

2030 STRATEGIC ROADMAP

Program Years 2022-2030



Hawai'i Energy





Empowering residents and businesses to make smart energy choices to
reduce energy consumption,
save money and pursue a 100% clean energy future
www.hawaiienergy.com



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Hawai'i is aggressively pursuing clean energy solutions to mitigate climate change, reduce its dependency on imported foreign oil, and inject the economy with green opportunities. The state's mandated goal to reach 100% renewable energy by 2045 is critical for the sustainability of the world's most isolated population center.

At the same time, many Hawai'i residents are struggling with heavy energy burdens. The state's electricity rates are the highest in the nation, more than double the national average¹ and saw increases of 10-20% in 2022 due to rising foreign oil prices.²

This has the state's energy efficiency program administrator, Hawai'i Energy ("Program"), doubling down on its offerings to incentivize and support residents and businesses in lowering their energy usage as a strategy to create opportunities for cost savings and program participation.

Since 2009, Hawai'i Energy has been a pillar in the islands, helping island residents and businesses make smarter energy choices through its clean energy technology rebates, market transformation programs, and accessibility and affordability efforts. Between 2009 and 2020, Hawai'i Energy has helped customers save 1.57 billion kilowatt hours (kWh) and \$462 million in first-year utility bill savings.

EXECUTIVE SUMMARY

¹ United States Energy Information Administration, 2021. "State Electricity Profiles." www.eia.gov/electricity/state/

² HNN Staff, 2022. "HECO: Power bills in Hawaii could soar by up to 20% with rising price of fuel." Honolulu: Hawaii News Now. www.hawaiinewsnow.com/2022/03/10/heco-residential-power-bills-hawaii-could-soar-by-up-20-with-rising-price-fuel/

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 2030 Strategic Roadmap is to provide a high-level outlook for Hawai'i Energy leading up to 2030. 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 1,100-1,200* GWh from 2022-2030
- Provide over 21 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

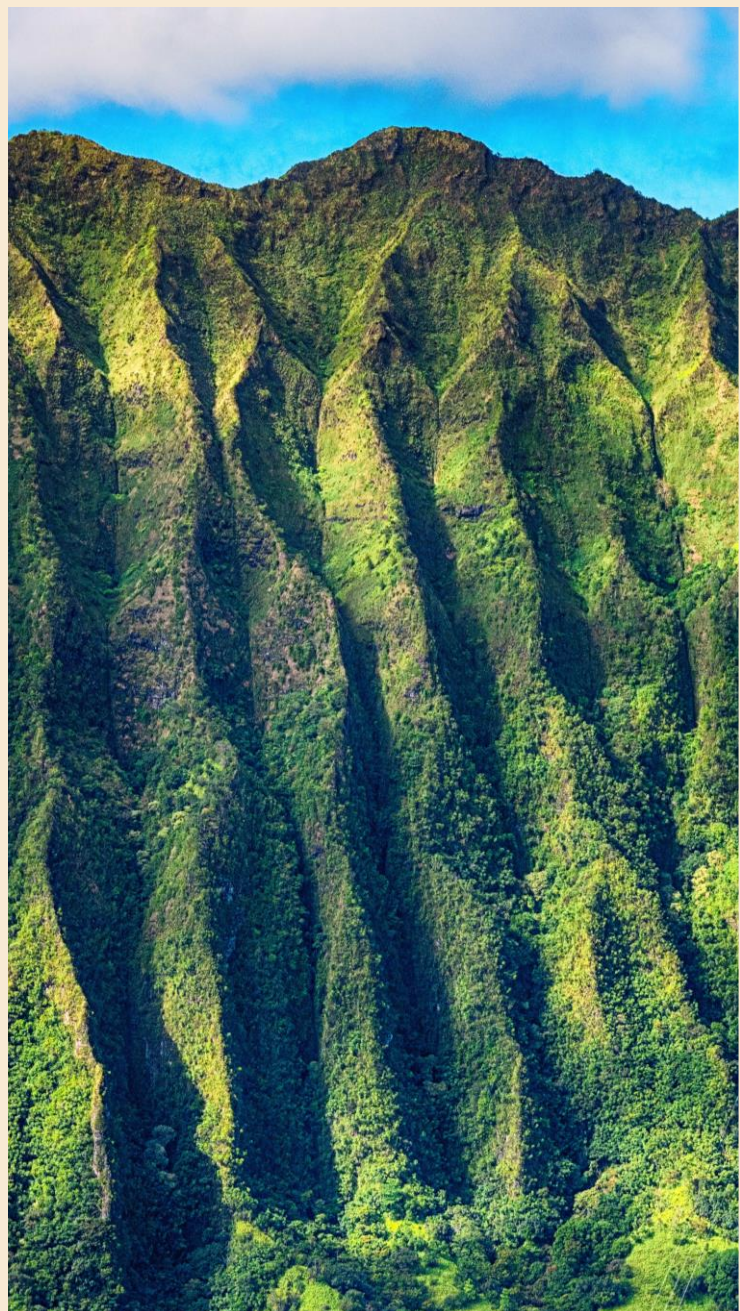


TABLE OF CONTENTS

Introduction

- Program Background.....7
- Core Program Areas.....9
- Budget Considerations.....11
- External Drivers.....12

Developing the 2030 Strategic Roadmap

- Background.....19
- Guiding Principles.....20
- Framework.....21

The Roadmap: Hawai'i Energy in 2030

- Future Focus.....24
- Vision.....25
- Goals.....26
- Strategies.....27
- Strategies and Activities.....28
- Metrics.....43
- Alignment.....45

Next Steps.....49

- Ongoing/Interim Reporting.....50

Conclusion.....51

Appendix – Definition of Terms.....52



INTRODUCTION

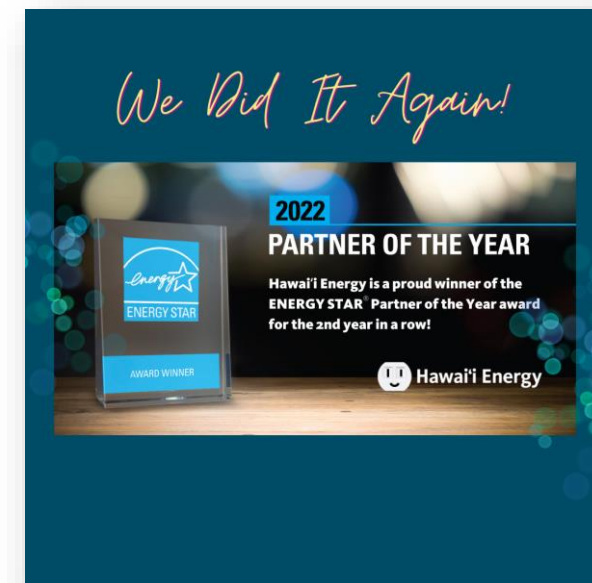


As Hawai'i pursues its 100% renewable energy and decarbonization goals by 2045, a big focus has been on finding clean energy solutions to power island homes and businesses in the face of scheduled coal plant retirements, rising energy costs, and increased climate change impacts. While renewable energy gets most of the headlines and attention, energy efficiency is similarly as important to reduce grid load in support of state energy targets.

Since 2009, Hawai'i Energy has been working to **empower island residents and businesses to make smart energy choices that reduce energy consumption, save money and achieve a 100% clean energy future.**

Administered by the Public Benefits Fee Administrator (PBFA) on behalf of the Hawai'i Public Utilities Commission (PUC), Hawai'i Energy implements energy efficiency programs in the counties of Honolulu, Maui and Hawai'i. The Program has been at the forefront of energy efficiency in the islands through incentive programs, technical support, and education and outreach.

As a result of the Program's strategic direction and positive standing in the communities it serves, Hawai'i has been recognized by ACEEE's 2020 State Energy Efficiency Scorecard report.⁴ Hawai'i Energy has also been recognized by the U.S. Environmental Protection Agency as an ENERGY STAR® Partner of the Year in Program Administration in 2021 and 2022 – during the COVID pandemic.



⁴ American Council for an Energy Efficiency Economy, 2020. "2020 State Energy Efficiency Scorecard- Hawaii." www.aceee.org/state-policy/scorecard

Hawai'i Clean Energy Initiative

The State of Hawai'i, in partnership with the United States Department of Energy, established the Hawai'i Clean Energy Initiative (HCEI) with a goal of meeting 70% of the state's energy needs through renewable energy and energy efficiency by 2030.

Public Benefits Fee

The Hawai'i State Legislature and the PUC transferred energy efficiency demand-side management (DSM) from Hawaiian Electric (HECO) to a third-party administrator, known as the PBFA, which is contracted by the PUC. The PBFA is paid for by a Public Benefits Fee (PBF) charged to HECO ratepayers and is applied to supporting clean energy technology, demand response technology, energy use reduction, and demand-side management infrastructure, programs and services.

2008

EEPS Goal

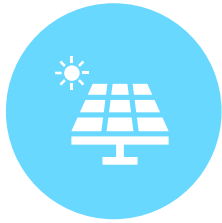
The Hawai'i State Legislature subsequently passed Act 155 to incorporate the state's energy efficiency goals with the Energy Efficiency Portfolio Standards target of 4,300 gigawatt-hours (GWh) of electricity savings by 2030. The Hawai'i Energy program was expected to be the primary contributor to the EEPS goal.

2009

Hawai'i Energy

The PBFA operates as Hawai'i Energy, and the PUC regularly solicits competitive bids for the contract, which is currently awarded to Leidos, Inc. The PBFA is also managed by a third-party Energy Efficiency Manager (EEM) on behalf of the PUC.

Hawai'i Energy is currently focused on driving the adoption of cost-effective energy efficiency in three Core Areas —



CLEAN ENERGY TECHNOLOGIES (CET) & ENERGY OPTIMIZATION INITIATIVES (EOI)

Acceleration of Hawai'i's transition to clean, resilient, cost-effective energy systems



ACCESSIBILITY & AFFORDABILITY (A&A)

Inclusion of everyone in the clean energy transition, focusing on engaging "hard-to-reach" sectors, such as low- and middle-income households and small business and nonprofits



MARKET TRANSFORMATION & ECONOMIC DEVELOPMENT (MTED)

Strengthening of local communities, businesses and Hawai'i's economy

Within these Core Areas, the Program offers incentives, technical support and guidance, and education and outreach to reduce energy use and promote efficient-equipment installations and upgrades.

CORE PROGRAM AREAS



Hawai'i Energy

Starting in 2020, Hawai'i Energy began expanding its portfolio beyond energy efficiency to include Energy Optimization Initiatives that support the future needs of the grid. These efforts included developing offerings to drive adoption of grid-enabled technologies, empowering customers to fine-tune their energy consumption, and supporting enrollment in HECO's demand response programs.

In 2021, Hawai'i Energy stepped up EOI efforts to support the PUC's all-hands-on-deck call to prepare for the mandated retirement of O'ahu's last coal-fired plant in September 2022. The Program collaborated with HECO to support its Battery Bonus program with Hawai'i Energy's own Power Move suite of incentives for commercial battery storage.

This Roadmap breaks down goals, strategies and activities based on the current Core Program Areas. In the future, Hawai'i Energy will continue to assess, modify and identify new areas as needed, based on program performance and future conditions (*see External Drivers section starting on page 12*).





The Hawai'i Energy program currently operates under a triennial plan with annual budgets approved by the PUC. These budgets are set from the PBF collections as reported by HECO annually. Currently, the PBF collection is set at "2% of the projected total electric revenues of the Hawaiian Electric Companies."⁵ To meet the desired goals, future program implementation will require adequate funding as we approach 2030. It is important to ensure funding can be increased as it is needed. Leveraging unspent funds from previous program years, accessing federal funding, and even looking at future potential increases to the Public Benefits Fee are all avenues to grow the Program's budget as needed to achieve success.

As had been done in previous program cycles, Hawai'i Energy will leverage other sources of funding to broaden the mission and work of the organization. In particular, Hawai'i Energy has a ready platform to deploy federal dollars aimed at climate change to implement, measure and achieve early results. This will be essential in helping stakeholders, such as the Hawai'i State Energy Office (HSEO), accelerate the deployment of federal funds.

⁵ Hawai'i Public Utilities Commission, Order No. 38440 Setting the Public Benefits Fee Surcharge for Program Year 2022 dms.puc.hawaii.gov/dms/DocumentViewer?pid=A1001001A22F24A84015104262

EXTERNAL DRIVERS



Hawai'i Energy

Hawai'i Energy recognizes there will be unforeseen circumstances and external factors in the coming years that will both challenge and uplift the Program. As the energy landscape changes, Hawai'i Energy must continue to evolve to best serve island residents, businesses and the utility grid.

While it is nearly impossible to accurately predict future circumstances, the Roadmap team used their expertise in strategic thinking and mitigation planning to paint a picture of likely external factors that could impact the Program's direction.

Flexibility will be key for the Program to respond to external drivers. Hawai'i Energy will continue to work closely with the PUC, EEM and other stakeholders to swiftly modify programs or change directions to adjust to changing times.



Economic Challenges

The COVID-19 pandemic demonstrated how a global crisis can devastate economies and result in supply chain disruptions, inflation and skyrocketing energy prices (electricity and transportation). Looking ahead, we continue to feel the effects of the pandemic, which has resulted in project delays or stoppages.

EXTERNAL DRIVERS



Hawai'i Energy

Project Delays

Permitting has long been a challenge in project development, and Hawai'i's counties have faced increased obstacles in recent years.

On top of the permitting issues, Hawai'i Energy continues to face supply chain delays that impact the availability of energy-efficient technologies or equipment. The Program must continuously stay on top of project development updates as delays can affect annual budgets and metrics.



Energy Landscape

The years leading up to 2030 will be especially critical for Hawai'i's energy industry, as it moves beyond making goals to taking action. With plans to retire fossil fuel generation plants every two to three years starting with O'ahu in 2022, there's a growing need for alternative energy sources and a reliance on achieving energy efficiency goals. Looking ahead, the state's decarbonization success will be determined by the performance of distributed energy resources (DERs), utility-scale renewable energy projects, participation by residents and businesses in Hawai'i Energy programs, and the stability of the grid as it transitions from fossil fuel to renewables.



The state's energy landscape will also be impacted by the outcomes of key regulatory proceedings related to HECO, including dockets pertaining to HECO's Distributed Energy Resource Policies,⁶ Integrated Grid Planning,⁷ and Grid Modernization.⁸ Collaboration between Hawai'i Energy and HECO will continue to be key for the Program to stay involved with utility system changes that manage peak demand and shift load to achieve targets, including integration of efficiency, storage, supercharged grid-scale resources, and DERs.

⁶ Docket No. 2019-3023. "Instituting Proceeding to Investigate Distributed Energy Resource Policies Pertaining to the Hawaiian Electric Companies." Hawai'i Public Utilities Commission.

⁷ Docket No. 2018-0165. "Instituting a Proceeding to Investigate Integrated Grid Planning." Hawai'i Public Utilities Commission.

⁸ Docket No. 2018-0141. "Application for Approval to Commit Funds in Excess of \$2,500,000 for the Phase 1 Grid Modernization Project, to Defer Certain Computer Software Development Costs, Etc." Hawai'i Public Utilities Commission.



Energy Efficiency Metrics

Another key factor for program development will be the evolution of metrics used to measure the progress and impact of energy efficiency programs. With increased focus on targeting low- to moderate-income (LMI) and ALICE® (Asset Limited, Income Constrained, Employed) households, there is a growing emphasis on equity metrics. ACEEE noted in its State and Local Policy Database on Equity Metrics and Workforce Development that “historically, energy efficiency initiatives have failed to adequately serve and represent marginalized groups, particularly neighborhoods whose residents are predominantly Black, Indigenous and/or People of Color communities. These groups, as well as low-income residents, often face disproportionately high energy burdens, meaning they spend more of their income on energy bills compared to their counterparts.”⁹

Evolving EEPS Framework

In its 2019 report providing an update on the EEPS progress to the Hawai'i State Legislature, the PUC noted the current EEPS framework should be reevaluated to consider anticipated changing conditions and “to ensure the EEPS program serves ongoing State interests. The Commission’s current review of the EEPS Framework and discussions with stakeholders over the next year may lead to changes – including revised and new EEPS metrics – that explicitly encourage energy efficiency programs to address time-varying and locational value to the grid.”¹⁰

⁹ ACEEE. “Equity Metrics and Workforce Development.” database.aceee.org/state/equity-workforce

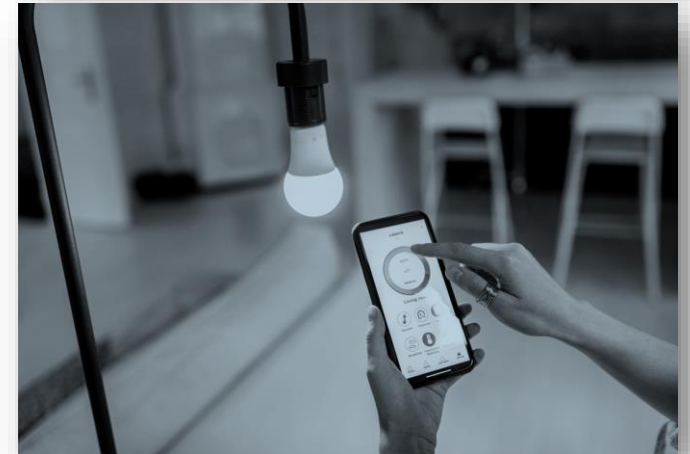
¹⁰ Hawai'i Public Utilities Commission, 2018. “Report to the 2019 Legislature on Hawaii’s Energy Efficiency Portfolio Standards.” (p. 22). Honolulu, HI. puc.hawaii.gov/wp-content/uploads/2018/12/EEPS-2019-Legislative-Report_FINAL.pdf



New Sources of Energy Efficiency

As technologies advance to incorporate more efficiency, it may also result in less energy savings from year to year. In April 2022, the U.S. Department of Energy announced new cost-saving energy efficiency standards for light bulbs, with two new rules designed to conserve energy and lower electric bills for consumers.¹¹ Since lighting has been the most cost-effective measure in the Program's portfolio to-date, Hawai'i Energy will need to continue its evolution beyond lighting to find new sources of savings.

The Internet of Things (IoT) and connected devices are also enabling customers to better control how and when they consume energy from the grid while also generating and storing their own power. These "smart devices" provide an excellent opportunity for Hawai'i Energy to engage with consumers and message conservation as a gamification tool.



¹¹ U.S. Department of Energy, 2022. "Biden Administration Implements New Cost-Saving Energy Efficiency Standards for Light Bulbs," Washington, D.C. www.energy.gov/articles/biden-administration-implements-new-cost-saving-energy-efficiency-standards-light-bulbs

Federal Funding

Climate change mitigation is one of the driving forces behind two recently passed landmark laws — the Infrastructure and Investment Jobs Act (IIJA) and the Inflation Reduction Act (IRA) — that promise to infuse billions of dollars into clean energy and transportation-related investments at the state level. Hawai'i is expected to receive more than \$2.8 billion in funding from the IIJA through formula and competitive grants,¹² while the IRA will provide tax credits for the installation of clean energy projects and rebates for qualified home electrification projects.¹³



Political Change

Shifts in political leadership could impact how energy fits into national, state and county priorities. There was a newly-elected governor in 2022 and as we approach 2030 there will be changes to state and county seats, along with two presidential elections. With each change in the state's top role, there may be new appointees to the PUC which will directly impact the evolution of the Program.

¹² U.S. Sen. Brian Schatz, 2021. "President Signs Infrastructure Bill Into Law, At Least \$2.8 Billion In New Federal Funding Heading to Hawai'i, Even More Expected." www.schatz.senate.gov/news/press-releases/president-signs-infrastructure-bill-into-law-at-least-28-billion-in-new-federal-funding-heading-to-hawaii-even-more-expected

¹³ Grube, 2022. "Schatz: New Climate Bill is 'An Incredible Economic Opportunity' for Hawaii." Civil Beat. Honolulu: August. www.civilbeat.org/2022/08/schatz-new-climate-bill-is-an-incredible-economic-opportunity-for-hawaii/



DEVELOPING THE 2030 STRATEGIC ROADMAP



Hawai'i Energy

ROADMAP DEVELOPMENT - BACKGROUND



During the development of the 2019–2021 Triennial Planning period, the PUC accepted the PBFA team’s recommendation to create a strategic framework and vision to guide organizational decisions, allocate resources, and articulate Hawai’i Energy’s growth path and role in supporting the state’s clean energy goals amid a changing energy reality.

Beginning in mid-2020, the Strategic Roadmap project was a collaborative effort between select members of Hawai’i Energy’s team, PUC commissioners and staff, the EEM and Evaluation, Measurement and Verification (EM&V) teams, and Hawai’i Energy’s consultants Brio and VEIC.

It was also important to gather feedback from key stakeholders who have shared interests and represent current and potential partnerships. Brio conducted virtual interviews with more than a dozen government, private and nonprofit organizations that work directly with Hawai’i Energy or are involved in the clean energy/efficiency industry (*see Table 1, right*).

State Government	County Government	Private	Nonprofit	Other EE Programs
Hawai’i PUC	City & County of Honolulu – Office of Climate Change, Sustainability & Resiliency	Hawaiian Electric	Blue Planet Foundation	Efficiency Vermont
Hawai’i State Energy Office	County of Maui	2050 Partners (EEM)		Energy Trust of Oregon
State Consumer Advocate	County of Hawai’i	Hawai’i Energy’s Strategic Advisory Board		Northwest Energy Efficiency Alliance
	County of Kaua’i			NW Natural

Table 1: Stakeholders interviewed for Strategic Roadmap

ROADMAP DEVELOPMENT – GUIDING PRINCIPLES

The team used the following guiding principles to shape the development of the Strategic Roadmap and guide the implementation of all tactics and actions listed herein.



Deliver benefits that shape a cleaner, more resilient future for island residents and businesses



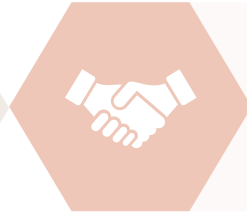
Reduce the energy burden for Hawai'i's residents and businesses



Serve as excellent stewards of public resources while avoiding duplicative efforts



Foster a culture of flexibility to nimbly respond to market forces and opportunities



Provide quality customer service



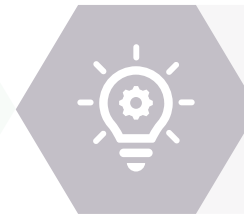
Operate with diversity, equity and inclusivity top of mind



Cultivate robust relationships with stakeholders and partners



Leverage data in planning and decision-making



Innovate to accelerate impact

Structure and Definitions

The following framework illustrates how each element of the Roadmap works together:



Stakeholder Usage

The main audiences for the Roadmap are the PBFA, PUC, EEM and other partners and stakeholders. The following illustrates how the Roadmap is intended to be used as a resource:

Entity	Intended Usage
Hawai'i Energy (PBFA)	<ul style="list-style-type: none"> • Guide the development of future Triennial and annual plans • Onboard new staff, consultants and vendors
Hawai'i Public Utilities Commission	<ul style="list-style-type: none"> • Inform the approval of Hawai'i Energy Triennial and annual plans • Guide the development of future PBFA contract Request for Proposals • Provide long-term planning resource that has stakeholder consensus for PBFA program direction
Energy Efficiency Manager	<ul style="list-style-type: none"> • Resource for the EM&V process
Stakeholders	<ul style="list-style-type: none"> • Outline areas of opportunities for partnerships and alignment with Hawai'i Energy's programs

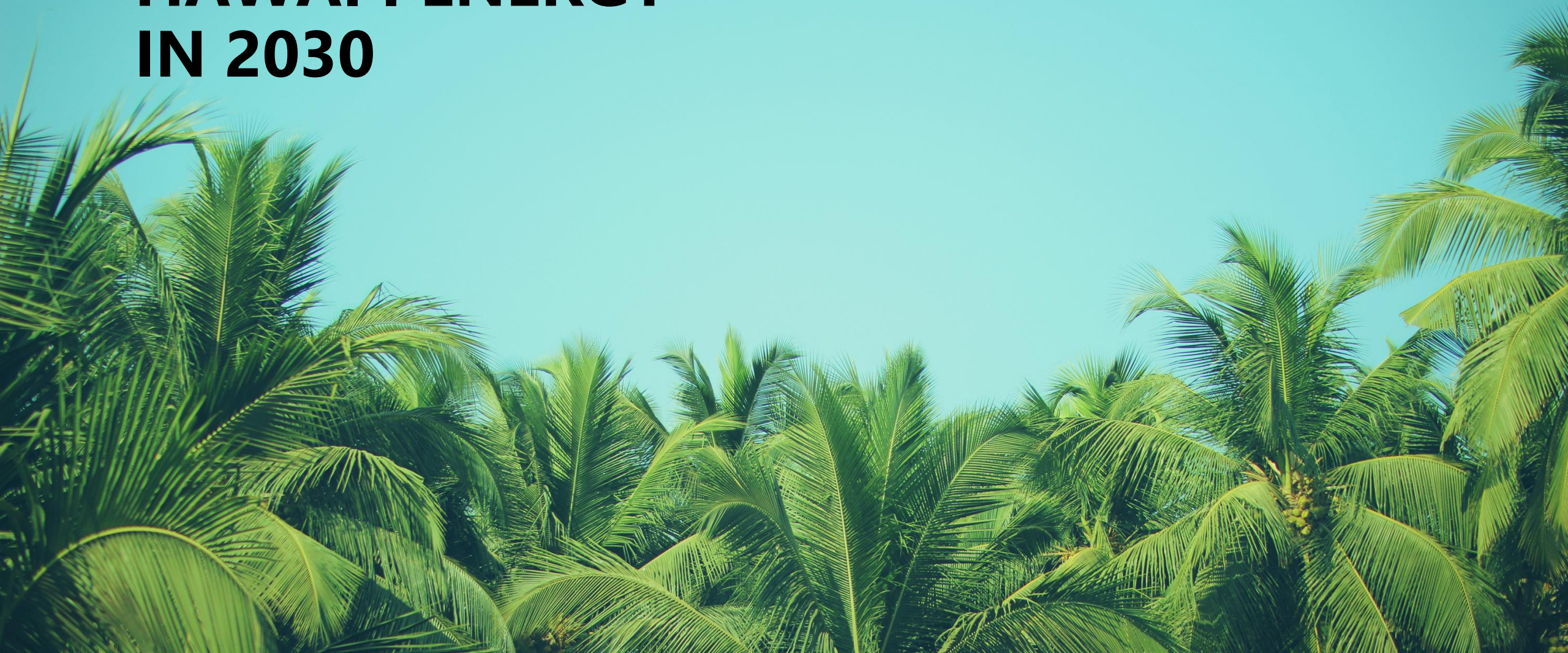
Table 2: Intended Roadmap Use per Stakeholder Entity



Hawai'i Energy



THE ROADMAP: HAWAI'I ENERGY IN 2030



FUTURE FOCUS



Hawai'i Energy

As we look to the future, Hawai'i Energy's vision, goals, strategies and activities will be closely tied to supporting the state, counties and HECO in achieving the following established targets:



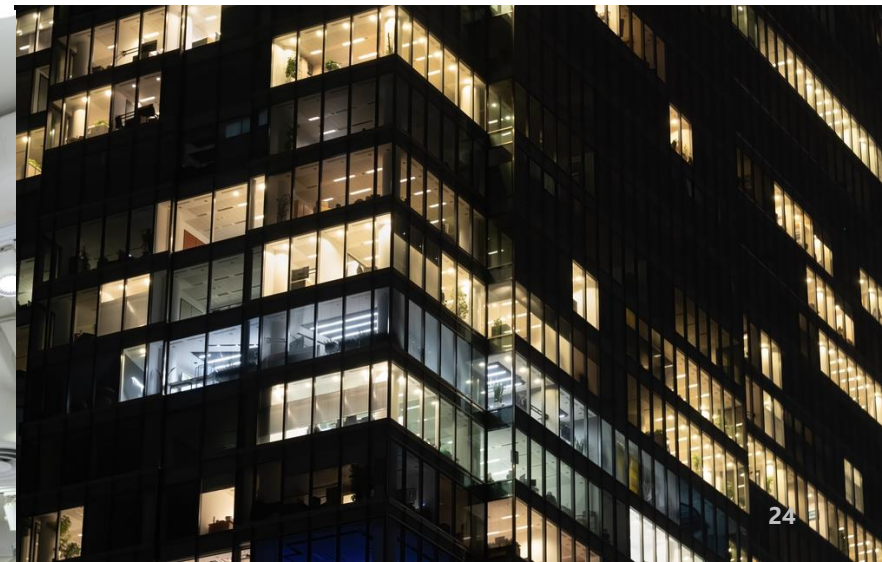
The state's EEPS reduction target of 4,300 gigawatt-hours by 2030



The state's 100% renewable energy mandate and carbon neutral goal by 2045



Hawaiian Electric's 2030 target to reduce carbon use by 70%



VISION – WHERE HAWAI‘I ENERGY SEES ITSELF IN 2030



Be 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 key to accomplishing this vision is the Hawai'i Energy team. These dedicated professionals are experts in engineering, data analysis, customer service, marketing and outreach, policy, and finance. Their diverse backgrounds represent the communities the Program serves, and they all strive to help customers identify and implement energy-efficient measures.



GOALS - WHAT HAWAI'I ENERGY STRIVES TO ACCOMPLISH BY 2030



Hawai'i Energy will focus its programs and technical expertise over the next ten program years on the following goals:

Electricity Use Reduction

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) goal by reducing the amount of electricity used in the state by 1,100-1,200 GWh from 2022-2030

Flexible Peak Load Reduction

- Flexibly reduce the state's peak load by 21 MW

Smart Optimized Building Stock

Encourage the pursuit of smart, optimized buildings



Improved Energy Equity

Increase customer participation, especially those who are experiencing higher energy burdens, lower energy literacy, limited access, and fewer financial means

Enhanced Economic Opportunities

Evolve market transformation efforts to capture energy savings, influence positive behavioral changes, and boost workforce capacity by driving business and project development

STRATEGIES - HOW HAWAI'I ENERGY WILL ACHIEVE ITS GOALS



Hawai'i Energy will aim to achieve its goals utilizing the following strategies, categorized under current Core Areas:

Clean Energy Technologies & Energy Optimization Initiatives

- Influence consumers to choose the most efficient technologies
- Target the most energy-intensive end uses for efficiency and load management
- Drive adoption of grid-edge solutions
- Expand development of collaboration framework(s) with stakeholders to align efforts and keep energy efficiency and peak demand reduction top of mind

Accessibility & Affordability

- Design and deploy programs that help renters and landlords overcome challenges to adoption of energy-efficient and other clean energy solutions
- Collaborate with industry to identify and engage LMI / ALICE customers to reduce energy burden
- Provide targeted efficiency technology solutions and incentives to hard-to-reach businesses and nonprofits to offset the high cost of operations
- Identify and offer financing solutions for underserved populations to increase program participation

Market Transformation & Economic Development

- Influence behavior change and increase energy literacy
- Provide resources and opportunities in support of workforce development
- Deploy strategic interventions to support energy-efficient product availability throughout supply chain
- Leverage external funding for the development of a green workforce
- Partner with market actors to amplify program offerings and cultivate Hawai'i Energy's reputation as a trusted ally
- Support the adoption and implementation of enhanced energy codes and appliance standards – establishing savings attribution for program efforts undertaken

The following 15 pages describe each strategy and associated activities.

ROADMAP STRATEGIES & ACTIVITIES

CORE AREA: CLEAN ENERGY TECHNOLOGIES (CET) & ENERGY OPTIMIZATION INITIATIVES (EOI)

Strategies	Strategic Partners (non-PUC/EEM)	Near-Term (PY22-24)	Mid-Term (PY25-27)	Long-Term (PY28-30)
Influence consumers to choose the most efficient technologies	<ul style="list-style-type: none"> • Clean Energy Allies • State and County agencies • Market actors, including manufacturers, distributors and retailers • Industry organizations (e.g., Hawai'i Food Industry Association) 	Leverage rebate mechanisms and market relationships to decrease emerging product(s) cost to customers	Conduct market assessment to identify enhanced marketing strategies	Evaluate market assessment results and modify programs if needed
		Create/explore new financing mechanisms (e.g., GEMS) to increase access to most efficient CETs	Evaluate progress/refine strategies Expand offerings to additional financial institutions	Evaluate progress/refine strategies
		Continue with limited-time offerings to drive urgency around customer adoption	Evaluate effectiveness of limited-time offerings and assess customer adoption rates	Ongoing

Strategies	Strategic Partners (non-PUC/EEM)	Near-Term (PY22-24)	Mid-Term (PY25-27)	Long-Term (PY28-30)
<p>Target the most energy-intensive end uses for efficiency and load management</p>	<ul style="list-style-type: none"> • Clean Energy Allies • HECO • Project Developers • State and county agencies • Large customers 	<p>Deploy contractor networks to meet the needs for installation and regular system maintenance</p>	<p>Develop a robust maintenance network to help realize a full suite of value from CET deployment</p>	<p>Ongoing</p>
		<p>Build out new construction programs prioritizing early energy modeling</p>	<p>Deploy new construction program enhancements with targeted rebates for opportunities identified by energy modeling</p>	<p>Ongoing</p>
		<p>Incorporate energy and non-energy benefits when demonstrating customer value for projects</p>	<p>Continue to refine the valuation of non-energy benefits</p>	<p>Ongoing</p>
		<p>Work with HECO to identify target accounts to mitigate grid/system constraints</p>	<p>Refine customer targeting based on HECO's Integrated Grid Planning findings</p>	<p>Evaluate and refine customer targeting efforts</p>

Strategies	Strategic Partners (non-PUC/EEM)	Near-Term (PY22-24)	Mid-Term (PY25-27)	Long-Term (PY28-30)
<p>Drive the adoption of grid-edge solutions</p>	<ul style="list-style-type: none"> • HECO • Technology companies (e.g., GridPoint) • EV charging station contractors/retailers • Grid-Interactive Efficient Building Working Group • State and county agencies 	<p>Coordinate with existing aggregators to target customers with efficiency and load flexibility for identified grid services</p>	<p>Explore opportunities for Hawai'i Energy to act as an aggregator</p> <p>Pilot aggregator activities initiated by the Hawai'i Energy programs</p> <p>Streamline customer experience when connecting demand-side technologies for load flexibility (i.e., simplify communication protocols, increase Hawai'i Energy's guidance during integration)</p>	<p>Ongoing</p>
		<p>Amplify HECO's efforts related to capacity reduction, grid balancing, load shifting and shedding. Establish a mechanism to value stack with efficiency rebates</p>	<p>Ongoing</p>	<p>Ongoing</p>

Strategies	Strategic Partners (non-PUC/EEM)	Near-Term (PY22-24)	Mid-Term (PY25-27)	Long-Term (PY28-30)
<p><i>(continued)</i></p> <p>Drive the adoption of grid-edge solutions</p>	<ul style="list-style-type: none"> • HECO • Technology companies (e.g., GridPoint) • EV charging station contractors/retailers • Grid-Interactive Efficient Building Working Group • State and county agencies 	<p>Increase EOI educational campaigns</p>	<p>Review effectiveness of campaigns/refine strategy</p>	<p>Ongoing</p>
		<p>Support expanded clean transportation market by growing uptake and customer familiarity with advanced charging infrastructure</p>	<p>Refine alternative fuel rebate programs to align with evolving market trends</p>	<p>Evaluate necessity of alternative fuel rebate programs based on availability of alternative fuel infrastructure network</p>

Strategies	Strategic Partners (non-PUC/EEM)	Near-Term (PY22-24)	Mid-Term (PY25-27)	Long-Term (PY28-30)
<p>Expand development of collaboration framework(s) with stakeholders to align efforts and keep energy efficiency and peak demand reduction top of mind</p>	<ul style="list-style-type: none"> • HECO • Project Developers • PV and DER contractors • State and county agencies 	<p>Collaborate with HECO to provide EE and DR solutions as non-wires alternatives (NWA)</p>	<p>Partner with PUC and HECO to support deeper analysis of grid benefits</p>	<p>Ongoing</p>
		<p>Combine storage opportunities with DR and EE efforts through more holistic programs that target PV and DER contractors</p>	<p>Evaluate effectiveness of combined programs and refine as needed</p>	<p>Continue evaluation</p>
		<p>More robustly leverage HECO’s AMI data to target programs for temporal and locational value</p>	<p>Ongoing</p>	<p>Ongoing</p>
		<p>Work closely with the counties to leverage climate adaptation work, particularly microgrids, to combine EE and DR with DERs and EoT</p>	<p>Formalize a collaboration framework with county agencies</p>	<p>Evaluate / refine framework as needed</p>

Strategies	Strategic Partners (non-PUC/EEM)	Near-Term (PY22-24)	Mid-Term (PY25-27)	Long-Term (PY28-30)
<p>Design and deploy programs that help renters and landlords overcome challenges to adoption of energy-efficient and other clean energy solutions</p>	<ul style="list-style-type: none"> • Appliance suppliers • Community-based organizations (CBOs) • Federal, state and county housing agencies • HECO • Landlords • Property management companies • Rent-to-own retailers 	<p>Leverage supplier relationships to purchase appliances in bulk and have equipment at the ready to maximize program’s cost-effectiveness</p>	<p>Identify partners to store EE appliances to service requests Pilot on-demand request program</p>	<p>Continue to assess and evaluate</p>
		<p>Address landlord-tenant split incentive by removing upfront co-pays for direct install offerings through a co-funding mechanism</p>	<p>Identify other sources of funding to offset co-pays</p>	<p>Diversify offerings to incorporate smart-controllable appliances</p>
		<p>Explore offering direct incentives to rent-to-own retailers to buy down the cost to own high-efficiency appliances</p>	<p>Pilot direct incentive program with rent-to-own retailers</p>	<p>Evaluate success</p>
		<p>Leverage housing agency relationships to explore customized in-unit packages to upgrade all installed equipment</p>	<p>Pilot customized in-unit package incentive program with housing agencies</p>	<p>Evaluate success</p>

Strategies	Strategic Partners (non-PUC/EEM)	Near-Term (PY22-24)	Mid-Term (PY25-27)	Long-Term (PY28-30)
<p>Collaborate with industry to identify and engage low- to moderate-income / ALICE customers to reduce energy burden</p>	<ul style="list-style-type: none"> • Aloha United Way • Consumer Advocate • Federal, state and county agencies • Healthcare industry and providers • HECO • Social services providers 	<p>Increase coordination with national programs specializing in renter initiatives</p>	<p>Ensure ongoing refinement of local program offerings in alignment with best practices</p>	<p>Ongoing</p>
		<p>Increase targeting efforts with strategic partners to refine qualifying participant characteristics and increase the granularity of targeting through data sharing</p>	<p>Ongoing Expand partnerships</p>	<p>Ongoing</p>
		<p>Highlight a suite of energy and non-energy benefits across the Social Determinants of Health (SDOH)</p>	<p>Evaluate effectiveness and track national trends to inform local efforts</p>	<p>Incorporate SDOH in future program design and planning</p>
		<p>Leverage housing agency relationships to explore customized in-unit packages to upgrade all installed equipment</p>	<p>Pilot customized in-unit package incentive program with housing agencies</p>	<p>Evaluate success</p>

Strategies	Strategic Partners (non-PUC/EEM)	Near-Term (PY22-24)	Mid-Term (PY25-27)	Long-Term (PY28-30)
<p>Provide efficient technology solutions and incentives to hard-to-reach businesses and nonprofits to offset the high cost of operations</p>	<ul style="list-style-type: none"> • Clean Energy Allies • Federal, state and county agencies • HECO 	<p>Expand direct-install offerings to cover most energy-intensive loads like air conditioning, water heating and refrigeration</p> <p>Leverage external funding to cover infrastructure improvements (roofing, weatherization, etc.), coupled with efficient equipment upgrades</p>	<p>Utilize HECO AMI data for more targeted load profile analysis for small businesses</p>	<p>Ongoing</p>
		<p>Utilize targeted marketing campaigns to increase customer awareness of Hawai'i Energy as a solution to help decrease electric bills</p>	<p>Evaluate success of marketing campaigns to inform future efforts</p>	<p>Ongoing</p>
		<p>Expand marketing support for Clean Energy Allies servicing small- and medium-sized businesses</p>	<p>Assess and refine as needed</p>	<p>Ongoing</p>

Strategies	Strategic Partners (non-PUC/EEM)	Near-Term (PY22-24)	Mid-Term (PY25-27)	Long-Term (PY28-30)
Identify and offer financing solutions for underserved populations to increase program participation	<ul style="list-style-type: none"> • Community action programs • Community-based organizations • Economic development boards • Energy services industry • Federal, state and county agencies • Financial institutions • Hawai'i Green Infrastructure Authority • HECO 	Partner with HECO and the energy services industry to customize financial solutions (i.e., on-bill financing) to support clean energy upgrades for businesses lacking access to financing and capital	Assess progress and refine offerings	Ongoing
		Explore and pilot financing program with local banks and/or credit unions	Incorporate financing program into standard program offerings Partner with additional financial institutions	Continue to assess and evaluate
		Secure co-funding for opportunities to support the deployment of clean energy technologies with community action programs and economic development boards	Ongoing	Ongoing

Strategies	Strategic Partners (non-PUC/EEM)	Near-Term (PY22-24)	Mid-Term (PY25-27)	Long-Term (PY28-30)
Influence behavior change and increase energy literacy	<ul style="list-style-type: none"> • Community-based organizations • Outreach providers • Public and private educational institutions • State and county agencies 	Enhance ongoing educational offerings by diversifying EE and peak load management trainings and content	Incorporate Time-of-Use and Advanced Rate concepts into educational programs	Follow up market research to assess energy literacy
		Advance gamification efforts through mobile and social media platforms	Evaluate progress and update gamification tools to reflect changing energy dynamics	Ongoing
		Continue to provide support for K-12 clean energy curriculum deployed through program partnerships	Expand list of outreach providers to ensure program longevity and increase cost-effectiveness	Evaluate success and refine as needed

Strategies	Strategic Partners (non-PUC/EEM)	Near-Term (PY22-24)	Mid-Term (PY25-27)	Long-Term (PY28-30)
<p>Provide resources and opportunities in support of workforce development</p>	<ul style="list-style-type: none"> • Community colleges and outreach college programs • Federal, state and county agencies • HECO 	<p>Secure additional funding from organizations outside of the PBF to participate and partner in program efforts</p>	<p>Ongoing</p>	<p>Ongoing</p>
		<p>Track and evaluate a greater pool of energy savings and societal benefits from training programs to gain better insights into impact</p> <p>Work closely with EEM and PUC to develop savings and impact methodology</p>	<p>Implement savings and impact methodology as defined by PY22-24 efforts</p>	<p>Evaluate effectiveness of training programs based on mid-term findings</p>

Strategies	Strategic Partners (non-PUC/EEM)	Near-Term (PY22-24)	Mid-Term (PY25-27)	Long-Term (PY28-30)
<p>Deploy strategic interventions to support energy-efficient product availability throughout the supply chain</p>	<ul style="list-style-type: none"> • Clean Energy Allies • Distributors • Federal, state and county agencies • Retailers • Suppliers 	<p>Review existing programs and identify which are well suited for broader applications of market transformation principles</p>	<p>Partner with organizations outside of Hawai'i on regional and national MT efforts</p>	<p>Continue to evaluate and evolve MT framework to enhance economic development impacts</p>
		<p>Identify and launch a MT pilot to influence product stocking behaviors using best practices (e.g., market research, impact analysis, MT theories, and logic modeling)</p>	<p>Evaluate and iterate pilot efforts to maximize impact and fundamentally change what products are stocked</p>	<p>Assess overall economic impacts, savings generated and future MT potential</p>
		<p>Identify program value proposition for midstream and upstream market channels, such as incentive levels, marketing and customer awareness</p>	<p>Leverage established market channels to drive value proposition for both their business and customers to increase long-term adoption of clean energy technologies</p>	<p>Assess and evaluate effectiveness; modify as needed</p>

Strategies	Strategic Partners (non-PUC/EEM)	Near-Term (PY22-24)	Mid-Term (PY25-27)	Long-Term (PY28-30)
Leverage external funding for the development of a green workforce	<ul style="list-style-type: none"> • Community colleges • Federal, state and county agencies • Hawai'i State Energy Office • Training providers 	Leverage federal funding (IIJA, IRA) for training on clean energy technologies	Evaluate success and expand portfolio of training providers as new technologies come online	Ongoing
		Partner with community colleges to support vocational training programs	Assess and refine as needed	Ongoing

Strategies	Strategic Partners (non-PUC/EEM)	Near-Term (PY22-24)	Mid-Term (PY25-27)	Long-Term (PY28-30)
<p>Partner with market actors to amplify program offerings and cultivate Hawai‘i Energy’s reputation as a trusted ally</p>	<ul style="list-style-type: none"> • Clean Energy Allies • HECO • Market actors (retailers, suppliers, distributors) 	<p>Establish a shared vision and approach to market transformation with the PUC/EEM; share with stakeholders to gain support</p>	<p>Evaluate and refine as needed</p>	<p>Ongoing</p>
		<p>Engage with HECO to identify and target potential partners</p>	<p>Co-create collaborative offerings</p>	<p>Assess and refine as needed</p>
		<p>Create and target diversity in trade ally and supply chain relationships, especially for programs that are not initially cost-effective but have long-term customer benefits</p>	<p>Evaluate effectiveness and refine as needed</p>	<p>Ongoing</p>

Strategies	Strategic Partners (non-PUC/EEM)	Near-Term (PY22-24)	Mid-Term (PY25-27)	Long-Term (PY28-30)
<p>Support the adoption and implementation of enhanced energy codes and appliance standards – establishing savings attribution for program efforts undertaken</p>	<ul style="list-style-type: none"> • Clean Energy Allies • Federal, state and county agencies • Market actors (retailers, suppliers, distributors) • State Building Code Council 	<p>Influence local building codes and appliance standards to ensure buildings and stocked products support Hawai‘i’s clean energy and carbon savings goals</p>	<p>Continue to track national codes and standards and collaborate with partners to influence updates</p>	<p>Ongoing</p>
		<p>Bring market transformation principles to codes and standard landscape and establish metrics to capture impact</p>	<p>Create longer-term pathways to persisting codes and standards savings</p>	<p>Evaluate effectiveness and refine as needed</p>
		<p>Support the identification and advancement of emerging clean energy technologies across residential, commercial and industrial sectors</p>	<p>Ongoing</p>	<p>Ongoing</p>

METRICS - HOW HAWAI'I ENERGY WILL MEASURE ITS SUCCESS



The following metrics are used and assessed with each triennial/annual plan development to continually track progress of Hawai'i Energy's long-term strategies. This approach ensures that appropriate metrics can be tailored to programs, focus areas and specific interventions, and that activities can be strategically identified in operational plans for each specified time horizon.

GOAL	METRIC	HOW METRIC IS MEASURED	WHO GATHERS METRIC DATA	WHEN METRIC RESULTS ARE AVAILABLE	NEAR-TERM (PY22-24)	MID-TERM (PY25-27)	LONG-TERM (PY28-PY30)	TOTAL
Electricity Use Reduction	Energy Savings (MWh, MW)	Methods in Verified Savings Report	Hawai'i PUC	Annually	329,960 MWh	375,360 MWh	397,800 MWh	1,103,120 MWh
					30,650 MWh*	30,650 MWh*	30,650 MWh*	91,960 MWh*
					54.4 MW	62.2 MW	66.4 MW	183 MW
					5.2 MW*	5.2 MW*	5.2 MW*	15.6 MW*
Flexible Peak Load Reduction	Potential MW reduction	Engineering estimates or research on grid-edge solutions	Hawai'i Energy	Annually	6.5 MW	7.4 MW	7.8 MW	21.7 MW
Smart Optimized Building Stock	Increase in DER-ready technologies with potential time and location value to the grid	Projects/ demand management products installed, or customers served	TBD	Annually	4,700	5,340	5,650	15,690

Table 3a: Roadmap Metrics – Electricity Use Reduction, Flexible Peak Load Reduction and Smart Optimized Building Stock

*Based on 20% of attribution from codes & standards

METRICS - HOW HAWAI'I ENERGY WILL MEASURE ITS SUCCESS



The following metrics are used and assessed with each triennial/annual plan development to continually track progress of Hawai'i Energy's long-term strategies. This approach ensures that appropriate metrics can be tailored to programs, focus areas and specific interventions, and that activities can be strategically identified in operational plans for each specified time horizon.

GOAL	METRIC	HOW METRIC IS MEASURED	WHO GATHERS METRIC DATA	WHEN METRIC RESULTS ARE AVAILABLE	NEAR-TERM (PY22-24)	MID-TERM (PY25-27)	LONG-TERM (PY28-30)	TOTAL
Improved Energy Equity	Energy savings in Residential and Business Hard-to-Reach programs (MWh, MW)	Methods in Verified Savings Report	Hawai'i PUC	Annually	35,000 MWh	39,800 MWh	42,200 MWh	117,000 MWh
					5 MW	6 MW	6 MW	17 MW
Enhanced Economic Opportunities	# of participants	Methods in Verified Savings Report	Hawai'i PUC	Annually	4,500	4,500	4,500	13,500
	Change in behaviors	Research (TBD)	TBD	Baseline needed and then every three years	TBD	TBD	TBD	TBD
	Amount of external funding leveraged (in \$) that goes towards the development of a green workforce	Sum of leveraged funds (with description)	Hawai'i Energy	Annually	\$300,000	\$300,000	\$300,000	\$900,000

Table 3b: Roadmap Metrics – Improved Energy Equity and Enhanced Economic Opportunities

ALIGNMENT



Hawai'i Energy

The following table showcases how the goals, strategies and metrics are connected:

Strategies are color coded to identify which current Core Program Area they serve

CET & EOI

A&A

MTED

GOALS	Electricity Use Reduction	Flexible Peak Load Reduction	Smart Optimized Building Stock	Improved Energy Equity	Enhanced Economic Opportunities		
METRICS	Energy Savings (MWh, MW)	Potential MW reduction	Increase in market saturation of DER-ready technologies with potential time and location value to the grid	Energy Savings in Residential and Business Hard-to-Reach programs	# of Participants	Change in behaviors	Amount of external funding leveraged (in \$) that goes towards the development of a green workforce
STRATEGIES							
Influence consumers to choose the most efficient technologies	●			●			
Target the most energy-intensive end uses for efficiency and load management	●	●					
Drive adoption of grid-edge solutions	●	●	●				
Expand development of collaboration framework(s) with stakeholders to align efforts and keep energy efficiency and peak demand reduction top of mind	●	●					

Table 4a: Alignment – Clean Energy Technologies & Energy Optimization Initiatives

ALIGNMENT



The following table showcases how the goals, strategies and metrics are connected:

Strategies are color coded to identify which current Core Program Area they serve

CET & EOI
A&A
MTED

GOALS	Electricity Use Reduction	Flexible Peak Load Reduction	Smart Optimized Building Stock	Improved Energy Equity	Enhanced Economic Opportunities		
METRICS	Energy Savings (MWh, MW)	Potential MW reduction	Increase in market saturation of DER-ready technologies with potential time and location value to the grid	Energy Savings in Residential and Business Hard-to-Reach programs	# of Participants	Change in behaviors	Amount of external funding leveraged (in \$) that goes towards the development of a green workforce
STRATEGIES							
Design and deploy programs that help renters and landlords overcome challenges to adoption of energy-efficient and other clean energy solutions	●	●		●			
Collaborate with industry to identify and engage LMI / ALICE customers to reduce energy burden				●			
Provide efficient technology solutions and incentives to hard-to-reach businesses and nonprofits to offset the high cost of operations	●	●		●			
Identify and offer financing solutions for underserved populations to increase program participation				●			

Table 4b: Alignment – Accessibility & Affordability

ALIGNMENT



The following table showcases how the goals, strategies and metrics are connected:

Strategies are color coded to identify which current Core Program Area they serve

CET & EOI

A&A

MTED

GOALS	Electricity Use Reduction	Flexible Peak Load Reduction	Smart Optimized Building Stock	Improved Energy Equity	Enhanced Economic Opportunities		
METRICS	Energy Savings (MWh, MW)	Potential MW reduction	Increase in market saturation of DER-ready technologies with potential time and location value to the grid	Energy Savings in Residential and Business Hard-to-Reach programs	# of Participants	Change in behaviors	Amount of external funding leveraged (in \$) that goes towards the development of a green workforce
STRATEGIES							
Influence behavior change and increase energy literacy				●	●	●	
Provide resources and opportunities in support of workforce development						●	
Deploy strategic interventions to support energy-efficient product availability throughout supply chain					●		
Leverage external funding for the development of a green workforce							●
Partner with market actors to amplify program offerings and cultivate Hawai'i Energy's reputation as a trusted ally					●		
Support the adoption and implementation of enhanced energy codes and appliance standards – establishing savings attribution for program efforts undertaken					●		

Table 4c: Alignment – Market Transformation & Economic Development



NEXT STEPS & CONCLUSION



Hawaii Energy



NEXT STEPS



Hawai'i Energy

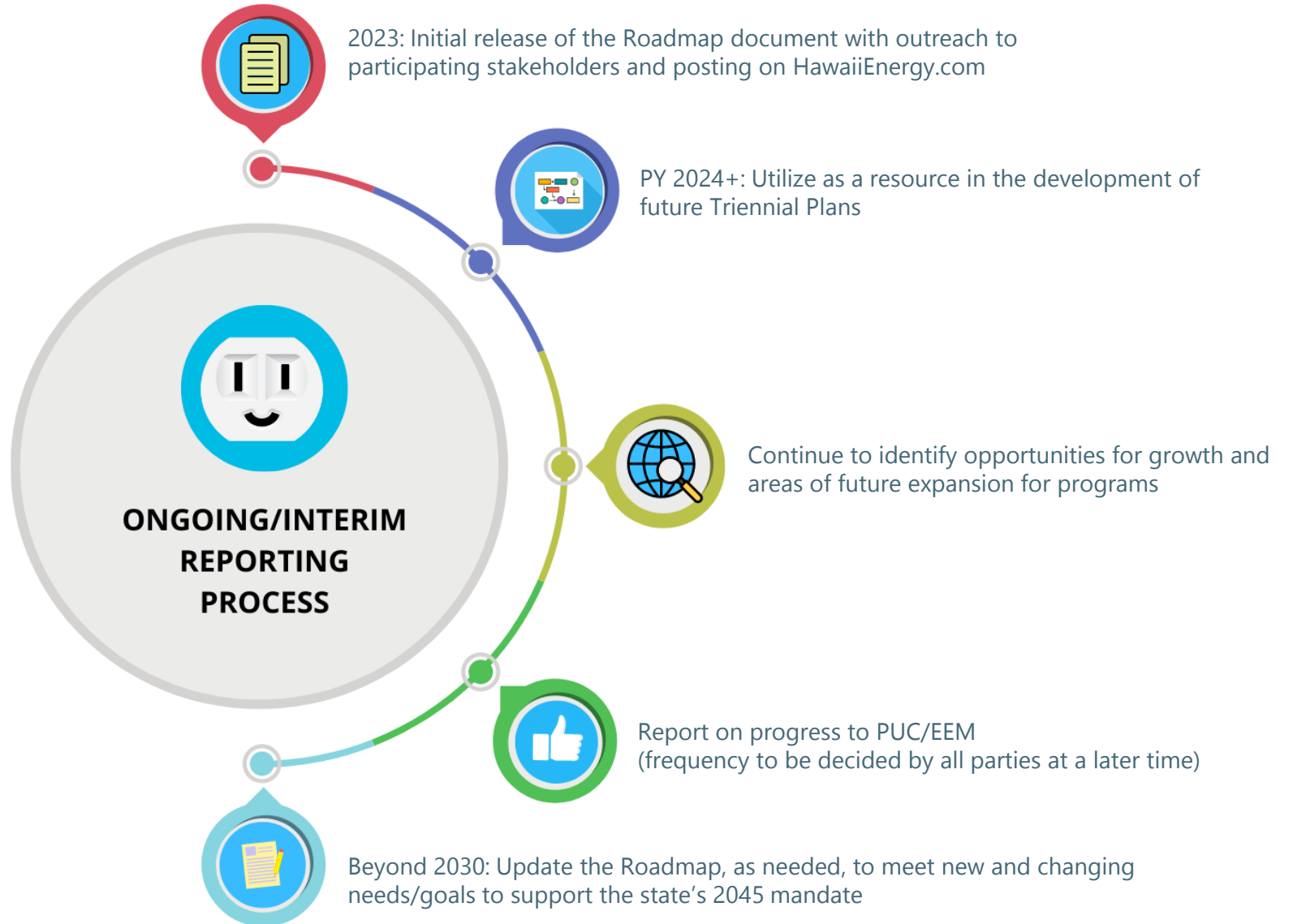
This document is not intended to sit on a shelf or in a file folder once it is published. Hawai'i Energy will utilize this 2030 Strategic Roadmap to inform future Triennial plans and partnership opportunities.

The Program will continue to adapt to evolving circumstances, both internal and external. The hope is that by 2030, Hawai'i Energy will have contributed to the state meeting its EEPS target and the Program will be seen as a valuable player in reaching Hawai'i's overall 2045 clean energy and decarbonization goals.



ONGOING / INTERIM REPORTING

Key to ensuring the Strategic Roadmap is successful is how it will be used by all stakeholders (see Table 1 on page 19 and Table 2 on page 22). For Hawai'i Energy, it will be essential for the Program to reference the Roadmap when putting together future triennial plans and progress reporting. The accompanying graphic illustrates how Hawai'i Energy will report on the Roadmap to the PUC and EEM:



CONCLUSION



Hawai'i Energy

Hawai'i Energy recognizes that the coming years will be critical for the sustainability and resilience of the State of Hawai'i and the wellbeing of the people who call these islands home. As evident in the pages of this Roadmap, it will take collaboration, innovation and commitment of all parties to accomplish the vision Hawai'i Energy has set forth.

Hawai'i Energy is honored to be in the position to envision the path to 2030 for the organization.

