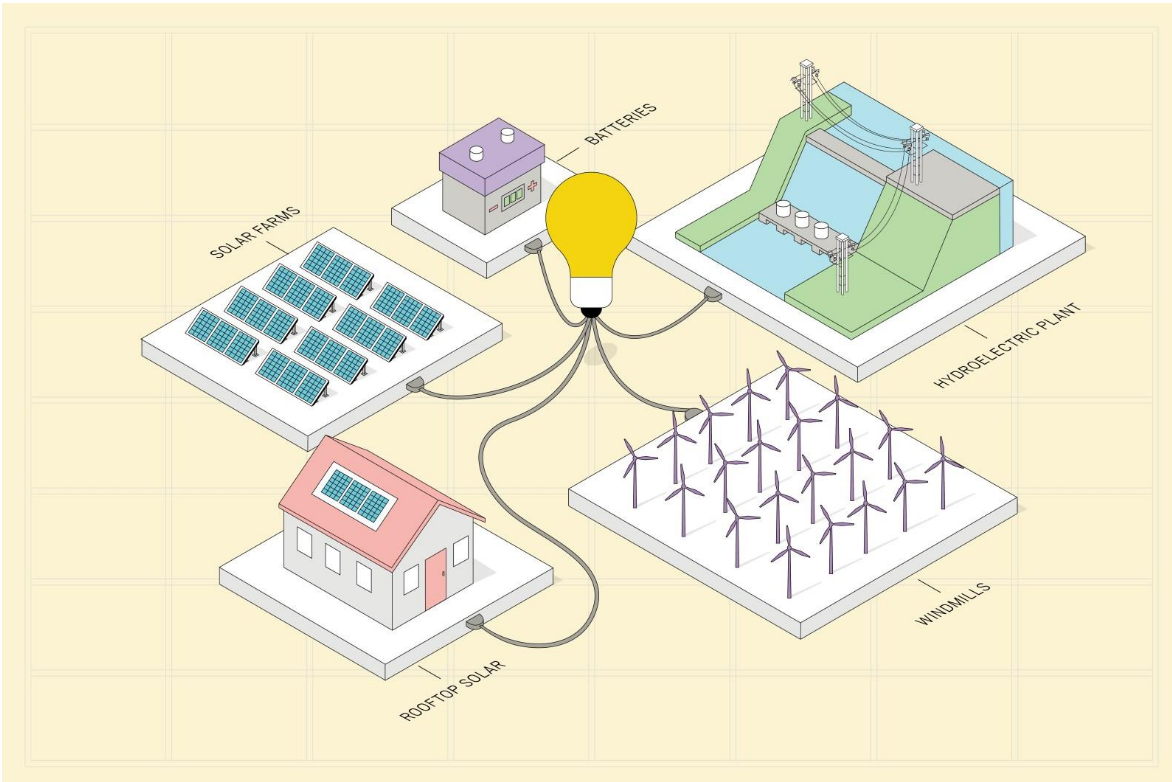
A New Way for Electricity



The business model for electric utilities is almost 100 years old. Some energy experts say Hawai‘i is a pioneer in creating a 21st century business model that will mean more clean energy, lower rates, greater efficiency and better customer service. The possible downside: There are few guideposts about how to make it work effectively.

Hawai‘i is on the cutting edge of energy policy, say energy experts on and outside the Islands.

Hawai‘i already made its reputation as an energy innovator by requiring that 100% of its electricity sales be generated using renewable sources by the end of 2045. Hawai‘i is now taking the next step: changing the way Hawaiian Electric Cos.’ utilities for O‘ahu, Hawai‘i Island and Maui County are regulated to align their incentives with those of consumers and the state’s clean energy goals.

The state’s Public Utilities Commission – which regulates electric utilities and many other industries in Hawai‘i – is the lead agency on this transformation. Eleven other groups are weighing in on the process including Hawaiian Electric Cos., the state consumer advocate, Blue Planet Foundation, Ulupono Initiative, Hawaii PV Coalition and the Hawaii Solar Energy Association.

They are developing a framework called performance-based regulation, in which some of the utilities' revenues are tied to specified outcomes. Currently, the utilities' revenues aren't tied to performance; instead, they recover all reasonable costs of providing electric service, plus a specified profit. That system has been in place for America's electric utilities since the 1930s.

Parts of the U.S. as well as some other countries have already adopted forms of performance-based regulation. But Hawai‘i broke new ground with last year's Hawai‘i Ratepayer Protection Act, which mandates that the direct link between allowed revenues and investment levels be broken by the start of 2020, says Jim Lazar, a Washington-based senior advisor with the Regulatory Assistance Project, a nonprofit that says it is "dedicated to accelerating the transition to a clean, reliable and efficient energy future."

Lazar calls the Ratepayer Protection Act "a rather dramatic and bold effort," adding that he has participated in previous PUC proceedings but not this latest one.

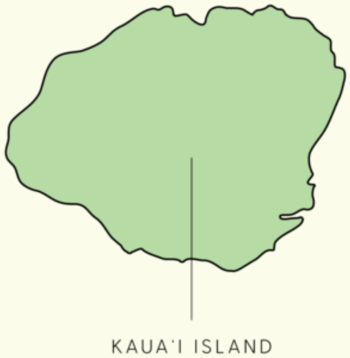
The PUC opened this proceeding in April 2018. This summer, the PUC identified the performance-based regulation components it and the other organizations will develop through the rest of 2019 and 2020.

"This is our highest priority … asking a company and an industry that's basically operating under a model that's been the same for 100 years … to move into the 21st century," says PUC chair Jay Griffin.

Why Kaua‘i is Left Out

The Kaua‘i Island Utility Cooperative, the electric utility there, is not part of the performance-based regulation proceeding because it operates under a different ownership model – it's a member-owned cooperative. That means any revenue it collects in excess of its costs is used to pay down debt or directly returned to customers.

In addition, its board is elected by the cooperative's members. These two mechanisms are intended to help align management's decisions with the interests of its membership, says Jay Griffin, Public Utilities Commission chair.



Hawaiian Electric Industries, the parent of the Hawaiian Electric Companies, is a publicly traded company. One primary goal of a publicly traded company is to serve shareholders.

A lot has already changed for Hawai'i's electric utilities. For instance, almost 27% of Hawaiian Electric Cos.' electricity sales in 2018 came from renewable sources. But getting to 100% renewable energy means transforming the companies' generation mix, electric grid, market, business and regulatory models, and the ways in which they engage with customers and the broader community, says Shelee Kimura, HECO's senior VP for customer service.

Shelee Kimura, HECO's Senior VP for Customer Service

She says Hawaiian Electric Cos. are already moving from a centralized one-way grid to one that's multiway, modernized and includes a lot of electricity generated by rooftop solar and independently operated solar farms, hydroelectric plants, windmills and batteries. This means electric companies are starting to take the role of operational and transactional platforms – where the utilities provide the poles, wires and systems to integrate different kinds of generation, she says.

Kimura says: “This is a mindset change where the customer now is at the center of everything and we’re building out from there, recognizing that we’re closer to a competitive business than we have ever been before as compared to a monopoly.”

Joseph Viola, HECO’s VP for regulatory affairs, says the companies’ employees have always been problem solvers, but today’s problems and expectations are different. “We’ve always had the obligation to provide reliable service. Now we want to provide reliable service with clean energy and then give customers options to manage their bills and collaborate with our community.” Among the examples, Hawaiian Electric Cos. have programs that allow customers to receive credits on their electric bills in exchange for supplying the grid with solar power they produce – one program will soon allow anyone in the community, not just homeowners, to do this – and for temporarily reducing their electricity during peak energy periods.

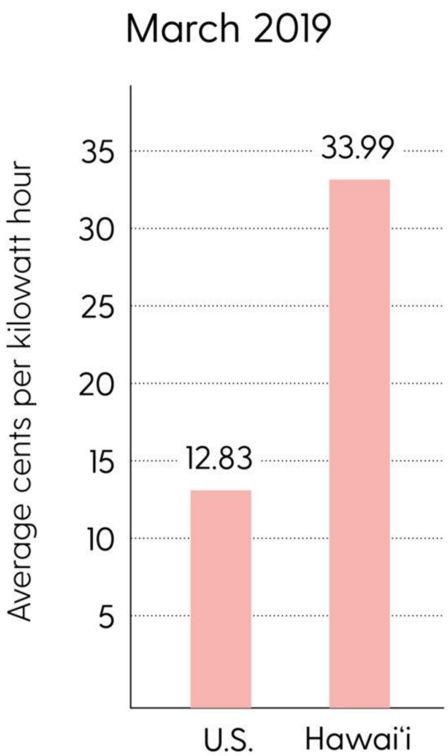
This new paradigm calls for a new regulatory model, says Melissa Miyashiro, Blue Planet’s managing director of strategy and policy. She says the electric utilities’ current business model is “kind of butting heads” with the state’s clean energy goals. Traditionally, Hawaiian Electric Cos.’ utilities have received a profit on top of the reasonable costs to provide electrical service – a common form of electric utility regulation for decades. This model allows each utility a monopoly on its island so it can fulfill its obligation to provide reliable service, she says.

The most common complaint about this “cost of service model” is that higher expenses are rewarded by higher revenue – aka higher rates paid by customers – so there’s no incentive for the utilities to control costs, says Murray Clay, president of Ulupono Initiative. This model also incentivizes capital investments and the use of utility-owned equipment instead of more efficient or cost-effective options like electricity generated by customers or other companies.

Robert Harris, board member of the Hawaii PV Coalition and director of public policy for Sunrun’s Hawaiʻi office, says the current regulatory model is fundamentally broken: “The reality is the market is going to break that system at some point. … It’s just a matter of do we do it in a structured, integrated, thoughtful way or do we just let the market dictate it.”

Performance-based regulation is intended to better align utility incentives with important outcomes like the state’s clean energy goals, lower costs and better customer service, Griffin says. The state has already made progress but one area of concern is that electricity rates are projected to increase under the current regulatory framework.

“We already have the highest (electricity) costs in the nation, and that was on a path to continue – continue rate increases – and that’s going to leave us all in continued tension. I think we’re trying to change that trajectory but do it in a way that if the utility does it well, it’ll seize financial incentives, not just penalties and problems,” he says.



Price of Electricity

The U.S. Energy Information Administration says the average price of electricity for Hawaiʻi residential customers in March 2019 was 33.99 cents per kilowatt hour; the U.S. average
was 12.83 cents.

Based on Performance

Performance-based regulation, Clay says, is an attempt to "say 'let's focus on paying the utility for what we want them to do.' "

Lazar uses a vivid analogy to describe the spectrum of what's considered performance-based regulation: "It can be a teaspoon of incentive in a gallon of cost-based regulation or it can be a gallon of performance incentives and only a teaspoon of traditional cost-based regulation."

Ron Binz is a consultant in the electric utility industry, former chairman of the Colorado Public Utilities Commission and Blue Planet Foundation's expert in the PUC's performance-based regulation proceeding. “When you hear performance-based regulation you almost always hear at the same time the new utility business model. The concept is that utilities have to become something different than they have been and regulation needs to be changed in order to assist with that process,” Binz says.

“The concept (performance-based regulation) is that utilities have to become something different than they have been and regulation needs to be changed in order to assist with that process.”

– Ron Binz, Consultant and Blue Planet Foundation’s expert in the Public Utilities Commission’s performance-based regulation proceeding

Some elements of performance-based regulation are already part of the Hawaiian Electric Cos.’ regulatory framework, but Scott Seu, HECO’s senior VP of public affairs, says the companies are preparing for a different world where there will be many diverse electricity generators – and probably a smaller percentage of generation owned by the utility.

“With that type of an environment, how do you incent the utility to run the procurement process in the best way possible so you can get the optimal or the best mixture of generators that can produce electricity that’s least cost or most affordable for our customers?” he asks. “How do we maintain the utility’s own financial health so that we can actually be the backstop for these companies that have to rely on our financial strengths so they can raise the funds to build their power plants or their PV farms or wind farms?”

Proposed Framework

Some elements of performance-based regulation are already part of the current regulatory model. The proposed framework continues some of those elements and adds new ones, focusing on three main goals: enhance customer experience, improve utility performance and advance social outcomes. While many details are being developed in the proceeding before the PUC, here are some key elements:

Rate cases would occur every five years, instead of the current three years. Rate cases are resource- and information-intensive proceedings in which the utilities provide the PUC with evidence of their increased costs in the hopes of recouping them. Expanding the time between rate cases, Clay says, will encourage utilities to control costs and find savings.

Utility revenues would come from a combination of target revenue – which would establish the base budget or base annual allowance – plus revenue from meeting objectives. Revenue would be adjusted annually during the five-year cycle by a formula that considers inflation, utility productivity and customer benefits. This would mean that utility revenue would no longer be based on the utility saying it needed more money, Clay says. Instead, it's: " 'Here's the way we're going to determine revenues, here's how much revenue you get and we'll adjust it based on inflation and these other externally observed numbers, not what you're telling us.' …That'll be definitely better for the ratepayer, definitely less prone to manipulation," he says.

Earnings outside of a commission-approved range would be shared between the utility and customers. Such a mechanism is currently in place but only if utility earnings exceed approved levels. The mechanism in the proposed framework would continue this "upside" sharing and also include a "downside" sharing element, in which the utilities would be insulated from financial hardship if they earn a lot less.

Janet Gail Besser is the managing director of regulatory innovation and utility business models for the Smart Electric Power Alliance, a nonprofit that is not involved with the proceeding but works with utilities and others to create a carbon-free world by 2050. She says this mechanism is a common feature of performance-based regulation and is like insurance, so the new framework doesn't become a win just for the utility or prevent the utility from recovering the cost of needed investments.

In the past, utilities made more money by selling more electricity and that discouraged energy efficiency, conservation and renewable energy, Clay says. Revenue decoupling removes the link between electricity sales and utility profits so that even if sales decrease – say, if people conserve energy – the utility won't be hurt. This mechanism is already in place and would continue under the proposed framework.

Performance incentive mechanisms are metrics paired with benchmarks or targets and financial incentives. Some are already in place, such as those relating to service quality. In the proposed framework, new performance incentive mechanisms would reward or penalize the utilities based on: interconnection experience, saving customers money and giving them choices, and the effectiveness of distributed energy resources, like private rooftop solar.

Learn more about the framework at tinyurl.com/HiPBR.

GOAL	REGULATORY OUTCOME	
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	Green House Gas Reduction
		Electrification of Transportation
		Resilience

The Goals

Here are the main outcomes that are guiding the design of performance-based regulation in Hawai‘i, according to the state Public Utilities Commission.

Many people interviewed for this story agree this framework is a positive step. Traditional cost of service regulation is still part of this model, Lazar says, but performance incentives are “where the action is.”

How these incentives will impact the utilities’ revenues remains unknown and undecided. Besser says one concept of regulation is gradualism – try things and see how they work before making more changes. Once the incentives and rest of the framework have been tested, regulators can increase the influence of performance incentives each year so more revenues are based on performance and less on the traditional cost of service model, she says.

Clay says performance incentive mechanisms should focus on the highest-level outcomes, rather than individual programs or technologies. For example, Ulupono advocated for a performance incentive that would reward the utilities for accelerating achievement of the state’s clean energy goals. That would allow the utilities to meet that outcome in whichever ways they see fit. He says that flexibility is needed as no one knows what the optimal mix of technologies and programs is to get Hawai‘i to 100% clean energy.

He is disappointed the utilities are not being financially incentivized to push more ground transportation into using clean energy and electricity under the proposed framework. In 2017, 380 million gallons of fossil fuel were imported into Hawai‘i for electricity; 516 million gallons were imported for ground transportation. That’s a big lost opportunity to move more of transportation’s energy from fossil fuels to electricity, he says.

Viola says the Hawaiian Electric Cos. welcome the opportunity to be rewarded for excellent performance and are willing to be held accountable for what should be expected of them financially. The development of the proposed framework has been collaborative, he says, and he thinks regulators recognize that the companies want clear direction and flexibility to meet their goals. “Tell us what you want us to do. Give us flexibility in how we do it. Give us the opportunity to recover the money we need to do it. And tell us how we’ll be measured, when we’ll be measured and then hold us accountable for the results.”

Pros and Cons

A study commissioned by the Hawaii State Energy Office found that the benefits of all of the performance-based regulation models it analyzed generally outweigh the costs. Here are some pros and cons:

+ PROS

+ Increased operational efficiencies can lead to cheaper rates for consumers in the long term
+ Performance-based frameworks drive innovation and better investment decisions
+ Performance-based frameworks help achieve state clean energy goals, maximize consumer cost savings and align stakeholder interests

– CONS

- Improper design can lead to a skewed outcome
- Higher regulatory costs might be incurred, especially during the development of a performance-based framework
- Capital could be more expensive during the transition to this framework

The Right Path

Dean Nishina, the state consumer advocate, says: "Until we actually design those mechanisms and put parameters in terms of how much they may be rewarded or how much they may be penalized if they don't meet certain objectives, it's hard to say how effective they will be. … Hawai'i right now in doing this performance-based regulation docket, is on the cutting edge." What Nishina didn't say is that being on the cutting edge may mean you don't get things right the first time.

A recent study commissioned by the Hawaii State Energy Office found that a preferred outcome for Hawai'i's utility business model could include a performance-based regulation framework and potentially other complementary regulatory structures. The office was tasked by the state Legislature to explore alternative regulatory and ownership models and the ability of each to achieve state energy goals, maximize

customer savings, enable a competitive distribution system and eliminate or reduce conflicts of interest in energy resource planning, delivery and regulation.
The study was conducted by London Economics International LLC in collaboration with Meister Consultants Group and Yamamoto Caliboso LLLC.

“Until we actually design those mechanisms and put parameters in terms of how much they may be rewarded or how much they may be penalized if they don’t meet certain objectives, it’s hard to say how effective they will be. … (Hawai‘i) is on the cutting edge.”

– Dean Nishina, State consumer advocate

The study also found that implementing any of the forms of performance-based regulation it analyzed would likely lower Hawaiian Electric Cos.’ electricity rates due to strong incentives that encourage Hawaiian Electric Cos.’ to lower costs. Depending on the county and model, average residential rates were projected to drop a total of 0.4% to 9.2% from 2018 to 2045. (Read the report at tinyurl.com/HIutilitystudy.)

“The PUC is going in the right direction. … There are some ideas offered through this study and so it’ll be up to the Public Utilities Commission to decide how and when to implement,” says Carilyn Shon, administrator of the Hawaii State Energy Office.

The PUC says developing a performance-based regulation framework is all about balance – in particular, the risk of making changes and the risk of sticking with the status quo.

Will Giese, executive director of the Hawaii Solar Energy Association, says the regulators and parties involved in developing the new regulatory framework shouldn’t waste time by making small, incremental changes.

“A lot of people kind of look at it from a risk perspective,” he says. “But my view on that is given the realities of customer bills, which is one, and climate change, which is the other kind of fundamental thing we’re staring down the pipe at, I would say that it’s riskier to kind of maintain the status quo from those two perspectives than it is to try and do something different.”

How You Can Get Involved

Performance-based regulation is being considered by the state Public Utilities Commission under docket 2018-0088.

The proceeding is in its second phase and will focus on defining the details of the proposed performance-based regulation framework.

The PUC accepts public comments on open dockets at puc.hawaii.gov/contact/public-comments.

No more intervenors can be added to the docket unless a party can demonstrate “excusable neglect” on why a motion to intervene was not received by the PUC during the 20 days after the docket opened, says PUC Chair Jay Griffin.