
TECHNICAL ADVISORY GROUP

HAWAII PBF PROGRAM

June 7, 2023

9:30 am to 11:45 am

Hawai'i Energy offices and Webconference

AGENDA

- 9:30 – Welcome
- 9:40 – PY21 Verification Findings
- 10:10 – TRM Update
- 10:30 – PY22 Work Plan Review
- 10:45 – Break
- 11:00 – PY22 Hawai'i Energy Program Recap
- 11:25 – PY23 Hawai'i Energy Program Plan
- 11:35 – Wrap Up & Adjourn



MAGGIE BUFFUM
APPLIED ENERGY GROUP
(AEG)



PY21 VERIFICATION

SUMMARY OF VERIFICATION ACTIVITIES

CET

Tracking Database Replication

- All deemed and semi-deemed measures
- First-year kWh, lifetime kWh, and peak demand kW
- Total Resource Benefits

Desk Reviews & Onsite Visits

- Simple (BEEM, BHTR, REEM, RESM, and RHTR)
- Complex (CBEEM, CREEM)
- Excluded BESM and upstream lighting

Grid Services & 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
 - EmPOWER Hawaii Project
- Island Equity

MTED & Customer Satisfaction

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

LMI PIM Awards

- In effect for PY21
- Awards go to HECO
- Associated with RHTR and A&A programs

CLEAN ENERGY TECHNOLOGIES (CET) KEY TAKEAWAYS



Hawai'i Energy continues to make improvements to its tools.

Hawai'i Energy accurately calculated dual-baseline lifetime savings for Energy Advantage (unlike PY20).

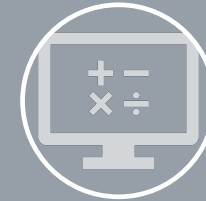
The new custom lighting worksheet directly calculates lifetime savings.



Hawai'i Energy exceeded the target for Grid Service Ready measures.

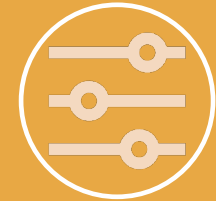
Measures included grid-interactive water heaters, smart devices, and general equipment to support demand response (DR).

AEG verified 200% of the performance target.



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.



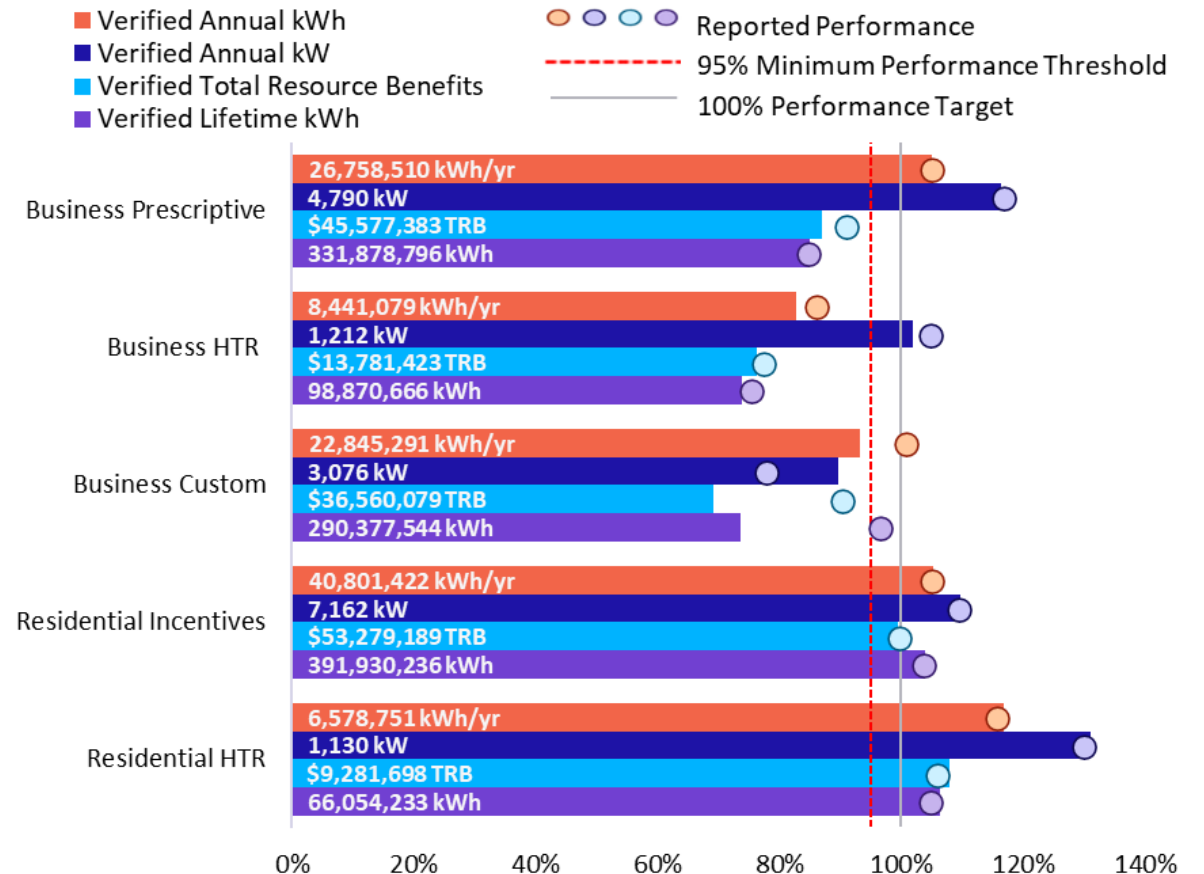
AEG made substantial reductions to CBEEM claimed savings.

The most impactful adjustments came from updating regression models that impacted CBEEM custom projects.

We also made updates to project Effective Useful Lives (EULs) and lifetime savings to incorporate dual baselines.

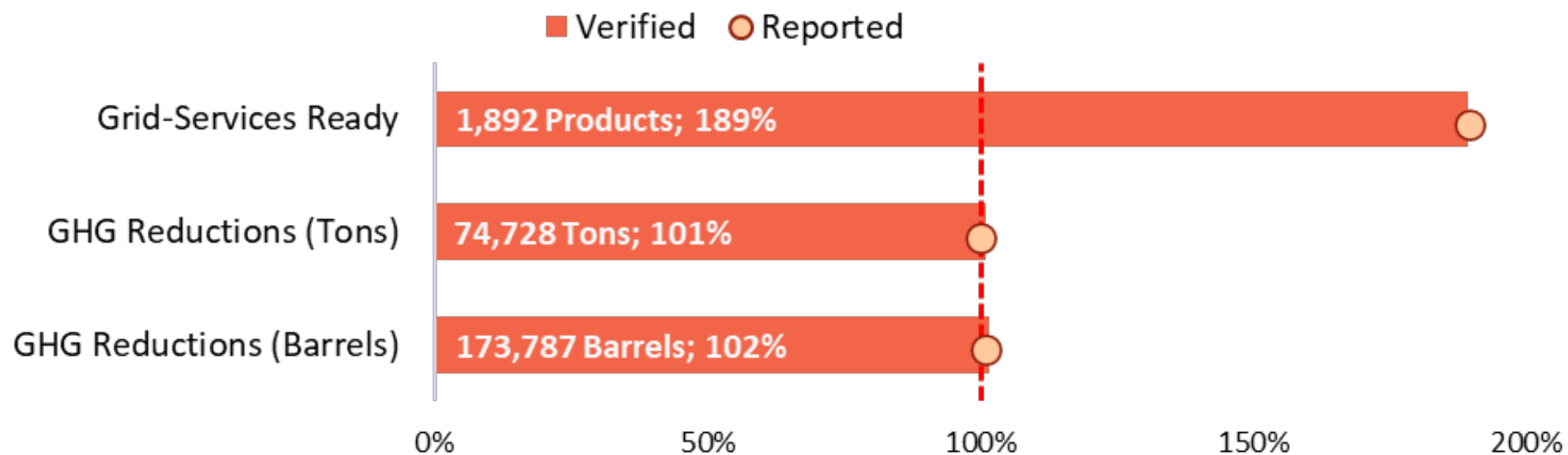
CET KEY TAKEAWAYS

- Hawai'i Energy met or exceeded all CET targets for **Residential Hard-to-Reach** and **Residential Incentives** program categories.
- **Business Custom** and **Business Hard-to-Reach** programs missed most of their targets. Those partly driven by verification adjustments, increasing energy rates from the coal plant closure, supply chain challenges and lingering financial hardships from the pandemic continued to make recruitment difficult.
- **Business Prescriptive** exceeded targets for first-year energy and peak demand savings but fell short of lifetime energy savings and TRB targets. The verification did not impact these shortfalls.



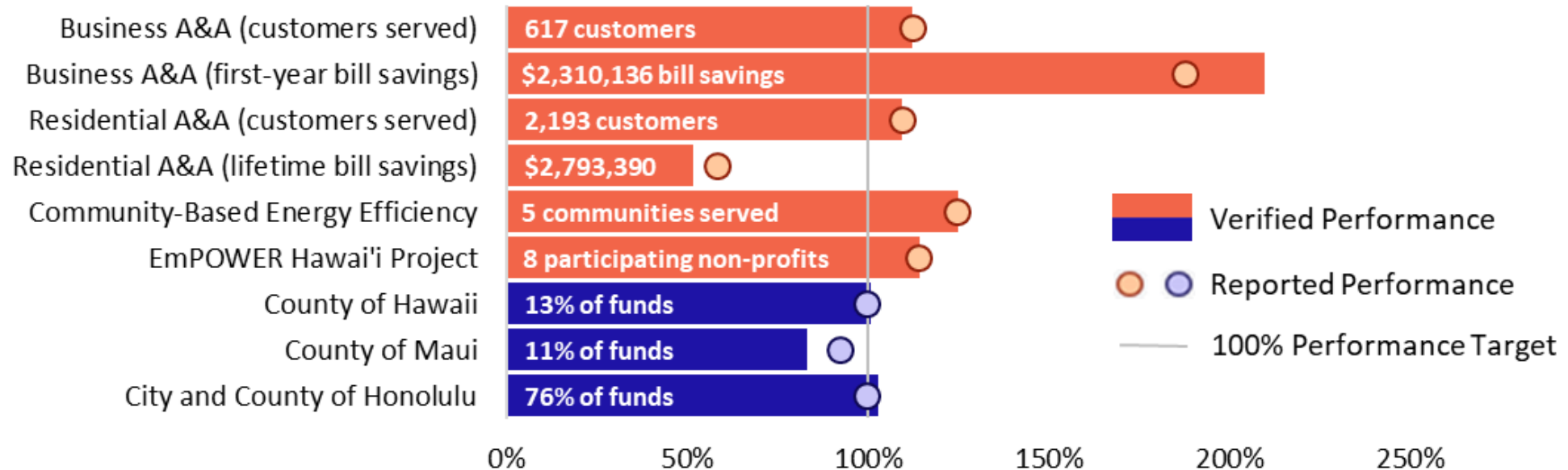
CET KEY TAKEAWAYS

- Hawai'i Energy exceeded the Grid Services Ready target by almost 200% (similar to PY20).
- GHG Reduction targets were achieved.



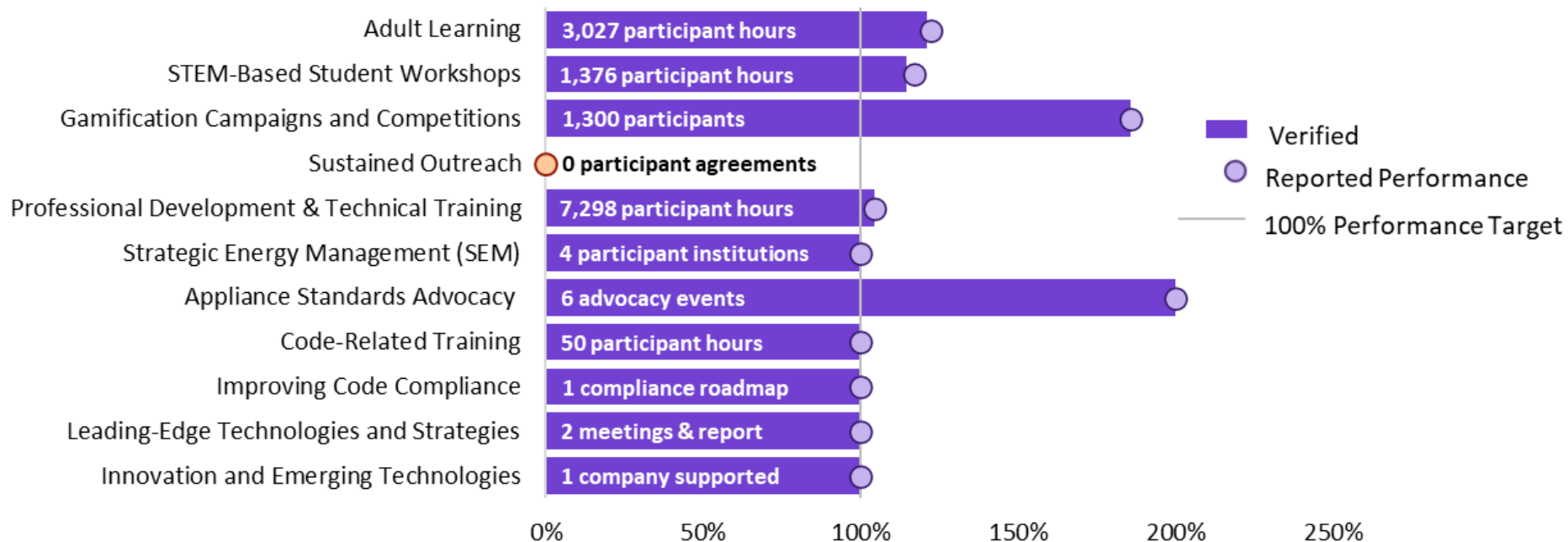
AFFORDABILITY & ACCESSIBILITY KEY TAKEAWAYS

- **Hawai'i Energy met nearly all A&A performance targets, even those associated with direct installation.**
 - Incentive spending in Maui fell short of the 13% target.
 - Missed the residential A&A target for customer bill savings despite exceeding all RHTR CET targets. (The CET targets set for RHTR could be too low to meet the bill savings target.)



MTED KEY TAKEAWAYS

- Hawai'i Energy PBFA programs met or exceeded targets for all Market Transformation & Economic Development (MTED) performance metrics (except for Sustained Outreach).**



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

- The LMI PIM came into effect in PY21 and seeks to incent Hawaiian Electric to collaborate with Hawai'i Energy in the delivery of energy savings to LMI customers.
- AEG calculated the LMI PIM rewards 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.
- As found in PY20, some clarification is still needed around certain metrics required in the LMI PIM calculations (e.g., the calculation required target RHTR first-year bill savings when the actual targets are for lifetime bill savings)

RECOMMENDATIONS

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

Only 52% of sampled CBEEM projects included appropriate equipment specifications and documentation, only 47% of projects included an invoice, and only 58% of projects included proof of installation.

Consistently document the pre-approval process for CBEEM projects.

Several CBEEM projects were purchased and implemented before customers filled out the application or contacted Hawaii Energy about incentives, causing concern that PBFA is funding projects that would have taken place without the programs.

Avoid double-counting CBEEM projects across program years.

One sampled CBEEM project was installed at the same facility as a previously-rebated project. Because billing data was used to calculate energy savings, the drop in consumption from the baseline to post period generated by the prior project was attributed to the PY21 project. These projects should be identified and removed to avoid double counting savings.

RECOMMENDATIONS

Update residential solar water replacement calculations in the TRM.

Many of the residential solar water heater replacements did not qualify for the deemed savings values because of the required storage capacity. Guidance for calculating the equivalent electric resistance water heater baseline should be clarified in the TRM, and the deemed savings should be expanded to include larger-capacity water heaters.

Provide the raw customer survey data for analyzing customer satisfaction.

Consistent with PY20, AEG requested the raw responses from Hawai'i Energy's customer surveys. This would allow for a better verification of customer satisfaction than looking at the summarized findings.



CECILIA
ARZBAECHER

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ENERGY
GROUP



TRM MEASURES

SUMMARY OF MID-YEAR UPDATES TO THE PY22 TRM

Measure / Content	Updates Made	Effective Date
Residential HVAC <ul style="list-style-type: none"> Central AC Retrofit Ductless Split Systems 	Updated baseline conditions to reflect new SEER2 requirements Clarified/corrected CEER baseline values for ductless systems Made corresponding updates to the residential HVAC calculator	Jan. 1, 2023
Residential Heat Pump Water Heater	Added an option to the semi-prescriptive calculator for custom input of occupancy	Jul. 1, 2022
Residential LED	Temporarily extended the dual baseline measure for underserved markets (Molokai and Lanai)	Jul. 1, 2022 through Mar. 31, 2023
LED Retrofit Kit Engines	In multiple LED measures, clarified that LED retrofit kit engines qualify as applicable LED replacement lighting	Jul. 1, 2022
Commercial LED Downlight Retrofit	Clarified that the measure applies to incandescent, halogen, or CFL replacement (For MH or HPS replacement, use the HID replacement measure)	Jul. 1, 2022
Net-to-Gross Ratios (NTGRs)	Added NTGRs of 1.0 for RGRID and BGRID	Jul. 1, 2022
C&S Tracking Sheet	Updated content to reflect current codes and standards as of PY22 Added more types and capacities of commercial HVAC equipment	Varies by measure
Energy Advantage	Corrected typo in equation 4 (replaced ΔkWh_{2nd} with ΔkWh_{1st})	Jul. 1, 2022

SUMMARY OF PY23 UPDATES

Updated Commercial Measures

- AC and Heat Pump
- Combination Oven
- Convection Oven
- Ice Machine
- Low-Flow Spray Nozzle
- Freezer
- Refrigerator

Updated Residential Measures

- Clothes Washer
- Central AC Retrofit

Updated Cross-Cutting Content

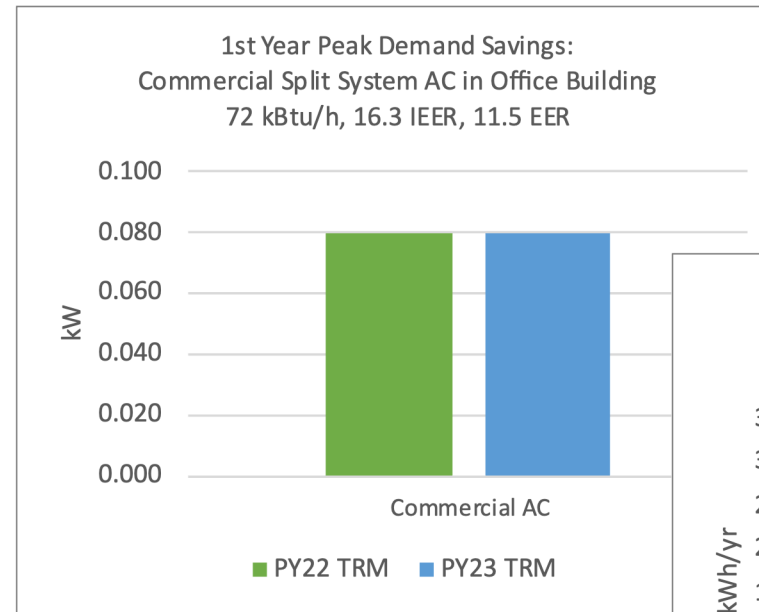
- Greenhouse Gas Calculator
- Codes & Standards Tracking

Measure Status Change

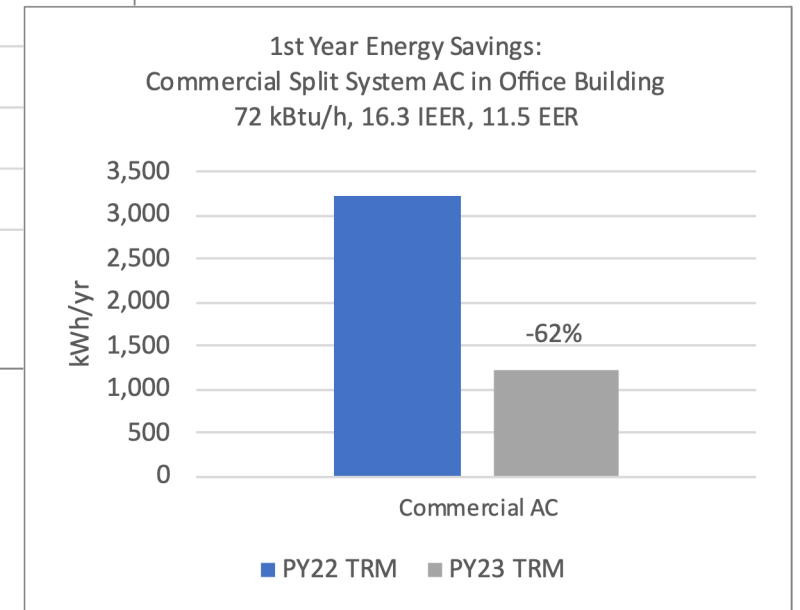
- Commercial Water Cooler Timer – *Labeled Inactive*

COMMERCIAL HVAC: AC & HEAT PUMP

- Updated baseline efficiencies to meet new federal and ASHRAE 90.1 standards that went into effect January 1, 2023
- Updated high efficiency equipment efficiencies to exceed new baseline efficiencies
- Expanded measure calculator:
 - Added differentiation between single-phase and three-phase split-systems and single-package systems with capacities < 65 kBtu/h
 - Added capacity bins for packaged terminal systems
 - Revised capacity bins for vertical systems



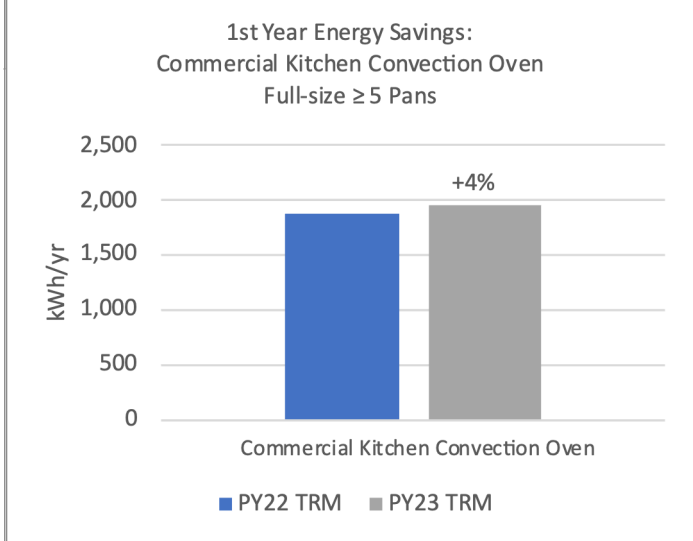
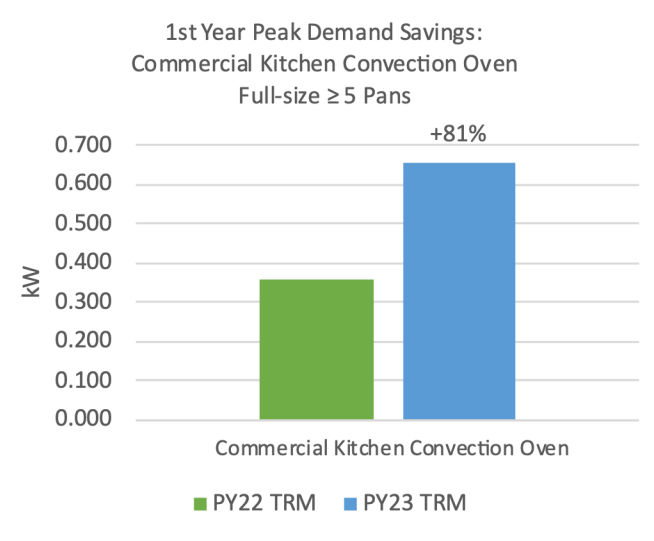
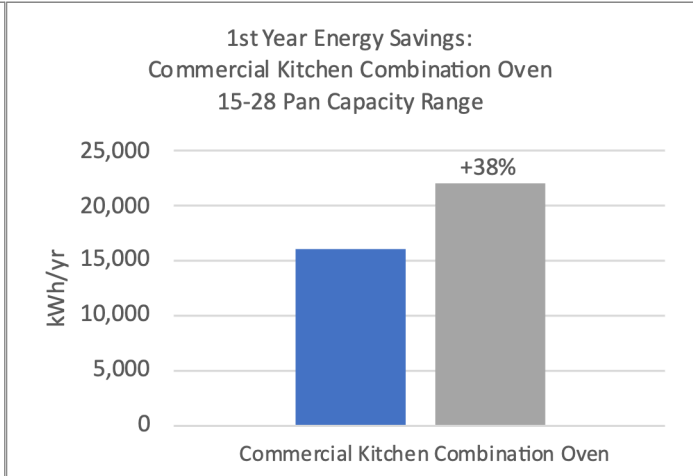
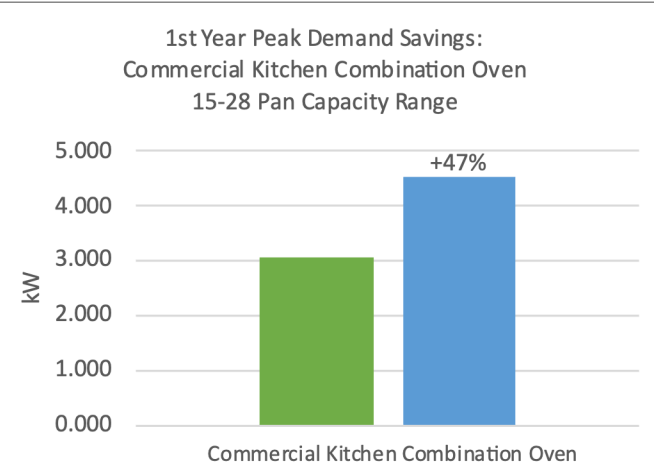
Graphs show savings comparisons for a representative example



COMMERCIAL KITCHEN: COMBINATION AND CONVECTION OVEN MEASURES

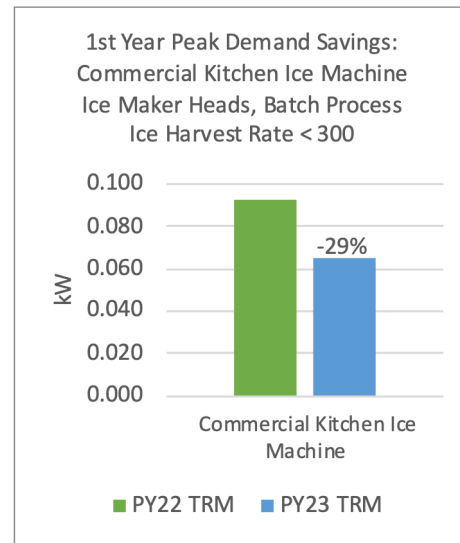
- Clarified measure descriptions and program criteria
- Updated baseline conditions using benchmarking
- Updated high efficiency conditions to reflect current ENERGY STAR standards
- Revised several savings parameters using benchmarking

Graphs show savings comparisons for representative examples

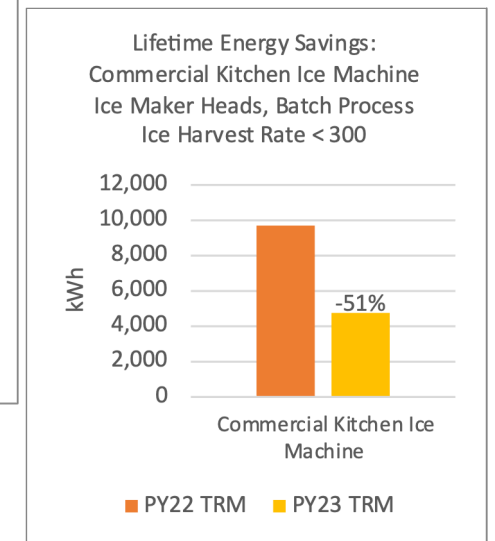
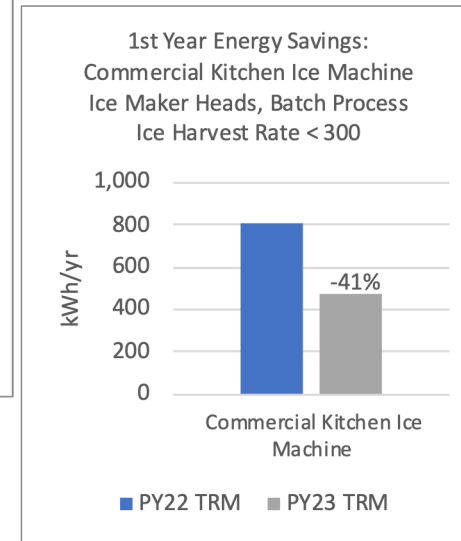


COMMERCIAL KITCHEN: ICE MACHINE

- Clarified measure description and program criteria
- Updated baseline conditions to reflect current federal standards
- Updated high efficiency conditions to reflect current ENERGY STAR standards
- Revised several savings parameters using benchmarking
- Expanded measure to include more equipment types

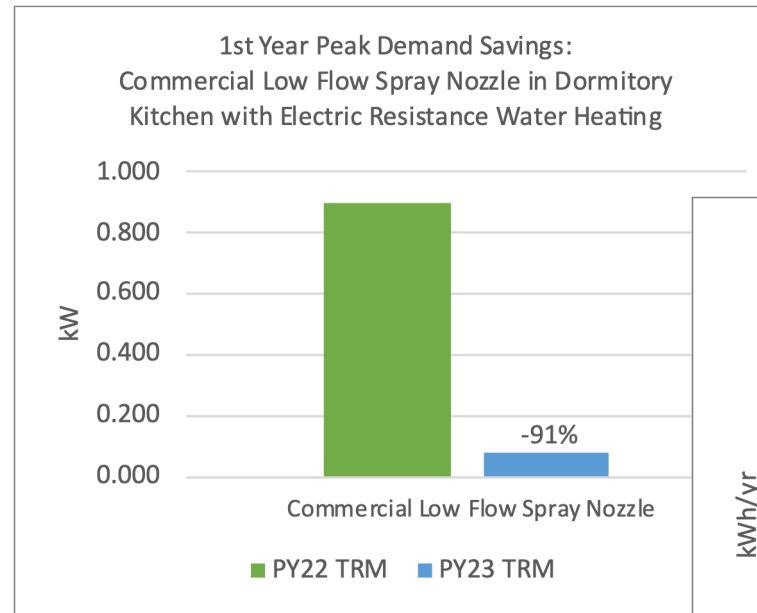


Graphs show savings comparisons for a representative example

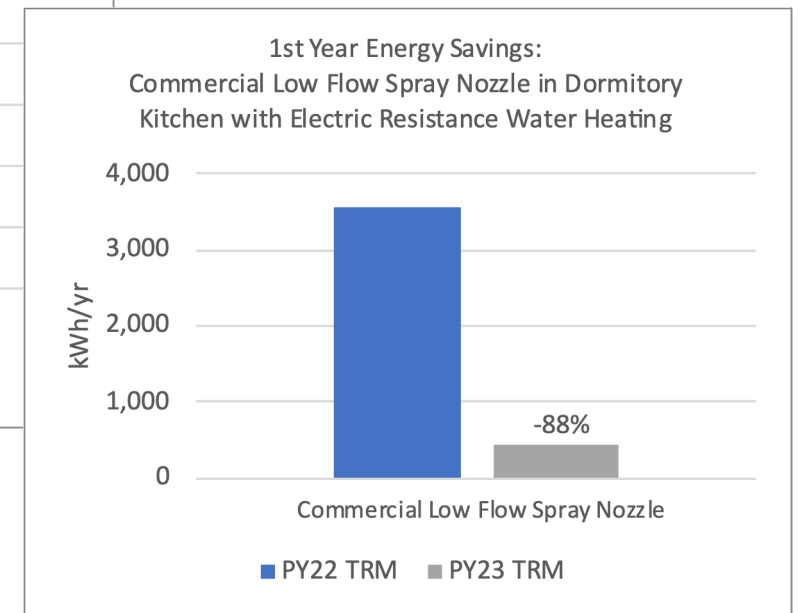


COMMERCIAL KITCHEN: LOW-FLOW SPRAY NOZZLE

- Updated program criteria to require flowrate that is at least 10% less than current federal standards
- Updated baseline and high efficiency equipment assumptions
- Revised kWh savings algorithm and parameters using benchmarking
- Revised kW savings approach using load shape analysis and Hawaii's peak demand period
- Added a lifetime kWh savings algorithm

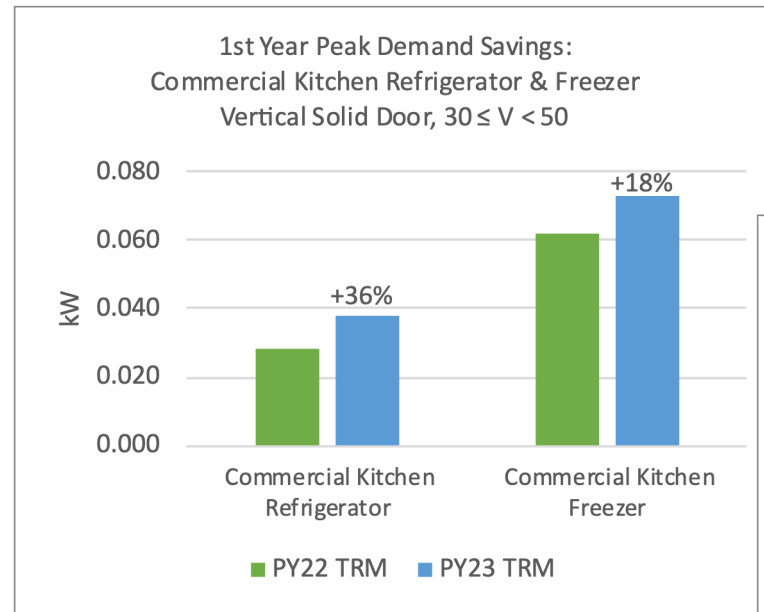


Graphs show savings comparisons for a representative example

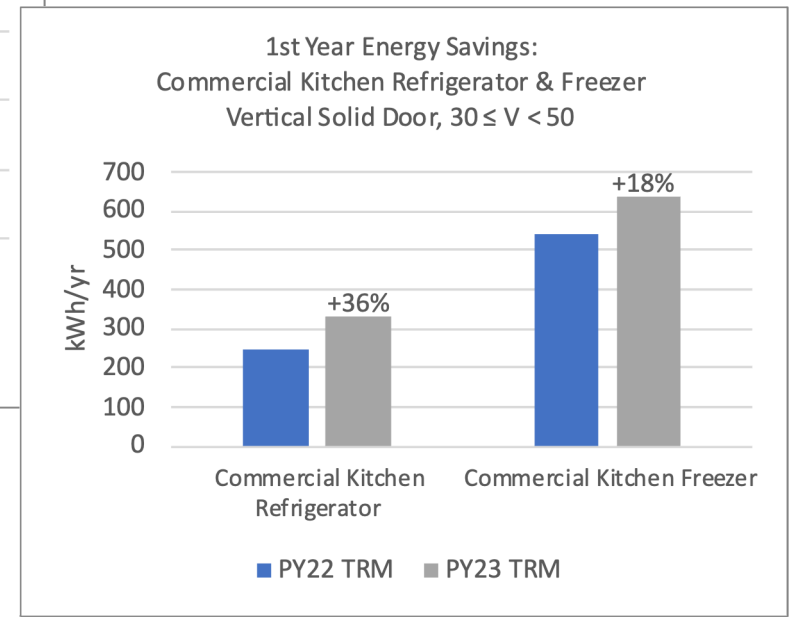


COMMERCIAL KITCHEN: REFRIGERATOR AND FREEZER

- Updated high efficiency conditions to reflect current ENERGY STAR standards
- The changes only impacted vertical closed, solid door types
- The following volume ranges were affected:
 - $0 \leq V < 15$ (refrigerators)
 - $5 \leq V < 30$ (refrigerators)
 - $30 \leq V < 50$ (refrigerators and freezers)
 - $50 \leq V$ (refrigerators and freezers)

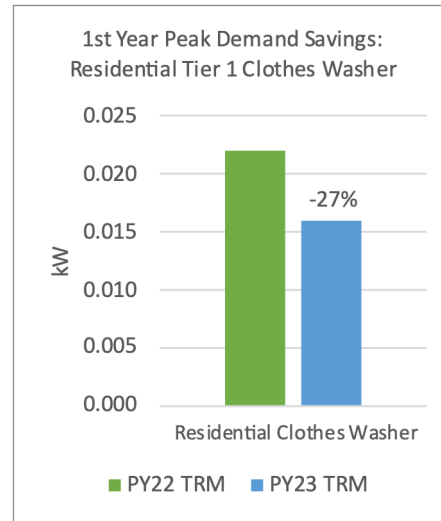


Graphs show savings comparisons for representative examples

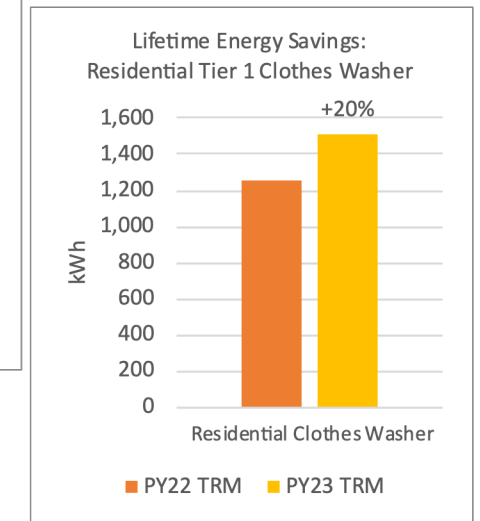
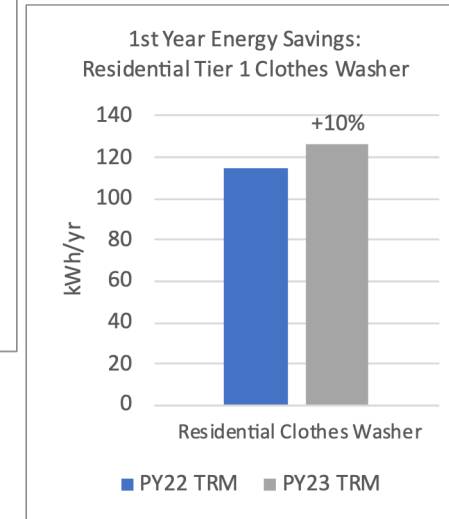


RESIDENTIAL APPLIANCE: CLOTHES WASHER

- Clarified measure description and program criteria
- Updated baseline conditions to reflect current federal standards
- Updated high efficiency conditions to reflect current ENERGY STAR and CEE standards
- Used benchmarking to review and update parameters in the kWh savings algorithm
- Revised the kW savings approach using load shape analysis and Hawaii's peak demand period
- Updated the EUL using benchmarking

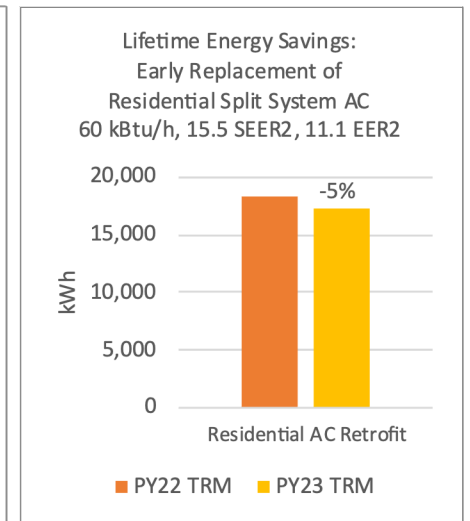
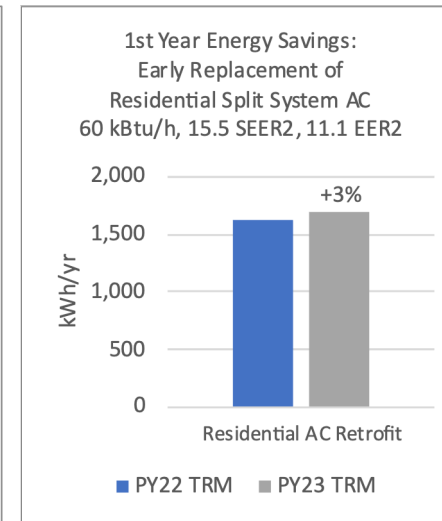
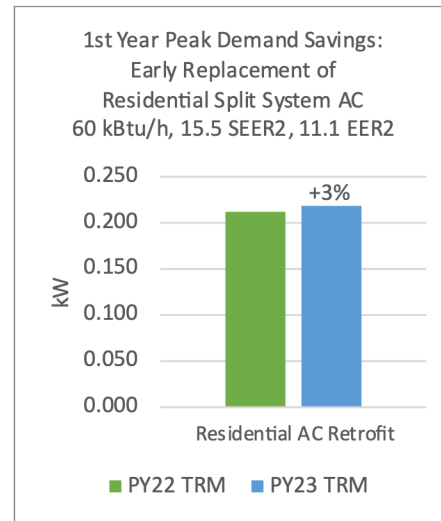


Graphs show savings comparisons for a representative example



RESIDENTIAL HVAC: CENTRAL AC RETROFIT

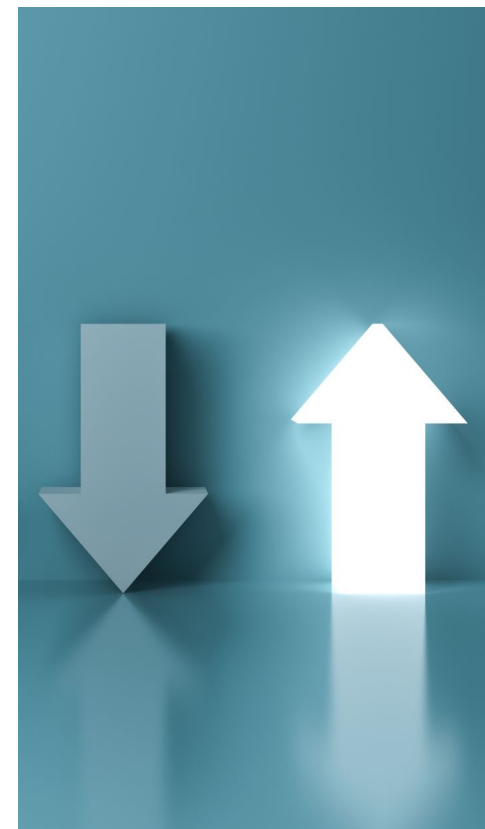
- Relative to PY22 TRM V1.0, updated federal standard baseline efficiency requirements, effective as of January 1, 2023
- Relative to PY22 TRM V2.0, updated high efficiency requirement to be 15.2 SEER2, effective as of July 1, 2023
- Removed the superseded measure sheets that had sunset dates of December 31, 2022 or June 30, 2023



Graphs show savings comparisons for a representative example

EXPECTED EFFECTS ON PORTFOLIO-LEVEL SAVINGS

- Changes to the two residential measures may result in **an overall increase** in first-year and lifetime energy savings but **may decrease** first-year peak demand savings for REEM.
- Changes to baseline criteria for the commercial AC and heat pump measures will likely result in a **significant decrease** in first-year and lifetime energy savings for BEEM unless the new equipment's efficiency increases proportionally to the federal standard baseline efficiency. At the same time, the first-year peak demand savings may not be affected since there were no changes to the full-load efficiency baseline.
- Changes to the six commercial kitchen measures may result in **an overall increase** in first-year peak demand savings, first-year energy savings, and lifetime energy savings for BHTR.
- Driven by the changes to the commercial AC and heat pump measures, **first-year and lifetime energy savings will likely decrease for the whole portfolio**. However, **there may be a net increase in first-year peak demand savings at the portfolio level** due to contributions from the various measure updates.
- Reducing the GHG calculator's CO₂e emission rate from 1,562.7 lbs/MWh to 1,502.6 lbs/MWh **will decrease portfolio-level avoided emissions by ~4%**.



TAG PARTICIPATION

- We appreciate your input!
- The next update cycle will begin in Fall 2023
- If you have suggestions, please email
 - Kelly Parmenter (kparmenter@appliedenergygroup.com)
 - Cecilia Arzbaeher (carzbaeher@appliedenergygroup.com)

**Thank
You**



KELLY MARRIN

APPLIED
ENERGY
GROUP



PY22 WORK PLAN REVIEW

EM&V ACTIVITIES – JULY 1, 2022 TO JUNE 30, 2023

Prospective Research

Use past data to inform the future

EM&V Study

TRM Updates

- Mid-year PY22 update
- PY23 review and update

TWG Analysis (EEPS)

- Ad-hoc Analysis for TWG

EM&V Objective

→ Characterize any new measures
Update existing measures and content

→ Support EEM in the development of recommendations to PUC

Retrospective Research

Understand what happened in the past

- PY21 Verification

- AEG EEPS Report

- Annual Calendar Year (CY) Reports

→ Determine whether Hawaii Energy met its multiple Targets

→ Support EEM in the development of recommendations to PUC

→ Summarize key findings from historic and current evaluations

PY22 PLANNED VERIFICATION ACTIVITIES

Verification Activity	Deemed and Semi-Prescriptive		Custom	
	REEM RESM RHTR	BEEB BESM BHTR	CREEM	CBEEM
Task 1. Program Manager Interviews with Hawai'i Energy	Up to five interviews will cover all programs. (Interviews also cover all MTED and A&A efforts.)			
Task 2. Tracking System Audit	Audit will cover all programs and be used as the input for Task 3 (Sample Plan).			
Task 3. Sample Plan and Memo	A sample plan will be developed for each program.			
Task 4. CET Verification Activities				
Savings Replication	•	•	•	•
Simple Engineering Desk Review	•	•	-	-
Complex Engineering Desk Review	-	-	•	•
Onsite Visits	-	-	-	•

PY22 PLANNED VERIFICATION SCHEDULE

Task	2023						2024			
	June	July	August	September	October	November	December	January	February	March
Workplan F Approved	A									
Task 1. Program Manager Interviews										
Task 2. Tracking System Audit										
Draft CBEEM Request										
First Request										
Second Request										
Task 3. Sample Plan										
Draft										
Final										
Task 4. CET Verification Activities										
Savings Replication										
Desk Reviews										
Onsite Visits (Optional Wave 1)										
Onsite Visits (Wave 2)										
Task 5. Non-CET Verification Activities										
A&A										
MTED										
Customer Satisfaction										
LMI PIM										
Task 6. Reporting										
Task 7. Project Management										

■ = Planned Task ■ = Optional Task
 * [D] = Draft; [DF] = Draft Final; [F] = Final; [A] = HPUC Approval



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HAWAI'I
ENERGY



PY22 PROGRAM RECAP & PY23 UPDATES



Hawai'i Energy
Technical Advisory Group (TAG) Meeting

June 7, 2023

TAG AGENDA

01 **Executive Summary**
Highlights

02 **Energy Optimization Initiatives**
Power Move | EV Charging Station Rebate Program | Demand Response Ready

03 **Accessibility & Affordability**
Community-Based Energy Efficiency | Energy Advantage | EmPOWER Grant

04 **Market Transformation & Economic Development**
Trainings & Workshops | Policy | Strategic Energy Management

05 **Marketing & Communications**

06 **Key Takeaways – PY23 and Beyond**

EXECUTIVE SUMMARY

ORG

Onboarded several new team members across the organization including a Project Development Engineer position to drive commercial portfolio pipeline and a Residential Program Manager.

CET

Residential portfolio- maintained momentum with updated program offerings driving participation through the second half of the year.

Commercial portfolio continues to lag especially in custom projects. Treasure hunts and tailored customer engagement remain a priority.

EOI

Relaunched EVCS rebate program in January 2023. *Power Move* peak demand savings bonus continues with steady momentum shifting more heavily into HVAC optimization initiatives. Demand Response ready initiatives continued under both residential and commercial initiatives.

A&A

Both residential and commercial A&A programs had steady performance throughout the year. Revamped Energy Advantage qualifications criteria to expand access. Community based energy efficiency initiatives continue to focus on appliance trade ups in collaboration with key outreach partners. The Empower grant received over 250 applications.

MTED

Hybrid offerings continue to generate significant interest for Professional Development trainings. Focused on Clean Energy Ally engagement with an in-depth focus groups. Multiple clean energy and energy efficiency literacy workshops at the community level – including student engagement – with a focus on hard-to-reach populations across the Hawai'i


















MarCom













Leveraged national campaign efforts like Energy Awareness month and World Energy Efficiency Day to maximize exposure. Focused efforts for Accessibility and Affordability with recruitment in multiple communities and the expansion of Energy Advantage. Ongoing HECO collaboration work for communications and resource development.

PY22 Progress Matrix

Legend











-  Meeting Goals
-  Making Progress
-  Facing Challenges


CLEAN ENERGY TECHNOLOGIES	Key Focus Area	Residential		Commercial	
		Q1-2	Q3-4	Q1-2	Q3-4
	First-Year Energy Reduction				
Lifetime Energy Reduction (new)					
Peak Demand Reduction					
Total Resource Benefit					
Grid Services Ready					



ACCESSIBILITY & AFFORDABILITY	Key Focus Area	Q1-2	Q3-4
	Business A&A		
Residential A&A			
Community-Based Energy Efficiency (new)			
Island Equity – County of Hawai'i			
Island Equity – County of Maui			
Island Equity – C&C Honolulu			

PY22 Progress Matrix

Legend	 Meeting Goals	 Making Progress	 Facing Challenges
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MTED BEHAVIOR CHANGE	Key Focus Area	Q1-2	Q3-4
	STEM-based Student Workshops		
	Adult Learning		
	Gamification Campaigns & Competitions		
	Sustained Outreach		
	Professional Development and Technical Assistance		

MTED CODES & STANDARDS	Key Focus Area	Q1-2	Q3-4
	Advocacy		
	Code-Related Training		
	Leading-edge Technologies & Strategies		

MTED – CLEAN ENERGY INNOVATION HUB	Key Focus Area	Q1-2	Q3-4
	Innovation and Emerging Technologies		

02

Energy Optimization Initiatives

Power Move | EV Charging Station Rebate Program | Demand Response Ready

Power Move – Demand Savings Bonus

Objective: The Power Move family of rebates is designed to reward local businesses for taking steps to reduce energy load during utility peak hours of 5:00 to 9:00 p.m.



Progress:

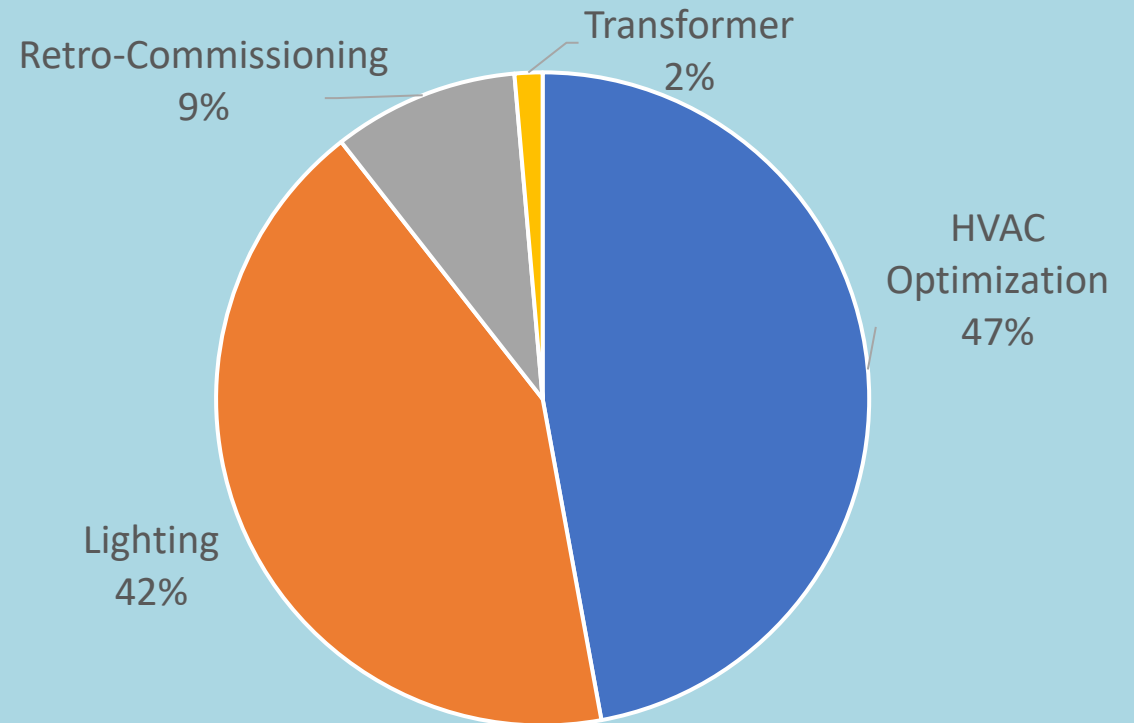
- Forecasted chiller optimization peak demand reductions have surpassed lighting as the project type with the highest portion of savings for Power Move Bonus custom projects.
- Project delays leading to more projects being pushed into PY23.
- PY22: ~\$900K committed; ~\$300K paid
- ~ 1 MW reduction estimated
 - ~4 million kWh first year savings



Challenges:

- Supply chain delays continue—motors, drives
- Contractors busy; scheduling challenges

Project Pipeline Equipment Types by Peak Demand Reduction Impact



Power Move – Commercial Energy Storage

Objective: The Power Move family of rebates is designed to reward local businesses for taking steps to reduce energy load during utility peak hours of 5:00 to 9:00 p.m.



Progress:

- 7 projects formally committed
 - 5 O‘ahu, 2 Maui
 - 576 kW committed capacity
 - \$300K
- Additional projects in discussion with vendors
 - 6+ MW
 - \$1M+
 - Most with expected date of service in late 2023 or 2024



Challenges:

- Permitting and supply delays
- Project sale cycle is long



EV Charging Station Rebate Program

Objective: Deploy the first tranche of funding appropriated with Act 202 SLH 2022



- Execution underway
- Majority of backlog from April stoppage cleared
- Contractual Modification signed in November
- Awaiting Additional Funds



- Project delays continued due to permitting
- Program restarted in Q2

PY22 through Q3		FUNDING		NOTES					
PY22 Rebate Funding	\$807,500	Level II Single Port (NEW)	Level II Single Port (Retrofit)	Level II Multi Port (New)	Level II Multi Port (Retrofit)	DCFC (NEW)	DCFC (Retrofit)		
Total Paid	\$334,641								
Remaining Funding	\$472,859								
Current Pipeline	\$228,100	4		47	16	2			
		\$8,000		\$208,641	\$48,000	\$70,000			

Residential Demand Response Ready

Objective: Support GIWH and other smart technology installations to promote grid service capable demand side resources for all customers



- 12 new participants for Heat Pump Demonstration pilot initiative with Shifted
 - Ongoing testing grid services functionality – frequency response, load build, load shed, load shift, emergency demand response
 - Troubleshooting included tank placement, piping, electrical hook-up
 - Surveying customers experience and interest in demand response enrollment
- Continued to support GSPA recruitment



03

Accessibility & Affordability

Community-Based Energy Efficiency | Energy Advantage |
EmPOWER Grant

Community-Based Energy Efficiency



Wai'anae – Delivered 102 appliances.

- Goal: 100
- Challenge: Sign-ups were slow
- Solution: Conducted outreach at local farmer's market and promoted on social media and local paper. Community partner issued press release picked up by two local networks.

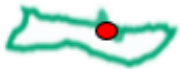


Waimanalo –Delivered 50 appliances.

- Goal: 50
- Challenge: New CBEE Community
- Solution: Worked closely with community partner to carry out logistics and program requirements; community partner provided great outreach opportunities.



Community-Based Energy Efficiency



Moloka'i –

Delivered 118 appliances through partnership with Sustainable Moloka'i.

- Goal: 100
- Challenge: Supply chain delays
- Solution: Worked with community partner to prioritize the distribution of appliances that arrived on time to customers most in need; worked with supplier to find appliances on hand and minimized delay to two weeks
- Attended Molokai Resource Fair to promote window AC trade-up, ES4H, and other residential rebates.
 - This effort generated **40 ES4H sign-ups and applications for all 30 Window AC Trade up units.**



Community-Based Energy Efficiency



Puna – Delivered 50 appliances via a coordinated swap and pick-up site

- Goal: 50
- Challenge: Supply chain delays
- Solution: Worked with community partner to re-schedule the trade-up event to accommodate the delayed delivery (1 week)



Hāna – Delivered 39 appliances to Ka Hana Ka 'ike campus, where participants brought their old appliances for recycling & swapped for a new appliance

- Goal: 39
- Challenge: Appliances Damaged on Arrival
- Solution: worked with supplier to replace



Other Noteworthy A&A Efforts



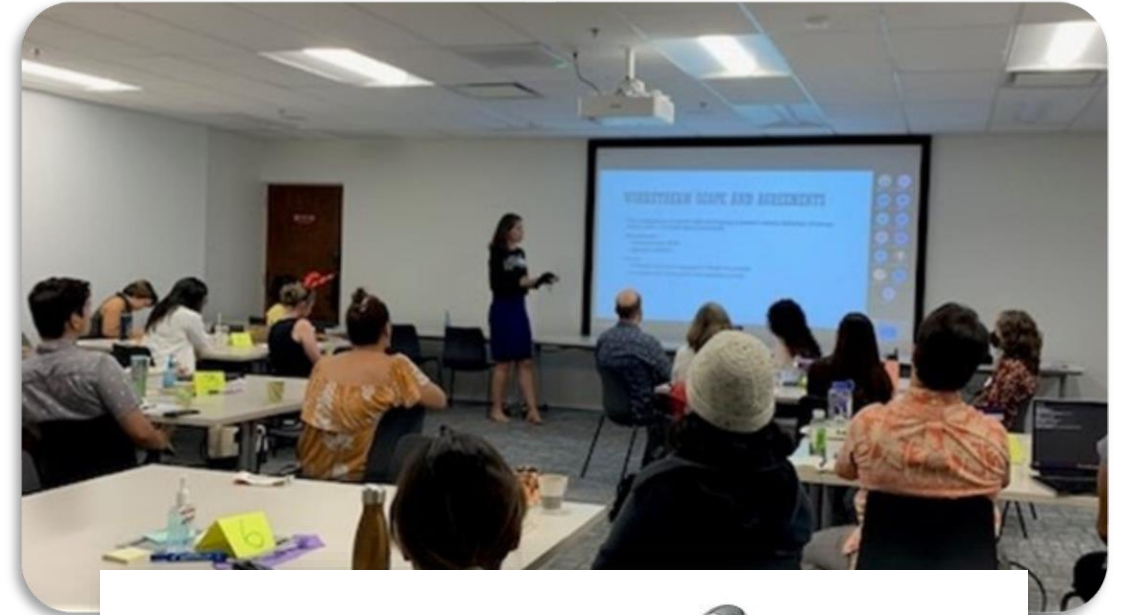
Equity Hui

- Expanded collaboration efforts to focus on four workstreams –
 - Energy equity definition/framework
 - Community benefits
 - RFP Renewable Energy Projects
 - Legislative priorities
- Strategy working group added May 2023



Energy Smart 4 Homes – Total 1,048 units

- 750 Multifamily units
- 298 Single-family homes



01 Select ENERGY STAR® LED lighting

02 High-efficiency showerheads: fixed and handheld

03 Advanced power strips for energy management

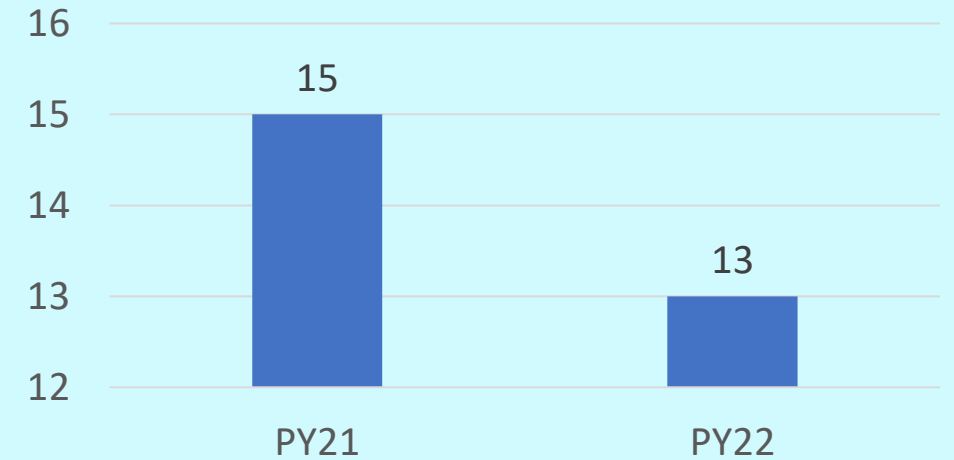
04 High-efficiency faucet aerators: kitchen and bath

Energy Advantage (E.A.)



- **463 projects completed through May 2023**
- Revised eligibility to streamline and include more small businesses and nonprofits

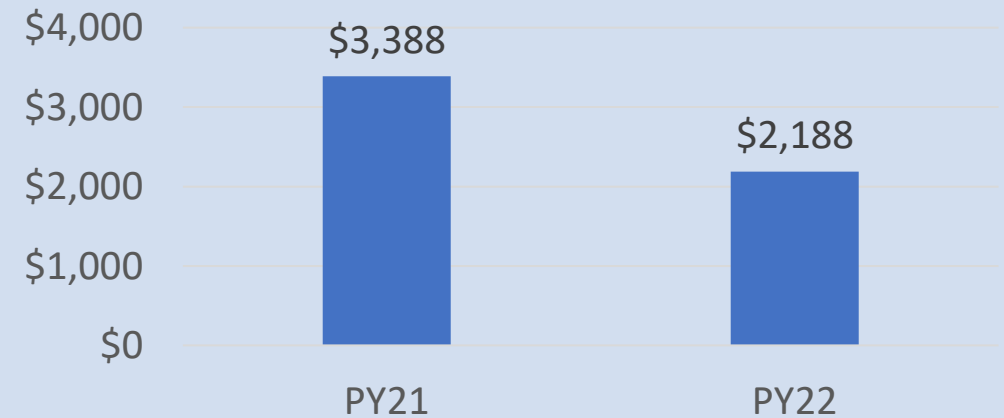
Number of Active E.A. Contractors by PY



Challenges:

- Active contractors are very busy
- Few contractors willing to do small installs on neighbor islands
- Customer bill savings lagging—projects have lower operating hours compared to previous PY

Average Customer Annual Bill Savings by PY



EmPOWER Grant

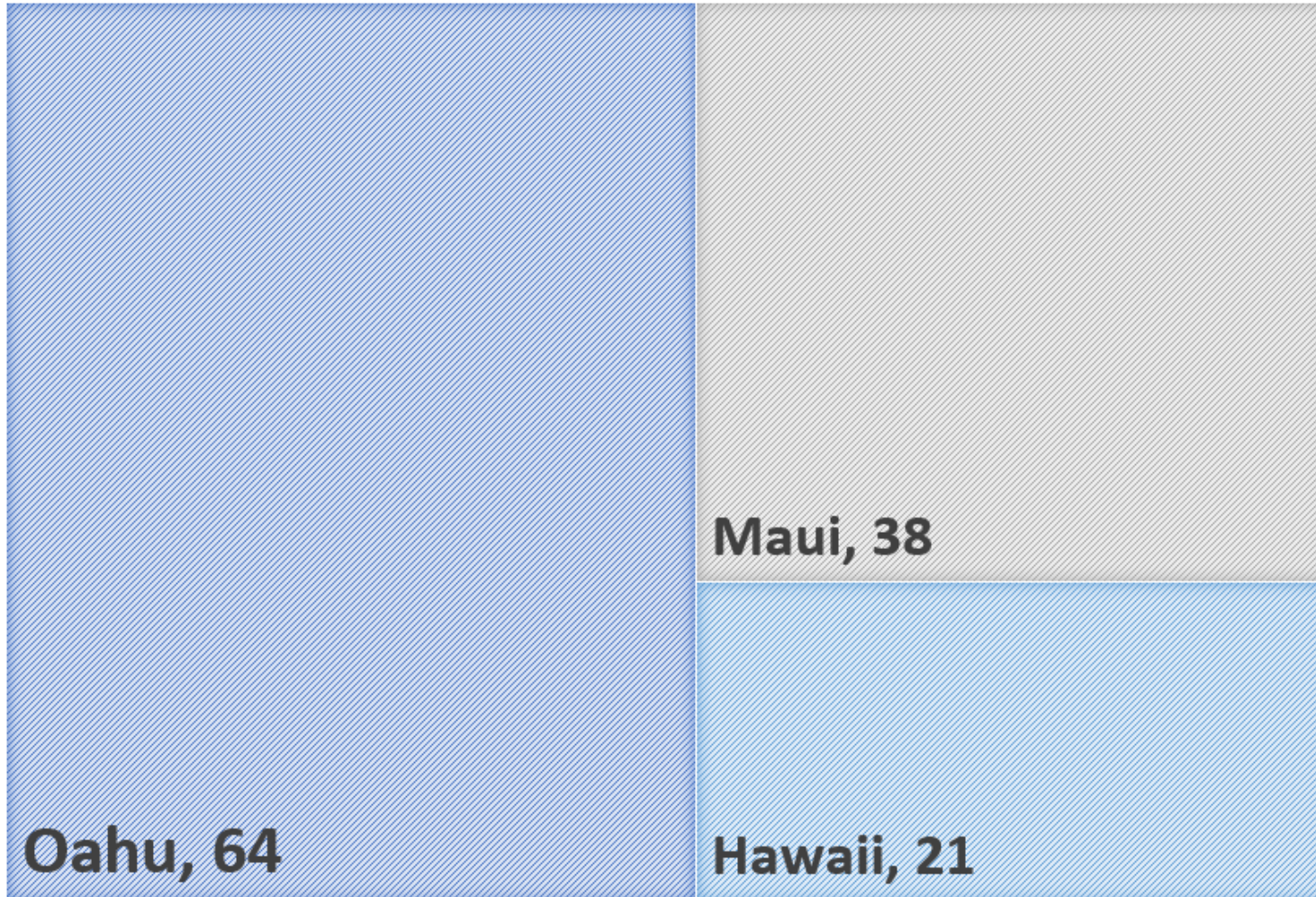
Objective: Fund energy efficiency improvements for nonprofits, small businesses and other qualifying organizations experiencing economic loss

- In PY22: a total of **nearly 150 grant awards were offered** and accepted by applicants
 - 109 full grants (capped at \$5,000) were accepted after competitive review in the fall of 2022
 - 38 partial grants (capped at \$2,000) were accepted in the spring of 2023 after initially not being awarded in the fall of 2022
- Through May 2023, **123 total grant projects finished** and reimbursed their grant awards
- Advisors continued to work with grantees to facilitate grant projects' progress, including addressing as necessary issues like changing quotes from vendors and/or logistics challenges
 - For example, the quoted cost of commercial kitchen appliances during the application period in some cases increased by the time grants were awarded. Advisors successfully worked with customer and vendor to figure out solutions (i.e., a similar, cheaper model of the appliance being available) to allow projects to remain on track.
 - Other ongoing & typical challenges, including supply chain delays and permitting issues, have resulted in delays for some projects. Advisors worked with grantees and contractors to address those challenges on a case-by-case basis.

SUMMARY OF EmPOWER GRANT PROJECT ACTIVITY

GRANT PROJECTS COMPLETE BY COUNTY

■ Oahu ■ Maui ■ Hawaii



Total Funds Reimbursed for
PY22 Grant Projects Completed:

\$566,375

Grant Projects Completed Through May 2023:
123

Projects Completed In Q3, By County:
O’ahu – 52%, Maui – 31%, Hawai’i – 17%

BUSINESS A&A (ENERGY ADVANTAGE & EMPOWER GRANT)

- ✓ 463 completed Energy Advantage projects
- ✓ 123 completed EmPOWER Grant projects
- ✓ **Progress to Target: 586* of 550 (107%)**

**Total project count includes completed Energy Advantage and EmPOWER Grant projects.*

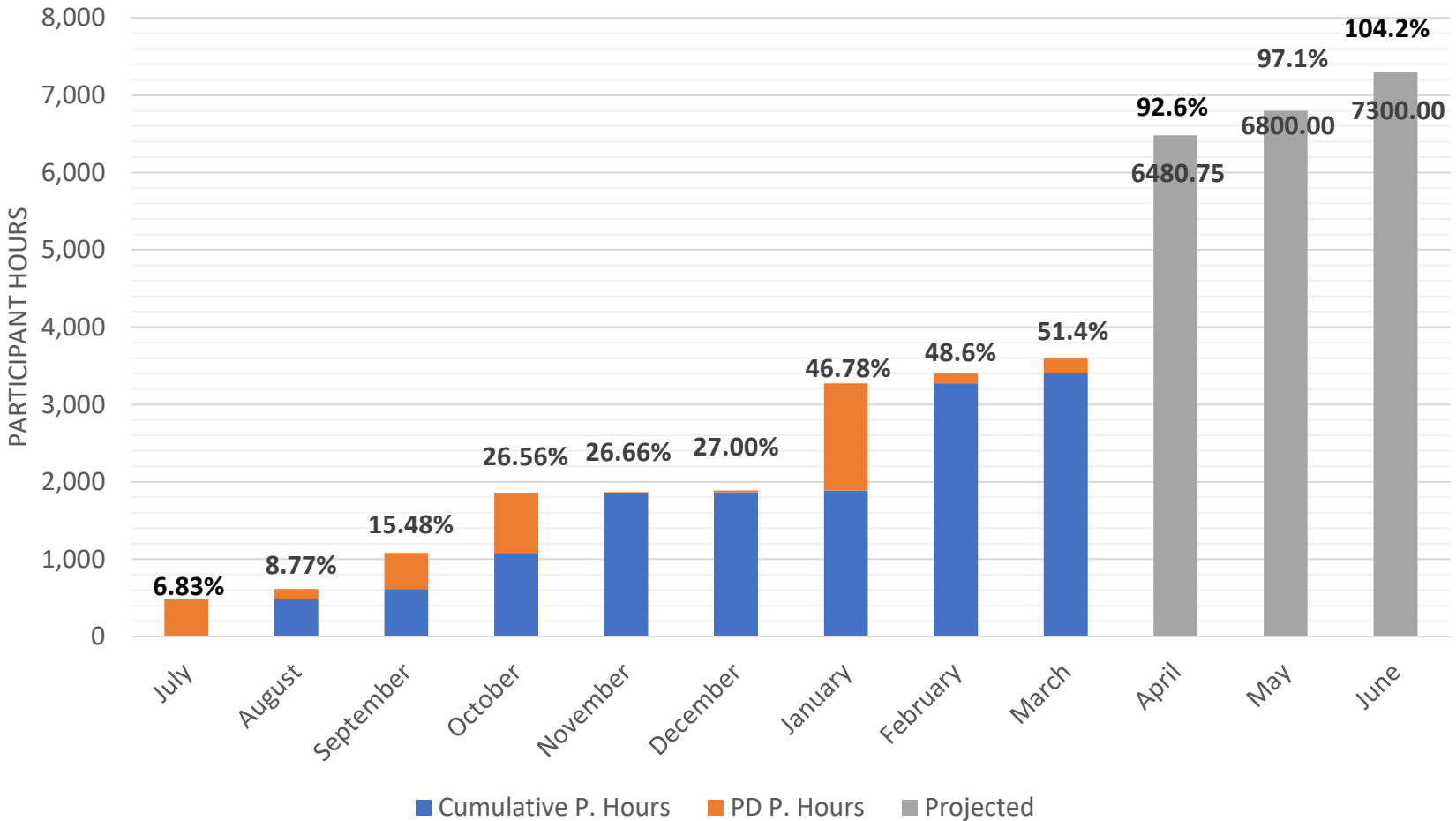


04

Market Transformation & Economic Development

Trainings & Workshops | Policy | Strategic Energy Management

PY22 MTED Professional Development (PD)
Participant Hours



Projecting 7300 Hours or 104%

A&A WORKSHOPS and OUTREACH

Objective: Focus on clean energy and energy efficiency literacy workshops at the community level – including student engagement – with a focus on hard-to-reach populations across the Hawai‘i



YOUTH:

- 69 workshops
- 1937 contact hours
- 2492 students



COMMUNITY WORKSHOPS (ADULT):

- 21 workshops
- 2628 participant hours
- 2055 participants

Groups included:

- Red Hill Elementary Parents
- UH Manoa Outreach College
- Castle Band-Aid Association

Red Hill Elementary session feedback:

- “Fantastic, this was an excellent presentation, as a parent it reinforces what we tell the kids, but I also learned a lot. Thanks for the great tips!!!”
- “Informative. Very clear and entertaining. Thank you for the free energy saving devices!”
- “This was fantastic & very informative! The presenter was very easy to follow & had great pacing & cadence. Many Mahalos!”
- “Thank you so much for this session. I am looking forward to implementing the ideas presented asap!”

A&A WORKSHOPS and OUTREACH



Voyager Charter School

Kealakehe High School



PROFESSIONAL DEVELOPMENT & TRAININGS

Objective: Provide technical training around emerging efficient technologies and best practices.

Certified Energy Manager class of 2023



32 workshops/events
1339 participants
6256 participant-hours

Highlights:

- Certified Energy Manager course and exam (40 took exam)
- Impact of Outdoor Lighting Workshop with IES
- CEA Focus Group – Residential Solar Hot Water contractors
- EVCS Program Informational Webinar



Policy

Objective: Support county and state policy measures that will promote energy efficiency and aligns with the state's EEPS and clean energy goals

2023 Legislative Session:

- ✓ Took part in opening day festivities at the capitol on January 18th, meeting with legislators and their staff to brief them and make aware of Hawaii Energy's availability as a resource.
- ✓ Co-hosted with Blue Planet Foundation a Legislative Briefing kickoff event on January 26th to mark the start of the new legislative session, promote energy efficiency, and share with legislators and stakeholders which measures Hawai'i Energy will closely monitor and support during the legislative session.
- ✓ Re-launched Hawaii Energy's bi-weekly legislative newsletter, starting with the February 7th newsletter marking the start of the session.



Policy

Objective: Support county and state policy measures that will promote energy efficiency and aligns with the state’s EEPS and clean energy goals

2023 Legislative Session:

Monitored and submitted testimony in support of:

- EEPS extension
- Clean lighting**
- Appliance standards**
- Green Youth Jobs Corps
- Solar & energy storage permitting
- EVCS rebate program funding**
- Nominations of Mark Glick (HSEO) and Colin Yost (PUC)**
- Building energy codes

***indicates the measure was successful*



Benchmarking – City & County of Honolulu

Objective: Once buildings are benchmarked, Hawai'i Energy is available with resources to help buildings take the next step in considering efficiency improvements that will ultimately improve their score.

STATUS OF BENCHMARKING

- First benchmarking deadline for City & County of Honolulu (C&CH) buildings >100,000 sq. ft. in **June 2023**



- Hawai'i Energy benchmarking webpage maintenance – <https://hawaiienergy.com/for-business/benchmarking-by-facility-type>
- Continued status update monthly meetings with C&CH
- Initial internal planning for specialized support for customer benchmarking to roll out this summer
- Presentations alongside C&CH
 - Hawai'i Society of Healthcare Engineering
 - Colliers
 - 2x C&CH benchmarking trainings

City & County of Honolulu Better Buildings Benchmarking program (Bill 22)

Ordinance 22-17 (formerly Bill 22), was signed into law by City and County of Honolulu Mayor Rick Blangiardi July 20, 2022 to establish a Better Buildings Benchmarking Program. The program will require large commercial and multifamily buildings on O'ahu to benchmark and report their energy and water usage annually. The first annual reporting deadline begins in June of 2023 for buildings 100,000 square feet and larger, and then in June 2024 and 2025 for buildings 50,000 and 25,000 square feet and above, respectively. The Office of Climate Change, Sustainability and Resiliency will offer information, trainings, and guidance for building owners and property managers later this year and leading up to these deadlines.

Building Sector	Building Size (sq ft.)	Benchmarking Timeline			
		Spring 2022	June 30, 2023	June 30, 2024	June 30, 2025
City Buildings	≥10,000	Benchmark & Report			
Commercial & Multifamily Buildings	≥100,000		Benchmark & Report		
	≥50,000			Benchmark & Report	
	≥25,000				Benchmark & Report

Strategic Energy Management – Energy Treasure Hunts

Objective: Continue regular engagement with customers that received energy treasure hunts (THs) in 2022 and build relationships with future candidates for THs.



Treasure Hunt Activities

- Treasure hunts completed
 - AHL - offices
 - Waikiki Beachcomber – hotel
- Customer meetings for TH follow up
 - Architects Hawai'i – offices
 - Hawaiian Airlines – offices, hangar
 - Park Shore – hotel
 - Ford Island – military
 - Hawaii DoD – military

CHALLENGES

- Facilities labor shortages and turnover
- Scheduling regular engagement



05

Marketing & Communications

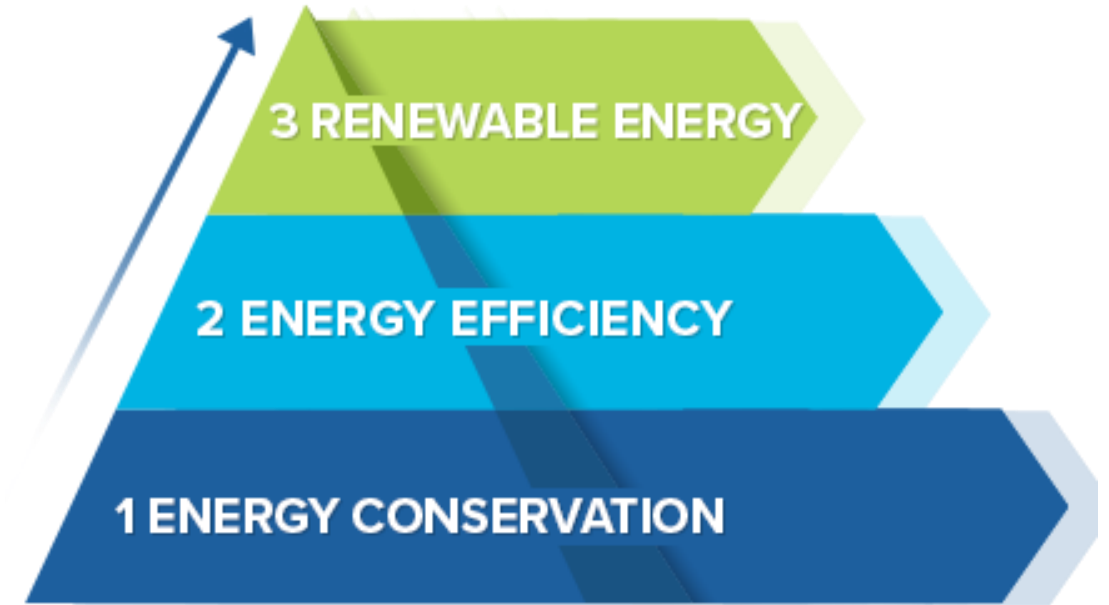
MARKETING & COMMUNICATIONS

PY 2022, Q1-2 Calendar

July	August	September	October	November	December
PY Launch Communications					
Bill Increase Response Communications/ Resource Development					
			Energy Awareness Month		
	Cooling Digital Ad Campaign			Refrigerator Digital Ad Campaign (Search and Display)	
			Rid-A-Fridge Social Media Digital Campaign		
			AC Tune-Up Email Campaign		
				Retail Rebate Increases / Store Marketing	
				HI Now Segments (Holiday & Fridge Promos)	
					Retail Store Visits

Energy Awareness Month

- Focus on electricity bill relief & resources at all levels
- Education on the energy-saving pyramid
- Overall good engagement across channels, particularly email



Campaign Elements

- Website landing page
- Email campaign
- Promotional giveaway (testimonial-sharing)
- Social media
- Media outreach



Holiday Residential Retail Push

MERRY & BRIGHT
SAVINGS OF UP TO 90% ON LIGHTING COST

Lowe's
2-pack daylight candle LED bulbs only **\$1 each!**
+ More offers available

ONLINE MARKETPLACE
LED holiday string lights as low as **\$10 each** plus **FLAT RATE SHIPPING!**

Home Depot
2-pack BR30 flood LED bulbs only **\$5.97 each!**
+ More offers available

Costco
2-pack recessed lights LED bulbs only **\$7.99 each!**
+ More offers available

CLICK FOR ALL PROMOTIONS

New rollouts:

- Fridge Trade-Up rebate increase
- LED Lighting promotions at Home Depot, Costco, Lowe's
- Marketplace specials: Energy Kit, LED string lights

Ongoing:

- Heat pump water heaters
- ACs

Focus areas:

- Revise in-store signage
- Launch before Black Friday
- Store visits with new Retail Marketing Specialist
- Drive customer demand

Tactics

- Store presence
- Email
- Social media
- TV (paid) segments



SMARTER PRODUCTS. BIGGER SAVINGS.

Upgrade your home with the Smart Starter Kit by Hawai'i Energy

\$15
Smart Starter Kit
+ FREE SHIPPING

Turn your ordinary outlets and lamps into smart devices with this great offer!

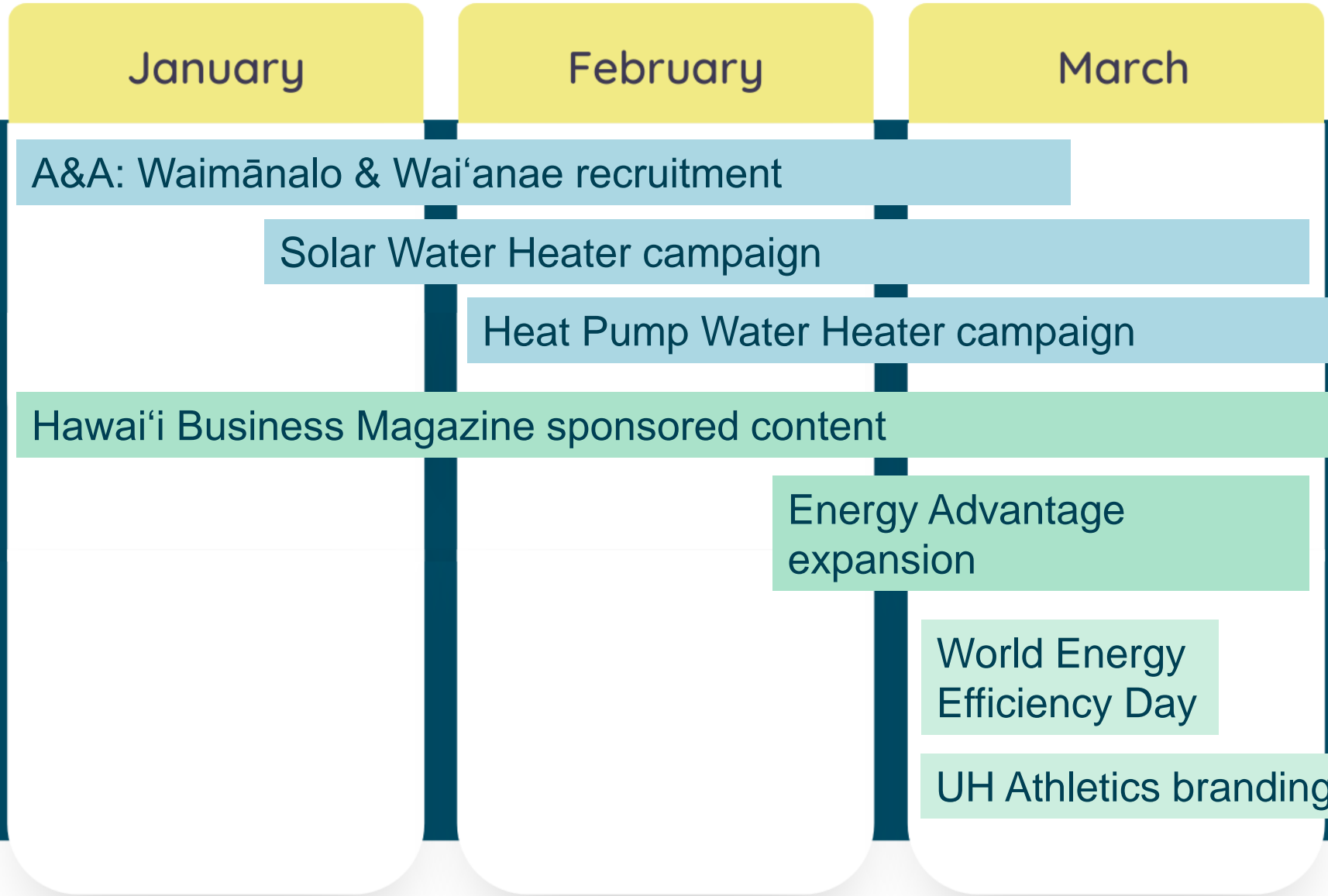
Kit Includes:
2 WiFi Smart LED A19, 2 LED Nightlights,
1 Felt WiFi Smart Plug and
1 Tricklestar Power Switch

BONUS OFFER!

Get an energy saving power strip for **75% off** at checkout!

Advanced power strips protect your electronic devices and reduce wasted energy.

Campaigns In Market
Q3



Energy Advantage Expansion

Tactics

- Website: case study, updated info
- Media outreach
- Paid advertising: Hawai'i Business
- Printed brochure
- Email
- Social media
- “Be A Light, Give A Light” campaign

HawaiiBusiness
magazine

ALL BUSINESS & INDUSTRY EVENTS NATURAL ENVIRONMENT REAL ESTATE

LISTS & AWARDS MOVERS & MAKERS MAGAZINE PODCAST ABOUT US

NEED TO KNOW EVENT SERIES REGISTER

Community Gym + Energy Efficiency = A Perfect Match

After five years of building their business, George Ma and his business partner Rick Wacker opened Fitness Therapy Hawaii – the only gym in Hawai'i designed for clients with Parkinson's disease – in August of 2022.

MARCH 7, 2023 BY OUR ADVERTISING PARTNER

Opening this gym was personal for the partners as Ma lost his father to Parkinson's several years ago, while Wacker and Glen Higa, their head trainer, both have Parkinson's.

From the start, they set out to make sure the gym was uniquely able to support clients with the disease, placing special emphasis on helping participants maintain and sometimes even regain movement. However, this meant their space had to be designed differently than most gyms, which caused some stress in the months leading up to opening.

POPULAR

1. As House Prices Fall, Condo Prices Are Up in Seven Regions of O'ahu
2. Only in Hawai'i: You Own the Home But Not the Land
3. The Downtown Honolulu Parking Guide is Back
4. Like Airbnb But on Wheels
5. Hawai'i's Best Places to Work 2023

NEED TO KNOW EVENT SERIES REGISTER

The Promise and Reality of Regenerative Tourism
Wednesday, May 17, 2023
8:30 a.m. to 11:00 a.m.
at JWCA Learning Center in Honolulu, HI

This Nonprofit Helps Kaua'i Farmers Start Up and Grow
BY NOELLE PHILLIPS

Hawaii Energy
1,719 followers
1mo •

We are very excited to announce that our Energy Advantage lighting rebate program is now open to ALL 501(c)3 nonprofits and qualifying Schedule J customers! 🙌 If you are or know of a small business, nonprofit, church, or restaurant that could use a lower electricity bill, please reach out so we can help! For more, visit https://lnkd.in/gp_VD-T.

#smallbusiness #energyefficiency #LED #hawaiienergy #nonprofit

Dan Mestas, CMRP, CEM and 24 others
1 comment

Like Comment

Organic impressions: 402 Impressions Show stats

\$100
Referral Bonus

Collaboration with Hawaiian Electric

- Time-of-Use Toolkit input
- Customer email (Jan)
- Community events

Your Time-of-Use Toolkit
A NEW WAY TO CONTROL YOUR ENERGY USE AND SAVE MONEY

Take advantage of these programs to save

ENERGY SMART 4 HOMES
FREE energy-saving program for residential properties. Energy Smart 4 Homes (ES4H) is a simple energy-saving opportunity for residential properties. Hawaiian Electric technicians will install FREE LED lightbulbs, high-efficiency showerheads and sensors, and advanced power strips at your home. So sign up today and enjoy up to \$160 in bill savings each year. For more details, go to hawaiianenergy.com/for-home/energy-smart-4-homes-es4h/wsh4signup?

REFRIGERATOR TRADE-UP (\$250 REBATE)
A fridge that is 20 years or older uses about twice as much energy as a new ENERGY STAR® certified refrigerator. If it's time for an upgrade, you can get a \$250 rebate when you purchase a qualifying ENERGY STAR®-certified refrigerator from a participating retailer.

RID-A-FRIDGE PROGRAM (\$75 REBATE)
RID-a-Fridge makes it easy for residential electric customers to surrender old refrigerators and freezers. Hawaiian Electric recycles old, energy-inefficient refrigerators and freezers and pays you, draining working units for FREE and Maui and Oahu will receive \$75 for each one. For more details, go to hawaiianenergy.com/for-homes/rid-a-fridge-program

HEAT PUMP WATER HEATER (\$500 IN-STORE INSTANT REBATE)
Another option for reducing your water heating cost is to install an ENERGY STAR® heat pump water heater for your home. Heat pump water heaters are 2x as efficient as a conventional water heater, cutting your water heating costs in half. Get a \$500 Hawaiian Electric instant rebate for this cost-effective upgrade. For more details, go to hawaiianenergy.com/for-homes/rebates/water-heating

SOLAR WATER HEATING (\$1,250 INSTANT REBATE)
A solar water heater in your home is the best way to save money on your electric bill. With Hawaiian Electric's rebate combined with state and federal tax credits, you can save an incredible amount on the system purchase price in the first year. For more details, go to hawaiianenergy.com/for-home/solar-water-heating/the-cost-of-a-solar-water-heating-system

WINDOW AIR CONDITIONER (UP TO \$45 INSTANT REBATE)
ENERGY STAR® certified air conditioners use up to 15% less energy than conventional models. That's a savings of about \$67 per year, per unit on your electric bill.
Right now, get a rebate on qualifying new ENERGY STAR® window ACs from a participating retailer:

- \$25 INSTANT REBATE for standard models at Home Depot or Lowe's
- \$45 INSTANT REBATE for dual inverter type at Home Depot

AIR CONDITIONER TUNE-UP (\$75 INSTANT REBATE)
Keep your home's central or split air conditioning system running in top shape by booking a maintenance tune-up. Receive an instant rebate when the tune-up is performed by a participating Clean Energy Ally. Hawaiian Electric recommends having this service done annually. For more information, go to hawaiianenergy.com/for-homes/rebates/hvac

POOL PUMP WITH VARIABLE FREQUENCY DRIVE (VFD) POOL (\$150 REBATE)
Use up to 18% less energy when you switch your old standard pool pump to an ENERGY STAR® certified VFD pool pump. Get a \$150 rebate toward the purchase of a qualifying model. This program does not apply to newly constructed homes. For more information, go to hawaiianenergy.com/for-homes/rebates/additional-rebates

Manage your electricity use with My Energy Use portal at hawaiianelectric.com/myenergyuse

Energy-saving programs and rebates provided by Hawaiian Electric

Use solar energy when most abundant and save

Top 10 energy-saving tips To put Time-of-Use to work

Hawaiian Electric

Aloha,

Happy 2023! Now is a good time to set energy-saving goals and adopt good habits to help manage your electricity use.

There are many ways you can conserve energy for your business that help to lower your electric bill over time. It takes time to adjust to new habits, but it can be rewarding!

Energy-saving tips

- Turn off and unplug all unnecessary electronics when not in use.
- Use less hot water. The less hot water your business uses, the less energy is wasted.
- Use a fan or open your windows if you are able to instead of turning on the AC to help the environment. When you must use the AC, close windows and doors to keep cold air inside.
- Downsize where you can and get rid of old appliances such as refrigerators, which can cost twice as much in energy compared to new ENERGY STAR® models.



06

Key Takeaways

PY22 KEY TAKEAWAYS



Maintain focus on tailored customer engagement for pipeline development for PY23. Power Move remains an attractive offering for customers.



Despite progress, custom projects are not materializing at rate needed to meet goals. Focusing on customer engagement and treasure hunts to drive pipeline development



Continued focus on partnership development in the A&A space to more robustly serve customers. Program enhancements for EmPOWER and Energy Advantage launched, will be evaluating progress.

Legislative policy efforts remain key focus area into next quarter.

Allies showing increasing interest in professional and technical trainings.



Continue with comprehensive marketing campaigns continue to drive program engagement.

Prioritizing communications and resource accessibility across all ratepayers.

PY23 UPDATES



Limited updates to rebate levels to maintain continuity for industry and customers
Updating retro-commissioning and chiller optimization program requirements



Custom project development



2023 Innovation Symposium – October 12th



Coordinated support for TOU pilot communications

10-YEAR STRATEGIC ROADMAP

Program Years 2022-2031



Hawai'i Energy



Going forward, Hawai'i Energy will continue to position itself as a **reliable resource that empowers consumers to use energy wisely, creates pathways for the adoption of clean energy solutions, and spurs green economic growth.**



The intent of this 10-year Strategic Roadmap is to provide a high-level outlook for Hawai'i Energy over the next decade. To achieve its vision, Hawai'i Energy will:



Incentivize the adoption and advancement of clean energy technologies to achieve the following by 2030:

- Contribute to Hawai'i's Energy Efficiency Portfolio Standards (EEPS) goal³ by reducing the amount of electricity used in the state by 1,200-1,350* GWh from 2022-2031
- Provide over 24 MW of flexible peak load reduction



Encourage the pursuit of smart, optimized buildings



Increase customer participation, especially for those experiencing higher energy burdens, lower energy literacy, limited access to programs, and fewer financial means



Evolve market transformation efforts to capture energy savings and enhance workforce capacity by driving business and project development

This Strategic Roadmap outlines the programmatic strategies and proposed activities Hawai'i Energy will employ to meet these goals, along with the metrics to assess progress along the way. Detailed tactics and specific measurable targets for each strategy will be further defined in subsequent triennial plans.

³ Energy Efficiency Portfolio Standards, Hawai'i Revised Statutes §269-96, www.capitol.hawaii.gov/hrscurrent/vol05_ch0261-0319/hrs0269/hrs_0269-0096.htm#:~:text=%5B%C2%A7269%2D96%5D%20Energy,energy%2Defficiency%20programs%20and%20technologies.

* Represents Hawai'i Energy's contribution to achieving the EEPS goal from 2022-2031



Mahalo



JENNIFER
BARNES

ENERGY
EFFICIENCY
MANAGER



WRAP UP & NEXT STEPS

QUESTIONS?

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