

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 AND INTERGOVERNMENTAL AFFAIRS

Tuesday, March 17, 2026
3:01 PM
State Capitol, Conference Room 224 and Videoconference

Providing Comments on
HB 2608, HD1

RELATING TO WATER HEATING SYSTEMS.

Chair Wakai, Vice Chair Chang and Members of the Committee, the Hawai'i State Energy Office (HSEO) respectfully offers comments on HB 2608, HD1, which authorizes building permit variances for certain high-efficiency electric water heating systems utilizing heat pump technology.

HSEO administers solar water heater variance applications pursuant to HRS §196-6.5, under which §196-6.5(a)(1) and (2) specifies a variance may be granted when installation of a solar water heater is impracticable due to poor solar resource and is cost-prohibitive based on a life-cycle cost analysis. In administering these provisions, HSEO's Chief Energy Officer may approve high-efficiency electric heat pump water heaters as an alternative water heating system when statutory criteria are satisfied. Current law does not require installation of a photovoltaic (PV) system in order to approve a heat pump water heater under these variance pathways.

Therefore, to prevent additional unnecessary consumer restrictions, HSEO suggests removing the proposed amendment on page 4, lines 13 to 17:

~~"(5) A high-efficiency electric water heating system utilizing heat pump technology, as defined in section 235-12.5,~~

when installed in conjunction with a photovoltaic system, is substituted as the primary energy source for heating water."

As written, this amendment is more restrictive than current practice, as it authorizes approval of a variance only if a high-efficiency electric heat pump water heater is installed in conjunction with a PV system.

Consistent with the written intent of the bill, the language could be moved, to §196-6.5 (a), amending page 3, lines 9 to 12:

(a) On or after January 1, ~~2010~~ 2027, no building permit shall be issued for a new single-family dwelling that does not include a solar water heater system that meets the standards established pursuant to section 269-44, or a high-efficiency electric water heating system utilizing heat pump technology when installed in conjunction with a renewable technology system, as defined in section 235-12.5, unless the chief energy officer of the Hawaii state energy office approves a variance.

To summarize, if the language remains in §196-6.5 (a)(5), this will require installation with a PV system, which will create additional barriers for homeowners who wish to adopt efficient heat pump technology, but cannot install PV due to shading or financial constraints. This change would reduce flexibility, add costs, and could slow progress toward Hawai'i's energy and decarbonization goals. However, if moved to section §196-6.5 (a), this amendment would effectively allow a heat pump water heater installed in conjunction with a photovoltaic system to receive a building permit without going through the variance request process.

As an additional housekeeping amendment, HSEO recommends deleting the reference to Underwriters Laboratories, Inc. (UL), as UL does not approve gas appliances. Accordingly, HSEO recommends amending Section 196-6.5 (a)(4) on page 4, lines 6-12:

~~"(4) A demand water heater device approved by Underwriters Laboratories, Inc..."~~

In place of the above, HSEO proposes the following:

"(4) A demand water heater device certified by ENERGY STAR, the Consortium for Energy Efficiency, or other third-party independent entity that identifies appliances to save consumers money by reducing energy usage, ~~approved by Underwriters Laboratories, Inc.,~~ is installed..."

This suggested amendment should be viewed as a housekeeping amendment to improve clarity of the existing statute.

While the intent of HB 2608, HD1, to promote clean energy adoption is commendable, the existing statutory framework already allows consideration and approval of high-efficiency heat pump water heaters through the variance process without imposing additional conditions that may limit homeowner participation.

Thank you for the opportunity to testify

March 17, 2026

Senators Wakai and Chang
Senate Committee on Energy and Intergovernmental Affairs

RE: HB2608 HD1
Hearing: Tuesday March 17, 2026
Position: **COMMENTS**

Chairs Wakai, Vice Chair Chang, and members of the committee:

My name is Will Giese. I am the Senior Director of Government Affairs for Solaray Corporation. Solaray was founded in 1975 in Hawai'i and does business in Hawai'i as Inter-Island Solar Supply. Solaray also wholly owns Pacific Panel Cleaners ("PPC"), Generator & Power Systems ("GPS"), both Hawai'i Corporations, SunEarth, Inc., a California Corporation, and Alternate Energy Technologies (AET), a Florida Corporation. SunEarth & AET are domestic manufacturing companies producing American made clean energy products, much of which is installed and operated throughout Hawaii for 50 years. GPS is the Generac Industrial generator distributor for Hawai'i. Solaray Corp., and its wholly owned subsidiaries, are proudly 100% employee owned.

Solaray is offering **COMMENTS** to HB2608 relating to water heating systems, but are generally in support of the intent of this legislation.

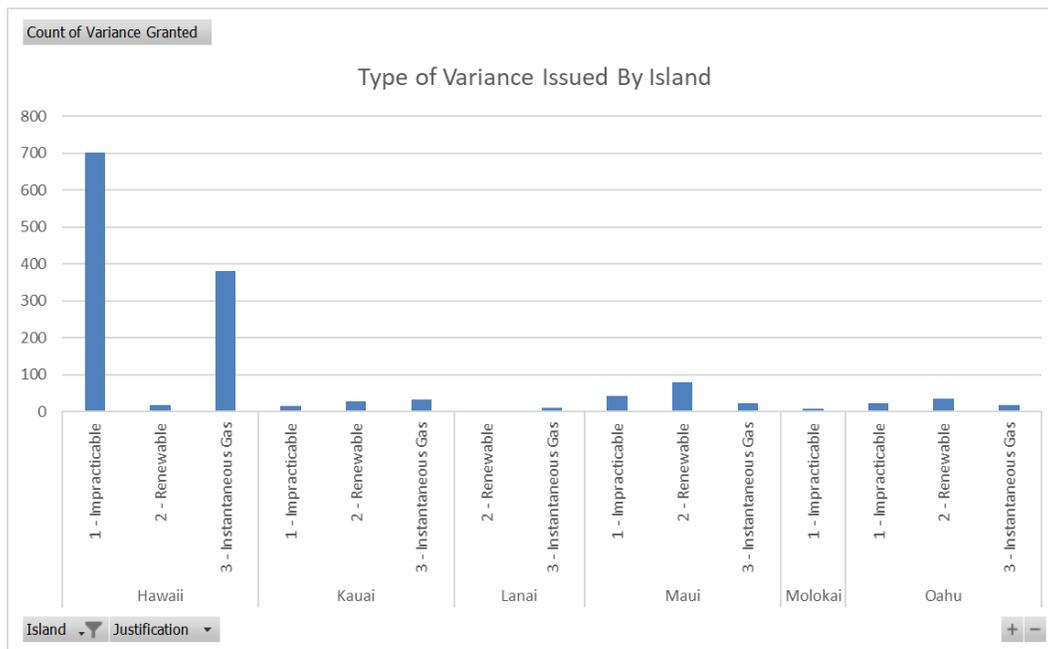
This bill authorizes building permit variances for certain high-efficiency electric water heating systems utilizing heat pump technology, rather than solar water heater systems. It expands the renewable energy technologies income tax credit to include high-efficiency electric water heating systems.

COMMENTS

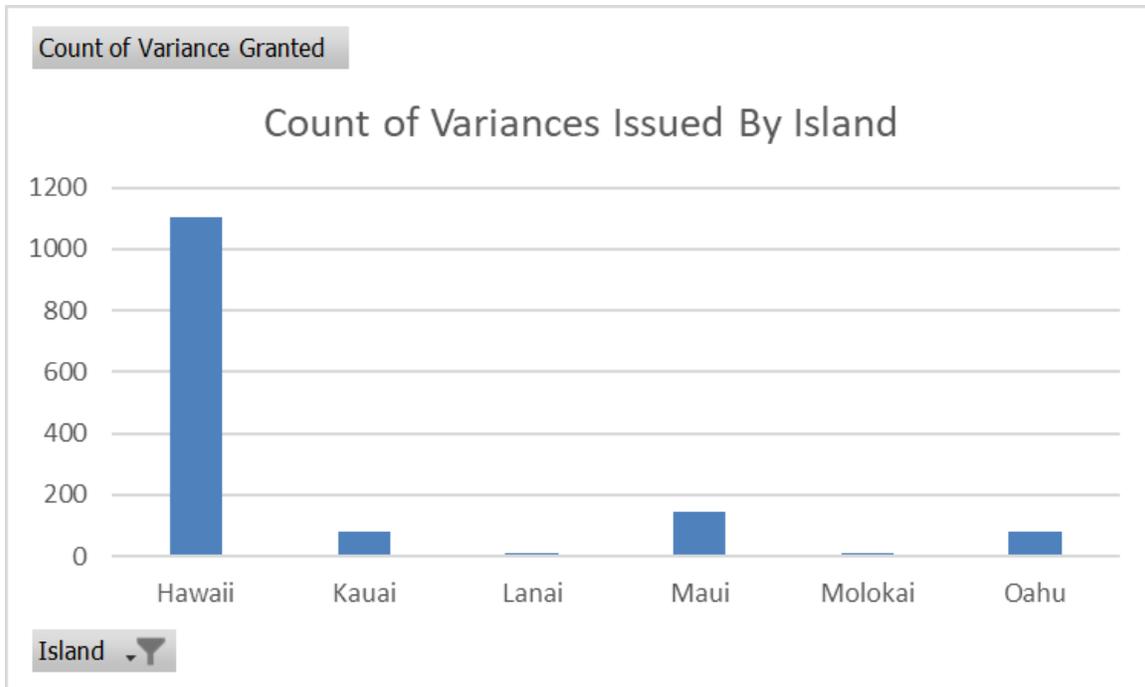
Solar water heaters are an essential part of Hawaii's energy landscape and provide millions of gallons of hot water heated by the sun to thousands of homes and businesses throughout Hawaii each year, while supporting a diverse local installer network. In fact, Hawaii has one of the most successful solar water heating industries in the United States, with almost 1 in 3 single family homes having installed solar water heaters for over 40 years. Because of the abundant solar resources available in the state, Hawaii rightly recognized over 15 years ago that the most cost effective and efficient way to heat water *and* reduce or almost entirely eliminate one of the largest single energy loads in a home was to require solar water heaters as part of all new home construction.

Solar water heaters are highly effective at heating water for residences throughout the state, because the state mandates that solar water heaters provide 90% or greater thermal energy to heat water directly from the sun. Current guidelines regarding the variance process requires that a majority of the energy used to heat water is offset by a renewable source, unless there are specific reasons that the home is incapable of installing a solar water heater, such as poor solar resources. In fact, the current variance process allows for heat pumps and solar PV water heaters to be selected as an alternative. Over half of all variances applied for and approved by the Hawaii State Energy Office were either PV or heat pumps.¹

This legislation adds a variance that is functionally already being used. In 2025, of the 1436 variance request received by the HSEO 1225 of them were approved (85%). 370 of these approvals were for instantaneous gas (30%) and 707 were for heat pumps due to impractical solar resource (57%). If we assume similar construction rates for new single-family homes in 2025 as in 2024 (around 2500 homes), this is a little under 50% of all homes having approved variances for SHW, and around 26% have heat pumps. Interestingly, as has been the case for many years, half of all variances applied for and approved are by one architect/engineer on the Big Island.



¹ See HSEA SHW Variance Data here: <https://energy.hawaii.gov/what-we-do/energy-efficiency/solar-water-heat-variance/>



If the intent of the legislature and the state is for this variance process and mandate to actually work as intended, it is failing to do so. The original intent of the solar water heating mandate was to issue variances “rarely, if ever” in lieu of solar water heating technology. This is in addition to a 2019 ruling that requires the HSEO to “rarely, if ever” issue variances and to exercise discretion on each variance that is submitted. In 2025, only 68 variances were issued that required the applicant to submit a life-cycle cost comparison analysis that requires the applicant to justify the cost of an alternative water heating method. For variances to be issued for over half of all new single-family homes in Hawaii almost certainly does not meet the standard of “rarely, if ever”.

We also suggest that, as an amendment to this bill, the legislature consider directing the Public Utilities Commission to update the standard by which solar water heating is adopted in this state. Solar water heating technology has changed significantly since 2009, yet the standards surrounding their installation in Hawaii have remained the same. For instance, the average life of a solar water heater is at least 20-25 years yet Section 195-6.5 only allows the comparison of a solar water heater at 15 years. This oversight distorts the value of solar water heaters and makes a lifecycle cost analysis appear less affordable than the technology actually is. Updating the standards allows the state to account for these technological innovations and gives the state an opportunity to amend existing standards to lower the cost of solar water heating compared to other technology. That standard exists in HRS Section 269-44 (which is referenced in Section 196-6.5). We recommend the following amendments in red, at page 4, line 7 and as a new section:

- (1) Installation is impracticable due to poor solar resource;
 - (2) Installation is cost-prohibitive based upon a life cycle cost-benefit analysis that incorporates the average residential utility bill and the cost of the new solar water heater system ~~with a life cycle that does not exceed fifteen years;~~
 - (3) A renewable energy technology system, as defined in section 235-12.5, is substituted for use as the primary energy source for heating water; or
 - [(4) A demand water heater device approved by Underwriters Laboratories, Inc., is installed; provided that at least one other gas appliance is installed in the dwelling. For the purposes of this paragraph, "demand water heater" means a gas-tankless instantaneous water heater that provides hot water only as it is needed.]
- (4) A high-efficiency electric water heating system utilizing heat pump technology, as defined in section 235-12.5, when installed in conjunction with a photovoltaic system, is substituted as the primary energy source for heating water."

NEW SECTION AMENDMENTS

[\$269-44] Solar water heater system standards. Not later than July 1, 2009, or as soon as reasonably practicable, the public utilities commission shall adopt or establish by rule, tariff, or order, standards for solar water heater systems to include, but not be limited to, specifications for the performance, materials, components, durability, longevity, proper sizing, installation, and quality to promote the objectives of section 269-124. ~~The commission shall update these rules, tariffs, or standards on or before July 1, 2027 and every five years after that date to account for advances and innovations in solar water heating technology.~~ [L 2008, c 204, §3]

While there are limited cases in which solar water heaters do not make sense for the average new home build, in most cases solar water heating is the most cost-effective and resilient way for the average home in Hawaii to heat water. This is why there is a variance process, and also why variances should "rarely, if ever" be granted. The variance process, if properly implemented by HSEO, works as intended and residents are able to enjoy the most efficient water heating technology available to them on the market.

As a local, employee-owned solar business owned and operated in Hawaii for over 50 years, we **OFFER COMMENTS FOR HB2608 HD1** and urge the committee to consider our suggested amendments to this measure.

Thank you for your time and consideration,

Will Giese
Senior Director, Government Affairs
Solaray Corporation



Hawai'i State Senate

Committee on Energy and Intergovernmental Affairs

HB2608, HD1 – Relating to Water Heating Systems

RE: Comments on HB2608, HD1

March 17, 2026

Hawaiian Council writes comments for HB2608, HD1, which was introduced as a vehicle to encourage utility bill savings, increase household energy independence, and advance energy sovereignty for our islands. We encourage this committee to reconsider the tax credit element included in the original draft of HB2608 and restore some variation of the tax credit language.

Hawaiian Council is a 501(c)3 member-based non-profit committed to advancing the cultural, economic, and community development of Hawai'i and Native Hawaiians, with a focus on sustainability and economic resilience by advancing self-sufficiency. Our Kalāhiki home energy retrofit program has found that water heating is often the number one expense on utility bills for local families. Heat pump water heaters can be the most affordable overall option for household retrofits, especially if installed concurrently with a PV solar system. The federal government recently cancelled the 30% federal tax credit (up to \$2000) for heat pump water heaters. Allowing heat pump water heaters to be included in the state Renewable Energy Technologies Income Tax Credit would assist the homes we serve to advance toward energy sovereignty and affordable utility bills.

The original version of HB2608 expanded the state Renewable Energy Technologies Income Tax Credit to help lower upfront installation costs for heat pump water heaters for local families when paired with a solar PV system, providing years of savings on monthly utility bills. HB2608 recognized the recent technological and cost improvements that provide more flexible and cost-effective options for local homeowners. However, the current language of HB2608, HD1 does not materially advance the adoption of heat pump water heaters for existing low- and moderate-income households. In fact, the current language of HB2608, HD1 may actually make it more difficult for residents to utilize heat pump water heaters given the change in variance language.

Hawaiian Council supports measures that provide more choice and equitable access to sustainable energy technologies. **We strongly encourage this committee to restore the original tax credit language.** Mahalo for your commitment to Native Hawaiian culture, economic development, and local energy sovereignty.

Mālama pono,

Madelyn McKeague

Director of Advocacy, Hawaiian Council

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March 17, 2026

The Honorable Glenn Wakai, Chair

Senate Committee on Energy and Intergovernmental Affairs
State Capitol, Conference Room 224 & Videoconference

RE: House Bill 2608, HD1, Relating to Water Heating Systems

HEARING: Tuesday, May 17, 2026, at 3:01 p.m.

Aloha Chair Wakai, Vice Chair Chang, and Members of the Committee:

My name is Lyndsey Garcia, Director of Advocacy, testifying on behalf of the Hawai'i Association of REALTORS® ("HAR"), the voice of real estate in Hawaii and its over 10,000 members. HAR **supports the intent** of House Bill 2608, HD1, which authorizes building permit variances for certain high-efficiency electric water heating systems utilizing heat pump technology. Effective 7/1/3000.

Under current law, new single-family homes must include a solar water heater system to obtain a building permit. However, some homes may have limited sunlight exposure, which would make solar water heating less effective. HAR supports allowing high-efficiency electric water heating systems utilizing heat pump technology as a viable clean energy alternative that can also be utilized in a broad range of housing types.

Mahalo for the opportunity to testify on this measure.



HB-2608-HD-1

Submitted on: 3/15/2026 2:06:02 PM

Testimony for EIG on 3/17/2026 3:01:00 PM

Submitted By	Organization	Testifier Position	Testify
Ted Bohlen	Testifying for Climate Protectors Hawai'i	Support	Written Testimony Only

Comments:

Climate Protectors Hawaii **SUPPORTS** this measure, which encourages the adoption of high-efficiency electric water heating systems that use heat pump technology. Water heating is one of the largest uses of energy by Hawaii households, especially in apartments and condominiums where rooftop solar technology and solar water heating are not feasible. Encouraging the transition to heat pump water heaters is one of the most cost-effective and practical ways to reduce electricity bills. This measure reflects smart energy policy that aligns affordability, equity, and environmental responsibility. Please pass this bill.



SENATOR GLENN WAKAI, CHAIR
SENATOR STANLEY CHANG, VICE CHAIR
SENATE COMMITTEE ON ENERGY & INTERGOVERNMENTAL AFFAIRS

TESTIMONY PROVIDING COMMENTS ON HOUSE BILL 2608

Tuesday, March 17, 2026, 3:00 p.m.
Conference Room 224, State Capitol
415 South Beretania Street, Honolulu, Hawai'i

Dear Chair Wakai, Vice Chair Chang, and Committee Members:

Earthjustice submits this testimony providing **comments** on House Bill 2608. Our office has been working on clean energy issues in Hawai'i for decades, including upholding the solar water heater mandate against the overuse of variances. When the legislature established the solar water heater mandate, its express intent was that variances be "rarely, if ever, exercised or granted."¹ In practice, however, variances have been granted far too frequently, with 85% of variance applications granted in 2025. We thus echo the comments submitted by Inter-Island Solar Supply and support their proposed amendments, which will ensure that the variance process complies with the legislature's intent and Hawai'i's renewable energy goals.

First, we urge the committee to remove the language referencing a "fifteen year" life cycle for solar water heaters. This language is not only overly prescriptive, it is inaccurate and unfairly undercuts the value of solar water heaters, making this legally preferred technology appear less affordable than it truly is. The average life of a solar water heater is at least 20–25 years. Therefore, we recommend that the committee include an amendment in the bill to remove this language to ensure that the life cycle cost analysis accurately represents the cost of solar water heaters.

Second, we urge the committee to make additional amendments to HRS § 269-44 to account for advances and innovations in solar water heater technology. Since the establishment of the solar water heater mandate in 2009, the technology has improved significantly. The law should include language that requires the Public Utilities Commission to revisit the law governing variance requirements and make sure that the life cycle cost analysis continues to account for such technological evolutions.

Mahalo for the opportunity to testify. Please do not hesitate to contact us with any questions or for further information.

Harley M. Broyles
Earthjustice, Mid-Pacific Office

¹ 2009 Haw. Sess. Laws Act 155.



Testimony to The Committee on Energy & Intergovernmental Affairs
Thursday, March 17, 2026, 3:01 PM
Conference Room 225 & Videoconference
Hawaii State Capitol
HB2608 HD1

Chair Wakai, Vice Chair Chang and members of the committee,
Hawaii Gas appreciates the Legislature's ongoing commitment to Hawai'i's clean energy goals and respectfully submits comments to HB2608 HD1.

While we have no opinion on the inclusion of a variance for electric heat pump water heaters when installed with a photovoltaic system in HRS §196-6.5, we note that there is already a variance that allows for that technology to qualify, specifically, *(3) A renewable energy technology system, as defined in section 235-12.5, is substituted for use as the primary energy source for heating water;*

Additionally, there has been testimony submitted by others that indicate that variances for these appliances have been provided without the need to amend this statute. Additionally, we take exception to the preamble that incorrectly states that the current statute variance has resulted in "widespread approval of fossil fuel based water heating systems..." Upon review of the actual data from the State Energy Office, one will determine that this is not the case.

HRS §196-6.5 establishes a clear policy preference for solar water heating in new single-family homes while recognizing that a limited, carefully administered variance process is necessary when solar systems are not feasible, not cost effective, or not appropriate for a specific property. It advances renewable energy adoption while ensuring that homeowners are not forced into systems that cannot perform reliably or safely under real world conditions. Approval is granted only on a case-by-case basis where site conditions, structural limitations, shading, roof orientation, or cost effectiveness make solar water heating impractical.

It is a safeguard designed to address the realities of Hawai'i's diverse housing stock and geography. Gas water heaters continue to play a critical role in providing reliable hot water, particularly during electric power outages experienced last week. Hawai'i's electric grid is subject to disruptions from severe weather events, wildfires, equipment failures, and planned maintenance outages. During these periods, gas water heaters remain operational and provide essential hot water for sanitation, cooking, and basic household needs. This reliability supports public health and safety and is especially important for vulnerable populations. Certain housing types depend on gas water heating because no other option is feasible within existing physical and electrical constraints. Many homes in Hawaii, do not have electrical infrastructure to rely on. This is especially true in the rural and disadvantaged communities in neighboring islands. The variance process is narrow and rigorous. As a result of hours conversations which included diverse stakeholders including the Hawaii Solar Energy Association (HSEA) and other solar water



heating advocates, engineers, housing developers and the State Energy Office, variance requests were agreed upon with two very high hurdles to prove. 1) It must be prepared and submitted by licensed professionals and 2) it must be reviewed by the State Energy Office using standardized criteria, including life cycle cost analysis of fifteen-years, which was substantiated by the HSEA white paper that stated that warranties for solar water heaters ranged from six to twelve years. All stakeholders agreed a fifteen-year life cycle analysis was more than generous given the industry standard warranty was far less than that. Therefore, if the committee chooses to move this bill forward, we respectfully request that the language in the current statute (a) (1) to (4) remain unamended.

Thank you for the opportunity to testify.



Hawaii Solar Energy Association
Serving Hawaii Since 1977

White Paper

Providing Hot Water Heating Load for a Residential Dwelling & Comparison between Solar Hot Water and Photovoltaic Cost for Same Dwelling

Hawaii Solar Energy Association

October 22, 2012

Summary

The following analysis compares the average cost to produce hot water suitable for use in a residence between solar hot water (SHW) and a photovoltaic system (PV). The data used to compare the two technologies has several limitations, and any conclusions should be taken in the context of a changing and nuanced marketplace. For instance, although the utility has collected data for SHW over the past three decades, data for PV is much less comprehensive and tested, and only reflects limited studies over the past decade. Data for SHW is based on statewide numbers, which may or may not be applicable in certain sun zones found in the islands. In addition, rising PV costs in an unstable market could dramatically impact a PV v. SHW comparison, as well as other factors such as PV degradation rates and other efficiency and maintenance concerns. Also, local conditions can easily sway a cost impact analysis, and may depend upon site conditions, local weather, household water use, and so on.

The following analysis compares the average cost to produce hot water suitable for use in a residence between solar hot water and a photovoltaic system. Using data from the KEMA Energy and Peak Demand Impact Evaluation Report of the 2005-2007 Demand Side Management Programs prepared for HECO, MECO, & HELCO, the cost comparison results between PV and SHW depend upon family size and installed PV system cost. PV is generally more cost effective than SHW to heat water for a family of one or two. SHW is more cost effective once the family size is three or greater, with an average net-installed cost for a family of four of \$1,962 for SWH and \$2,789 for PV. As the family size increases, the cost efficiency of installing SHW increases, with the installation of a PV system for a family of six costing approximately \$1,959 more than the cost to install an appropriately sized SHW system for the same sized family. Cost comparisons include deductions for rebates and current tax incentives, and are calculated using a metric of \$5.50/watt to install PV. This comparison assumes consistent water use, and would not apply in vacation homes or other situations where water use was intermittent.

Analysis

In order to compare the cost efficiency of SHW to PV when heating water for residential use, the following analysis first determined the amount of energy saved when SHW replaced an electric water heater. A PV system was then sized to generate the same amount of electricity, and the relative costs were compared. Please find the data for the following analysis in the attached excel documents.

1. Average Electric Use for Electric Water Heater and Savings with SHW

This analysis begins with the solar sample base case which quantifies the annual electric use for an electric water heater for an average number of occupants. It then looks at the average savings with installed SHW. The difference between these two is the average savings per year or the average amount of energy saved per person, which was found to be 1.53 kWh/person/day. This data includes an average efficiency loss for various types of systems.

2. How many PV panels would be needed to save the same amount of electricity?

To determine the cost of installed PV to offset the same amount of electricity when heating water with SHW, the daily savings of 1.53 kWh/day/person needs to be translated from AC to DC as solar panels are rated at DC. Loss of converting electricity from DC to AC runs at about 19%. Thus, the kWh needed would be 19% higher in a PV system, which takes the needed generation from 1.53 kWh/day/person to 1.88 kWh/day/person. Next, this analysis assumes 5.2 sun hours per day as a statewide average solar resource. This number may be more or less, depending upon the location. At 5.2 sun hours/day, the required PV array DC to generate the same amount of electricity as the SHW would be sized at 362 watts/person. At \$5.50 watt installed, the system cost would be approximately \$1,992/person.

3. How do the costs of the two systems compare?

In order to determine how the costs compare between the two systems, both the installed cost of the system and any tax credits or rebates must be considered. For a SHW system, the average installed cost for an 80 gallon system is \$6,357 and for a 120 gallon system is \$7,106, minus the HEP rebate, and the state and federal tax credits currently in place in 2012. The combined weighted average system cost is \$6,625. The cost for a PV array increases with family size, minus current state and federal tax credits. For a household of one to two persons, the cost of a PV system to heat water is less than the average cost of SHW of an 80 gallon system. For households of three persons, or more, SHW is more cost effective than PV for heating water.

Other Considerations and Assumptions

1. Assumptions

The KEMA hot water averages were determined using data from monitored systems located in a wide range of sunshine zones. The results will change for installations in zones that are different from the average. In addition, when PV is used to heat water, the heat loss due to the efficiency of the water heater has not been considered here. This heat loss would decrease PV's overall cost efficiency when compared to SHW.

2. Economies of scale

The fiscal advantage of SHW over PV diminishes with reduced water use. For instance, using the analysis shown above, the overall net cost difference between SHW and PV is \$1,959 for a family of six, while the overall cost difference of SHW over PV to heat water for a family of four is \$827. Keep in mind that these figures are averages, and will vary depending upon system efficiency and water use.

3. Efficiency depends upon consistent use

The cost efficiency of SHW depends upon how the water is used. For instance, in the preceding example for a family of six, the assumption is that the family has roughly the same water use every day. In the case of a vacation rental, however, SHW would not have the same advantage if the water is only heated a few times a month, or if the system had to be sized to accommodate a large group for a short period of time.

4. SHW does not impact circuit penetration levels

SHW systems do not produce electricity, and are therefore not connected to the residence's electrical system. Thus, a SHW system would never add to local circuit penetration levels. On the other hand, a PV system engineered to provide electricity to heat hot water may impact circuit penetration levels. Whether the PV impacted circuit penetration levels would depend upon the size, engineering of the system, and the total capacity of all distributed generation technologies on the circuit.

5. SHW heats water that can be used later during peak load hours

SHW heats and stores water effectively so that it may be used during the evening utility peak load which occurs after sundown in Hawaii. To date about 30MW of generating capacity required by HECO to meet peak demand has been deferred by SHW systems installed on Oahu alone. PV systems do not provide electricity to heat water after sundown unless the system has battery backup. Water heated by PV and stored in the water heater may have peak load use, depending upon the size and efficiency of the water heater and the household water use.

6. Maintenance costs

Maintenance costs for PV are somewhat lower than maintenance costs for SHW. However, should a home owner need to re-roof or perform roof repairs, removal and reinstallation costs for PV are much higher than they are for SHW.

7. Roofspace

Available roof space can also be an important consideration when deciding between PV and SHW. In a lot of cases, the south facing roof area is at a premium and can be best utilized using SHW first, and then PV. In addition, hot water collectors can be side tilted on west or east facing roof, leaving more prime south roof space for flush mounting PV panels.

8. Product Warranties

Product warranties for PV and SHW are roughly the same. Warranties for PV modules range from 10-25 years (inverters from 10-25 years) where warranties for SHW solar tanks range from 6-12 years and 10-12 years for solar collectors.

Aloha Chair Wakai, Vice-Chair Chang, and members of the EIG committee:

I'm writing in support of HB2608 HD1, which authorizes building permit variances for certain high-efficiency electric water heating systems utilizing heat pump technology.

This bill provides another pathway for homes to avoid using gas for hot water heating, namely heat pumps. The bill requires that the home also has a PV system as the primary power source for the heat pump. Therefore, this bill's amendment to Section 196-6.5 of the Hawaii Revised Statutes would provide builders with an additional option for building homes with lower carbon footprints and less dependence on fossil fuels.

Over the past few years, heat pumps have become less costly and more energy efficient, making them cost-effective options for hot water heating.

I urge you to pass HB2608 HD1 out of your committee as this bill is simply about providing more options for people to reduce their consumption of fossil fuels, which benefits all of us, as it is a small step in making our state less dependent on fossil fuel imports and helping our state to become cleaner.

Mahalo for the opportunity to testify.

Mahalo nui,
Paul Bernstein
Honolulu

SUPPORT FOR HB2608 HD1

Senate Committee on Energy and Intergovernmental Affairs
HB2608 HD1 Hearing on March 17, 2026 at 3:01 pm
Conference Room 224 and videoconference

My name is John Kawamoto, and I support HB2608 HD1, which encourages the adoption of high-efficiency electric water heating systems utilizing heat pump technology.

Water heating is one of the largest energy uses by Hawai'i households, especially in apartments and condominiums where rooftop solar and solar water heating are not feasible. Encouraging the transition to heat pump water heaters is one of the most cost-effective and practical ways to reduce electricity bills.

Heat pump water heaters use up to 70% less electricity than conventional electric resistance water heaters. For many families, this translates into hundreds of dollars per year in lower electric bills, particularly important in Hawai'i, where electricity prices are among the highest in the nation.

A further advantage of heat pump water heaters is that they accelerate the transition to Hawaii's goal of net negative greenhouse gas emissions by 2045. Electric utilities are required to generate electricity from 100% renewable sources by 2045.

The federal government recently rescinded the tax credit for heat pump water heaters that was previously available to Hawai'i residents. HB2608 helps fill that void.

HB2608 HD1 represents smart energy policy that aligns affordability, equity, and climate responsibility. It is a practical step Hawai'i can take to lower energy costs while accelerating our clean energy transition.

I urge the committee to pass the bill.

LATE

HB-2608-HD-1

Submitted on: 3/16/2026 7:10:40 PM

Testimony for EIG on 3/17/2026 3:01:00 PM

Submitted By	Organization	Testifier Position	Testify
Douglas Hagan	Individual	Support	Written Testimony Only

Comments:

My name is Doug Hagan in Paia Maui. I strongly support HB2608 HD1, which encourages the adoption of high-efficiency heat pump water heaters.

Water heating is one of the largest energy uses for Hawai'i households—especially in apartments and condominiums where rooftop solar and solar water heating are not feasible. This bill focuses on one of the most practical and cost-effective ways to lower electricity bills for those residents.

Heat pump water heaters use up to **70% less electricity** than conventional electric resistance systems. For many households, that translates into **hundreds of dollars per year in savings**—which is especially important in Hawai'i, where we face the highest electricity costs in the nation.

This is also a smart climate solution. Heat pump water heaters reduce overall energy demand and support Hawai'i's transition to **100% renewable electricity and net-negative emissions by 2045**.

With the recent loss of federal tax credits for these systems, HB2608 helps fill that gap and ensures local residents can still access these savings.

HB2608 HD1 is practical, cost-effective policy that advances affordability, equity, and climate goals at the same time.

I respectfully urge the committee to pass this bill.

Mahalo for your consideration.

LATE

HB-2608-HD-1

Submitted on: 3/16/2026 8:23:06 PM

Testimony for EIG on 3/17/2026 3:01:00 PM

Submitted By	Organization	Testifier Position	Testify
Brandon Cha	Individual	Support	Written Testimony Only

Comments:

Hello,

I would like to submit testimony in support of this bill.

Thank you for your time.