monthly food distribution events, centralized appliance pick-up days, and Resource Fairs such as La Pilina on Moloka'i.

\$615,230

EST. TOTAL BILL SAVINGS

356

APPLIANCES DELIVERED



HIGHLIGHTS FROM OUR  
RECIPIENT COMMUNITIES

POPULATION  
7,404

COMMUNITY PARTNER  
SUST'ĀINABLE  
MOLOKA'I

PRIOR ENGAGEMENTS  
7



HAWAII ENERGY ANNUAL REPORT 2022



AFFORDABILITY & ACCESSIBILITY

ISLAND OF MOLOKA'I

This program is arguably the only way Moloka'i residents can afford to upgrade to new energy-efficient ENERGY STAR® units. Residents have come to know and recognize us and waitlists are gathered every year. Hotter than normal temperatures prompted a community request to help upgrade inefficient window ACs to new ENERGY STAR® units, as what once was considered a luxury item on

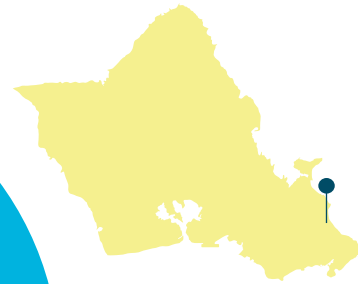
the island has become a necessity. We had to find a new vendor willing to both sell and ship the ACs to the island and were fortunate to have Admor HVAC, one of our long time Clean Energy Allies, support the effort. In all, 30 window ACs were traded out, estimated to save recipients a total of \$38,823 over the years they have them installed.





## AFFORDABILITY & ACCESSIBILITY

# WAIMĀNALO, O'AHU



“

“Due to the high cost of living, the priority for most of the community is survival. The effects we've seen from the Hawai'i Energy appliance trade-up run deeper than money and household appliances; it has strengthened the aloha and pilina between 'ohana, the community, and the 'āina.”

**BRITTNEY PESCAIA**

PROJECT DIRECTOR,  
NĀ PONO NO NĀ 'OHANA

## HIGHLIGHTS FROM OUR RECIPIENT COMMUNITIES

### POPULATION

5,544

### COMMUNITY PARTNER

**PARTNERS IN  
DEVELOPMENT  
FOUNDATION (PIDF)**

### PRIOR ENGAGEMENTS

0

Working with Partners In Development Foundation was instrumental in recruiting participants in an area with low program recognition and trust. PIDF recommended helping at local food distributions and holding an Energy Unplugged community workshop, which helped us make positive relationships with residents and led to achieving our

goal quickly within just one month. In addition, the program assisted PIDF in securing a \$25,000 grant for the next program year 23 Waimānalo Trade-up. With PIDF's help, we look to expand our offerings to washers and dryers based on the needs and requests of residents for the new program year.



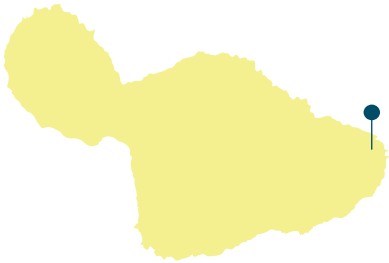


HIGHLIGHTS FROM OUR  
RECIPIENT COMMUNITIES

POPULATION  
768

COMMUNITY PARTNER  
MA KA HĀNA KA 'IKE

PRIOR ENGAGEMENTS  
1



AFFORDABILITY & ACCESSIBILITY

HĀNA, MAUI

As a result, of a lack of delivery services in East Maui, the picking up of old units was a bit delayed. This contributed to the limitations of what could realistically be traded/delivered timely for the Hana customers. Though we were not able to get the number of signs-up

we hoped for, the 39 customers who did receive their new appliances were very appreciative, and the program finds more and more that patience and understanding with delivery and other limitations in rural areas is the key to any future outreach.

ENERGY EQUITY HUI WORKING GROUPS

- 1 EQUITY FRAMEWORK/DEFINITION
- 2 LEGISLATION
- 3 RFP PROCESS FOR RENEWABLE ENERGY PROJECTS
- 4 COMMUNITY BENEFITS

A&A: RESIDENTIAL

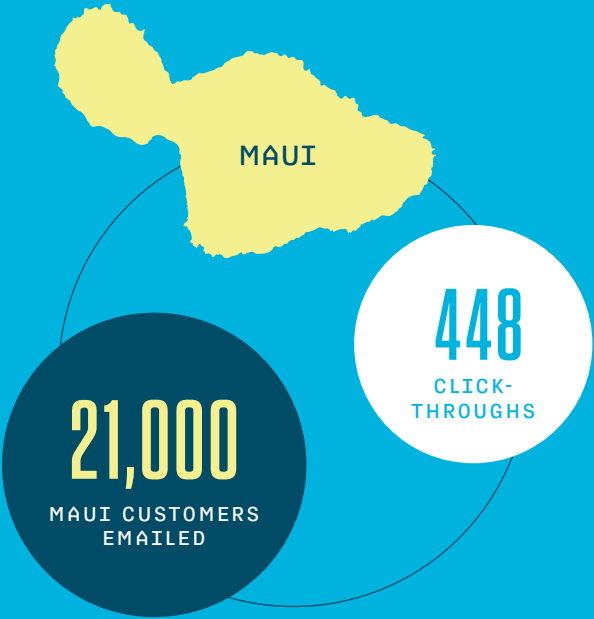
ENERGY EQUITY HUI

The Energy Equity Hui was convened to address Hawaii’s complicated and siloed energy landscape. The goals of the Hui have been to address the lack of access to accurate information in the energy space, to build trust within/between the energy industry and the community, to further engage the community, and to connect Statewide clean energy goals and plans that are often disjointed. The Hui seeks to create stronger equitable outcomes through increased education, partnerships, transparency, and economic development.

The Hui participants include government organizations, private entities, and non-profits. In 2022, four working groups were formed within the Hui to advance various topics that support the Hui’s goals. The four working groups were as follows: Equity Framework/Definition, Legislation, RFP Process for Renewable Energy Projects, and Community Benefits. Notably, the Hawai’i Public Utilities Commission (PUC), who is a participant of the Hui, established a new docket to explore energy equity and justice. The docket seeks to investigate how to better integrate equity and justice considerations across Commission proceedings and the Commission’s work more broadly. These factors make equitable and timely support and funding for energy-saving initiatives even more crucial to the clean energy transition.

HAWAIIAN ELECTRIC COLLABORATION

Leveraging our ongoing collaboration with Hawaiian Electric, the program helped produce targeted marketing emails to Maui County residents promoting residential solar and heat pump water heater rebates in the spring. Hawaiian Electric distributed the email to over 21,000 customers and as a result, the program received 448 clicks to water heating rebate information on our website. This is well above the industry average, which correlated with a slight uptick in the number of solar water heater applications processed in May and June.





A&A: RESIDENTIAL

# DIRECT-INSTALL EXPANSION: BUILDING A FOUNDATION FOR ISLAND EQUITY

While expanding the residential solar water heating direct-install offer to Hawai'i and Maui counties was a big priority in program year 22, experience with appliance trade-up programming indicated the road ahead would include road blocks with delivery, haul away, and recycling. For example, we found Hawai'i Island delivery services no longer cover the entire county because a shortage of business has forced delivery companies to eliminate routes. Staying flexible and understanding toward these limitations was critical in project execution.

1,540  
HOMES OUTFITTED  
THROUGH ES4H

STEADFAST HOUSING DEVELOPMENT:  
SENIOR RESIDENCE AT IWILEI



One bright spot was a key collaboration with Steadfast Housing Development Corporation, a local nonprofit dedicated to providing housing and mental health services. Steadfast's efficient staff took care of assessing need and matching it to customer scope, while their reliable and communicative partner/relationship helped to keep projects moving smoothly for all parties. This collaboration also opened the door for revival of projects which were considered, but not completed, with Mental Health Kokua – another local nonprofit that houses residents throughout the state.

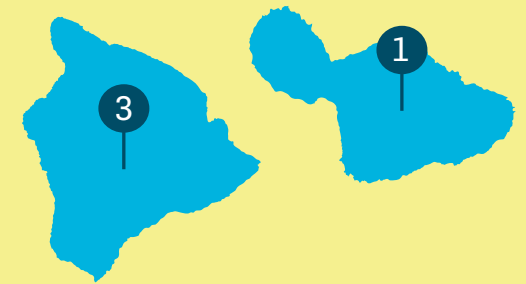
During the Mental Health Kokua facility installations, it was discovered that a shortage of on-island installers had led to limited on-site visits, an integral part for any project to move forward. Hawai'i Energy reached out to several subcontractors (Hawaiian Solar and Sun King), and the Program was able to onboard Hawaiian Solar and Sun King as Clean Energy Allies to complete these installations on Maui and Hawai'i island. The Program's ability to find installer and delivery and hauler services ultimately resulted in the completion of ten projects on Hawai'i Island and one in Maui County.

## CASE STUDY

### MENTAL HEALTH KŌKUA

#### 7 SOLAR WATER HEATING SYSTEMS THROUGHOUT 4 LOCATIONS

(3 ON BIG ISLAND AND 1 ON MAUI)



\$84,000

PROJECT COST SAVINGS

\$129,934

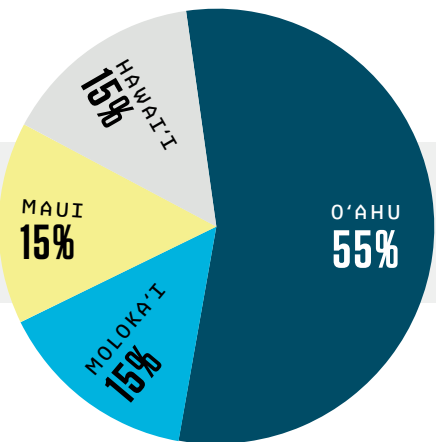
ESTIMATED LIFETIME SAVINGS



# EMPOWER GRANT

Hawai'i Energy facilitated a successful third year of awarding grant funds to small businesses, restaurants, and nonprofits grappling with the highest electricity prices in the country. We received more than 250 applications requesting nearly \$2.3 million in support, and while the overall available budget was once again slightly smaller this year, we continued to focus on helping as many small businesses and nonprofits as possible. In total, more than \$710,000 was awarded to support 144 projects, estimating a cumulative savings of more than \$1.8 million at organizations who represent some of the most in-need sectors of our business communities on O'ahu, Maui, Moloka'i, and Hawai'i Island.

This year, we were able to offer a second round of partial grants to many of the eligible grant applicants who did not receive first round grant awards. Given the effect of the passage of time on those project proposals and the small businesses and nonprofits who submitted the applications, we were pleased to have 32 of the 144 total projects move forward in the second round of partial grant awards. Those 32 grant projects represent energy efficient lighting, air conditioning, and commercial kitchen equipment now installed for organizations that would likely be unable to afford the upgrade otherwise. Reaching customers who would otherwise be unable to upgrade to energy efficient equipment is precisely the goal of the EmPOWER Grant program.



DISTRIBUTION OF GRANT FUNDS

CASE STUDY

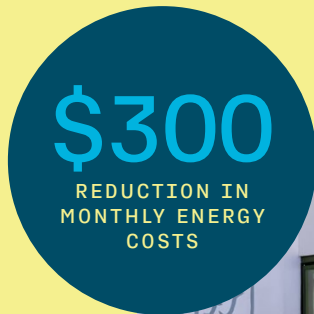
## KAHUKU BEER GARDEN

### UPGRADED: 40 YEAR OLD GLASS FRIDGE DOORS

O'ahu based Kahuku Beer Garden offers craft local beers, wine, and more to-go. After participating in Hawai'i Energy's rebates for homes and hearing about other small businesses receiving incentives, they decided to apply for the EmPOWER Grant. The business received funding to upgrade roughly 40 year-old retail glass fridge doors to save in energy costs. "My upgrade was a (much-needed) special project, and I have nothing but good things to say about the experience. This project has both reduced my energy bill by around \$300/month and increased sales with an improved retail space. Couldn't be happier."

"MY UPGRADE WAS A (MUCH-NEEDED) SPECIAL PROJECT, AND I HAVE NOTHING BUT GOOD THINGS TO SAY ABOUT THE EXPERIENCE."

- KRISTIAN HOUSE, OWNER





“Some of our clients are colorblind, and a lot of the colors here are coordinated to Parkinson’s so they can see, they can hear, and they can balance. The benefit of LED lights is tremendous because it allows us to do more things with our clients in a safe and effective manner, which is the most important thing we stress here at Fitness Therapy Hawai’i. The savings that we gained from installing LED lights has been tremendous for our infrastructure here. We’re able to buy new equipment, update our equipment, and provide a better overall experience for everybody.”

”

**GEORGE MA**OWNER,  
FITNESS THERAPY  
HAWAII**“BE A LIGHT, GIVE A LIGHT” CAMPAIGN**

To build awareness around the expanded eligibility for Energy Advantage, the “Be A Light, Give A Light” campaign was launched in April as part of the program’s Earth Day promotion. The campaign encouraged members of the public to nominate a local nonprofit to receive LED lighting for their site up to a \$25,000 value. Over 150 nominations were received, and by partnering with high-performing Clean Energy Allies, Hawai’i Energy was able to award the prize to four nonprofits who are slated to complete installations within the next program year. The remaining 146 nominated organizations were offered Energy Advantage incentives.

A&amp;A: BUSINESS

**ENERGY ADVANTAGE****\$2.7M**DISTRIBUTED TO  
SMALL BUSINESS /  
NONPROFITS**528**PROJECTS  
COMPLETED

This year represents Hawai’i Energy’s 12th year providing a low-cost, turnkey option for small businesses, restaurants, and nonprofits to retrofit and upgrade the efficiency of their lighting. While the need remains significant, qualifying businesses have become increasingly difficult to reach, requiring an ongoing evolution of marketing and outreach techniques to ensure relevant organizations are aware of the opportunity the program offers.

In 2022, the program moved away from its periodic “no co-pay” promotions to ensure the Energy Advantage program remains cost-effective from a standpoint of energy saved for the customer. Fortunately, the incentive built into the Energy Advantage program proved strong enough on its own to maintain high demand from small businesses.

We also expanded program eligibility this year to include all 501(c)(3) nonprofit organizations and Schedule J utility accounts with demand less than

30 kilowatts. After overlapping with the EmPOWER Grant program in 2021, we realized the two programs were largely targeting the same types of customers, with nonprofits being the notable exception. As a result of the eligibility expansion, we saw 33 nonprofits participate in Energy Advantage in 2022.

In all, the Energy Advantage program completed 528 projects in 2022, distributing more than \$2.7 million to the small businesses and nonprofits that chose to upgrade their lighting through the

program. Those 528 projects are estimated to save nearly \$1.3 million annually going forward. We are grateful this program continues to help our Clean Energy Allies and small businesses, as we work together to reach our statewide goal of 100% clean energy by 2045.

**33****NONPROFITS  
PARTICIPATED IN  
ENERGY ADVANTAGE  
IN 2022**



# ENERGY ADVANTAGE

CASE STUDY

## YMCA NU'UANU

YMCA is one of the largest non-profit organizations in the state, offering programs and services around youth development, healthy living, and social responsibility. The largest location is YMCA Nu'uauu, which serves over 4,800 members and houses the YMCA of Honolulu's Metropolitan Offices and Youth Department. By participating in Hawai'i Energy's Energy Advantage program, the nonprofit was able to upgrade their lighting through our Clean Energy Ally, AESolutions, at little cost.



CASE STUDY

## KUMON MAUI

An after-school academic enrichment program, Kumon Math and Reading Center, helps enrich children's educational journeys. We helped provide lighting upgrades inside dedicated classrooms through our Energy Advantage program, enhancing their learning experience and reducing energy costs.

CASE STUDY

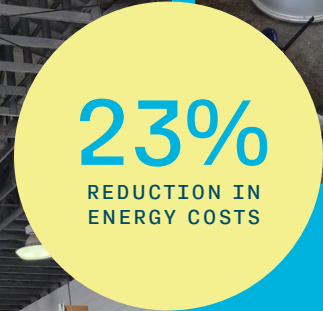
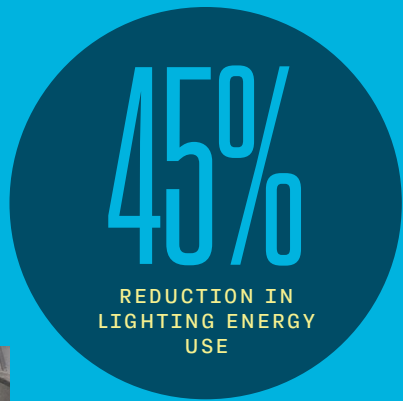
## GLASS PRODUCTS HAWAII

"WE REMOVED 20 METAL HALIDE HIGH BAY LIGHT FIXTURES IN OUR SHOP AND REPLACED THEM WITH 14 LED FIXTURES. WE ALSO RETROFITTED LIGHTING IN THE OFFICE AND ANOTHER AREA. THESE CHANGES LED TO A 45% REDUCTION IN OUR ENERGY CONSUMPTION AND 23% REDUCTION IN ENERGY COSTS."

-INGE MONTEITH, VICE PRESIDENT



Glass Products Hawaii, Inc. opened in Wailuku, Maui in 1984. Since then, they have added new products, inventory, and machinery to expand their services. When one of our Energy Advisors contacted the business with ideas on how to become energy efficient, they jumped at the chance to decrease their energy consumption and costs and immediately saw results.



# ENERGY ADVANTAGE

CASE STUDY

## AHI & VEGETABLE

Locally owned Ahi & Vegetable, which has been serving fresh seafood on O'ahu for over 16 years, has participated in our program several times. Most recently, they upgraded their ice machine to save 1,116 kWh annually, leading to a lifetime savings of 13,402 kWh and \$3,218. They also received lighting retrofits at no cost through our Energy Advantage program.

We replaced 50 fluorescent and 3 incandescent bulbs with LEDs. The energy efficient lighting will save Ahi & Vegetable 23,338 kWh and \$6,553 annually, and over its lifetime, 326,734 kWh and \$78,958 – transforming their business operations.

Ahi & Vegetable is a shining example of how businesses can thrive while also being responsible stewards of the environment.



“NOT ONLY HAVE WE SEEN A NOTICEABLE DECREASE IN OUR ENERGY BILLS, BUT THE IMPROVED LIGHTING HAS ALSO ENHANCED THE OVERALL AMBIANCE OF OUR ESTABLISHMENT, MAKING IT MORE INVITING FOR CUSTOMERS.” –CHANCELOR KIM, GENERAL MANAGER

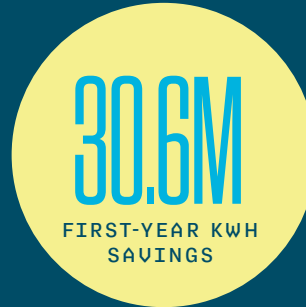


# RESIDENTIAL

Residential programs were deeply affected by inflation and supply chain issues this year. Though marketing consistently helped to stabilize participation, by mid-year, many measures were underperforming. Persistent manufacturing and shipping delays and subsequent cost increases made it less affordable for people to make energy-efficient upgrades – an ill-timed circumstance for O’ahu customers when the shutdown of Hawai’i’s last coal plant in September resulted in significant bill increases.

Remaining sensitive, flexible, and collaborative throughout the year was critical to finishing the year strong. The Program continued contractor engagement, doubled down on education for those experiencing bill increases, and established a new Retail Marketing position to collect valuable, timely insight into inventory trends and further streamline the customer experience for faster service. This resulted in over 4.7 million kWh in savings through midstream measures alone, overdriving on dual-inverter window ACs and heat pump water heaters, and exceeded our plan target by 132%. Residential customer service ratings also closed out program year 22 at a 9.4 overall satisfaction score.

$$y = \frac{x}{3}$$



## DOING OUR BEST DESPITE COMPOUNDING CHALLENGES

In response to these persistent market challenges, Hawai’i Energy made a concerted effort to support contractors as best as possible, primarily through increased incentives in the second half of the program year for refrigerator trade-ups, solar water heating installations, solar water heating tune-up services, and central AC retrofits. Despite this, however, the impacts on several contractors were too great for them to overcome, and we did see some businesses fold.

In January, the rollout of the new SEER2 efficiency standard for air conditioners left central air conditioner sellers unprepared and without inventory to sell for several months. Similarly, with inflation driving the average solar water heating system cost upwards of \$8,500 – a 4.7% increase over the last year – we looked to our contractors to provide insights and recommendations on how to support sales. We hosted a listening session in March with a select group of solar water heating contractors to identify areas of need. Through these honest conversations, we were able to identify key issues and create an action plan to mitigate them.

### KEY ISSUES IDENTIFIED & ADDRESSED IN SOLAR WATER HEATING MARKET

THIS ACTION PLAN AND THE INCREASED REBATES CAPTURED THE ATTENTION OF NEW CONTRACTORS WHO WERE ONBOARDED THIS YEAR AS CEAS.

1

Struggles with administrative work (such as rebate processing) due to limited staffing.

**ACTION** We are building an accessible portal application submission system/process that will launch in the second half of program year 23.

2

A lack of staff and training to do their own promoting. Contractors rely heavily on Hawai’i Energy’s marketing efforts to generate business.

**ACTION** Continue marketing efforts to drive people to our find a contractor CEA search engine. Launched marketing workshops to teach media buy basics to contractors. Provided resources and toolkits directly in their CEA online portals.

RESIDENTIAL

# BILL RELIEF AMIDST COAL PLANT SHUTDOWN

Though planned, the closure of the Barbers Point coal power plant (the last coal plant in Hawai'i) came with a bill increase for customers on O'ahu, which resulted in a unique opportunity to educate them on the importance of efficiency and conservation. Leveraging our ongoing collaboration with Hawaiian Electric, we provided language on program rebates and actionable tips for customer communications regard-ing the bill increases, which led to an increase in referrals to Hawai'i Energy's website in the months following the initial announcement. We also utilized the annual national Energy Awareness Month campaign in October to further expound upon this topic while also making sure to provide advice inclu-sive of the many customers who cannot afford to make major appliance or water heating upgrades.

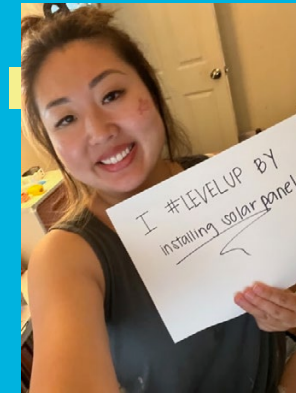
## #LEVELUP GIVEAWAY



### RYAN KUWAHARA

**UPGRADED: LIGHT BULBS, ENERGY-STAR APPLIANCES, AC THERMOSTAT**

"We have had rooftop PV system for several years. In 2022 we added 4 more PV panels and a Tesla battery and signed up for the battery bonus program. We now pay \$20 per month on our electric bill. In addition, we have replaced all our incandescent light bulbs with LED bulbs. We also wash most of our clothes with cold water and have only Energy Star appliances. We have 1 split AC unit which we use only when it is really hot, so not every day and we turn off the AC at night when we sleep. We set the thermostat at 78-80 degrees and run the ceiling fan simultaneously to circulate cold air. In our bedrooms we have no AC units but use ceiling fan in our bedroom and regular standup fans in the kids rooms."



### JANEL CORREIA

**UPGRADED: SOLAR PANELS**

"For years, I didn't think we could afford solar panels and that the tax credits no longer existed. However, due to a push from a friend I decided to inquire with some solar companies and we're finally installing solar panels onto our house. SolarTech Industries explained everything to us so thoroughly and now we're getting solar that we once thought we couldn't afford."

### JEAN DICKINSON

**UPGRADED: LED LIGHTS IN THE ENTIRE HOME**

"After realizing that they make energy-saving light bulbs in very flattering 'warm tones,' I made the switch to energy-efficient floods, mini-floods, light bulbs, and more! That certainly made a difference, and I did not stop there! Now I have a 'trickle switch' for the TV so the power is off when the TV is not in use. I used a similar power strip with on/off toggle for my computer and charger set-up. Even the uplights on my lanai are LED. All good and so pleased."

## RESIDENTIAL

# IMPROVING RETAIL STORE ENGAGEMENT

With the cost to purchase efficient products rising, it was important to dedicate more program resources to retail operations. Hawai'i Energy established a new Retail Marketing Specialist position in program year 22 to increase and strengthen communication with local retail staff; collect timely inventory data; and improve processes so that customers are more educated and less deterred from participating in rebate offers. Since the position has been filled, the program has onboarded two new retail partners, more than doubled

our retailer personnel contact list, can more quickly identify which product promotions are performing according to targets and which require pivoting, and developed a standardized store staff training curriculum slated for rollout next year. Personnel have also captured real-time insights into the level of inventory of incandescent light bulbs still on sale in Hawai'i stores, which has helped inform strategic discussions regarding the phase-out deadline of these bulbs next program year.



$$(a+b) > (x+y)$$

## HOW HAS FEDERAL ENERGY EFFICIENCY LEGISLATION IMPACTED HAWAII ENERGY?

Hawai'i Energy has been monitoring the impact of federal mandates on the local market this year, most notably the Biden administration's re-commitment to raising manufacturer efficiency requirements for "general service" lightbulbs (i.e. banning incandescent lamps in favor of LEDs) and the signing of the Inflation Reduction Act in August 2022. Both of these mandates affected several products incentivized by Hawai'i Energy.

Hawai'i Energy has made a concerted effort to inform customers about federal incentives, because program rebates can be stacked on top of tax credits, helping to drive costs down even further.



### HEAT PUMP WATER HEATERS

now eligible for tax credit up to 30% of costs



### SOLAR WATER HEATING SYSTEMS

now eligible for tax credit up to 30%



### LIGHTBULBS

stores must get rid of all incandescent bulb inventory before August 2023

Hawai'i Energy asks customers on rebate applications how they have heard about the rebate offer.

+4%

IN THE THREE MONTHS SINCE ONBOARDING THE RETAIL MARKETING SPECIALIST, THE PORTION

OF PARTICIPANTS THAT LIST IN-STORE RETAIL SIGNAGE OR STORE STAFF AS A TOP REASON JUMPED 4%, FROM 44% TO 48%.



# NEW MARKETING & OUTREACH TACTICS OPEN DOORS

Consumer behaviors have shifted in the last few years because of the pandemic and the ultra-digitization of the shopping experience, and Hawai'i Energy has been exploring the effectiveness of switching from paper direct mail to targeted email marketing as well as utilizing social media in new ways to promote residential offers.

We continue to use our large email subscriber database to target participants for solar water heater and air conditioner tune-up services. Based on data from rebate applications, we identify customers who received a rebate for a system installation within the recommended tune-up period and deliver a message recommending the service and our Clean Energy Ally contractors. Previously, paper mail was used for this purpose, and the switch to email has drastically reduced deployment times, cut expenses by thousands of dollars, and provides our team with valuable engagement metrics that are applied to future promotion efforts.

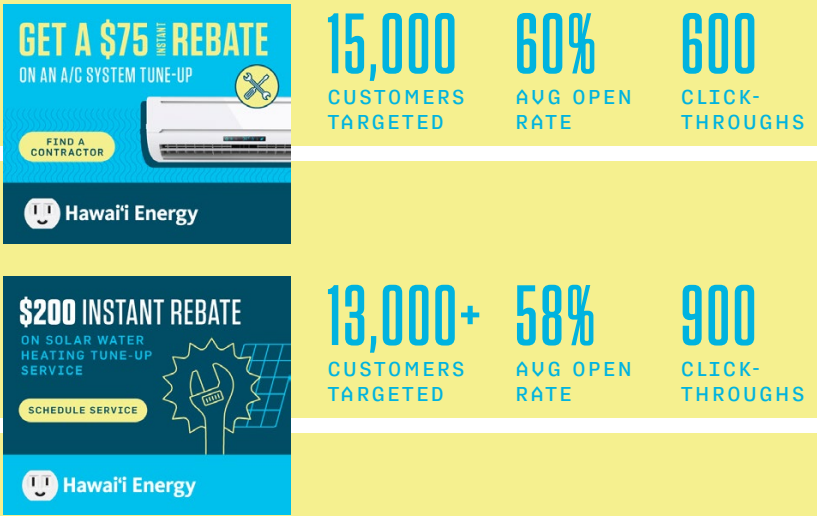
15%

REGULAR MAINTENANCE CAN IMPROVE THE EFFICIENCY OF EQUIPMENT BY 15% AND EXTEND THE LIFE OF YOUR SYSTEM.

Hawai'i Energy recommends maintenance services for air conditioners at least once a year, and every five years for solar water heating systems.

## EMAIL MARKETING

This year, we sent marketing emails to over 15,000 customers who were eligible for the AC tune-up offer, achieving a 60% average open rate and driving over 600 clicks to view our online contractor directory and rebate information on hawaiienergy.com. Similarly, our solar water heater tune-up email campaign was sent to over 13,100 customers and achieved a 58% average open rate, driving over 900 clicks to the website. Assuming even 10% of those who clicked on the emails went on to book an appointment, this low-cost effort alone will have driven over 170 new leads to contractors and could be attributed to 1% and 6% of AC tune-up and solar water heater tune-up participation for the year, respectively.



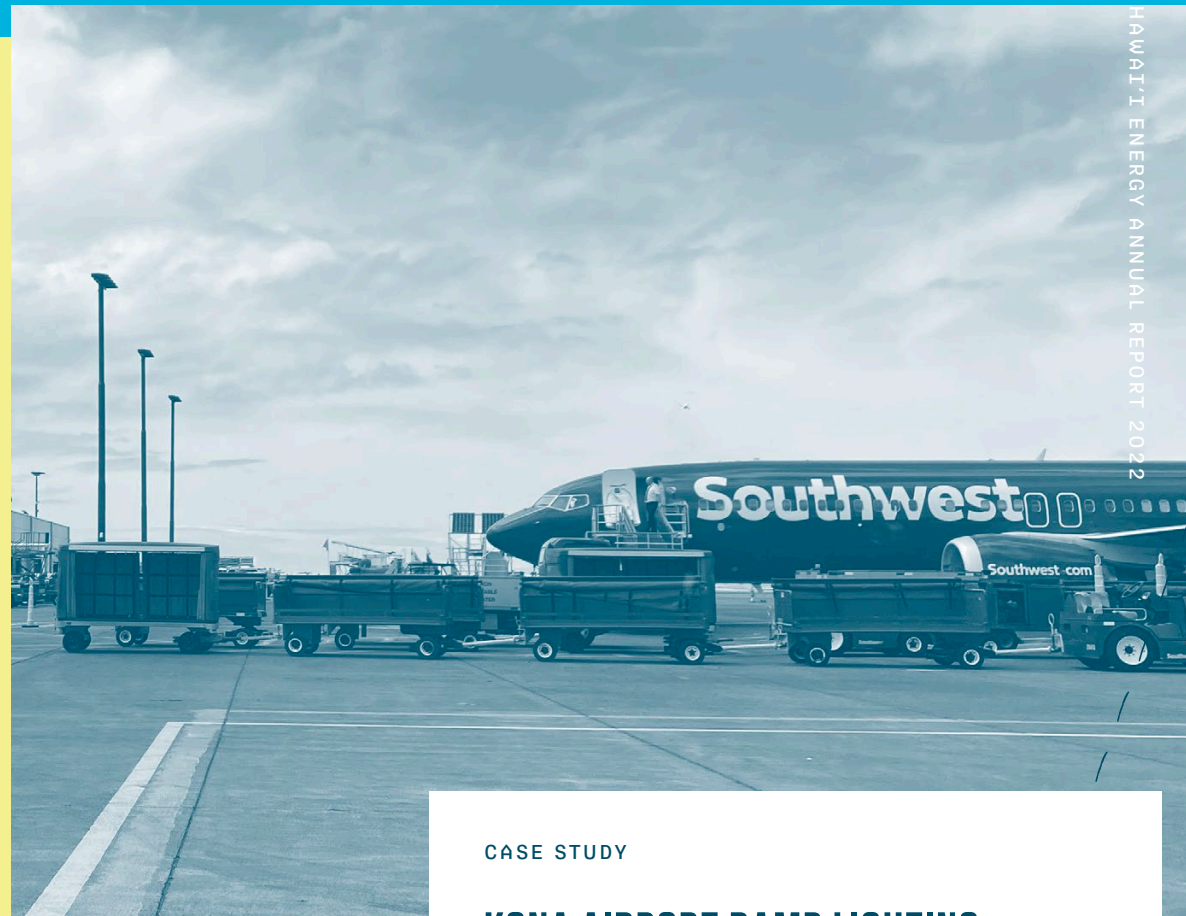
We also opted this year to increase our promotion of the Rid-A-Fridge recycling offer, as participating can provide customers with significant bill savings at no cost. Seeing a slight decline in participation early in the year led us to explore social media sites like Facebook Marketplace, NextDoor, and Craigslist to target residents looking to get rid of or sell their refrigerators and freezers on these platforms. These platforms are not only extremely cost-effective, they have become increasingly popular in the last few years, and the timing of our post placements on Facebook and NextDoor also coincided with conversations on rate increases in the spring and fall as community members took to social media to post their reactions. Combined, these posts drove over 3,300 clicks to the Hawai'i Energy website, and combined with other tactics, helped the residential portfolio exceed plan targets for the year by 16%.



# BUSINESS

As the business world adapted to the quickly morphing economic landscape, energy efficiency projects became a competing priority for many. Businesses were forced to weigh energy efficiency investments against labor shortages and unpredictable profits, while contractors faced similar economic challenges and project delays. Hawai'i Energy began seeing the effects of these challenges in the previous program year and doubled down on customer engagement to generate a pipeline of projects. Despite Hawai'i Energy's strategic interventions, many commercial projects did not move forward in program year 22 as hoped due to the economic and labor challenges noted above.

While challenges in commercial project deployment remain, certain offerings launched in prior years remained attractive for customers, including the Power Move Demand Savings Bonus, discussed in the Energy Optimization section of this report. Hawai'i Energy's consultation-type services such as energy treasure hunts continue to facilitate deeper conversations around energy management. These approaches combined with frequent, customized guidance led to positive customer satisfaction; Hawai'i Energy has built a consistent and supportive reputation businesses can rely on to collaborate on a clean energy future.



## CASE STUDY

### KONA AIRPORT RAMP LIGHTING

As the primary airport on Hawai'i Island, the Ellison Onizuka International Airport's operations are critical for transpacific and interisland flights. That's why it was important to look at ways that the airport could begin removing and replacing old lighting at several ramp areas. By replacing over 100 fixtures, they'll save over \$105,000 on their utility bill and 357,000 kWh annually.

—  
**357,000 kWh**  
REDUCED ANNUAL  
CONSUMPTION

**\$105,000**  
REDUCED  
MONTHLY  
COSTS



# ENERGY TREASURE HUNTS AND WALKTHROUGHS

Energy treasure hunts are a nationally recognized process for identifying energy saving opportunities in commercial buildings. They involve an in-person review of larger facilities that house many employees, customers, or tenants. Treasure hunts include both facilities management staff and employees from other departments to find ways to improve efficiency throughout. Hawai'i Energy's Energy Advisors and Engineers review the whole facility and outline low and no cost quick wins along with larger capital expenditure efficiency upgrades. By including the customer's team members outside of those in facility management, the impact is more widespread and helps demonstrate that everyone in a building can take ownership of managing energy use.

This year, Hawai'i Energy continued offering treasure hunts to highly engaged organizations at no additional cost and produced summary reports outlining all energy saving opportunities identified. These reports serve as a roadmap for follow up conversations. Our Energy Advisors continue to meet regularly with participants to guide them in utilizing incentives to implement their energy-saving "treasures" found during the treasure hunts.

Hawai'i Energy also offers onsite support to small- and medium-sized facilities. These smaller facilities often do not have dedicated maintenance staff or know where to start with improving their energy management. Our Energy Advisors provide this much needed support with a site visit focusing on the most impactful energy efficiency upgrades. A wide range of facility types—multifamily properties, restaurants, offices, retail stores—requested this type of support as their energy burden increased in 2022-2023 with rising electricity costs. Participants received a summary of findings after the site visits and recommended next steps for leveraging Hawai'i Energy rebates.

## CASE STUDY

### OUTRIGGER REEF WAIKĪKĪ

Recognizing the importance of energy-saving projects, Outrigger Reef Waikiki was a great candidate for a treasure hunt. We identified a wide variety of conservation measures and potential projects that could help reduce the resort's energy usage for years to come.

252,887 kWh  
ANNUAL POTENTIAL  
SAVINGS



BUSINESS

# ENERGY AUDITS

In the past five years and throughout the COVID-19 pandemic, dozens of customers that were able to give contractors access to their buildings and had the financial means to invest in them completed ASHRAE Level 2 energy audits with the help of Hawai'i Energy incentives. Energy audit participants ideally pursue the energy conservation measures identified in their energy audit soon after learning what they can focus on, but the evolving economic situation—intensifying inflation and labor shortages—forced many companies to prioritize other things over energy efficiency improvements. While the situation continues to change and every business is in a different place in terms of capital spending, Energy Advisors revisited completed energy audits to follow up with customers on their plans for implementing the recommended measures. Some projects were delayed, some projects continue to be on hold due to limited staff capacity, and a few projects were revisited and completed this year.

# BENCHMARKING

In 2022, the City and County of Honolulu established the Better Buildings Benchmarking Program requiring large commercial and multifamily buildings to report and benchmark their energy and water use annually. To support customers with these new regulations, Hawai'i Energy consolidated resources for customers engaging with our programs to find relevant information such as the City's requirements and deadlines, ENERGY STAR guidance, and Clean Energy Allies that provide benchmarking services. Concurrently, Hawai'i Energy presented alongside the City on benchmarking for property managers, facilities and maintenance staff, and the public at large. Our messaging has been focused on the energy efficiency technical guidance and incentives we can provide to support buildings after they benchmark and learn how their energy use intensity stacks up with others.



HAWAII ENERGY ANNUAL REPORT 2022

**\$2842**  
EST. MONTHLY SAVINGS

**86,538 kWh**  
REDUCED ANNUAL CONSUMPTION

CASE STUDY

## ROYAL KAHANA

For many hotels, energy efficiency can deliver lower operating costs while improving equipment service and enhancing comfort. Hawai'i Energy provided free energy audits for hotels like Royal Kahana and Four Seasons Wailea to help managers envision efficiency projects, quantify potential financial savings and inspire action.

# 04 ENERGY OPTIMIZATION INITIATIVES

As the types of technologies that make up Hawai'i's electricity grid increase in variety and efficiency, energy optimization – or, managing the way energy is monitored and when it's used – has become an increasingly critical piece of achieving our clean energy goals.

Over the last few years, Hawai'i Energy has added several services and financial incentive programs to empower customers to fine-tune their energy consumption with new, innovative products and collaborations with companies on the cutting edge of energy management. Energy optimization initiatives also support the future needs of the grid, with many technologies preparing customers to participate in demand response programs when they are available. This year's efforts continued past efforts to support both residential and commercial customers. Hawai'i

Energy continued to prioritize interactive water heating controls for renters and families in underserved communities. For larger facilities our focus remains on sophisticated controls for air conditioning and hotel guest room management with demand response capabilities. Increased incentives remain effective at driving adoption of innovative grid-service ready technologies for both residents and businesses as we support Hawai'i's transition to 100% clean energy by 2045.

In addition to tracking the number of energy optimization devices deployed, Hawai'i Energy has proposed reporting on a new tracking metric for Demand Flexibility for program year 22-24. This is an effort to quantify the potential or additional load flexibility available from grid-service ready technologies installed.

## PARK SHORE

"As a result of last year's Energy Treasure Hunt offered by Hawai'i Energy staff, Park Shore Hotel is able to take care of some low hanging fruits / quick win type of equipment projects. This also accelerated us to initiate the ASHRAE level II Energy Audit for deeper evaluation. We appreciate Hawai'i Energy's assistance and incentives during this process."

**ERIC AU**  
SENIOR VP OF ENGINEERING,  
HIGHGATE GROUP





# INCREASING ACCESS WITH SHIFTED ENERGY

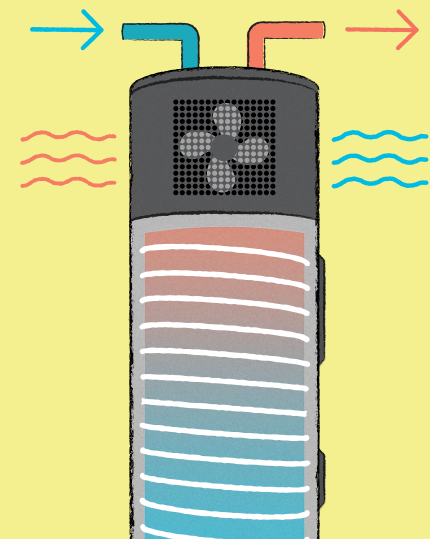
Hawai'i Energy continues to support local clean energy technology provider Shifted Energy in their work to increase hard-to-reach community access to efficient water heaters and water heating controls. Shifted and Hawai'i Energy continued our work on two main programs: the Grid Service Purchase Agreement (GSPA) rebate for grid-interactive water heater controls, and our Heat Pump Water Heater capabilities trial.

GSPA participation is compensated through a HECO bill credit to participants who opt to have Shifted Energy's direct-load controllers installed on their water heater. The controls provide valuable insight to individual customers and property managers on energy usage and maintenance needs and provide the electric utility with a network of devices that can be used to balance load across the entire grid. Hawai'i Energy rebates

support Shifted's ongoing recruitment of renters in multifamily buildings. Recruitment in these facilities helps to maximize the number of installations geographically but can be very challenging to the high percentage of renters. To date, Shifted has enrolled more than 3,500 households in Hawai'i, saving roughly \$300,000 on energy bills.

## PRIMARY FEATURES THAT WERE REFINED AND DEPLOYED THIS PROGRAM YEAR INCLUDE:

- Major / Minor Leak Detection
- Broken Top / Bottom Heating Element
- Broken Thermostat
- Inefficient Water Heater



### SHIFTED ENERGY NUMBERS TO DATE

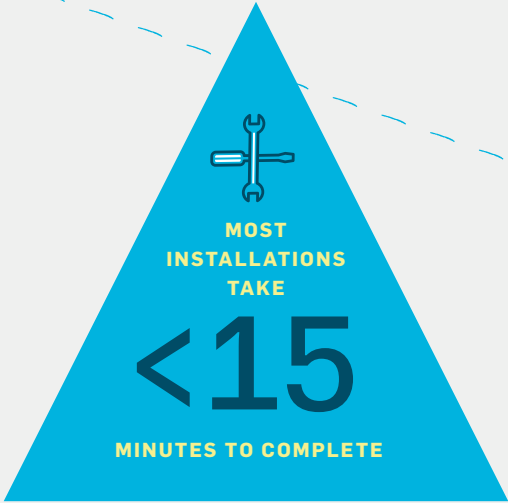
3,500+

HOUSEHOLDS ENROLLED

\$300,000

SAVED ON ENERGY BILLS

PROGRAM	INSTALLATIONS	LMI% IMPACT
GSPA	484	100%
HEAT PUMP HOT WATER	32	100%
TOTAL	860	100%



ENERGY OPTIMIZATION INITIATIVES

# INCREASING ACCESS WITH SHIFTED ENERGY

In program year 22, Hawai'i Energy supported Phase 2 of Shifted Energy's Heat Pump Water Heater Capabilities Trial. Program funding went toward the material and installation costs for participants, who are low-income families with (4) or more residents living in Department of Hawaiian Homelands (DHHL) homesteads. In this phase of the trial, participation invites were also extended to residents in Nānākuli on the west side of O'ahu, who experienced similar benefits as participants in Phase 1, including major reductions in energy usage and thus, significant bill savings. Shifted was also able to calculate the grid services capacity for a water heater made by a different brand than in Phase 1, which provided additional insights into warranty and maintenance concerns.

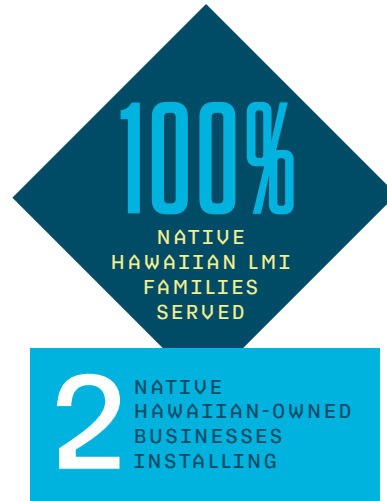
Working with Shifted Energy has been a critical piece of helping the program develop a deeper understanding of the many challenges and opportunities within ensuring clean energy equity. To the untrained [privileged] eye, accepting free products that drastically reduce energy bills may seem like a no-brainer; however, the hurdles within the acquisition, registration, and installation processes are frequent, and can be disheartening for all involved.

For example, in the GSPA program, administrative requirements such as a utility account number, meter number and contract ID are not commonly-known to residents, so teams are also tasked with coaching residents on how to locate this information. In the Heat Pump Water Heater Trial, product defects such as compressor failures and lost wi-fi connectivity have required that Shifted Energy provide unexpected labor hours and funding to support repairs where manufacturer warranties fall short. All of this on top of ensuring proper removal, recycling and disposal of water heater tanks that are sometimes more than 20 years old.

**AFTER RETROFITTING ELECTRIC  
RESISTANCE AND SOLAR-THERMAL  
WATER HEATER SYSTEMS**

**77%**

AVG REDUCTION  
IN ENERGY USE



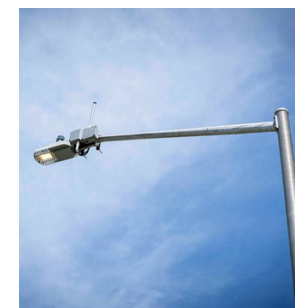
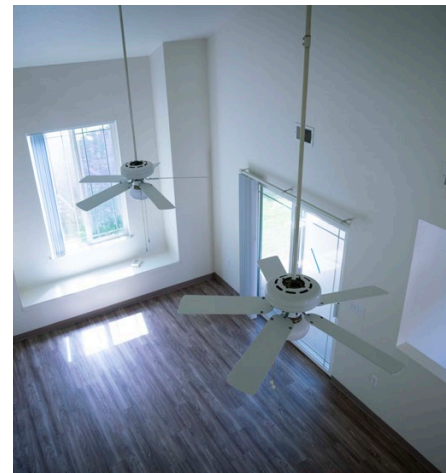
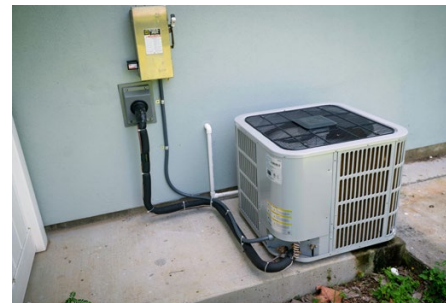
CASE STUDY

**HUNT MILITARY  
COMMUNITIES**

Hawai'i Energy also supported a collaborative effort between Shifted Energy and a large military community that upgraded 143 aging water heaters to heat pump water heaters with connected controllers. While not directly grid connected at this time, the housing management company is utilizing Shifted's connected controls to manage maintenance schedules and monitor for leaks.

**143**

WATER HEATERS  
UPGRADED



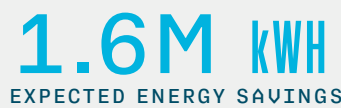


ENERGY OPTIMIZATION INITIATIVES

# NEW REBATE FOR SMART ELECTRICAL PANELS

Hawai'i Energy supported the deployment of residential smart electrical panels to further drive the adoption of clean energy solutions for Hawai'i's families. We established the Smart Electrical Panel Pilot in program year 21 and continued into program year 22 with 13 installations completed. While interest in this pilot has been slower than anticipated, Hawai'i Energy is excited about the opportunity to provide residential customers with increased insight into their energy usage by installing a smart electrical panel.

# HOTEL GUEST ROOM CONTROLS



Enhanced controls remain an excellent option for load reduction in hotel guest rooms. Hotels make up one of the largest commercial sectors and operate at 100% coincidence with the utility evening peak. Guest room controls save energy by using sensors to detect occupancy in a room and setback the temperature when guests are away, and many controls have demand response capabilities that can provide grid-wide benefits.

In program year 22, Hawai'i Energy rebates helped 3 hotels install controls across 985 guest rooms, which is expected to produce 1.6 million kWh in energy savings and 506 kW in peak demand reduction. Hawai'i Energy remains committed to our enhanced rebate for guest room controls with demand response capabilities and has been coordinating efforts with the Hawaiian Electric demand response team to explore how customers might be able to leverage these assets to support their participation in fast demand response programs.

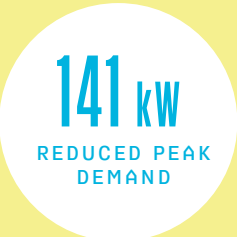
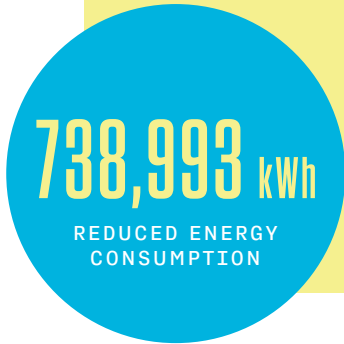


HAWAII ENERGY ANNUAL REPORT 2022

CASE STUDY

## BYU HAWAI'I

BYU Hawai'i executed a major central plant optimization project to reduce the university's impact on the energy grid in Hawai'i, which qualified them for the Power Move Demand Savings Bonus incentive. In addition to reducing energy consumption by 738,993 kWh, the project enabled them to reduce demand between peak evening hours by 141 kW.



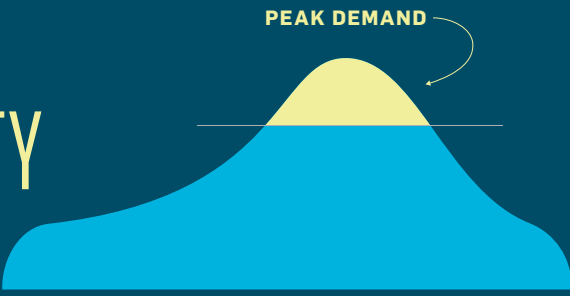
# POWER MOVE ROLLS ON

Hawai'i's last coal-fired power plant shutdown for good in September 2022 – a scheduled event on the path toward achieving Hawai'i's 2045 clean energy mandate. An energy generation shortfall was expected with this event, and in response to a request from the State, Hawai'i Energy established the Power Move family of rebates to help spur commercial facilities into reducing overall energy use and specifically incentivize shifting usage away from the evening utility peak hours of 5:00 -

9:00pm. A demand savings bonus was awarded to customers that were able to reduce their demand during peak hours, which resulted in projects like custom exterior and industrial lighting, HVAC optimization in hotels and office buildings, and transformer retrofits. A commercial energy storage rebate was also launched to help offset the costs of installing a battery storage system and support enrollment in Hawaiian Electric's Battery Bonus program, with extra incentives tied to dispatching energy during evening peak hours.

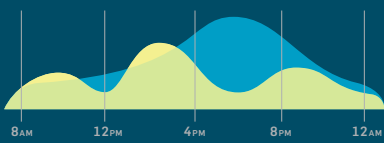
These are Hawai'i Energy's first rebate offers tailored toward demand response efforts. The most notable savings came from lighting and chiller optimization projects, which although can be time-consuming, are a very cost-effective energy efficiency measure. In total, Hawai'i Energy was able to shift 562 kW of demand out of peak hours through these efforts.

## WHAT IS ELECTRICITY DEMAND?



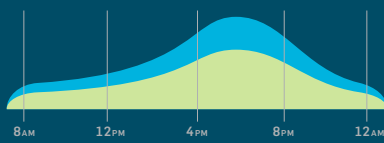
**DEMAND IS ONE OF THE FACTORS THAT AFFECTS YOUR ELECTRICITY COSTS THE MOST**

Our electrical grid needs to be prepared for worst-case scenarios, so it is designed to accommodate maximum energy usage from every single home or business at any given time – even if this is not the case every day.



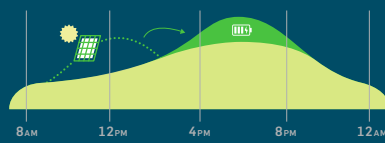
### 1. SCHEDULE

The most common contributor to high peak demand is multiple energy-intensive processes (like HVAC systems, big equipment, etc.) running at the same time. Adjusting the schedule for large equipment using building control and automation systems can help spread out your need for electricity so you don't have spikes.



### 2. SHRINK

Installing energy efficient equipment helps greatly because it lowers your overall usage and therefore your maximum peak. Don't forget to also properly size any new equipment – aim for uniform operation at full capacity versus short bursts of high intensity.



### 3. SHAVE

If you have PV, you can take the excess energy you make during the day and store it in a battery to use during the peak evening hours.

# MARKET TRANSFORMATION & ECONOMIC DEVELOPMENT

The Market Transformation program continued to support and complement CET and A&A efforts and empower residents and businesses with information and tools they need to modify behavior and choose efficiency when possible. We continued to see robust participation in adult and STEM-based student workshops which focus on actions that anyone can take in their homes. Although the Building Operator Certification (BOC) was not offered due to an instructor shortage and scheduling conflicts, two intensive technical training series were held in the spring that targeted the BOC audience, and both were well-attended.

7,143

PARTICIPANTS  
IN EDUCATION  
& TRAINING



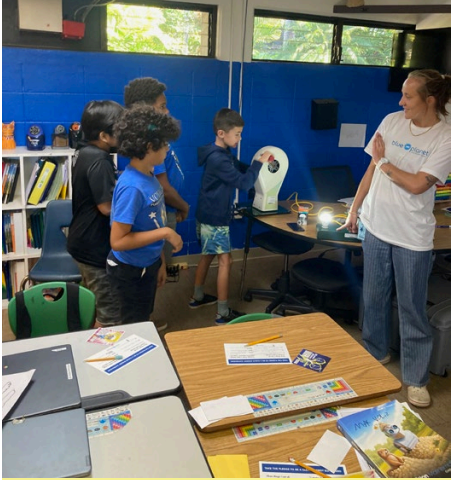


# YOUTH EDUCATION

Classroom teachers from all counties served by the Program continued to request guest STEM-based presentations on energy and climate change, with over 2,800 students reached and more than 2,200 contact hours.

Although online delivery continued when requested, this year marked a welcome return to in-class engagement, which allowed for hands-on activities, particularly for the younger students. Notably, our focus on Title 1 schools resulted in 15 such schools being served across the islands, including Kaunakakai Elementary, Moloka'i High, Kealakehe Elementary, Honoka'a High and Intermediate, Hilo High, Waipahu High, Lā'ie Elementary and Lahainaluna High. Our subcontractor Blue Planet Foundation plans to focus their efforts on high school workshops in program year 23, so a curriculum was created to train eight Hawai'i Energy staff on how to deliver effective workshops for the K-8 age group starting in July 2023.

2,800 STUDENTS REACHED



## STUDENTS SAID:

"I LEARNED THAT UNPLUGGING STUFF AFTER USE MAKES A HUGE DIFFERENCE. AND OUR COMPANIES AND FACTORIES THAT PRODUCE CERTAIN THINGS PRODUCE GREENHOUSE GASSES CAUSING US TO HAVE ISSUES."

"YOU CAN BE ENERGY EFFICIENT BY MAKING SURE YOUR WASHER IS FULL WHEN YOU WASH YOUR CLOTHES AND DISHES AND TAKING SHORTER SHOWERS."

"I LEARNED THAT OPENING THE OVEN WHILE IT'S ON WASTES ENERGY, SO I'LL STOP DOING THAT."

"I can turn lights off when leaving a room rather than leaving it on. Even if it wasn't me who turned it on in the first place."



# ADULT EDUCATION

Our popular “Energy Unplugged” workshops for adults and community groups reached **2,154 individuals** across Honolulu, Hawai’i and Maui counties in program year 22.

Workshops included a small fundraising incentive for diverse community groups, which drove participation and created a viral “buzz” for those attending to spread the word to their networks. The workshops’ wide reach also allowed the Program to keep attendees informed about developments impacting electric rates such as the closure of the AES plant and the Ukraine conflict and to introduce other parts of the program. As higher rates continued to present a burden on households, the easy-to-remember, readily implementable conservation tips and call-outs to efficiency rebates were well-received. Promotion of the Energy Smart 4 Homes direct install program during the workshops also resulted in 505 zip-code qualified residents signing up to receive 100% free light bulbs, water conservation and power management devices.



## WORKSHOP PARTICIPANTS SAID:

“JUST TOOK  
ADVANTAGE OF  
THE \$75 AC TUNE UP  
REBATE (X2) TODAY!  
THANK YOU!”

“HAPPY  
THAT THE  
PRESENTER WAS  
FROM HAWAI’I. SOMEONE  
WHO ACTUALLY LIVES HERE  
AND KNOWS THE LITTLE  
HABITS LOCALS HAVE IN  
WASTING ELECTRICITY  
AND HOW TO HELP  
CONVINCE US TO  
DO BETTER.”

“EXCELLENT  
COMMUNICATOR,  
GOOD SENSE OF  
HUMOR WITH THE KIDS!  
HELPFUL INFORMATION!  
THANKS SO  
MUCH.”

2,172  
PARTICIPANTS

505  
QUALIFIED  
FOR ES4H  
SERVICES

# PROFESSIONAL DEVELOPMENT

## CERTIFIED ENERGY MANAGER

In January, the Program hosted 43 in-person and remote participants in an Association of Energy Engineers (AEE) Certified Energy Manager (CEM) course. This rigorous five-day training had not been held since March 2020 and was eagerly anticipated by our network of energy professionals, who came from fields as varied as hospital-ity, military, utility, energy consulting, facilities management, and engineer-ing. This represented the first major outside certification course held in Hawai'i Energy's new 1100-square-foot training room. Those who passed the exam earned the nationally recognized CEM credential, which is portable and helps to provide career advancement in a fast-evolving, competitive industry.



## GREEN REALTORS® / GREEN REAL ESTATE CEA PROGRAM

We continued to roll out our new Green Real Estate category under the Clean Energy Ally program with a fall kickoff meeting for registered Green Real Estate CEAs. We also hosted two certification courses of the perennially popular National Association of Realtors (NAR) Green Designation. Hawai'i is now third in the nation for Green designations (only behind California and Florida), with over 280 Realtors®, largely due to Hawai'i Energy funding support for these classes. Realtors are trusted advisors in our community, and through their connecting with our program, clients benefit from knowing how to make energy-efficient, healthy, money-saving upgrades to their home. Our CEA program further supports realtors with the information and marketing support to grow their green real estate business and keep up with the latest trends and tips on energy.



## SPRING TECHNICAL TRAININGS

The Program wrapped up its training calendar with four day-long hybrid trainings in late April. Topics included the energy grid, distributed energy, unitary air conditioning, refrigeration, motors and drives, and project implementation. Taught by veteran instructor and consultant David Wylie with no cost to participants to attend, these technical trainings built on topics covered in Certified Energy Manager but focused on practical application in the field and used dozens of case studies and examples to help participants understand where technology meets operations and how their analysis and decision-making are crucial to making energy-smart choices. Once again as with CEM, the workshop attendees expressed their satisfaction with the instruction and content, and attendees came from many different sectors. More than 50 online registrants attended each training day, reflecting how hybrid delivery gives neighbor island energy professionals and those now accustomed to Zoom a convenient option.

# CODES & STANDARDS

The Program continued its close collaboration with the Hawai'i State Energy Office (HSEO), supporting HSEO's efforts to educate the community about the energy conservation code. This year's code training workshops included a panel, "Energy-Efficient Homes of the Future" by large production home builders on how they are exceeding the residential energy code with innovation. Hawai'i Energy supported a consultant to the State Energy Office who attended State Building Code Council meetings, provided expert analysis and helped with the multi-step process of amending the IECC 2021 for Hawai'i's needs.



# ARCHITECTURE & DESIGN

Led by the American Institute of Architects, Honolulu Chapter (AIA-Honolulu), the architecture and design sector continues to be a key partner in transforming the market for high-performance, energy-efficient buildings. Hawai'i Energy awarded its fourth annual AIA Award for Excellence in Energy-Efficient Design to Design Partners, Inc. for the Punahou School Minnie and Sidney Kosasa 2-5 Campus. This campus prioritized passive design strategies in the planning process, performed comprehensive energy modeling, and is 30% more efficient than a standard code-compliant building, representing Punahou's ongoing commitment to sustainability and using the buildings as teaching tools for building science concepts.



AIA DESIGN AWARD

## PUNAHOU SCHOOL

Minnie and Sidney Kosasa  
Grades 2-5 Campus



PROGRAM AREA	PARTICIPANTS	WORKSHOPS
YOUTH/STEM	2208	84
ADULT/COMMUNITY	2172	35
PROFESSIONAL DEVELOPMENT	1582	37
TRADE ALLY TRAININGS	116	5





# 00 CLEAN ENERGY ALLIES

Hawai'i Energy's Clean Energy Ally (CEA) network includes over 400 contractors, equipment suppliers, manufacturers, and distributors who are helping to build our clean energy future. The network has steadily grown because of wide-reaching acquisition efforts, ensuring that homes and businesses reap the benefits of energy-saving technologies. This year, we strived to deepen engagement with all our Allies by identifying areas of support, making improvements to the dedicated online portal, and adding resources and rewards tailored to meet their needs.

30  
NEW ALLIES  
IN PY22

400+  
ALLIES IN NETWORK



CEA: HAWAII ENERGY SYSTEMS

## STRENGTHENING UNDERSTANDING & SKILLS

As we returned to in-person events, Hawai'i Energy began the year with a three-county roadshow to encourage membership participation, deliver residential and business program updates, and recognize our network. We continued to provide tailored – and recurring – training opportunities to keep Allies up to date with any program changes, industry trends, and the latest technical expertise courses. Additionally, we deployed focus groups for solar water heating and HVAC contractors with smaller businesses who relied on our rebate offers to encourage energy-efficient upgrades and keep their companies afloat. Through these efforts, we gained a better understanding of their financial and staffing circumstances and identified areas where additional support was needed. With this information, we began taking actionable steps to make the process.



# STREAMLINING THE CEA PORTAL

When Allies asked for more online support, we listened. We made updates to our dedicated Clean Energy Ally and Energy Advantage portals to make it easier to access important information and resources. We clarified our onboarding process, simplified company information updates, and most importantly, provided access to additional project information. This information helped alleviate the need for CEAs to request status updates and helped them track their rebate payments digitally. Additionally, we added a video library for training and events, where Allies can access program information, marketing tips, and co-op advertising and event funding application details at their convenience.



## AESOLUTIONS

"As a woman-owned business, having the validation and recognition as a Clean Energy Ally was particularly important to us. The program's incentives have not only provided a lifeline but have made energy efficiency projects more economically feasible for our customers, especially in the non-profit sector. This has resulted in increased demand for our services, ensuring the sustainability of our business while assisting an underserved market."

**-INGRID CSEH HUBBARD**





CLEAN ENERGY ALLIES

# MAKING REWARDS EASY FOR CLEAN ENERGY CHAMPIONS

Our CEAs completed 17,700 projects this year, making great contributions to the state's clean energy future. To ensure that we were honoring all our CEAs, we instituted an automatic enrollment process into our Energy Insider Rewards program. The Energy Insiders awardees who exceeded our expectations for the number of completed projects were rewarded for their performance automatically, without completing any additional forms. In total, we awarded 26 CEAs in multiple categories, and we look forward to launching an additional Electric Vehicle Charging Station Insider Reward for our active Allies next year.

## BY THE NUMBERS

PROJECTS COMPLETED

017,700

\$14,696,583

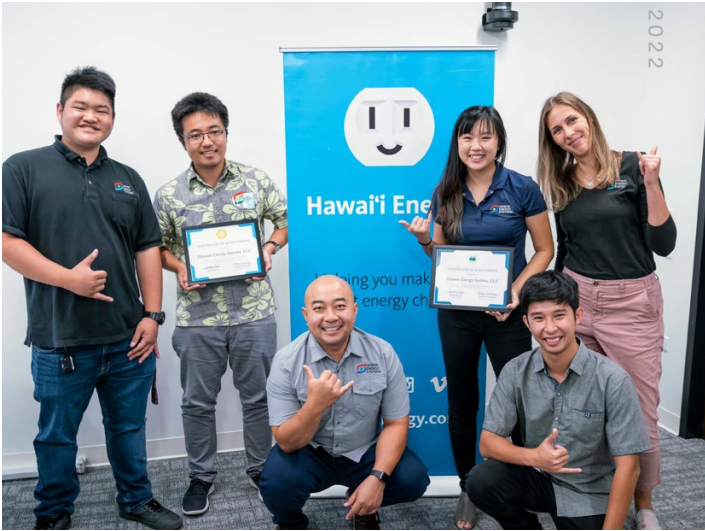
TOTAL REBATES  
DISTRIBUTED

\$18.7M

TOTAL ANNUAL  
BILL SAVINGS

\$50,000+

ADVERTISING FUNDS  
AWARDED





# POLICY & ADVOCACY

Hawai'i Energy's support for clean energy policy includes testifying on relevant energy-efficiency bills at the state and county levels, submitting letters of support, and engaging with stakeholders to raise awareness around potential legislation that might impact our progress toward Hawai'i's clean energy goals. The 2023 legislative session brought some important energy-efficiency wins and major steps toward these goals, including measures related to lighting and several other appliances. Crucial headway was also made on the next update to minimum energy performance requirements for new residential and commercial buildings on O'ahu.



"IT'S IMPORTANT TO IDENTIFY OUR VULNERABILITIES AND THEN DEVELOP STRATEGIES TO REDUCE CARBON EMISSIONS AND OTHER POLLUTANTS THAT ADVERSELY AFFECT OUR ENVIRONMENT."

- GOVERNOR JOSH GREEN, MD

HAWAII'S ENERGY ANNUAL REPORT 2022

750,000

METRIC TONS OF CARBON EMISSIONS AVOIDED THROUGH NEW CLEAN LIGHTING STANDARDS

\$557M

SAVINGS OF TAXPAYER DOLLARS BY 2050 FROM ACT 224 & 225



# POLICY WINS

## CITY COUNCIL BILL 4 BUILDING ENERGY CONSERVATION CODE

CITY &amp; COUNTY OF HONOLULU

Over the course of the first half of 2023, we closely monitored and collaborated on the development of Bill 4, which will update and improve the City & County of Honolulu's Building Energy Conservation Code. Hawai'i adopted the 2018 International Energy Conservation Code (IECC) in 2020, and the City & County of Honolulu has since been working to take advantage of its opportunity to add local amendments via Bill 4 to ensure the updated codes make sense for O'ahu. Hawai'i Energy offered testimony at each hearing where Bill 4 was considered, and supported the O'ahu amendments as the collaborative process produced them, including requiring increased energy performance in larger homes, increased requirements for lighting efficiency to keep pace with fast-evolving LED lighting technology readily available in today's marketplace, and maintaining previously established requirements for solar photovoltaic (residential) and electric vehicle (residential and commercial) readiness for new construction. As the program year ended, Bill 4 remained on track for eventual adoption by the City & County of Honolulu.

"TODAY WE ARE  
TAKING ACTION  
TO BUILD A CLEAN  
ENERGY FUTURE  
BY SIGNING BILLS  
THAT WILL CREATE  
MORE STANDARDS  
FOR EFFICIENCY,  
PROTECT OUR  
ENVIRONMENT,  
AND CREATE MORE  
OPPORTUNITIES FOR  
COLLABORATION."

- GOVERNOR JOSH GREEN



## ACT 224 MINIMUM EFFICIENCY STANDARDS FOR CERTAIN APPLIANCES

STATE OF HAWAII

The passage of Act 224 authorizes the State Energy Officer to adopt rules to enforce or amend minimum efficiency standards for home and building products. In 2019, Hawai'i established appliance efficiency standards for computers, fluorescent lamps, showerheads, faucets, and lawn spray sprinklers; Act 224 expands that list to include five new products that now need to meet efficiency standards beginning January 2025: portable electric spas, residential ventilating fans, toilets, urinals, and water coolers. By 2050, Act 224 is estimated to save Hawai'i business and residents up to \$175 million in cumulative utility bill savings.



## ACT 225 CLEAN LIGHTING STANDARDS

STATE OF HAWAII

Act 225 phases out the sale of fluorescent light bulbs in Hawai'i, clearing the way for more energy efficient Light-Emitting Diode (LED) bulbs to replace them beginning in January 2025. This policy prohibits the sale of certain fluorescent lamps to reduce energy waste and quantities of mercury from such lamps to avoid having them pollute Hawai'i's environment. Act 225 is estimated to save Hawai'i taxpayers \$382 million on their electricity bills by 2050, while also reducing carbon emissions by 750,000 metric tons and keeping mercury – a hazardous waste – out of our landfills. Hawai'i joins Vermont, California, Colorado, Rhode Island, and Maine as states that have adopted "clean lighting standards" in an effort to phase out the sale of fluorescent bulbs.



# LEGISLATOR OUTREACH

Hawai'i Energy also continued its "Energy Insights" e-newsletter this year to keep local lawmakers, their staff, and other government officials informed of rebates, services, programs, and general tips that might benefit their constituents. The newsletter is sent twice a month during the legislative session (January through May) and monthly during the rest of the year.

The most popular issue in PY22 was from June 2023, which highlighted the passage of the appliance standards and clean lighting standards bills (Acts 224 & 225, respectively). The newsletter also featured a collection of pictures from Hawai'i Energy's activities and interactions from the 2023 legislative session with legislators, their staff, and community members.



“TODAY WE ARE COLLECTIVELY TAKING ACTIONABLE STEPS TO REDUCE UTILITY BILLS, CUT ENERGY AND WATER WASTE, AND REDUCE TOXIC POLLUTION IN OUR COMMUNITIES. THESE ARE THE WIN-WIN POLICIES WE NEED TO MAKE OUR AMBITIOUS CLIMATE GOALS REALITY.”

**MELISSA MIYASHIRO**  
EXECUTIVE DIRECTOR,  
BLUE PLANET FOUNDATION

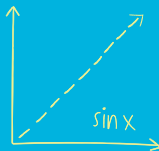
$y=\frac{x}{3}$

$\Sigma$

$\sqrt{\alpha A}$



# Hawai'i Energy



$(a+b) > (x+y)$

$(\pi^3+r) \approx \sqrt{x}$

$t=x(z^2)$