



# HAWAII STATE ENERGY OFFICE STATE OF HAWAII

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Testimony of  
**MARK B. GLICK, Chief Energy Officer**

before the  
**SENATE COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM**

Thursday, February 1, 2024  
1:00 PM  
State Capitol, Conference Room 229 and Videoconference

Providing Comments on  
**SB 2986**

**RELATING TO ENERGY RESILIENCY.**

Chair DeCoite, Vice Chair Wakai, and members of the Committee, the Hawai'i State Energy Office (HSEO) offers comments on SB 2986 which proposes crediting energy exported to the electrical grid by photovoltaic solar systems with battery storage at the "full retail rate of electricity for the relevant time period."

This is an important and timely topic. Hawai'i's successful use of rooftops for electricity generation – and successful siting of energy storage systems throughout Hawai'i's communities, providing energy resilience for individuals and communities – will need to continue in order for Hawaii to meet its energy goals.

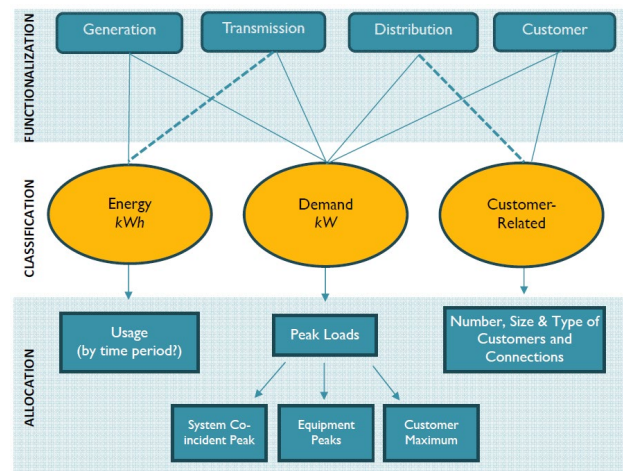
However, there is great concern within Hawai'i's solar industry regarding tariff changes scheduled to take effect in Hawai'i this year. Hawai'i's previous experience with the ending of the Net Energy Metering program in October of 2015, and California's current situation, both provide cautionary tales about policy changes causing disruptions to an industry and the workers within it.

This bill – and the discussions, creative solutions, and hopefully greater understanding – may enable a public conversation about Hawaii's energy potential, capacity, needs, and options that will be enlightening and productive.

One of the concerns heard most often by HSEO from members of the public is regarding the affordability of energy. Hawai'i's electricity prices are significantly higher than the U.S. average, largely because Hawai'i depends on imported petroleum, one of the most expensive fuels for generating electricity.<sup>1</sup> Even though about a third of Hawai'i's electricity is generated from renewable sources, we are still using oil for about two-thirds of our electricity generation.<sup>2</sup>

As the use of lower-cost renewables<sup>3</sup> increases, exposure to the expense of oil price volatility will be reduced, providing a level of cost stability for all electric utility customers. Meanwhile, the issue of high energy burden is very real to the many low-and moderate-income customers who are struggling to pay their bills every month.

**Figure 1: Ratemaking Process**



The determination of what are fair and effective prices and tariffs is a complex undertaking, as illustrated by one of the simpler fact sheets on the subject as seen in Figure 1.<sup>4</sup> Considerations include fairly allocating costs and benefits based on predicted costs and benefits to the system, which change by the moment, and year, depending on electricity production, demand, and grid conditions; effects on non-participating customers; and overall grid impacts. HSEO emphasizes the ongoing evaluation of the value of grid services and cautions against endorsing prescriptive language that could lead to significant rate impacts for years.

HSEO recognizes the crucial role of customer-sited renewable energy generation in achieving the State's goal of 100% renewable energy generation while ensuring grid reliability and resilience. HSEO supports the expansion of customer-sited renewable

<sup>1</sup> Hawaii State Energy Office. *Annual Report, Fiscal Year 2023*. [https://energy.hawaii.gov/wp-content/uploads/2024/01/HSEO\\_2023\\_Annual\\_Report.pdf#page=16](https://energy.hawaii.gov/wp-content/uploads/2024/01/HSEO_2023_Annual_Report.pdf#page=16)

<sup>2</sup> Ibid, [page 18](#).

<sup>3</sup> Ibid, [page 16](#).

<sup>4</sup> The Ratemaking Process (fact sheet by Synapse Energy): <https://www.synapse-energy.com/sites/default/files/Ratemaking-Fundamentals-FactSheet.pdf>

energy generation and energy storage systems as customer-sited energy contributes both to system-wide energy generation and to individual resilience.

HSEO acknowledges the potential disparity in utility bills between those with photovoltaic systems and those without, recognizing that not all customers can participate in the market for customer-sited energy.

HSEO notes that electricity is purchased by electric utilities at varying rates, based on conditions, costs, and expectations at the time the contracts were put into place. For example, for FY 2023, purchased renewable energy rates on Oahu ranged from \$0.08 per kilowatt-hour (kWh) to \$0.25 per kWh. The utility's "avoided costs" (essentially, fuel) averaged \$0.22 on-peak and \$0.24 off-peak over the year.<sup>5</sup>

Facility Name	Capacity (MW)	Facility Type	Average FY23	Time of Production	Energy Source	End Date / Term
			(\$ per kWh) <sup>1</sup>			
Waiawa Solar <sup>5</sup>	36 MW	Renewable Dispatchable	\$0.08	Any	Solar	1/31/2043
DER - CGS, CGS Plus, Smart Export	As Available	As Available	\$ 0.10 - \$ 0.15	Any	Solar	Day to day
Lanikuhana Solar	14.7	As Available	\$0.13	Any	Solar	9/19/2041
Na Pua Makani	24	As Available	\$0.14	Any	Wind	12/11/2040
Feed-in Tariff	Varies	As Available	\$0.23	Any	Solar	20 years
Kahuku Wind Power	30	As Available	\$0.22	Any	Wind	3/22/2031
Kapolei Sustainable Energy Park	1	As Available	\$0.24	Any	Solar	12/30/2031
H-POWER	68.5	Firm	\$0.20	On Peak <sup>2</sup>	Waste	4/2/2033
			\$0.15	Off Peak <sup>2</sup>		
Kalaeloa Partners <sup>4</sup>	208	Firm	\$0.23	Any	Fossil	12/31/2032
H-POWER	68.5	Firm	\$0.20	On Peak <sup>2</sup>	Waste	4/2/2033
			\$0.15	Off Peak <sup>2</sup>		
Kalaeloa Partners <sup>4</sup>	208	Firm	\$0.23	Any	Fossil	12/31/2032

<sup>5</sup> Based on table published by the Hawaii Public Utilities Commission. Annual Report, FY 2023. <https://puc.hawaii.gov/wp-content/uploads/2024/01/Final-PUC-Annual-Report-FY23-01.16.2024-v1.pdf#page=23>  
 [IES, AES, and docket info removed from table]

DER - Smart DER (new, 3/1/24)	As Available	As Available	\$ 0.14 - \$ 0.33	Any	Solar	Day to day
Avoided Energy Cost Rate			\$0.22	On Peak <sup>2</sup>	Fossil	None
(primarily low sulfur fuel oil and diesel fuel)			\$0.24	Off Peak <sup>2</sup>		
<sup>1</sup> Based on 12-month averages of actual energy costs unless otherwise noted; does not include capacity payments (if applicable).						
<sup>2</sup> "On peak" is from 7 AM to 9 PM. "Off peak" is from 9 PM to 7 AM.						
<sup>3</sup> Average Energy Price does not include reactive adjustment.						
<sup>4</sup> Energy Price is based on Kalaeloa Partners Energy Cost which includes Fuel, Nonfuel, and Additive components for the prior PPA, and Fuel and Variable O&M components for the Amended and Restated PPA. Prices of the Amended and Restated PPA effective as of 1/1/2023.						
<sup>5</sup> Energy Price is based on annual Net Energy Potential						

The prices shown on the previous page shows the range of costs by which Hawaiian Electric purchases and generates electricity, which directly affect the prices paid by customers on O'ahu for electricity. This range of options include utility scale wind and solar, solar at the feed-in-tariff rate, and distributed energy resources (DER). While this measure deals primarily with grid services from excess DER to support grid stability, the appropriate tariff for grid services would be informed by a comparison of all potential inputs for such services, with the full retail price of the original Net Metering Program at the upper end of the scale. The appropriate balance will ensure fairness for all customers, and should not be arbitrarily chosen.

O'ahu's residential retail electricity rates have several components,<sup>6</sup> as shown below for O'ahu residential service, effective January, 2024.

SCHEDULE 'R' – RESIDENTIAL	EFFECTIVE RATES <sup>1</sup>
Customer charge, per customer per month	
Single phase service (1-phase)	\$ 13.93
Three phase service (3-phase)	\$ 24.82
Energy charge (added to customer charge) - per kWhr	
First 350 kWhr per month - per kWhr	\$ 0.392916
Next 850 kWhr per month - per kWhr	\$ 0.406884
All kWhr over 1,200 kWhr per month - per kWhr	\$ 0.429618
Minimum charge, per customer per month - 1-phase	\$ 30.27
Minimum charge, per customer per month - 3-phase	\$ 35.72

<sup>6</sup> Hawaiian Electric Company, 01/01/24 effective rates (Oahu).  
[https://www.hawaiianelectric.com/documents/billing\\_and\\_payment/rates/effective\\_rate\\_summary/efs\\_2024\\_01.pdf](https://www.hawaiianelectric.com/documents/billing_and_payment/rates/effective_rate_summary/efs_2024_01.pdf)

Green Infrastructure Fee, per customer, per month - Add to all bills	\$ 1.47
<sup>1</sup> Effective rates are the base rates adjusted for applicable surcharges & adjustments. Base charges include customer charge, demand charge, energy charge, power factor adjustment, voltage discount and minimum charge.	

SB 2986 uses the term “full retail rate” (page 5, line 4), but fails to define it. Without a definition, this term is ambiguous. However, for the purposes of discussion, assume the term refers to the “first 350 kWh per month” in the table above. That rate, \$0.392916 per kWh, is higher than any of the purchased power rates in FY 2023 and **five times** the price paid for the renewable dispatchable power from the lowest cost resource on the list. In addition, SB 2986 goes on to propose that in addition to the retail credit, compensation values are to be determined for resiliency, capacity, and ancillary services.

This would lead to a substantial increase in purchased power costs, while simultaneously allowing more customers to avoid payment, resulting in substantial cost and equity concerns.

Therefore, we have concerns with the bill as written but do appreciate the opportunity to share information and perspectives, as well as to hear from others who have been actively participating in discussions on these topics, and others, of great interest and importance.

Thank you for the opportunity to testify.

#### Related Materials

- The Ratemaking Process (fact sheet by Synapse Energy): <https://www.synapse-energy.com/sites/default/files/Ratemaking-Fundamentals-FactSheet.pdf>
- Utility Dive, Jan. 2, 2024, “California rooftop solar had a tough year following NEM 3.0. Can the industry bounce back?”  
<https://www.utilitydive.com/news/california-rooftop-solar-nem-30-outlook/702498/>

- Los Angeles Times, December 28, 2023, "Editorial: Solar installations are plummeting and California regulators are to blame"  
<https://www.latimes.com/opinion/story/2023-12-28/editorial-solar-installations-are-plummeting-and-california-regulators-are-to-blame>
- Solar Builder Magazine, January 2, 2024, "Grappling with California's Solar Market Crash" <https://solarbuildermag.com/news/the-ride-of-a-lifetime-on-the-solar-coaster/>