
TECHNICAL ADVISORY GROUP

HAWAII PBF PROGRAM

October 29, 2025
9:45 a.m. to 11:45 a.m.

Hawai'i Energy offices at 45 N. King Street, Suite 500, Honolulu (with virtual option via Teams)

REMINDERS

- Remote participants, please mute your lines when you aren't speaking – we'd like to keep the lines open so you can easily join the conversation
 - You may also use the “raise hand” or chat functions
- Please identify yourself and your organization when speaking
- We encourage participants to ask questions and contribute their constructive comments
 - Your silence during a discussion implies that you agree

COMMISSION WELCOME

AGENDA & INTRODUCTIONS

JENNIFER BARNES

ENERGY EFFICIENCY MANAGER TEAM

AGENDA

- 9:45: Agenda, Introductions & June Meeting Recap
- 10:00: PBFA PY25-PY27 Triennial Plan October 15th Supplemental Filing
- 10:40: Break
- 10:55: EVCS Portfolio Plan Elements
- 11:05: PY23 Verification Report
- 11:25: PY24 Mid-year & PY25 TRM Updates
- 11:40: Wrap up
- 11:45: Adjourn



INTRODUCTIONS BY ORGANIZATION

FALL 2025 TAG MEETING

JUNE MEETING RECAP

PY25-PY27 Triennial Plan

- HPUC approved plan but required that several items be addressed in an October 15th resubmission
- Leidos will provide an overview of the key elements of their resubmission today

EVCS Program Overview

- EVCS Portfolio Plan to be filed November 3rd
- Leidos will summarize the key elements of their plan today



PY25-27

TRIENNIAL PLAN SUPPLEMENTAL FILING

PRESENTED OCTOBER 2025
FOR TECHNICAL ADVISORY GROUP

PY25-27: TRIENNIAL PLAN SUPPLEMENTAL FILING

- Commercial Program Strategies Recap
- Customer-Sited Storage
- Hawaiian Electric Collaboration
- Budget and Performance Award
 - Island Equity
 - Subcategories Reporting

COMMERCIAL PROGRAM STRATEGIES RECAP



Leverage data to influence consumers



Target most energy-intensive end uses for efficiency & load management



Invest in Staff, Clean Energy Allies and Partners



Refine programs and processes

PROPOSED ENHANCEMENTS & IMPROVEMENTS: BUSINESS

- **Data and Systems:**

- Enhanced data and targeting
- Expanded automation

- **People:**

- Staffing
- Clean Energy Allies
- Government and Industry Partnerships

- **Processes:**

- Concierge approach with enhanced technical assistance
- Simplifying custom processes wherever possible



DATA ENHANCEMENTS

- **Building out customer profiles by sector**
- **Leverage AMI for load profile targeting**
 - Customer targeting
 - Virtual commissioning subcontract
- **County permitting data for new project leads**
- **C&CH Better Buildings Benchmarking**
 - Customer sign up
 - Search tool
 - Transparency Map
- **Expanded Automation**

DATA SOURCES

Energy Data

- HECO Legacy SAP - Monthly
- HECO Databricks Cloud - AMI
- US Energy Information Admin

GIS & Demographic Data

- Hawaii Statewide GIS Program
- US Census Bureau

Building Characteristics

- Qpublic
- Google APIs

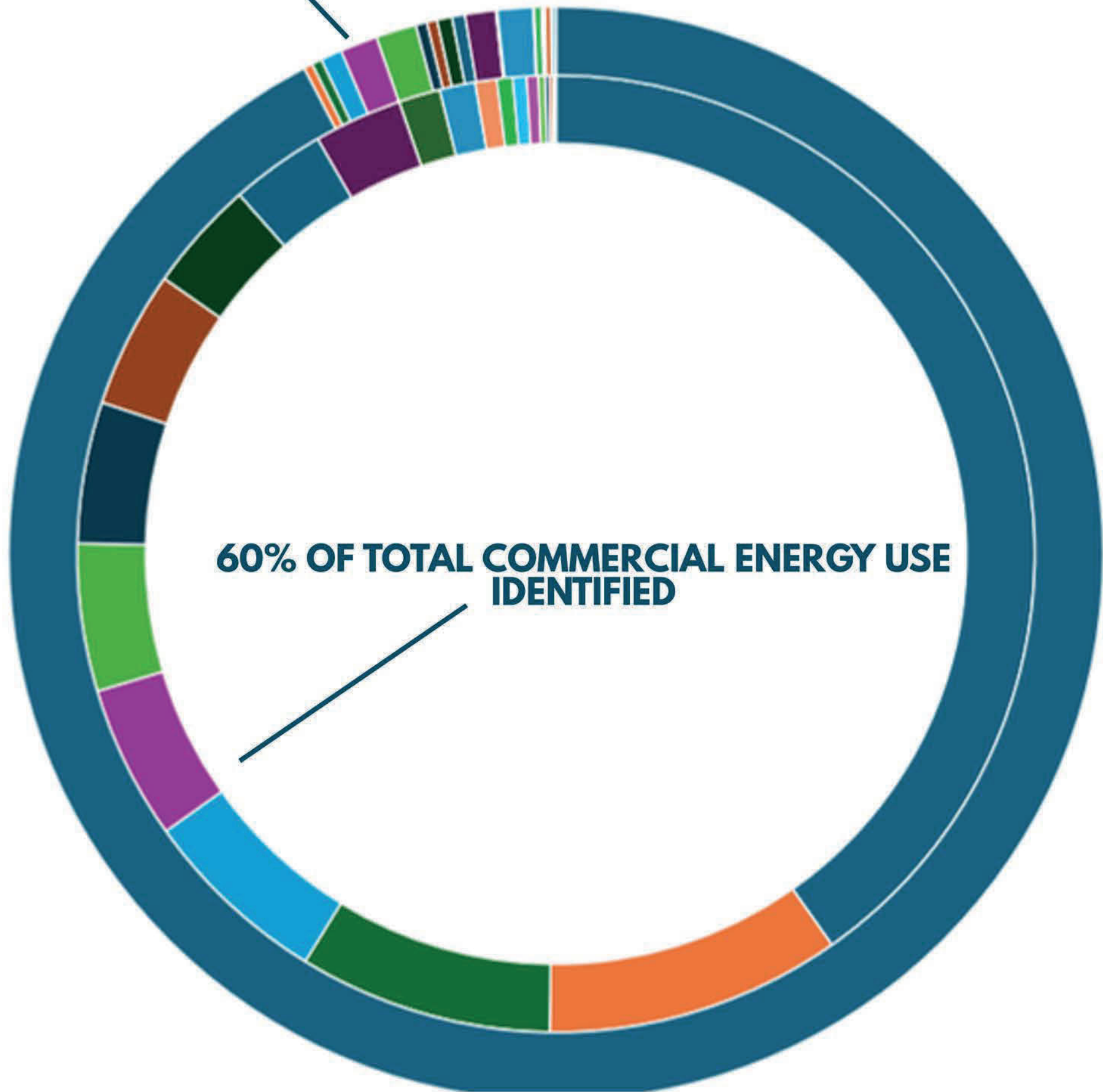
Building Permit

- C&CH - Department of Planning and Permitting Web
- Maui's Automated Planning and Permitting System (MAPPS) - CivicPlus
- County of Hawaii - Electronic Processing & Information Center (EPIC) - Tyler Technologies

INSIGHTS FOR PROGRAM DESIGN

- Targeting top users across all sectors
- Industrial usage 10% of tagged accounts - new programs for industrial like compressed air offering
- 40% of commercial kitchen tagged accounts have not participated - expand midstream offerings, refrigeration training and CEA engagement
- Only 30% of water/wastewater accounts have participated - focus on water-energy nexus, leak detection and build out case studies for successful pumping projects

7.5% OF COMMERCIAL ACCOUNTS TAGGED



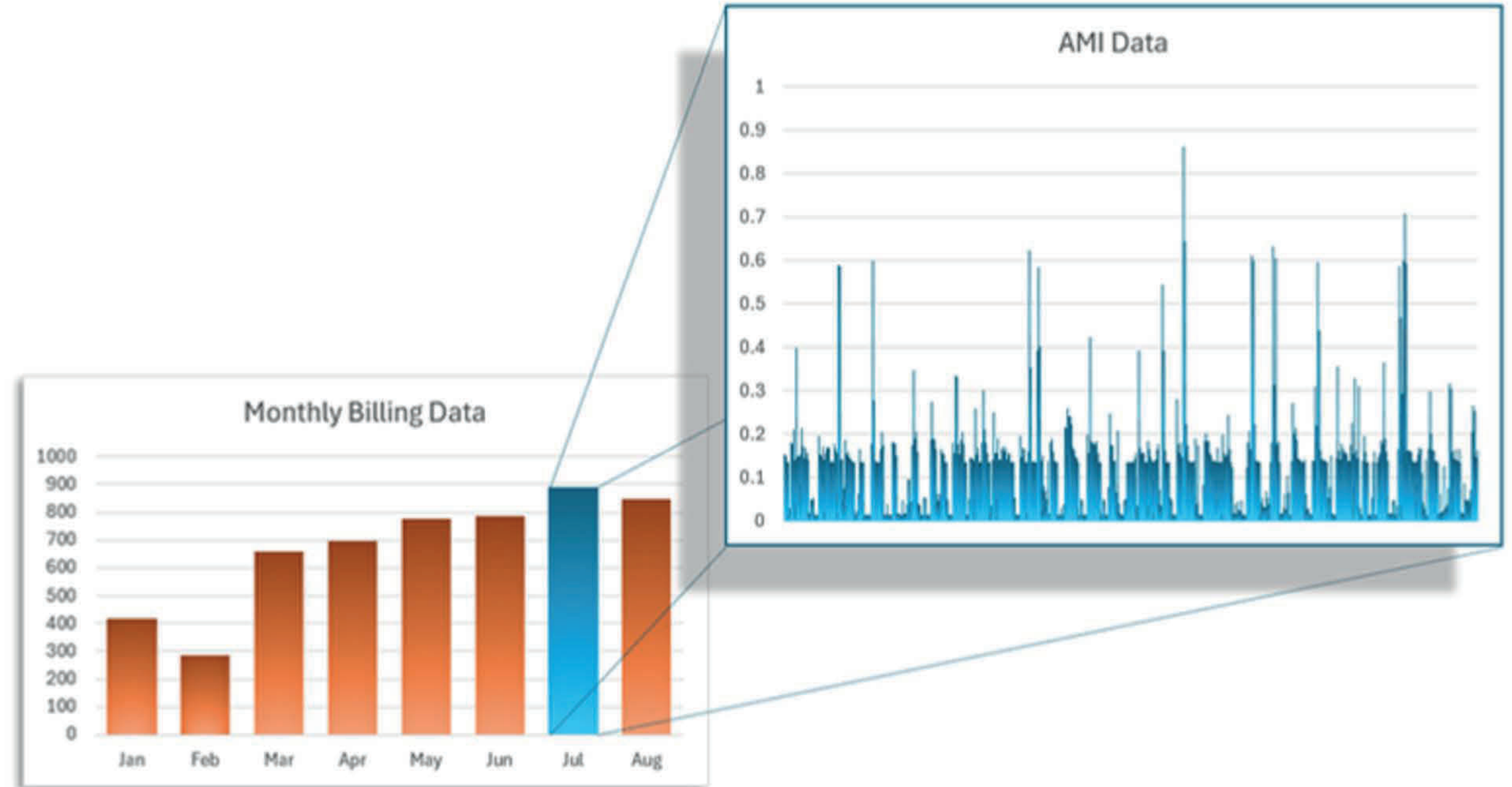
60% OF TOTAL COMMERCIAL ENERGY USE IDENTIFIED

- UNKNOWN
- Industrial
- Hotel/Motel
- Multi Family
- Office
- Misc. Commercial
- Health
- Government
- Education
- Grocery
- Retail
- Water/Wastewater
- Restaurant
- Telecommunication
- Warehouse
- Commercial Kitchen
- Cold Storage
- Entertainment
- Agriculture
- Residential
- Single Family

LEVERAGING AMI DATA

INSIGHTS FOR PROGRAM DESIGN

- Load profile analysis – insights into facilities' operational characteristics throughout the day
- Identification of anomalies in usage patterns to provide recommendations
- Increased effectiveness of commercial customer energy assessments
- Virtual Commissioning with Power TakeOff



PEOPLE ENHANCEMENTS

- **Staffing**

- Recruiting
- Refining Energy Advisor annual targets based on sector data
- Coordination with HECO Commercial Client Managers

- **Clean Energy Allies (contractors, design professionals, suppliers)**

- Frontline partners delivering efficiency projects daily
- Training + simplified processes = easier participation
- Regular touchpoints drive program improvement
- Bonus incentives target underserved areas

- **Industry Associations & Government Agencies**

- Their networks = our customers & allies
- Joint events and trainings build trust, raise awareness
- Collaboration helps reduce real-world barriers to adoption

Examples of Success



HAWAI'I LODGING & TOURISM
ASSOCIATION





Chester Carson
**EmPOWER Grant
Administration**



Graceson Ghen
Hawaii County Manager



Walter Enomoto
Maui County Manager



Dan Mestas
**Principal Development
Engineer, Healthcare**



Eileen Stewart
**Business Solutions
Manager**



Travis Hiramoto
**Energy Advisor:
Industrial, Multifamily**



Malia Kantrowitz
**Energy Advisor: Hawaii
County, Small Business**



Lily Koo
**Senior Energy Advisor:
Government, Hotel,
Military**



Rachael Mathers
**Energy Advisor: Education,
Entertainment & Public
Assembly, Places of Worship**



Melissa Onishi
**Energy Advisor: Agriculture,
Food Distribution, Food Service
& Sales**



Sophia Somers
**Energy Advisor: Office,
Retail**



Phillip Winchester
**Junior Energy Advisor: Boutique
Hotels**



Steven Bakovic
**Program Implementer: EV
Charging, Grid Services**



Jessica Dillen
**Business Alliances Navigator:
Clean Energy Ally Program**



**Energy Advisor:
New Construction**



Energy Advisor:

KEY CHALLENGES: BUSINESSES

	ECONOMIC	TECHNICAL	HUMAN RESOURCES
Large Commercial	Landlord-tenant split incentives	- Deferred maintenance investment priorities - Lack of submetering	Engineering staffing shortages
Retail	- Razor-thin margins - Landlord-tenant split incentives		Property management limitations/ decision making/ can't be bothered with paperwork
Government	Incentives do not go back to facility		
Hotel/Resort	- Capital Improvement budgets pulled forward during COVID vacancy - Cost of capital / inflation	- High occupancy limits access - Deferred maintenance - Lack of submetering	Engineering staffing shortages
Industrial	- Project scopes so large that efficiency considerations are dwarfed - Non-energy benefits much larger than energy benefits	Complexity of equipment makes baselining savings complicated - lack of submetering	Bandwidth constraints
Healthcare	"Emergency only" budget strategy; no \$\$ for continuous improvements - Lengthy project cycles	- High complexity of systems - Lack of submetering	Engineering staff bandwidth is stretched



PROPOSED ENHANCEMENTS & IMPROVEMENTS

Greater CEA engagement

- Focus groups
- Expand technical trainings - leverage distributor/manufacturer resources
- Commercial contractor bonus programs

Continuation
of historically
successful
programs &
services

Building workforce capacity

- Internship programs
- Exposure of high school students to CEA careers





Visit Hawai'i Energy at Booth E21P

Where: PBX Hawai'i
Hawai'i Convention Center
1801 Kalakaua Avenue
Honolulu, HI 96815

When:
September 24, 2025
Exhibition Hall: 9A.M. – 4:30P.M.



INDUSTRY ENGAGEMENT



PROCESS ENHANCEMENTS

- **Double down on technical assistance**
 - Customer concierge approach
 - Expand custom project support
 - Increased Advisor and Engineering staffing levels
- **Increased incentives / limited-time offers / bonuses**
- **Custom program improvements**
 - M&V “How-to” guides for customers and CEAs
 - Tool lending & other metering support
 - Access to subject-matter experts
 - Monthly project review with evaluators
- **Streamline customer process (ex: shift custom measures to prescriptive)**
- **New measure development (ex: compressed air)**



ENERGY CONCIERGE PROGRAM

Energy treasure hunts at Hilton Garden Inn and Mid-Pacific Institute found 30+ opportunities to schedule, maintain, replace, and remove equipment for energy savings across lighting, HVAC, refrigeration, appliances, and end-user education.

CUSTOMER-SITED ENERGY STORAGE



Leverage Hawai'i Energy incentives to support LMI customer enrollment in BYOD+



Simple rebate program design to minimize additional paperwork needed



Support enrollment through CEA network and industry partnerships

BYOD PLUS PROGRAM

- Replaces Battery Bonus
- Upfront incentive based on the kW committed to the program with monthly export credits for the energy sent to Hawaiian Electric at the retail rate of customer's current billing rate.
 - Standard upfront incentive is \$400/kW of committed capacity.
 - Special rate of \$800/kW for qualifying low-moderate income (LMI) customers.
- Program threshold is 50 MW statewide provided that **25 MW will be allocated to LMI customers.**
- LMI for BYOD Plus:
 - Any customer who has a gross annual household income, which includes income from all persons occupying the customer's home less than 140% of Area Median Income.
 - Commercial customers must provide evidence of such LMI designation from an applicable local, state, or federal entity responsible for said designation).
- Limited LMI customers enrollment to date.



**Hawaiian
Electric**

HAWAI'I ENERGY STORAGE REBATE FOR LMI CUSTOMERS



- Leverage Grid Services incentive budgets to provide a rebate of \$800 per kW to match the BYOD Plus upfront incentive to promote LMI enrollment.
- Target LMI residential and commercial storage opportunities as these customers remain an underrepresented market in current DER programs while possessing significant load shifting potential.
- Simple program design, ensure program technical requirements are aligned with Hawaiian Electric's program rules.
- Minimize duplication of evaluation and verification efforts by deferring to HECO processes in place.
- Launch January 2026 to be leveraged as offset to federal tax credit expiration.
- Prioritize customer engagement efforts through direct outreach to our Clean Energy Ally network and key industry stakeholders including the Hawaii Green Infrastructure Authority (HGIA) and Hawaiian Electric's Customer Energy Resources team.

ENERGY STORAGE BUDGET ALLOCATIONS & ESTIMATED COMMITTED CAPACITY

Program		PY25	PY26	PY27
LMI Commercial Energy Storage	Proposed Budget (\$)	415,000	440,000	440,000
	Estimated Committed Capacity Supported (kW)	519	550	550
LMI Residential Energy Storage	Proposed Budget (\$)	250,000	100,000	100,000
	Estimated Committed Capacity Supported (kW)	313	125	125

HAWAIIAN ELECTRIC COLLABORATION PLANS



Customer Resources &
Energy Optimization



Low Income Customer
Assistance



Data



Electrification of
Transportation



Marketing & Outreach



CUSTOMER ENERGY RESOURCES & ENERGY OPTIMIZATION

- Develop PY25-27 customer energy storage rebate program offering details in alignment with BYOD Plus or other identified grid serves programs.
 - Explore pilot opportunities for demand response capable guest room controls enrollment in grid services programs.
- Monthly check-ins with Hawai'i Energy Business Energy Advisors and Hawaiian Electric Commercial Client Managers (CCM) to ensure customers receive comprehensive services from both organizations.
 - Ongoing updates to shared lead generating portal.
 - Initiate customer demand charge adjustment requests following energy efficiency projects.
- Quarterly full team meetings with all Energy Advisors and Commercial Client Managers focus on project identification/lead generation, benchmarking opportunities, customer data needs, and program status updates.

SHARED PORTAL FOR LEAD GENERATION

LET'S COLLABORATE!

A place where you can easily share & track project leads

Leads

Hawaii Energy Reference

Hawaiian Electric Reference

Commercial Rebates

A full list of equipment and services eligible for rebates is available on our website: [Rebate Summary Sheet](#). Specific rules and requirements and eligibility are found on each category webpage. The rebate categories include:

- **Appliances & Electronics:** Inclusive of appliances or energy-saving measures for plug loads. Vending machine sensors are the only rebate in this category currently.
- **Audits & Retro-Commissioning:** These programs help cover the cost of hiring a qualified company to conduct these energy services and provide the customer with a resulting audit or re- or retro-commissioning report.
- **Building Envelope:** Making energy-efficient changes to the exterior of your building (e.g. window film) can reduce solar heat gain and lower the cooling load.
- **Commercial Kitchen Equipment:** This program covers most commercial grade, electric appliances that are ENERGY STAR certified. These appliance rebates are available direct to customer and through participating lighting distributors. The category also includes low-flow spray nozzles and demand-controlled kitchen ventilation hoods.
- **Custom Project Support:** For equipment upgrades or projects where calculating energy reduction requires a more rigorous process, our team of energy engineers can help to identify potential energy savings and, just as important, estimate a customized rebate. Our downloadable custom lighting worksheet can be used for projects with non-standard LED lighting equipment.
 - **Custom Project Support** webpage contains guidance, as well as higher level program guidance from the program evaluators: [Custom Project Guidance](#).
 - Custom incentives are offered for energy efficiency projects that are not prescribed an incentive. Typical custom incentive projects include but are not limited to:
 - >600-ton chillers
 - Central plant controls and optimization
 - VAV retrofits
 - Energy Management System installations or upgrades
 - Industrial refrigeration and walk-in cooler/freezer upgrades
 - Compressed air system upgrades
 - Retro-commissioning
 - Demand-controlled ventilation (commercial kitchen demand-controlled ventilation is prescriptive)
 - Exterior lighting retrofits
 - Lighting retrofits with dimming controls or networked lighting controls
- **Electric Vehicle Charging Stations:** New and retrofitted level 2 and DC fast chargers available for public use or for fleet charging are eligible for rebates statewide.
- **HVAC:** There is an array of rebates for HVAC equipment including the system itself, VFDs for fans and pumps, and energy management systems for hotel guest rooms.
- **Industrial & Special Equipment:** Currently, transformers retrofits are the only measure in this category.
- **Lighting:** Replacing existing fixtures with energy-efficient lighting is still one of the fastest and easiest ways to save energy. Rebates are available direct to customer and through participating lighting distributors.
- **New Construction Projects:** New construction or major renovations of commercial and multifamily/linked use buildings are eligible for incentives based on system or building performance above code.
- **Pumps & Motors:** These incentives cover motors for HVAC and refrigeration applications, booster pumps, and pool pumps.
- **Refrigeration:** There is a suite of refrigeration efficiency measures eligible for incentives for walk-in coolers/freezers and refrigerated cases. They are typically found in retail, supermarket/grocery, and restaurants.
- **Smart Devices:** This is an incentive for an energy management system inclusive of a smart thermostat (with occupancy sensors) for a rooftop HVAC system at small-medium buildings.
- **Submetering:** Multifamily and commercial buildings with a master-meter are eligible for incentives to install third-party submetering.
- **Water Heating:** Energy-efficient alternatives to water heating, such as the installation of heat pump water heaters or solar water heating, is a great way to give your water heater a break.

Leads

Hawaii Energy Reference

Hawaiian Electric Reference

Advanced Meters

Our new meters don't just track usage — they talk back! Through secure two-way communication, they help us modernize the grid and give you near real-time usage insights via the My Energy Portal. Looks like a regular meter, but with a digital screen. More info: [Advanced Meters](#) | [Hawaiian Electric](#)

My Energy Portal

- Track 15-minute interval usage
- Add markers for equipment or event changes (ex: annual maintenance, seasons)
- Get alerts for exceeding usage thresholds (kWh/VW)
- Use weather & usage history to find trends
- Download interval data via Green Button (CSV/XML)
- Share access via Secondary User Access

More info: [My Energy Use Portal](#) | [Hawaiian Electric](#)

Better Buildings Benchmarking

If you manage a building on O'ahu that's over 25,000 square feet, the City and County of Honolulu requires you to report your energy usage each year by **June 30**. Don't worry — we've got your back. Each year by **April 1**, Hawaiian Electric will upload your building's energy data to the City's portal. You'll be able to access it easily and link it to your ENERGY STAR Portfolio Manager account. More details and instructions are at: [www.resilientoahu.org/benchmarking](#)

Commercial Rates

Want the full scoop on our commercial rates and base pricing? It's all in our easy-to-read brochure just click the link to check it out.

- Oahu
- Hawaii Island
- Maui
- Lanai
- Molokai

Upgrade, Modify, or Install Electric Service

Planning a new project? Hawaiian Electric makes it easy to request new electric service (for new builds); upgrade, remove or relocate existing service; or even safely disconnect/reconnect service during construction. We also support specialized requests like line blanketing, pole bracing, standby crews, and power feasibility/availability or pre-service planning. For O'ahu projects, we provide access to as-built drawings. Apply here: [Upgrade, Modify, or Install Service](#) | [Hawaiian Electric](#)

MARKETING & OUTREACH

OVER
\$5,000 IN
REBATES
INSIDE



YOUR GUIDE TO
EFFICIENT
HOME COOLING



SAVE ENERGY, SAVE MONEY

WHO DOESN'T LIKE SOME EXTRA CASH?



We're here to help.
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. We're proud to have helped save billions of dollars in energy costs.

Ways you can make a difference:

1. Start with good energy-saving habits.
2. Be aware of your home's energy usage.
3. Upgrade aging systems and appliances.

Make use of rebates while they last.
Need an efficient refrigerator or water heater? There's more than \$5,000 in residential home rebates available to help with these upgrades!
SEE THE FULL LIST AT
HAWAIIENERGY.COM/REBATES

Get the latest offers, tips to save energy, contest giveaways, and more!
Sign up for our once-a-month tips newsletter to get the latest info on how to lower your energy bills.
SIGN UP AT HAWAIIENERGY.COM/ENEWSLETTER

Next Giveaway
The "Flip Your Fridge Giveaway" is coming soon! Watch our newsletters for the announcement.

HAWAIIENERGY.COM



MORE WAYS TO COOL

Home Fan System UP TO \$100 REBATE



Whole house and solar attic fans pull in cool, fresh air from the outside and expel the hot, stale air out of vents. They use 90% less energy than AC!

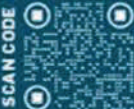
Spot Cooling UP TO \$45 REBATE



A window AC is an efficient choice for single room cooling if sized right and ENERGY STAR® certified.

LEARN MORE AT
HAWAIIENERGY.COM/COOLING

SCAN CODE



3 IMPORTANT TIPS
Selecting the right AC model or cooling system will ensure it won't use more energy than is needed. Here are three important tips when shopping for one:

1. Make sure to size it right
2. Check electrical requirements
3. Check for efficiency or CEER

What is a CEER? It stands for "Combined Energy Efficiency Ratio" and tells you how efficient an AC is. We recommend 11.4 or higher. Or simply look for the ENERGY STAR® for products with the best energy savings!



- Monthly coordination meeting with Hawai'i Energy and Hawaiian Electric communications teams.
- Ongoing referrals to Hawai'i Energy website from links on Hawaiian Electric's website, through the "My Energy Use" portal (for advanced meter owners), and on social media.
- Additional external communications campaigns to promote energy-saving tips and Hawai'i Energy's rebate programs.
- Continued printed and PDF customer bill inserts.
- Additional customer and contractor email messages to focus on zip code targeting for hard-to-reach residential customers.

SUPPORT OF LMI CUSTOMERS

Sign up for Energy Smart 4 Homes

Hawaiian Electric customers enrolled in H-HEAP can save energy and money through the Energy Smart 4 Homes program offered by Hawai'i Energy. This program provides FREE energy-saving light bulbs, water-saving fixtures, and power strips that can save you up to \$340 every year. A Hawai'i Energy professional will install your free products.

Signing up for the program is easy at [HawaiiEnergy.com/ES4Hsignup](https://hawaiienergy.com/ES4Hsignup) OR by calling (808) 537-5577.



- Quarterly HECO LMI Advisory Board meetings where stakeholders address gaps and focus areas for efforts to drive more participation and program benefits to LMI families.
- Joint community outreach presentations and information sessions as identified.
- Hawai'i Energy specialized program support for high bill inquiries.
- Prioritization of Hawai'i Energy Accessibility and Affordability offerings for customer resilience in Public Safety Power Shutoff areas.

ISLAND EQUITY



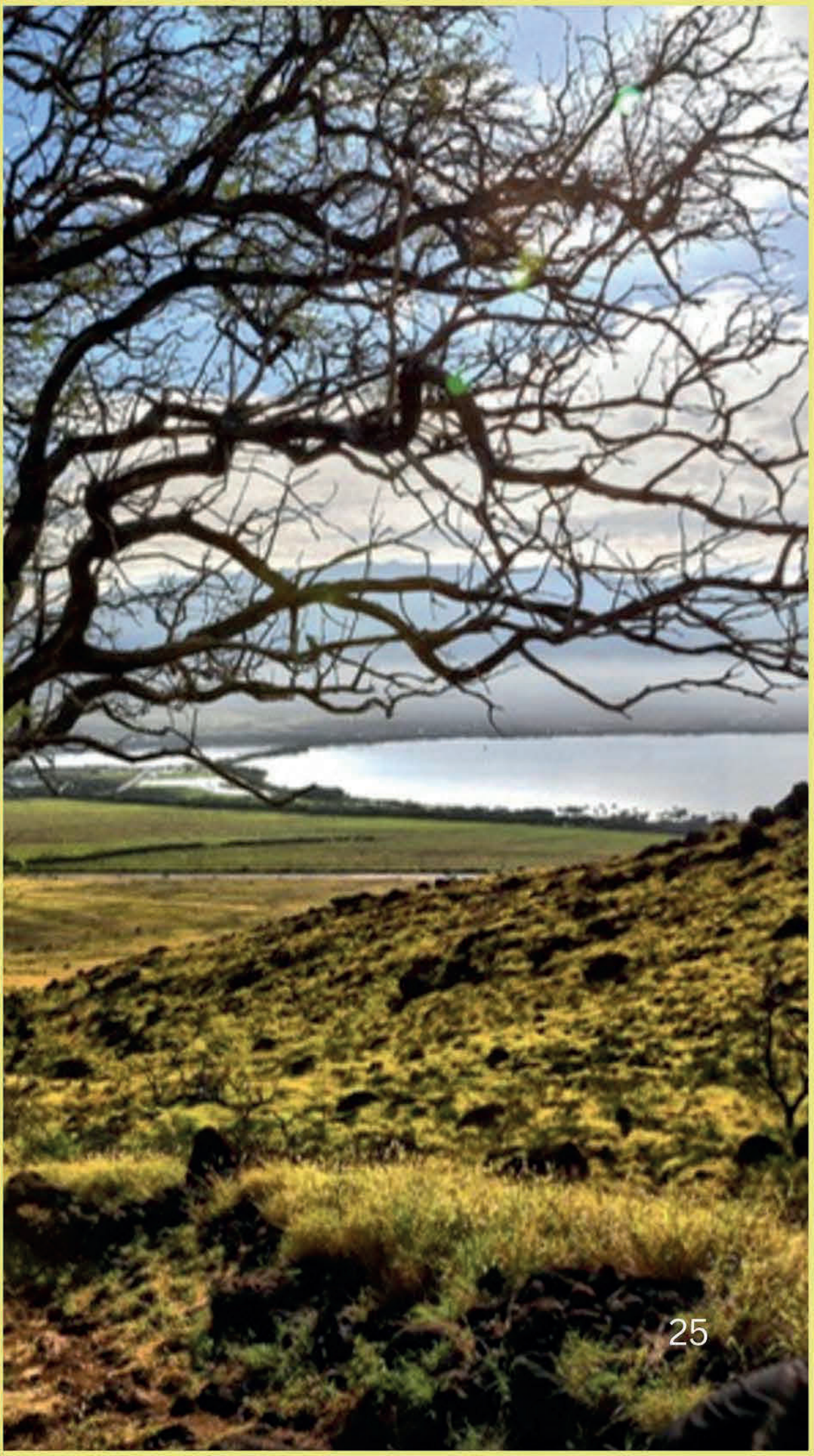
Ensure distribution of incentives in proportion with collections by island

MAUI PERFORMANCE & PLANS

Table 3 Maui Island Equity Performance

Program Year	Maui County Island Equity Performance	Status
2023	9.6%	Claimed, Pending Final Verified
2024	9.7%	Claimed

- Collections remain at 13%
- Wildfire impacts include loss of 800 businesses and 2,000 homes
- Increased Hawai'i Energy programming but investments in efficiency have slowed
- Propose maintain 8% target for PY25 and revisit in PY26-27



PERFORMANCE SUBTARGETS

CET PERFORMANCE SUBTARGETS

Performance Category	Budget category
Business Incentives	BEEM
	BESM
	BGRID
	CBEEM
Business HTR	BHTR
Residential Incentives	CREEM
	REEM
	RESM
	RGRID
Residential HTR	RHTR

PY25				
Percentage	15%	15%	20%	15%
PERFORMANCE INDICATORS				
	kWh	kW	TRB	Lifetime kWh
Total	91,624,196	10,698	\$ 204,885,448	1,120,220,912
Business Incentives	54,874,012	6,127	128,116,887	693,980,190
Business HTR	8,575,155	1,088	19,538,975	105,477,625
Residential Incentives	18,540,092	2,174	36,742,508	212,636,236
Residential HTR	9,634,937	1,310	20,487,078	108,126,862
PERFORMANCE AWARD				
	kWh	kW	TRB	Lifetime
Total	\$ 112,500.00	\$ 112,500.00	\$ 150,000.00	\$ 112,500.00
Business Incentives	\$ 67,376.60	\$ 65,882.83	\$ 93,816.73	\$ 69,694.08
Business HTR	\$ 10,528.93	\$ 11,093.79	\$ 14,299.65	\$ 10,592.76
Residential Incentives	\$ 22,764.30	\$ 22,169.05	\$ 26,890.10	\$ 21,354.34
Residential HTR	\$ 11,830.18	\$ 13,354.33	\$ 14,993.52	\$ 10,858.82

REFERENCE: Performance Goals & Metrics for PY25-27 ("Green Table")

Consistent with PY22-24 framework:

- Award subtarget in proportion with savings
- Minimum performance threshold - 90%
- Cumulative true-up at end of triennial

Updated:

- Combined BEEM, BESM, BGRID, CBEEM into Business Incentives Subtarget

TRANSPARENCY IN PERFORMANCE DATA & SUB-TARGETS

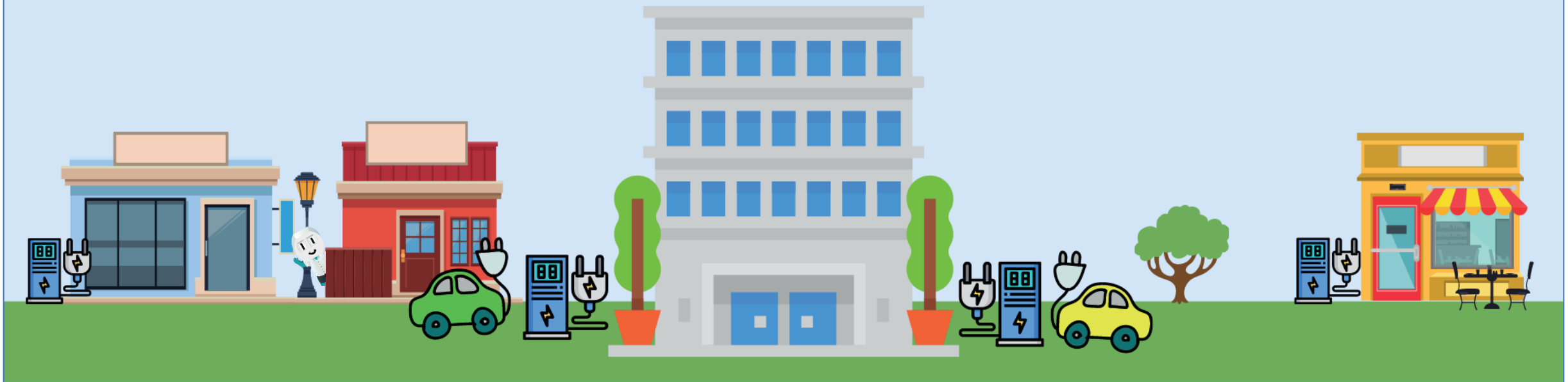
QUARTERLY

Hawai'i Energy prepares a quarterly report out presentation for the PUC in which progress towards performance targets is summarized. We can send the performance summary table highlighting progress to date to the intervening parties as part of the package prepared for this quarterly report out.

ANNUAL

As part of the annual verification process, Hawai'i Energy tracks performance data for each sub-target category in detail and summarizes performance in Annual Report tables provided to the EM&V contractor. Hawai'i Energy can provide these preliminary tables to the intervening parties once they are formally submitted in accordance with the annual verification process.

Electric Vehicle Charging Station Rebate Program



Hawai'i Energy

Steven Bakovic
Clean Energy Ally Liaison

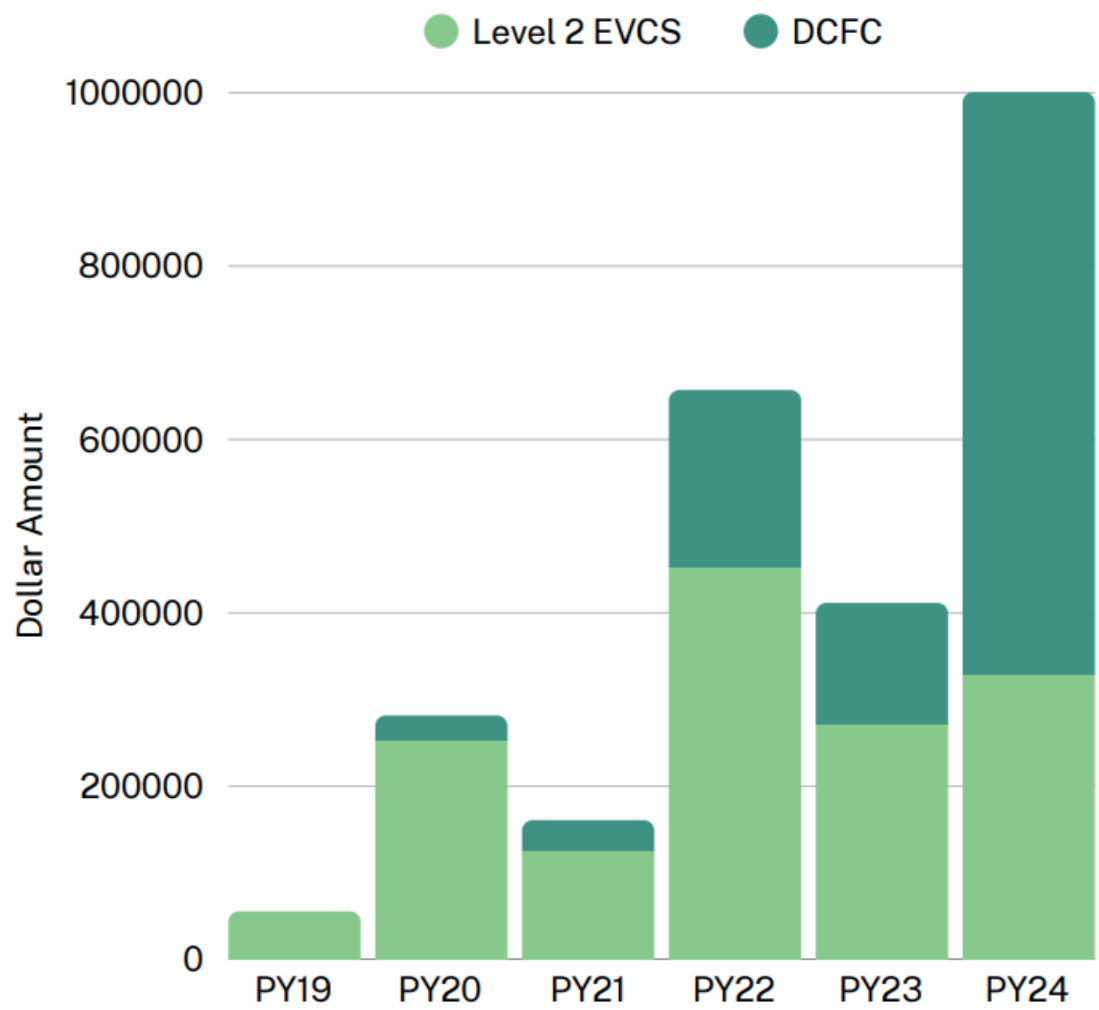
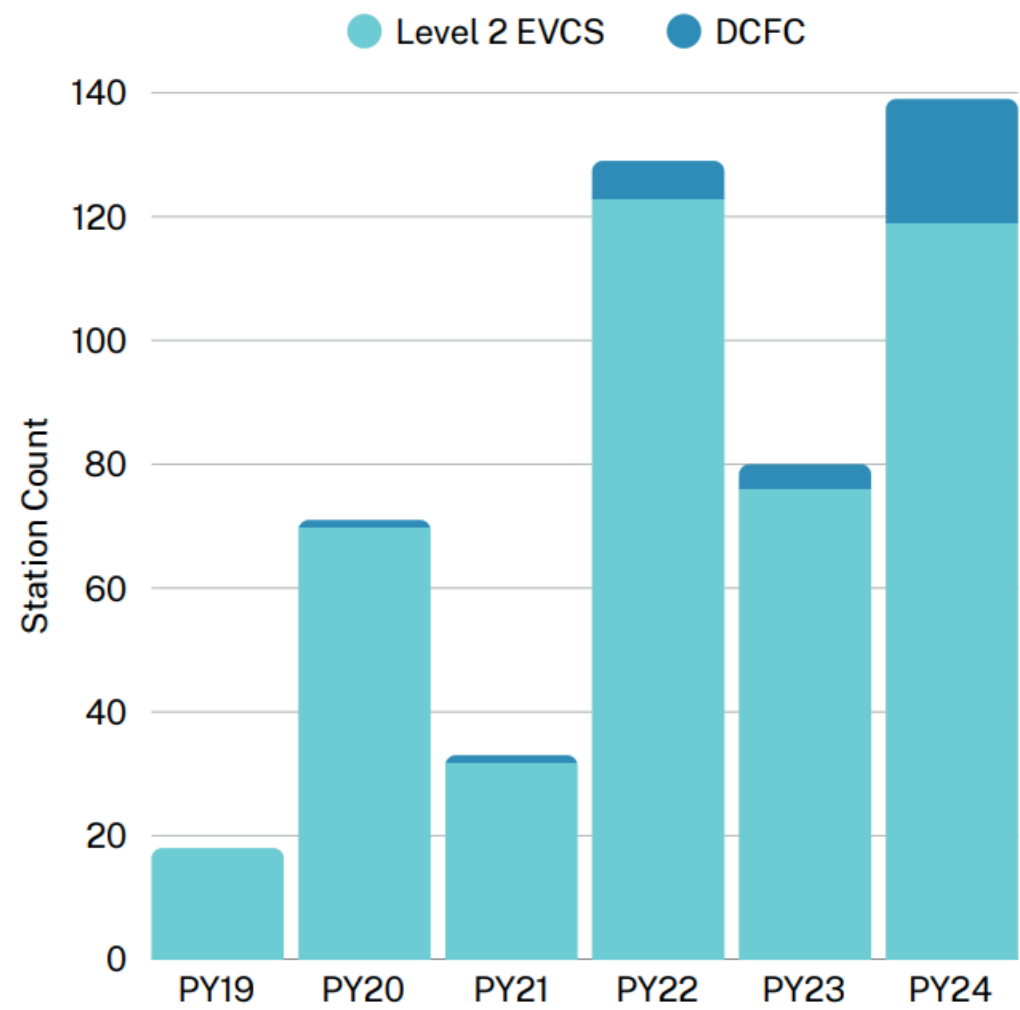
PY24 Statistics

July 1, 2024 – June 30, 2025

- \$1,000,782.70 in EVCS rebates distributed
- 139 stations rebated (119 level 2, 20 DCFC)
 - 80 on Oahu
 - 48 on Maui
 - 10 on Big Island
 - 1 on Kauai
- 2 affordable housing bonuses provided
 - \$1500 for Parkway Village at Kapolei
 - \$9000 for Naulu

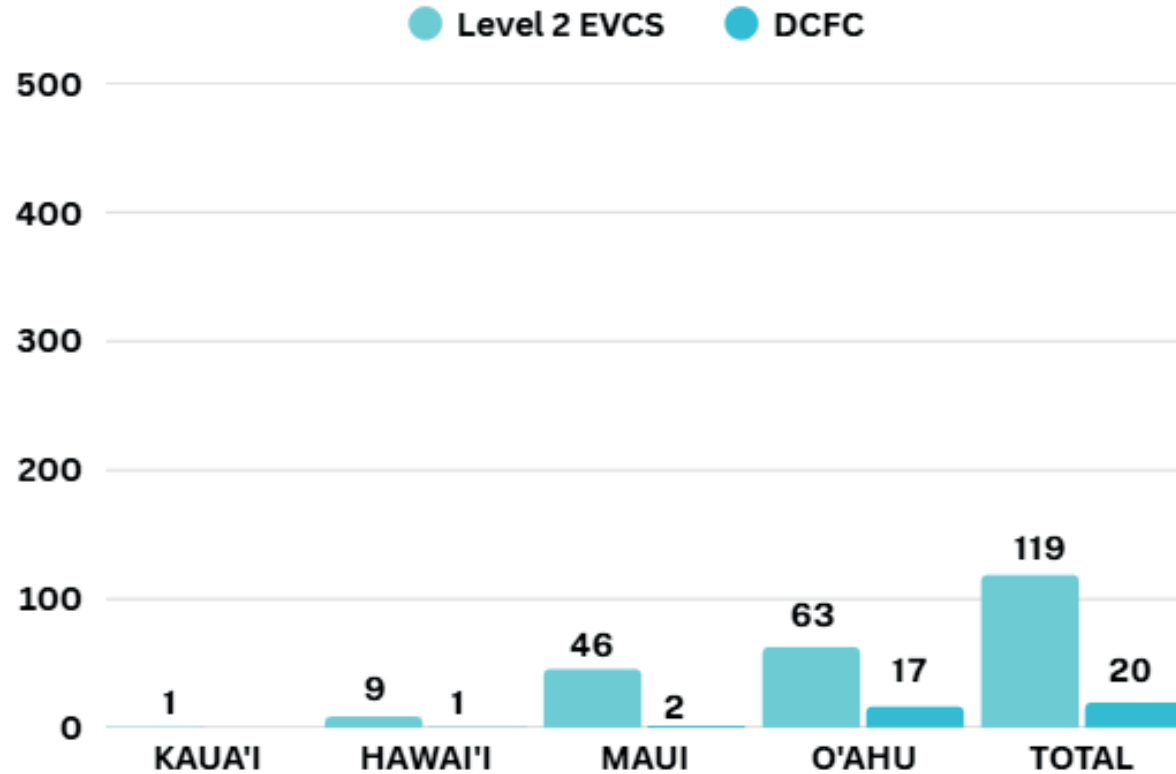


EVCS Rebates by Program Year (PY)

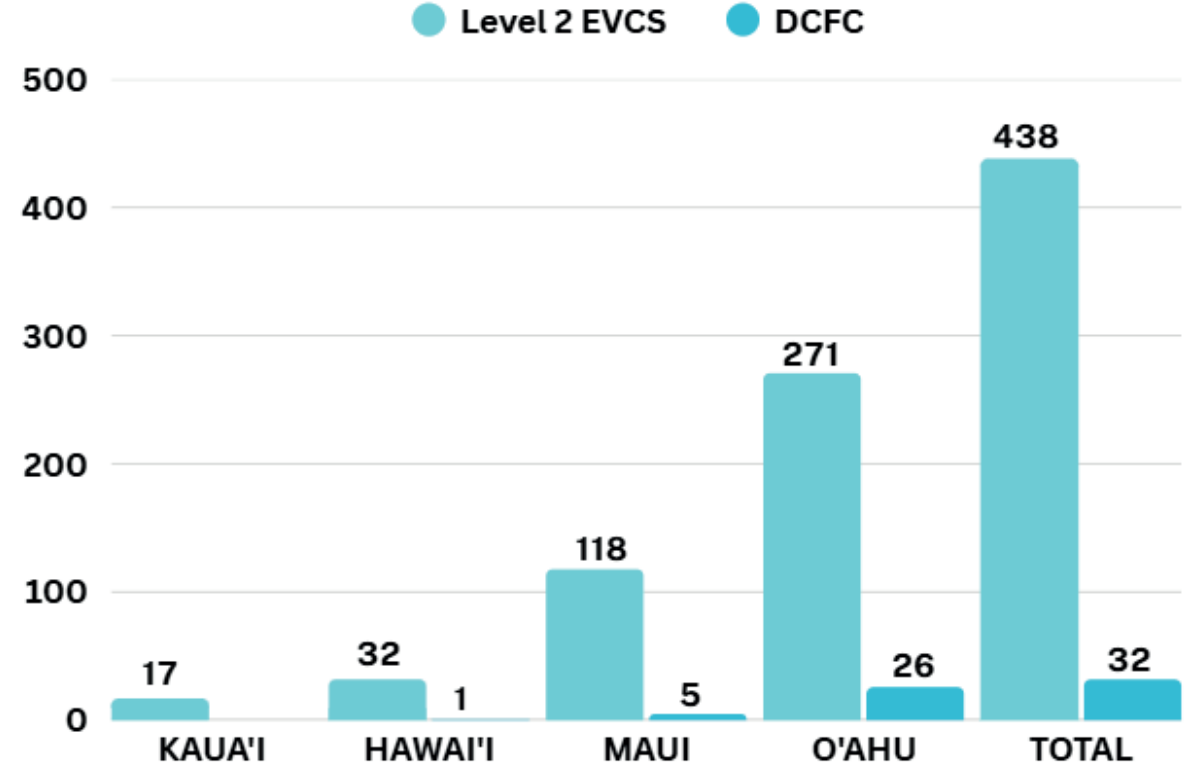


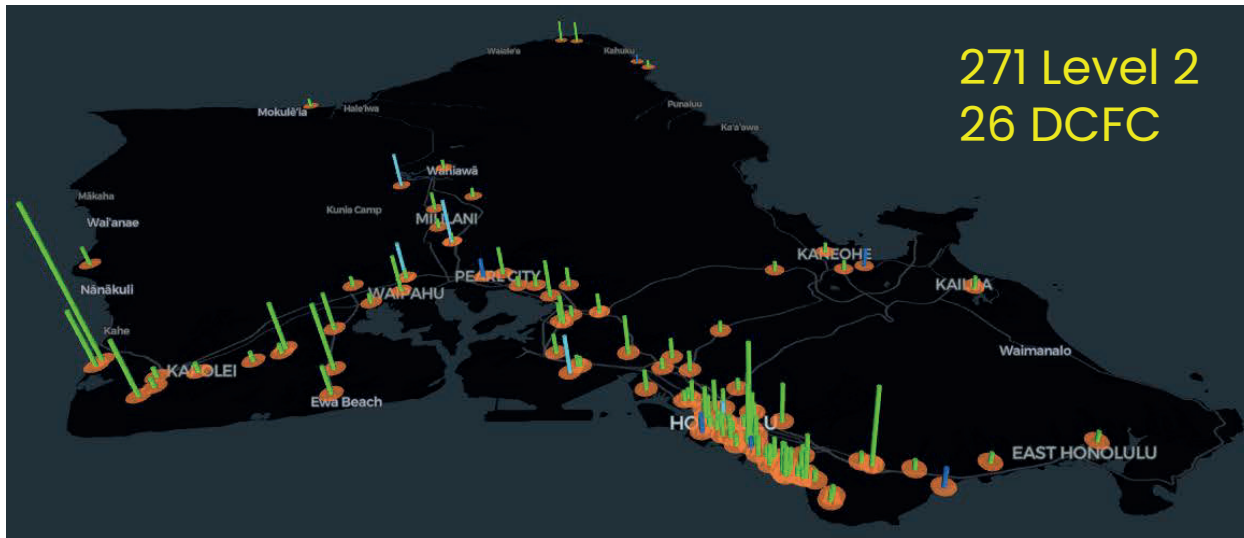
EVCS Rebates by County

PY24



PY19-24





Case Study:
NEVI Site
Maui

2 of 4 DCFCs rebated
=\$70,000
For general public



PY24 EVCS Insider Awardees

The Light Bulb Source 18 rebated chargers



Reboot LLC 30 rebated chargers



Name	Phone	Email
Koo Electric Service 	(808) 797 - 7707	 john@koohawaii.com
Hawaii Energy Systems, LLC 	808-342-9866	 jpham@hawaiienergysystems.com
Electric Contractors LLC 	(808) 798-5257	 kcosby@electriccontractors.com
Aloha Charge 	(808) 450 - 2221	 info@alohacharge.com
ELCCO 	(808) 877-7344	 estimating@elccoelectric.com
Electric Service of Maui LLC 	(808) 633 - 1827	 laurie@electricserviceofmaui.com
Envoy Hawaii 	808-521-5810	 info@envoyhawaii.com
MARZAN ELECTRIC 	(808) 871 - 1717	 marzanelectric@marzanengineering.com
OceanHead Solar & Electric 	(808) 397 - 0066	 gail@oceanhead.com
PLS Power LLC 	(808) 518 - 0123	 jobs@plspowerllc.com
Reboot LLC 	(808) 446-5004	 reboothawaii@gmail.com
Solar Specialty Group INC 	(808) 854 - 9539	 thomashall@solarspecialtygroup.com
The Light Bulb Source 	(808) 596 - 2214	 ddd@allaroundlighting.com
Universal AC Inc 	808-351-9133	 mark@universalachawaii.com



PY25–PY27 TRIENNIAL PLANNING

- **Program Management**

- November 3 – triennial plan outline filing
- November/December – vendor and industry focus groups
 - Explore opportunities for LMI carve outs for PY26–27
- Develop updated program qualifications for future program years
- Leverage \$200k in PBFA incentives for targeted

- **Administration**

- Supplemental contract to deploy PY25 funds
- Close out backlog of applications

- **Marketing and Outreach**

- Launch marketing efforts targeting specific customers identified through focus group efforts

EVCS – PY25–PY27 TRIENNIAL BUDGET

Hawaii Energy - State EV Program Budget	PY25	PY26	PY27	Total Budget
Business Programs				
<u>Clean Energy Technologies Planning & Implementation</u>				
BGRID	65,625.00	65,625.00	65,625.00	196,875.00
Subtotal Business Programs	65,625.00	65,625.00	65,625.00	196,875.00
Business Outreach	35,813.00	35,813.00	35,813.00	107,439.00
<i>Total Business Clean Energy Technologies Non-Incentive</i>	<i>101,438.00</i>	<i>101,438.00</i>	<i>101,438.00</i>	<i>304,314.00</i>
Total Business Non-Incentive	101,438.00	101,438.00	101,438.00	304,314.00
<u>Business Incentives</u>				
<u>Direct Incentives</u>				
BGRID	637,500.00	637,500.00	637,500.00	1,912,500.00
Subtotal Business Incentives	637,500.00	637,500.00	637,500.00	1,912,500.00
Total Business Incentives	637,500.00	637,500.00	637,500.00	1,912,500.00
Total Business Programs	738,938.00	738,938.00	738,938.00	2,216,814.00
Support Services				
General & Administrative/IT	6,000.00	6,000.00	6,000.00	18,000.00
Total Support Services	6,000.00	6,000.00	6,000.00	18,000.00
Subtotal Non-Incentive (Prior to Tax)	107,438.00	107,438.00	107,438.00	322,314.00
Total Tax on Non-Incentive	5,062.00	5,062.00	5,062.00	15,186.00
<i>Subtotal Non-Incentive Billed</i>	<i>112,500.00</i>	<i>112,500.00</i>	<i>112,500.00</i>	<i>337,500.00</i>
<i>Subtotal Business Customer Incentives</i>	<i>637,500.00</i>	<i>637,500.00</i>	<i>637,500.00</i>	<i>1,912,500.00</i>
Total Estimated Contractor Costs	750,000.00	750,000.00	750,000.00	2,250,000.00

Budget Parameters

- \$750,000 Annual Budget
- 85% of Budget Incentives
- 15% of Budget Administrative/Marketing
- Ability to leverage \$200,000 in PBF Incentive Funds



Mahalo!





Questions/Comments?

Program design under HRS §269–72

EV Charging Station Type	Incentive		Deadline to Apply
	Retrofit	New	
AC Level 2 Single-Port ($\geq 3\text{kW}$)	\$1,300	\$2,000	12 months from the installed date
AC Level 2 Multi-Port ($\geq 3\text{kW}$)	\$3,000	\$4,500	
DC Fast Charger ($\geq 40\text{kW}$)	\$28,000	\$35,000	

- Priority given to EVCS that are:
 - publicly available;
 - serve multiple tenants, employees, or customers;
 - serve electric vehicle fleets;
 - support the visitor industry in transitioning to clean transportation;
 - or serve low-income, moderate-income, or environmental justice communities

PY23 VERIFICATION FINDINGS

ALEX CHAMBERLAIN
ICF

SUMMARY OF VERIFICATION ACTIVITIES

CET

Tracking Database Replication

- First-year kWh, lifetime kWh, and peak demand kW
- Total Resource Benefits (\$)
- Verified at the customer, system, and program levels

Desk Reviews & On-site Visits

- Simple desk reviews for non-custom projects
- Complex desk reviews for custom projects
- CBEEM on-site visits

Grid Service Ready & GHG Emissions

- Count of grid services-eligible measures
- kWh/kW conversion to barrels of oil & tons of GHG

Non-CET

Affordability & Accessibility

- Economic Disadvantaged
 - BHTR and RHTR
- Community-Based Energy Efficiency (CBEE)
- Island Equity

Market Transformation & Economic Development and Customer Satisfaction

- Reviewed workshop attendance and other supporting documents
- Results of Medallia (business) and in-house survey results

LMI PIM Awards

- Awards go to HECO, not Hawai'i Energy
- Associated with RHTR and A&A programs

DEFINITIONS

Three different sets of data in the verification report:

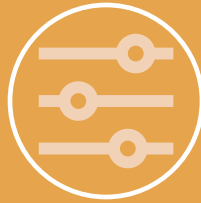
- **Reported** or “claimed” program accomplishments by Hawai‘i Energy in terms of energy savings and associated performance awards
- **Verified** energy savings and performance awards verified by EM&V contractor (ICF)
 - Reflects adjustments made to savings claimed through verification efforts (savings replication, desk reviews, on-site visits)
- **Targets:** goals as stipulated in triennial plan, against which PBFA awards are determined
 - For some metrics, there is just a single numeric target that must be met or exceeded
 - For others, there is a 90% minimum that allows for a partial award (or the full award for meeting or exceeding the target)
 - Both claimed and verified savings adhere to the same targets

CLEAN ENERGY TECHNOLOGIES (CET) KEY TAKEAWAYS



Hawai'i Energy's implementation of the TRM algorithms for prescriptive programs was near perfect.

We made minimal impactful TRM adjustments, leading to TRM adjustment factors close to 1.0 for all programs.



ICF verified 101% of Hawai'i Energy's first-year energy savings.

Despite a variety of adjustments across many projects and programs, Hawai'i Energy achieved 101% of claimed first-year and lifetime energy savings and 100% of claimed peak demand reduction, attesting to Hawai'i Energy's database accuracy.

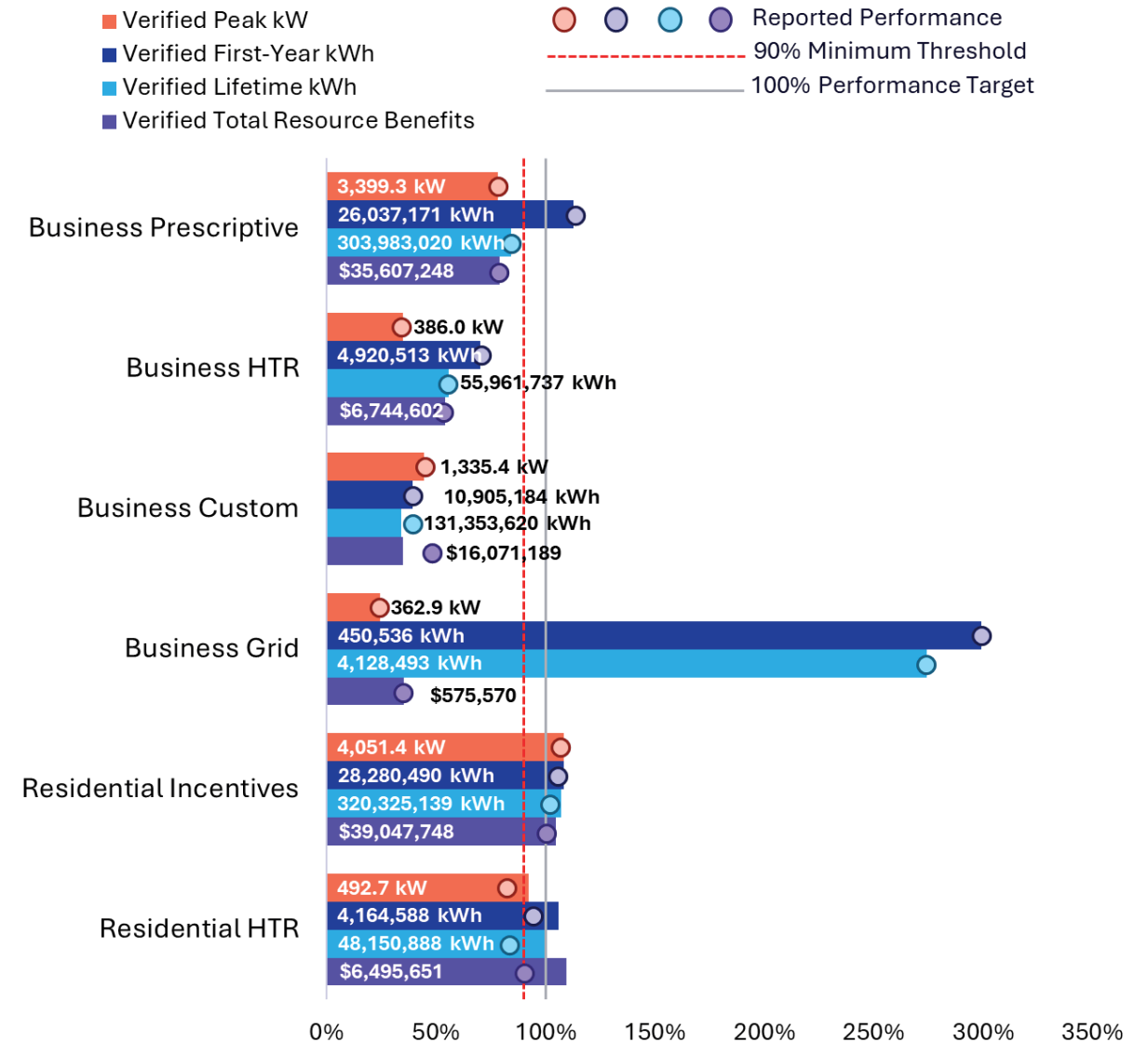


Hawai'i Energy met targets for Grid Services Ready projects and Island Equity spending.

Hawai'i Energy exceeded its target for Grid Services Ready project count after falling short in PY22. Hawai'i Energy also achieved its Island Equity award.

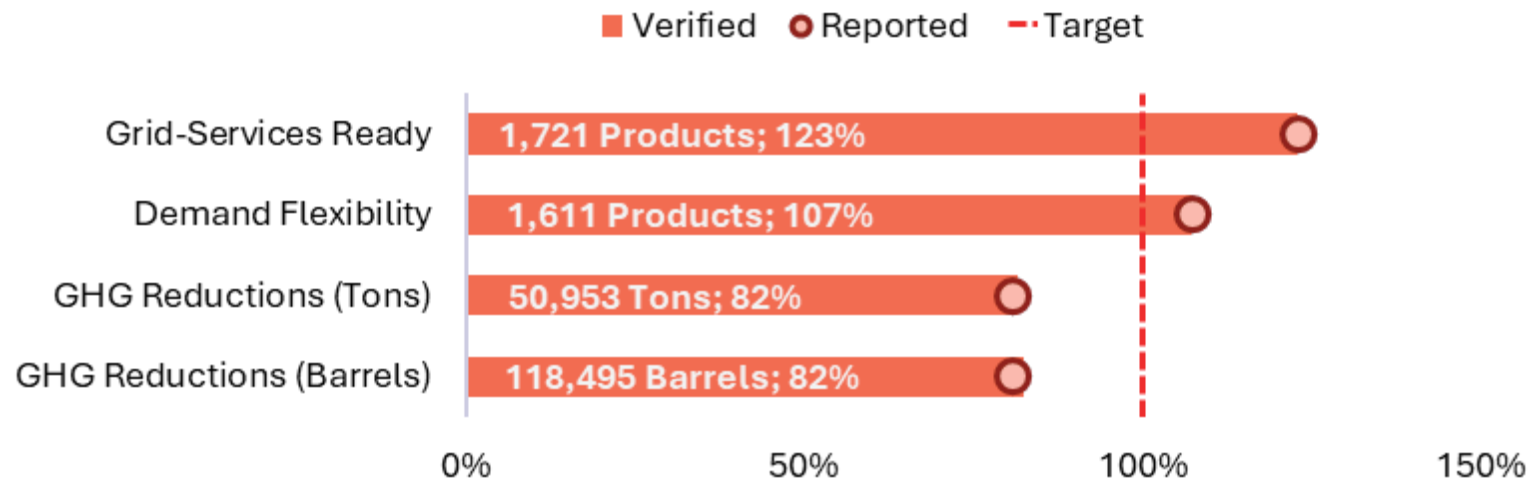
CET KEY TAKEAWAYS

- **Business Prescriptive** met its first-year energy savings target, and **Business Grid** achieved its first-year and lifetime energy savings targets. However, the **Business Hard-to-Reach (HTR)** and **Business Custom** programs fell short of all CET targets.
- The **Residential Hard-to-Reach (HTR)** and **Residential Incentives** programs achieved all CET awards. Verified achievements among RHTR projects, specifically solar water heaters, increased performance awards for all four metrics.



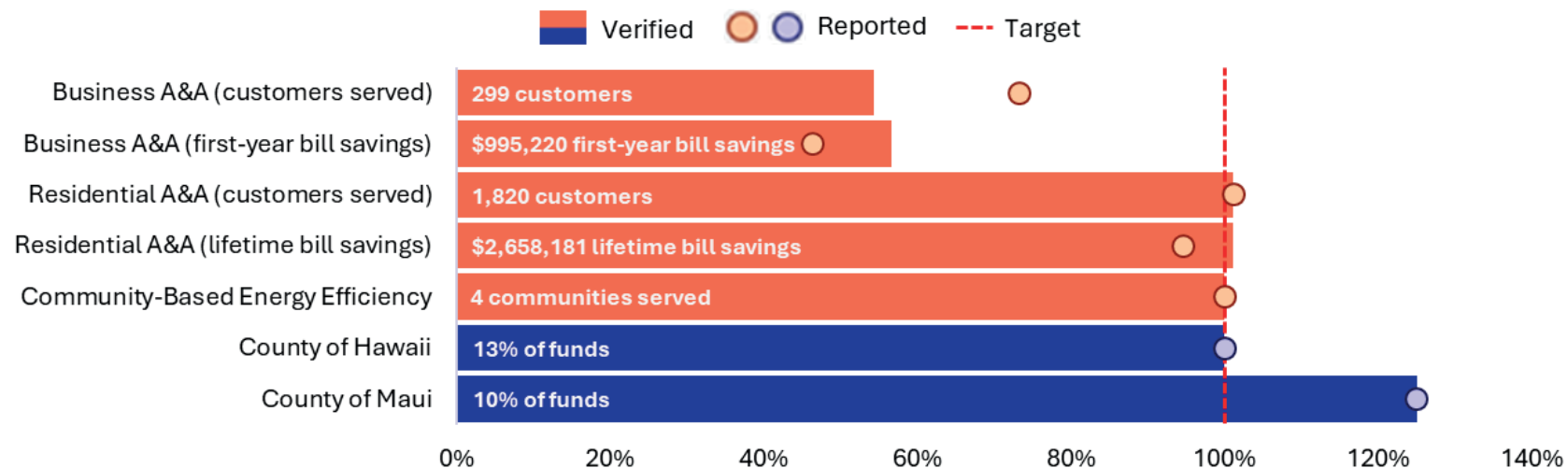
CET KEY TAKEAWAYS

- After falling short of the Grid Services Ready target in PY22, Hawai'i Energy cleared the target by 23% in PY23.
- Hawai'i Energy did not achieve GHG Reductions targets, consistent with CET energy savings awards.



AFFORDABILITY & ACCESSIBILITY KEY TAKEAWAYS

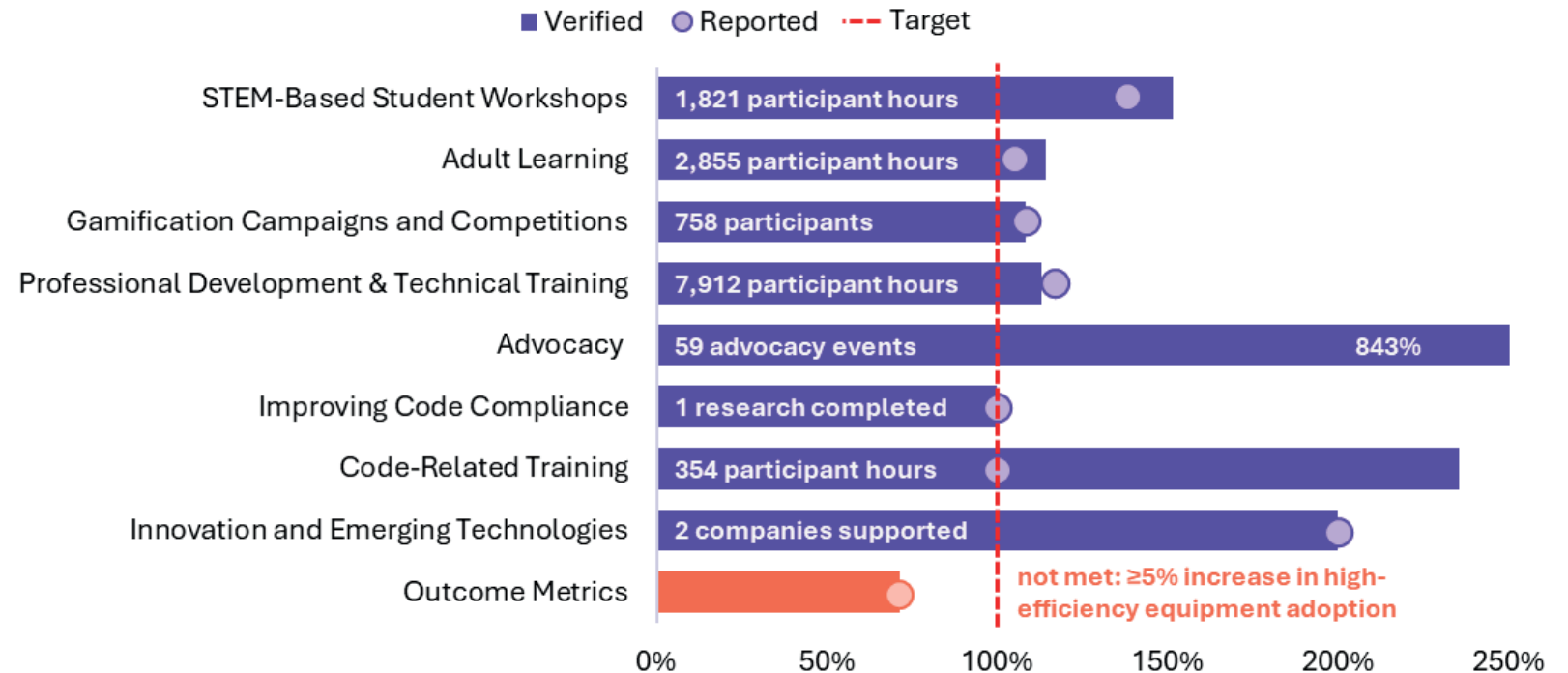
- **Hawai'i Energy achieved performance targets for Residential A&A (under the Economically Disadvantaged performance indicator) and Community-Based Energy Efficiency (CBEE).** ICF verified significantly higher Residential A&A customer lifetime bill savings, resulting in additional awards.
- **Hawai'i Energy achieved its Island Equity spending targets for Maui and Hawaii Counties.** The EEM and HPUC agreed to augment the Maui spending target for PY23 and PY24 after the wildfires of 2023.



MARKET TRANSFORMATION & ECONOMIC DEVELOPMENT (MTED)

KEY TAKEAWAYS

- **Hawai'i Energy met or exceeded all MTED targets** except for “Outcome Metrics,” which measures high-efficiency commercial kitchen equipment adoption.



LOW-TO-MODERATE INCOME (LMI) PERFORMANCE INCENTIVE MECHANISM (PIM)

- The LMI PIM came into effect in PY21 and seeks to incentivize Hawaiian Electric to collaborate with Hawai'i Energy in the delivery of energy savings to LMI customers.
- ICF calculated the LMI PIM awards associated with the RHTR and A&A programs implemented by Hawai'i Energy.
- The approach aims to calculate the additional net benefits customers received for RHTR and A&A initiatives by comparing first-year energy savings, peak demand savings, participation, and first-year bill savings targets to the verification results.
- HECO achieved awards in excess of \$50,000, driven primarily by RHTR verified first-year energy savings.

HIGH-PRIORITY RECOMMENDATIONS

Adhere to the documentation requirements provided in Custom Project Guidance Document and TRM.

Hawai'i Energy followed custom project guidance better than in PY22 but still leaves room for improvement.

During the next TRM update, indicate when to use default or actual values for semi-prescriptive measures.

Semi-prescriptive measures (e.g., solar water heaters) use a mix of default TRM values and actual project inputs but are not always clear about when to use which.

ADDITIONAL RECOMMENDATIONS

Modify the custom lighting savings workbook.

Spreadsheet structure may result in mismatches between rated lamp life and lifetime energy savings, which can overstate claimed TRBs.

Ensure all projects include an invoice/receipt and all rebate applications are signed/dated.

Proof of purchase helps confirm a project's completion and provides other crucial information (such as quantity and model number). Signatures confirm a customer's agreement to participate.

PY24 MID-YEAR & PY25 TECHNICAL REFERENCE MANUAL UPDATES

CECILIA ARZBAECHER
ICF

SUMMARY OF MID-YEAR PY24 TRM UPDATES

New Compressed Air Measures

- Variable Speed Drive (VSD) Compressor
- Air Receiver Tank
- No-Loss Condensate Drain

Updated Residential Measures

- Screw-Base LED
 - New savings for direct installation of screw-base bulbs through Energy Smart 4 Homes
- Whole House Fan
 - Clarified descriptions of efficiency metrics
- Solar Attic Fan
 - Clarified descriptions of efficiency metrics
 - Expansion of measure to add savings for single family (SF) attached homes

SUMMARY OF PY25 TRM UPDATES

Updated Residential Measures

- Dehumidifier
- Air Purifier
- Window AC
- Soundbar

Cross-Cutting Content

- Avoided Costs
- System Loss Factors
- GHG Emission Rates
- Codes & Standards Tracking

Updated Commercial Measures

- Lighting
 - General Lighting*†‡
 - Dimmable Nonlinear LED*‡
 - Refrigerated Case Lighting†
- HVAC
 - Variable Refrigerant Flow AC
 - Chiller
 - AC and Heat Pump
 - Window AC
- Other
 - Kitchen Ice Machine

Sunseting Measures

- Replace-on-Burnout Lamps
 - * Pin-Base Bulbs (12/31/25)
 - † Linear Lamps (12/31/25)
- Soundbar (6/30/26)
- Pool Pumps, 1.15 to 5 hp (9/28/25)

Retired & Removed Measures

- ‡ Screw-Base Lamps

UPDATED RESIDENTIAL MEASURES

Dehumidifier

- Created separate savings for portable and whole home systems
- Updated baseline to current federal standards
- Updated ENERGY STAR specs (v5.0 through 9/30/25 and v6.0 afterwards)

Air Purifier

- Updated baseline to current and upcoming (12/31/25) federal standards
- Updated ENERGY STAR specs (v2.0 through 10/8/25 and v3.0 afterwards)

Window AC

- Updated capacity bins
- Updated minimum CEER values to meet ENERGY STAR specs (v5.0)

Soundbar

- Updated baseline assumptions
- Updated ENERGY STAR specs to v3.0
- Updated coincidence factor and hours in idle, sleep, and active modes
- Added lifetime savings and sunset date of 6/30/26

Peak demand savings

ΔkW



Energy savings

$\Delta kWh/yr$



Lifetime savings

ΔkWh



ΔkW



$\Delta kWh/yr$



ΔkWh



ΔkW

No change

$\Delta kWh/yr$



ΔkWh



ΔkW



$\Delta kWh/yr$



ΔkWh



UPDATED COMMERCIAL LIGHTING MEASURES

General Lighting

- Updated lifetime energy savings for pin-base bulbs and linear lamps
- Added sunset dates for ROB pin-base bulbs and linear lamps (12/31/25)
- Retired and removed the screw-base lamp measures

Peak demand savings

ΔkW



Energy savings

$\Delta kWh/yr$



Lifetime savings

ΔkWh



Dimmable Nonlinear LED

- Updated lifetime energy savings for pin-base bulbs
- Added sunset dates for pin-base bulbs (12/31/25)
- Retired and removed the screw-base lamp measures

ΔkW



$\Delta kWh/yr$



ΔkWh



Refrigerated Case Lighting

- Updated lifetime energy savings for pin-base bulbs
- Added sunset dates for the ROB (12/31/25) and early replacement (12/31/26) portions of the measure

ΔkW

No change

$\Delta kWh/yr$

No change

ΔkWh



Downlight Retrofit

- Retired and removed the measure

ΔkW



$\Delta kWh/yr$



ΔkWh



UPDATED COMMERCIAL NON-LIGHTING MEASURES

Variable Refrigerant Flow AC

- Removed extraneous information from the calculator
- Reevaluated the full load efficiency (EER) requirement

Peak demand savings

ΔkW

No change

Energy savings

$\Delta kWh/yr$

No change

Lifetime savings

ΔkWh

No change

Chiller

- Expanded measure to allow greater capacity systems for the prescriptive approach
- Reevaluated the full load efficiency (FL) requirement

ΔkW



$\Delta kWh/yr$



ΔkWh



AC and Heat Pump

- Reevaluated the full load efficiency (EER or EER2) requirement

ΔkW

No change

$\Delta kWh/yr$

No change

ΔkWh

No change

Window AC

- Updated capacity bins to reflect new ENERGY STAR bins
- Updated minimum CEER values to meet ENERGY STAR specs (v5.0)
- Reevaluated the full load efficiency (EER) requirement

ΔkW

No change

$\Delta kWh/yr$



ΔkWh



Kitchen Ice Machine

- Corrected the formulas used to calculate savings

ΔkW



$\Delta kWh/yr$



ΔkWh



OTHER PY25 UPDATES

- Updated **Avoided Energy and Avoided Capacity Costs** for PY25-PY27 with updated Hawaiian Electric Company Schedule Q & Electric Utility System Cost Data
- Updated **System Loss Factors** using the latest data from Hawaiian Electric Company
- Updated the State of Hawaii **GHG Emission Rates** in the GHG calculator using the latest eGRID data
- Revised the **Codes & Standards Tracking** sheet to reflect current codes & standards applicable as of PY25

MEASURES WITH SUNSET DATES IN PY25

Equipment Affected	Reason	Sunset Date
■ Linear and pin-base lamps (ROB)	HI HB 192 Act 225 *	Dec 31, 2025 †
■ Pool pumps (1.15 hp – 5 hp)	10 CFR 431.485 **	Sep 28, 2025
■ Soundbar	No longer ENERGY STAR certified	Jun 30, 2026

Residential Measures Affected

- R_Light_LED
- R_Light_Linear LED
- R_PumpMotor_VFD Pool Pump
- R_Electronics_Soundbar

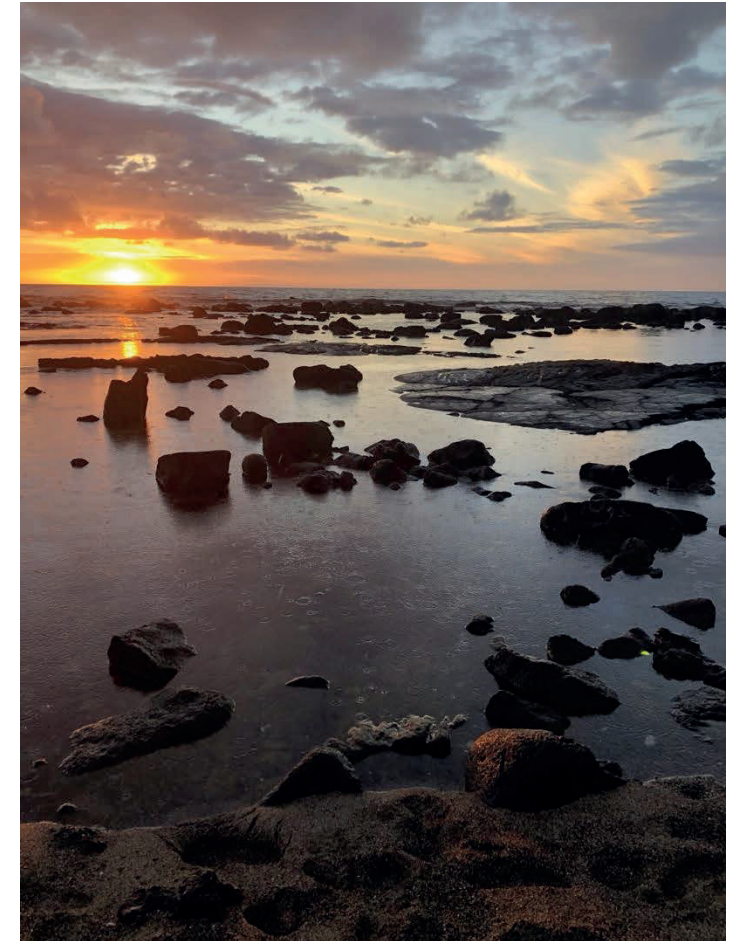
Commercial Measures Affected

- C_Light_General
- C_Light_Dimmable(Nonlinear LED)
- C_Lighting_Refrigerated Case
- C_PumpMotor_VFD Pool Pump

* Prohibits sale of certain fluorescent lamps

** Requires pool pumps to have variable speed motors

† Direct install LED lighting through the ES4H program, which supports A&A customers, would have a later sunset date



IMPACTS TO THE PY25 PORTFOLIO

- **Approach** for determining order-of-magnitude effects of TRM updates on the PY25 portfolio:
 - Selected program-level lifetime kWh savings as the metric to compare impacts
 - Identified each measure updated during the PY24 mid-year and PY25 TRM updates
 - Compiled PY25 program-level lifetime kWh savings for each updated measure from Hawai'i Energy's bottom up model
 - Re-calculated PY25 program-level lifetime kWh savings using updated TRM values for per-unit savings and EULs
 - Compared the results

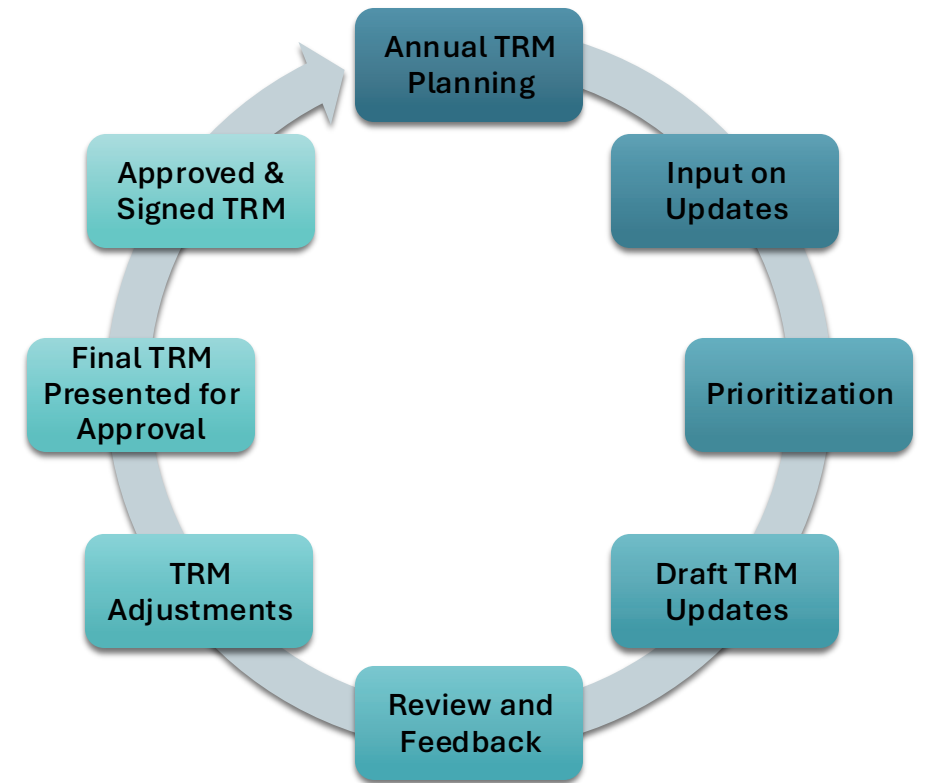
- **Findings:**

- Residential impacts expected to increase ~6%, mostly from changes to window AC savings
- Business impacts expected to decrease ~1%, mostly from changes to linear lamp savings
- Overall increase of ~1%, not including added effects from new compressed air measures



TRM NEXT STEPS

- PY24 mid-year & PY25 TRM updates are with the Commission for approval
- PY25 mid-year & PY26 TRM updates will commence once work plan is approved



NEXT STEPS & WRAP UP

JENNIFER BARNES

ENERGY EFFICIENCY MANAGER TEAM

QUESTIONS?

- Please contact Jennifer Barnes at 510-756-1501 or jenniferbarnes@2050partners.com.
- Meeting materials will be posted on www.HawaiiEEPS.org