

An aerial photograph of a city at dusk. The sky is filled with soft, colorful clouds in shades of purple, pink, and orange. The city below is illuminated with lights from buildings and streets. A prominent mountain peak is visible on the left side of the frame. The overall scene is a mix of natural beauty and urban development.

PERFORMANCE-BASED REGULATION

Hawai'i pioneers a new energy
regulatory framework to accelerate
renewable energy innovation
and utility efficiency

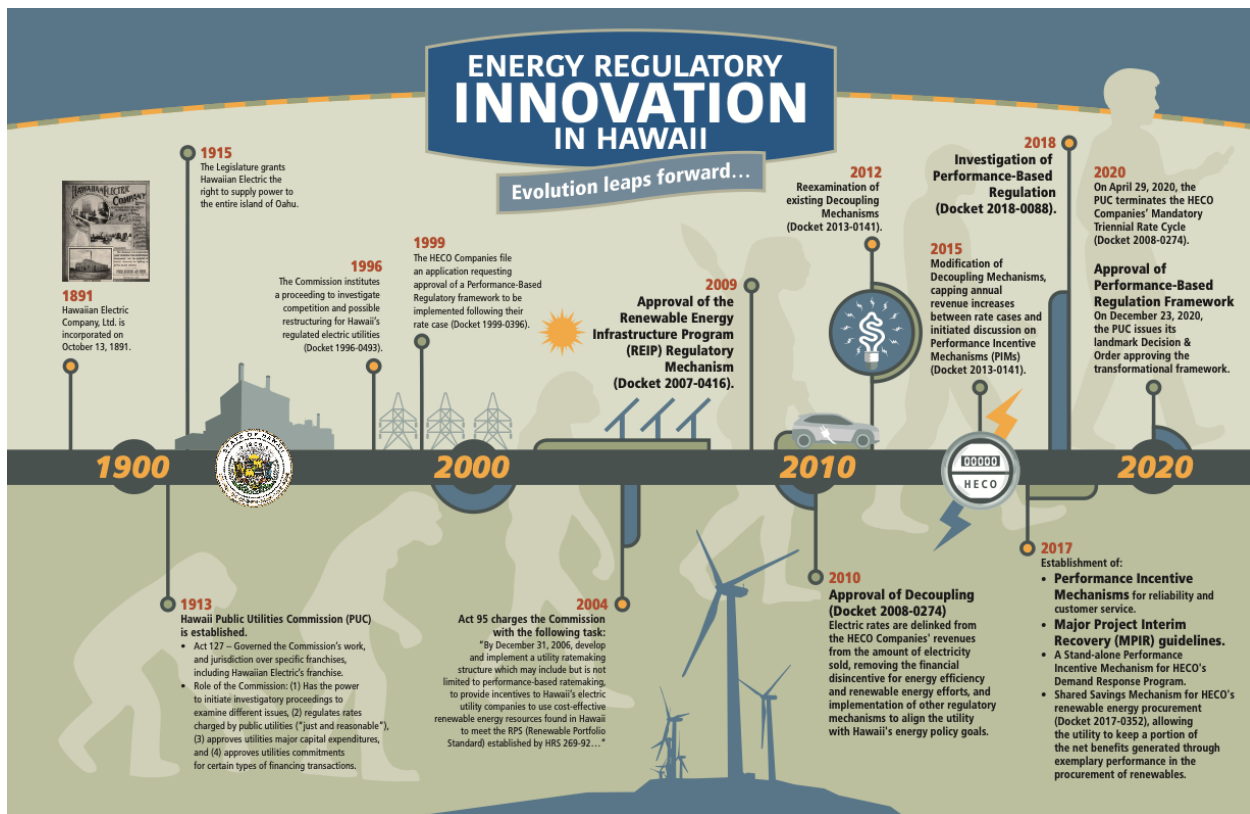
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INTRODUCTION

The electric utility industry in the United States is undergoing dramatic changes, and the State of Hawai'i is leading the charge in this transformation. In 2015, the state was the first in the nation to formally commit to generating 100 percent of its electricity from renewable resources. Hawai'i is now a leader among the states in paving the way in energy regulation, passing a law requiring a new and holistic approach to regulating the islands' electric utility companies — Hawaiian Electric Company Inc. (HECO) on O'ahu, Hawai'i Electric Light Company Inc. (HELCO) on Hawai'i Island, and Maui Electric Company Limited (MECO) in Maui County, collectively referred to as Hawaiian Electric — to accommodate ambitious energy goals. (On Kaua'i, the Kaua'i Island Utility Cooperative — a not-for-profit generation, transmission and distribution cooperative — is owned by the members it serves.)

However, it isn't just public policy driving these changes. A wave of technological advances in rooftop solar panels, the evolution of electric vehicles, a revolution in battery storage, and maturation of solar farms and microgrids are all compelling Hawaiian Electric to take a closer look at how they do business, who they do business with, and why they do what they do.

Moreover, ratepayers are also demanding greater transparency and opportunities in the management of their electricity, as technological innovation allows them to participate with the electric utility in a more direct way – from energy efficiency to rooftop solar generation. Government, with an eye toward broader social issues such as environmental and sustainability concerns, is insisting that these factors are reflected in the electric utility's goals and operations.

These concerns and others led Hawai'i lawmakers to pass legislation in 2018 requiring the Hawai'i Public Utilities Commission (PUC) to update the existing regulatory framework, ensuring that rates offered by the electric utility are "derived from a performance-based model for determining utility revenues" (Act 5, SLH 2018).

On Dec. 23, 2020, after two years of development and deliberation, the PUC delivered on that legislative intent by issuing a landmark Decision and Order (D&O) approving a new Performance-Based Regulation (PBR) framework that, as stated by the PBR D&O, will "fundamentally transform Hawaiian Electric and accelerate the drive towards more efficient operations, lower electricity rates, improved services and offerings, and achievement of the state's clean energy goals."

PBR represents a sea change in how the electric utility is regulated within the state. It is a major accomplishment, achieved by the PUC despite significant administrative disruptions due to the COVID-19 pandemic. More importantly, the PBR framework will provide a blueprint for a more focused transformation of the electric utility, ushering in a new era for how Hawai'i meets its electric power needs.

"Today is an historic and exciting day for utility regulation in Hawai'i. Utilities and commissions from across the country are watching closely as Hawai'i leads the way in transforming public utility regulation and supporting aggressive clean energy goals."

— James Griffin, Chair, Hawai'i Public Utilities Commission



WHERE WE WERE: COST-OF-SERVICE REGULATION

For the majority of its existence, Hawaiian Electric has been regulated under what is called Cost-of-Service Regulation. This regulatory model sets ratepayer prices based on the electric utility's cost to serve different customers and provide multiple services. Under this form of regulation, the electric utility is allowed to recover the majority of its investment costs, in addition to earning a return on the investments, whether it is the cost of building a new power plant or modernizing the grid to keep electricity flowing to homes, offices, and public spaces. Simply put, Cost-of-Service Regulation allows the electric utility's profits to increase as the electric utility's investments increase. The more they build, the more they make.

Unfortunately, this approach does little to align with the 21st century goals of Hawai'i's leaders and the needs of the state's energy system since it incents large capital investments and ever-increasing electricity sales instead of leveraging innovative clean technologies to maintain a clean power system that places the customer at the heart of the energy transition. Left unchecked, Cost-of-Service Regulation can lead to over-investment and lack of cost control, and serve as a *disincentive* to promote energy efficiency and customer-generated electricity because of the impact on sales. Because of the inherent bias within Cost-of-Service Regulation, a new regulatory framework was needed to hold the electric utility more accountable to Hawai'i's broader and longer-term environmental and social goals.



WHERE WE'VE ARRIVED: PERFORMANCE-BASED REGULATION (PBR)

Although the local regulatory landscape has remained relatively unchanged over the last century, there have been recent waves of innovation leading up to the PBR D&O. Prior to PBR, the PUC has implemented several regulatory mechanisms (e.g., decoupling of utility revenues from rates, revenue adjustment mechanisms, and targeted performance incentive mechanisms) to more closely align the utility with the state's policy goals and address the rapid evolution of renewable energy technologies. As a result, there has been more innovation in Hawai'i's regulatory landscape over the last decade than throughout the previous century. One of the more notable regulatory reforms was "decoupling." Decoupling addresses one of the inherent biases to Cost-of-Service Regulation — increasing utility revenues by increasing electric sales — which is at odds with energy efficiency and customer solar generation because of their ability to reduce electricity sales.

Nevertheless, the new PBR framework is more than "just the latest" in this series of regulatory innovation. It serves as a comprehensive and holistic strategy, improving upon past and present regulatory innovation previously adopted by the PUC. After more than two years of working-group meetings, workshops and briefings, stakeholders — including Ulupono Initiative — developed a suite of regulatory proposals that provided the policy, technical, and financial basis for the new regulatory framework, which is now primed for implementation.

Informing the PBR framework were proposals from stakeholders that included input on overarching principles, goals and outcomes to guide the development of the framework. These proposals also included opportunities for the electric utility to earn revenues and additional profit through greater cost control, improved performance, and aligning business operations with customer interests and the state's clean energy goals.

As an intervenor in the PBR proceeding, Ulupono Initiative advocated for a PBR framework that:

- Supports the selection and implementation of the lowest price energy solutions capable of achieving the state's energy policy mandates and objectives;
- Promotes energy solutions that are focused on best, lowest-cost solutions, regardless of utility or independent ownership;
- Offers Performance Incentive Mechanisms (PIMs) that encourage improvements to company performance in areas aligned with Hawai'i's broader energy policy goals;
- Provides customers with more affordable rates and expedites the adoption and integration of renewable energy technologies; and
- Allows the electric utility companies a fair opportunity to increase company revenues by controlling costs and achieving high levels of performance on outcomes where the state and customers care most.



PBR PRINCIPLES, GOALS AND OUTCOMES

In 2018, the collaborative effort to establish a new performance-based regulatory regime was launched in response to the Hawai'i State Legislature's call-to-action. This effort, led by the PUC and supported by a number of committed stakeholders and consultants, initially adopted several guiding principles to inform the development of a PBR framework.

PBR Framework Development Guiding Principles

- **A customer-centric approach.** *The PBR framework should expand opportunities for customer choice and participation in the utility system and its functions where appropriate, while also providing savings for customers and protecting them from unnecessary or excessive rate increases.*
- **Administrative efficiency.** *The PBR framework should provide an opportunity to simplify the existing regulatory framework, enhancing administrative efficiency in both the electric utility and the regulatory agency.*
- **Utility financial integrity.** *The PBR framework must ensure that the electric utility maintains its opportunity to earn a fair return on its business and investments to continue its basic obligation to provide safe and reliable electric service for customers.*

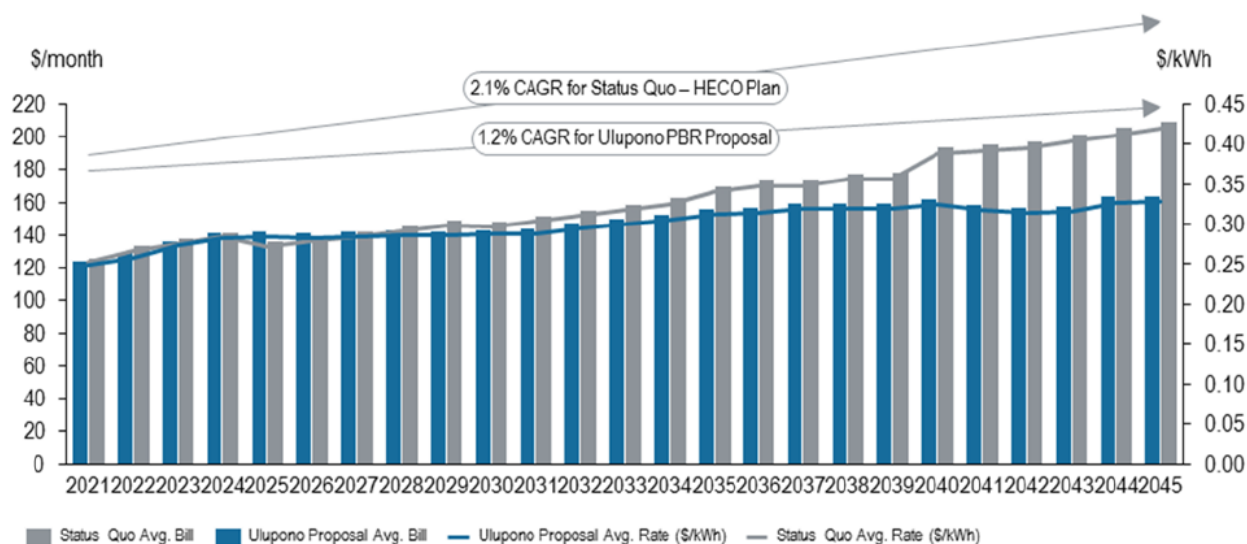
Likewise, the PUC also adopted three regulatory goals and 12 corresponding regulatory outcomes to further inform the development of the PBR framework. These goals and outcomes identified areas to reward the Hawaiian Electric for exemplary performance in achieving traditional and emergent outcomes, including increased renewable energy adoption and improved customer service.

Ultimately, the intent of the overarching principles, goals and outcomes was to focus on key areas that would help Hawaiian Electric develop a 21st century electric grid, while also aligning the interests of its customers and the state’s public policy goals.

PBR Goals and Priority Outcomes

Goal	Priority Outcomes	
Enhance Customer Experience	Traditional	Affordability
		Reliability
	Emergent	Interconnection Experience
		Customer Engagement
Improve Utility Performance	Traditional	Cost Control
	Emergent	Distributed Energy Resources Asset Effectiveness
		Grid Investment Efficiency
Advance Societal Outcomes	Traditional	Capital Formation
		Customer Equity
	Emergent	Greenhouse Gas Reduction
		Electrification of Transportation
		Resilience

Average Residential Bill and Costs [2021-2045, \$/month and \$/kWh]



Ulu pono Initiative modeling under a proposed PBR framework shows ratepayers’ bills increasing by less than inflation over the long-term, representing real savings.

REVENUE ADJUSTMENT MECHANISMS FOR GREATER COST CONTROL

For those unfamiliar with regulated utilities, it is important to understand that electric utilities make money in different ways than other companies because of their monopoly power. As such, the PUC, in exchange for granting the electric utility the exclusive right to sell electricity, determines how much the electric utility is allowed to invest, how much it can charge for its services, and its profit margins. This is otherwise known as the electric utility’s “revenue requirement.” The revenue requirement represents the amount of money an electric utility must collect to cover its costs and earn a reasonable profit. Most often the revenue requirement is determined by a cost-of-service formula that includes:

- 1) the sum of electric operation and maintenance expenses (i.e., how much it costs to operate and maintain a power plant);
- 2) depreciation;
- 3) taxes; and
- 4) a reasonable return on invested capital.

As stated earlier in this paper, the electric utility has historically relied upon Cost-of-Service Regulation to achieve its revenue requirement, which is largely based on the amount of capital the utility invests in the electric system on behalf of its customers and electricity sales. If the revenue requirement is not expected to be achieved, the electric utility will file a rate case. Once filed, the PUC must either approve or deny the electric utility’s request for higher electricity rates. In Hawai’i, the electric utility was previously allowed to file a rate case every three years.

Under a PBR regulatory regime, the revenue requirement is now determined by a different set of factors. Rather than using the Cost-of-Service Regulation formula, the revenue requirement will now be adjusted by an Annual Revenue Adjustment (ARA) formula, which adjusts the electric utility’s target revenues by inflation, improvements to the electric utility’s business operations, and a Customer Dividend (also known as a *stretch factor*) to provide customers with cost savings expected under the PBR framework. In addition, the ARA also accounts for unexpected events that may financially affect the utility, such as natural disasters or changes to tax laws.



I-Factor (inflation) = Gross Domestic Product Price Index

X-Factor (productivity) = a pre-determined annual productivity factor set at 0%

Z-Factor (exogenous events) = ex post adjustment, determined annually, to account for exogenous events outside of the utility’s control

Customer Dividend = mechanism to ensure customers share in the benefits of the PBR framework

The PBR framework will also require Hawaiian Electric to plan for longer intervals between rate reviews. Instead of a three-year rate case cycle, Hawaiian Electric must adhere to a five-year review Multiyear Rate Plan (MRP) to account for any adjustments to the revenue requirement. In the fourth year of the MRP, the PUC will comprehensively review the PBR framework to determine if any modifications or revisions are necessary. It is expected that after the MRP, the PBR framework will be appropriately refined rather than a return to traditional Cost-of-Service Regulation.

Other mechanisms that will impact Hawaiian Electric’s revenue requirement as a result of the PBR framework include:

- **Earnings Sharing Mechanism (ESM)** – This is a safeguard to mitigate risk. The ESM will share excessive earnings or costs between the utility and its customers to ensure the utility’s financial health while protecting ratepayers from “disproportionate utility profits.”
- **Re-Opener Mechanism** — Applied at the PUC’s discretion, this mechanism provides for the examination the PBR framework during the MRP to determine if adjustments are needed.
- **Exceptional Project Recovery Mechanism (EPRM)** – Formally known as the Major Project Interim Recovery Mechanism, the EPRM allows for additional revenues to be made available for large, extraordinary projects, on a case-by-case basis.

These well-designed changes encourage the utility to think differently about how to achieve its target revenues. The revenue adjustment mechanisms adopted in the PBR D&O not only encourage Hawaiian Electric to seek greater cost control, but also fairly acknowledge the customers’ interests through mechanisms such as the Consumer Dividend and the ESM, creating generous benefits for both the electric utility and ratepayers.



PERFORMANCE INCENTIVE MECHANISMS (PIMS) FOR KEY OUTCOMES

To supplement opportunities for utility earnings, the adopted PBR framework has also introduced a suite of Performance Incentive Mechanisms (PIMs) that financially reward the electric utility for exemplary performance in areas the PUC identified as key outcomes.

PIM Key Outcomes

- **Interconnection Experience.** Faster, more streamlined interconnection processes are key to accelerating renewable energy on the grid and providing better customer service for those seeking to add rooftop solar.
- **Customer Engagement.** As the customer’s role evolves into a more active participant within the electric system, the electric utility should look to foster a more interactive relationship to support the customer’s evolution and improve system operations by leveraging customer-sited renewable resources.
- **Distributed Energy Resources Asset Effectiveness.** As distributed energy resource technologies become more advanced and capable of providing reliable grid services, the electric utility should be more thoughtful on how to ensure these resources are being leveraged to serve greater system needs.

Source: PBR Phase I Decision and Order 36326

Rewards and Penalties

Under the old regulatory framework, Hawaiian Electric mostly only had one type of incentive — or in this case, a disincentive. Regulators could more easily penalize the utility for not doing something rather than rewarding it for a job well done. These rules limited the utility from being truly innovative and exceeding expectations.

Under the new PBR system, regulators now have a method to both penalize the electric utility for not doing what is expected of it and a method to encourage the utility to come up with innovative ways to do more and exceed expectations: a carrot and stick approach to regulation. A Performance Incentive Mechanism (PIM) is the carrot in the new PBR framework. The following are three of the most critical elements of the PBR Framework that are intended to incentivize the utility to go beyond expected goals.

Renewable Portfolio Standard Accelerated PIM (RPS-A)

In pursuit of achieving 100-percent reliance on renewable energy by 2045, regulatory requirements set milestones for each target year. The RPS-A PIM is pivotal in that it encourages the utility to find ways to produce even more electricity from renewable sources above those regulatory requirements. The incentive will not only help the state accomplish its goal of eliminating expensive, imported fossil fuels more quickly, it will also directly reduce the amount of greenhouse gas emission throughout the state — an environmental and health benefit as well as an economic one.

In addition, the PIM will help stabilize and make customer rates more affordable, improve service performance to both renewable energy developers and utility customers, and allow for a reasonable return on invested capital toward upgrading and modernizing the overall electric grid for the public.

Hawai'i's RPS Targets by Year	
Year	RPS Requirement
2010	10%
2015	15%
2020	30%
2030	40%
2040	70%
2045	100%

In the PBR D&O, the PUC approved five PIMs to address the key outcomes highlighted earlier in the proceeding. The five PIMs include: (1) Interconnection Approval PIM; (2) Grid Services PIM; (3) Low-to-Moderate (LMI) Energy Efficiency PIM; (4) Advanced Metering Infrastructure PIM; and (5) Renewable Portfolio Standard – Accelerated PIM. These five PIMs all support the broad vision the PUC has previously described for Hawai'i's energy system. The initial four PIMs can provide Hawaiian Electric with a maximum reward of \$8.5 million and maximum penalties of only \$900,000.

The fifth approved PIM, the Renewable Portfolio Standard – Accelerated (RPS-A), which Ulupono Initiative championed, provides Hawaiian Electric with an opportunity to earn upwards of \$10 million for the first five-year Multiyear Rate Plan (MRP). Combined, the earnings available to Hawaiian Electric through these five PIMs amounts to roughly \$20 million for the first MRP cycle.

The RPS-A PIM has great importance because of its broad application and significant earnings potential. Driven by its simplicity, the RPS-A PIM incentivizes Hawaiian Electric to find ways to more quickly add electricity from renewable sources in excess of the regulatory requirements set for each target year.

X-Factor and Consumer Dividend

Under Hawai'i's new PBR framework, Hawaiian Electric's revenue is set for five years with annual increases based on a formula with several different components that establish the maximum revenue the electric utility can earn. Within those five years, revenues are reviewed annually and adjustments are made if necessary.

*The **X-Factor** is one of the components, set by the regulator, that is used in establishing the maximum revenue the utility can earn. The purpose of the X-Factor is to create an economic incentive for the electric utility to improve its overall productivity and efficiency, allowing the electric utility to keep cost savings generated by improved business operations. It can have a profound impact on the electric utility's potential earnings. An X-factor set too high will result in insufficient revenue to cover costs. An X-Factor set too low will generate excessive profits. The regulator's challenge is to find the sweet spot that avoids these extremes.*

*The **Customer Dividend** is another component used in the formula to set the electric utility's maximum revenue. It acts as a commitment made by the electric utility to give customers a share in cost savings generated through improved business operations, resulting in revenues (and therefore likely rates) tending to go up by less than inflation on average.*

In effect, it challenges the electric utility to become more productive, creating cost savings over and above what the X-Factor will allow. For this reason, the Consumer Dividend is sometimes referred to as a stretch factor as it pushes the electric utility to control costs even more.

The RPS-A PIM provides an annual incentive to “beat” the RPS goals, thus accelerating the path to 100% renewable energy by 2045, balancing the existing \$20 per megawatt-hour (MWh) penalty Hawaiian Electric could incur if the utility falls short of the Renewable Portfolio Standard (RPS) goals established for each target year.

This *single outcome*-based PIM provides incentives for faster interconnection processes, as renewable energy will not count towards the reward until it is interconnected. Similarly, it encourages the utility to further streamline other processes for bringing renewable energy onto the electric system. The RPS-A PIM will arguably have as great an economic and social impact as an entire portfolio of activity- or program-based PIMs. The RPS-A PIM will not only help the state eliminate its dependence on expensive, imported fossil fuels, but also reduce the amount of greenhouse gas emissions produced by existing oil-fired power plants, providing environmental and health benefits, as well as an economic benefit.

For example, in 2018 Hawai'i imported \$3.3 billion worth of petroleum fuels, according to the State Energy Office's 2020 Hawai'i Energy Facts and Figures. This is money that effectively leaves the state. Relatedly, the RPS-A PIM will help stabilize customer rates while also making rates more affordable, as the mostly fixed pricing and downward trend of renewables outcompetes volatile fossil fuel prices.

From the perspective of the utility, the RPS-A also makes economic sense. As adopted in the PBR D&O, the utility is eligible to receive: \$20 per MWh in 2021 and 2022 (or 2 cents per kilowatt-hour); \$15 per MWh in 2023 (or 1.5 cents per kilowatt-hour); and \$10 per MWh in 2024 and 2025 (or 1 cent per kilowatt-hour) for the additional amount of renewable energy installed on the electric system above the RPS requirement.

If pursued aggressively, Hawaiian Electric can earn upward of \$10.6 million by the end of the first five-year MRP, in addition to \$8.5 million available through the other approved PIMs. The RPS-A PIM also indirectly rewards the utility for making wise investments to upgrade and modernize the electric system. The available incentive RPS-A provides will likely encourage Hawaiian Electric to invest in infrastructure or process improvements, adding renewables to the electric system in a more expeditious and efficient manner.

PIM	Objective	Reward	Penalty
RPS-A	A PIM designed to incent the utility to accelerate the achievement of the state's Renewable Portfolio Standards goals	Ulupono's modeling of the RPS-A PIM indicates that this could be worth up to another \$10 million per year by the end of the five-year MRP	\$20 per MWh penalty for every MWh under the RPS goal set for the target year (In place prior to PBR)
Interconnection Approval	A PIM designed to improve customers' interconnection experience by incenting faster interconnection times for Distributed Energy Resources (DER) systems <100 kW, while penalizing underperformance	Annual maximum award for all three companies is \$3 million (up to \$2.1 million for HECO and \$450,000 for HELCO and MECO)	Annual maximum penalty for all three companies is \$900,000 (up to \$630,000 for HECO and \$135,000 for HELCO and MECO)
LMI Energy Efficiency	A PIM designed to encourage customer engagement, as well as customer equity, and affordability, through collaboration between Hawaiian Electric, Hawai'i Energy, and the Public Benefits Fee Administrator, to deliver energy savings for low- and moderate-income (LMI) customers	Annual maximum award for all three companies is \$2 million	No penalty
AMI Utilization	A PIM designed to promote customer engagement and DER asset effectiveness, as well as grid investment efficiency by acceleration of the number of customers with advanced meters enabled to support time-varying rates and next generation DER programs	Annual maximum award for all three companies is \$2 million (up to \$1.4 million for HECO and \$300,000 for HELCO and MECO)	No penalty
Grid Services	A PIM designed to promote DER asset effectiveness, as well as grid investment efficiency, by incenting the expeditious acquisition of grid services capabilities from DERs	Maximum award over a two-year period for all three companies is \$1.5 million	No penalty

Source: PBR Phase II Decision and Order 37507



MISSED OPPORTUNITY TO TRANSFORM THE GROUND TRANSPORTATION SYSTEM IN HAWAI'I

Air and ground transportation is the single largest source of greenhouse gas emissions in Hawai'i, which mirrors the trend nationwide, according to U.S. Environmental Protection Agency. Each year in Hawai'i, ground transportation results in 4.05 million metric tons of CO₂ emissions, based on the 2016 Hawai'i GHG Inventory (Hawai'i Department of Health, 2019).

The electrification of transportation (EoT) reduces greenhouse gases and dependence on imported fossil fuels in two ways:

- 1) Electric vehicles are three times more efficient than internal combustion vehicles, according to the U.S. Department of Energy Office of Energy Efficiency and Renewable Energy; and
- 2) A portion of the electricity that charges EVs comes from renewable sources — and that renewable percentage increases year after year.

Consequently, if non-renewable fuel sources can be replaced with clean, renewable-generated electricity, and if that electricity were used in highly efficient EVs, there would be a powerful opportunity to directly address climate and energy issues. Currently, the utility is not responsible for emissions generated from the transportation sector. But under one of Ulupono Initiative's PBR PIM proposals, the utility could have become a major partner in lowering this large source of greenhouse gas emissions.

The PBR D&O implied that supporting electric vehicles (EV) only benefited the financially well off. However, growth of the EV market will increase access to EV benefits, including cost-savings, at all income levels. Ironically, failing to facilitate growth of the EV market ensures that limited access to benefits will continue.

An Electrification of Transportation (EoT) PIM, as proposed by Ulupono Initiative, would have provided the utility with a small incentive for the sale of electricity at EV charging stations. Specifically, the utility would have received \$0.03 per kWh sold at metered charging stations and \$0.01 per kWh for sales at non-metered charging stations. As EV adoption continues to grow in Hawai'i, more charging stations will be necessary to support the transition to cleaner, more efficient EVs. PBR provided an opportunity for Hawaiian Electric to serve this need — and thereby serve state energy, environmental and transportation goals — by increasing the installation of additional charging stations, developing turnkey programs, and ensuring faster interconnection of third-party EV chargers. The missed opportunity was not providing the utility with an incentive via the amount of electricity sold at charging stations throughout Hawai'i. The result of the opportunity would have been the utility taking a more proactive role to enable greater adoption of EVs throughout Hawai'i — another game-changer.

In November 2020, the number of passenger EVs in the state was 13,188, an increase of 4,004 vehicles (43.6 percent) from the same month in the prior year, according to the Monthly Energy Trend Highlights (November 2020) report published by the Hawai'i Department of Business, Economic Development, and Tourism's Research and Economic Analysis Division. While the report reveals a growing desire for EVs by Hawai'i's driving public, the numbers are a far cry from where they could be if the convenience of charging EVs was enhanced significantly. Range anxiety, or the fear that an EV's battery will run out before a charging station can be located, remains the number one reason cited by consumers for not purchasing an EV. ([*THE EXTRA MILE: Why Electric Vehicles Make Sense for Hawai'i's Economy, Environment and Communities*](#), Ulupono Initiative, 2019)

Currently, there is no one entity in government or the private sector responsible for the development of EV charging stations. While the number of EVs continues to grow steadily, at some point, the lack of charging stations will begin to blunt that growth — if it hasn't already. Providing incentives for the utility, who have both the resources and expertise, to fill this need creates a tremendous opportunity to tackle both climate and energy issues.

Thankfully, Hawaiian Electric has already taken the initiative to accelerate the transition of Hawai'i's transportation sector from fossil fuels to electricity, as outlined in the [Electrification of Transportation Roadmap](#). This includes a commitment to electrify its vehicle fleets as well as facilitate smart charging, demand-response programs, and electric vehicle charging rates to help customers lower their bills and reduce impact to the electric grid by providing services that support the system, among other initiatives. Hawaiian Electric and the PUC are also considering other ways, such as EV charging *make-ready* programs through which the utility can contribute to the growth of the EV market.



A NEW DAWN: PBR BENEFITS AND OPPORTUNITY

So why is this new framework so important? Essentially, it better aligns Hawaiian Electric’s financial incentives with its customers’ interests and state policy goals. Specifically, the proposed PBR framework is designed to provide a wide range of benefits, including:

- Encouraging the electric utility to facilitate more utility-scale and customer-sited renewable energy projects as efficiently and quickly as possible;
- Improving interconnection experiences for both developers and utility customers;
- Providing more stable and affordable rates;
- Attracting investments in the electric system resulting in a modernized power grid; and
- Limiting the possibility for unnecessary rate increases.

Moreover, electric system modeling by Dr. Matthias Fripp, an electrical engineering consultant hired by Ulupono Initiative, indicates that the new regulatory regime could add about 15,467 gigawatt-hours (GWh) of renewable energy onto O’ahu’s electric system in the first five years of PBR implementation.

If those benefits aren’t convincing enough, consider the climate. During a time when we are seeing catastrophic changes in weather patterns tied to climate change — one of the most impactful and far-reaching benefits of PBR is the potential to reduce greenhouse gas emissions.

There is much more to PBR than highlighted here. The regulatory mechanisms are complicated, but they have been developed to meet the complexity and wide range of issues related to the energy challenges Hawai'i faces and may provide opportunities to guide our recovery toward a revitalized and more self-reliant local economy.

With the exception of the last decade, the rules that govern our electric utility companies have remained largely static over the last 100 years. Regulators are acknowledging that the technology and industry has changed; Hawai'i has changed; the world had changed. How states regulate their electric companies will determine, in large measure, how they perform in this new environment.

The good news is that Hawai'i has recognized the need to modernize our regulatory environment before most states. The 50th State's small size and isolation offers the opportunity to be nimble, adapt, and change the nature of the game. As a result, Hawai'i now has a bold game plan to match its ambitious energy goals, an especially important tool in navigating not only the road to a post-pandemic recovery but also to a clean energy future.