**Frequently Asked Questions**

**for Solar Water Heater Variances**

**NOTICE:** DBEDT has new requirements for acceptance of variances from the solar water heater mandate for **gas-tankless instantaneous water heaters**. These requirements are in accordance with the final judgment from Hawaii Circuit Court Judge Jeffrey Crabtree in *Hawaii Solar Energy Association and Sierra Club v. DBEDT*, Civil No. 18-1-1398-09 (JPC), February 5, 2019, which states, in part:

“Specific direction as to how DBEDT should exercise its discretion when reviewing gas variance applications is available from the statute’s legislative history. The court directs DBEDT to the statements and findings above, as well as the following statements made by the legislature when amending the statute in 2009:

* “It is the intent of the legislature that the variances provided for in Act 204, Session Laws of Hawaii 2008 (Act 204) will be rarely, if ever, exercised or granted because the burden of proof will lie with the applicant to demonstrate that a solar water heater system, regardless of location or circumstance, is not cost effective in the context of a 30-year mortgage term.
* “The legislature intended for a consumer to have the option to use gas appliances with the full knowledge that such a system may be more costly and less efficient. To obviate any attempt to circumvent Act 204, then, the legislature intends that if the potential variance applicant is not the party who will ultimately pay for the energy cost consumption, then only paragraph (1), (2), or (3) of subsection (a) in section 196-6.5 Hawaii Revised Statutes, should apply.”

For questions, please contact <[DBEDT.SWH-Variance@hawaii.gov](mailto:DBEDT.SWH-Variance@hawaii.gov)>

**Background and Basics of the Solar Water Heater Mandate**

* What is the Solar Water Heater Mandate?

Act 204, June 26, 2008, now Hawaii Revised Statues §196-6.5, states that as of January 1, 2010, ALL NEW single-family dwellings built in the State of Hawaii are required to have a solar water heater. This law applies to accessory dwelling units (ADU) and similar single-family dwellings.

This law does not apply to duplexes, triplexes, condos, or other multi-family dwellings.

If your building plans do not include a solar water heater, then you must request a “variance” (exemption) from this state law. Submit a request for a variance from the Solar Water Heater Mandate to the Energy Division of the State of Hawaii Department of Business, Economic Development, and Tourism.

* How/Where do I request a variance from the Solar Water Heater Mandate?

Only architects and mechanical engineers licensed to do business in the State of Hawaii may request a variance.

1. Variances can be submitted online by Hawaii licensed architects and mechanical engineers using this online application: <<https://swhv.ehawaii.gov/>>
2. For information about an off-line version and submission by e-mail, fax, U.S. Postal Service, or hand delivery, go to the DBEDT Energy Division solar water heater variance website:   
   <http://energy.hawaii.gov/resources/solar-water-heater-variance>

* Do I have to be a licensed architect or licensed mechanical engineer to submit a variance request?

Yes. Only applications from architects or mechanical engineers licensed in the State of Hawaii under HRS Chapter 464 are accepted. This is specified in Hawaii Revised Statues, [§196-6.5](https://www.capitol.hawaii.gov/hrscurrent/Vol03_Ch0121-0200D/HRS0196/HRS_0196-0006_0005.htm).

* Why is there now a $25 processing fee for each solar water heater variance request?

Hawaii Revised Statutes [§196-6.5(c)](https://www.capitol.hawaii.gov/hrscurrent/Vol03_Ch0121-0200D/HRS0196/HRS_0196-0006_0005.htm) allows DBEDT to adopt rules and to collect fees to cover the costs of administering variance requests.

The [Hawaii Administrative Rules, Title 15, Chapter 37](file:///C:\Users\DeanM\Desktop\SWHV%20files%20from%20LAN\1SWHV%20AdmRule-OnlineApp%20Files\1%20Latest%20Files2GiveMHS%208_2018\Approved%20SWH%20Variance%20Admin%20Rule8_14_2018.pdf), “Solar Water Heater Variance,” was adopted on August 27, 2018. This administrative rule authorizes a $25 processing fee per variance request and enables the use of this solar water heater variance online application.

The processing fee helps to pay for processing costs, hosting and maintenance of the online application, and may help to fund future upgrades.

NOTE: **There is no refund for denied variance requests.**

* Must I pay the $25 processing fee for each variance request, whether submitted via the online application or off-line (e-mail, fax, U.S. Postal Service, or hand delivery)?

Yes, there is a $25 processing fee for each request, no matter how it is submitted.

1. [Online](https://swhv.ehawaii.gov) applicants (Hawaii licensed architects and mechanical engineers) pay online via credit card or eCheck.
2. Off-line applicants (e-mail, fax, U.S. Postal Service, or hand delivery) pay with a check. Please see the DBEDT Energy Division website for payment information:   
   <http://energy.hawaii.gov/resources/solar-water-heater-variance>

NOTE: **There is no refund for denied variance requests.**

* Can I get a refund if I submit a variance request with errors or if my variance request is denied?

There are no refunds for variance requests once the request is submitted.

* Where can I get a copy of the Hawaii State Law that mandates solar water heaters on all new Hawaii homes beginning January 1, 2010?

<http://www.capitol.hawaii.gov/hrscurrent/Vol03_Ch0121-0200D/HRS0196/HRS_0196-0006_0005.htm>

* Where can I get a copy of the Hawaii Administrative Rules, Title 15, Chapter 37, “Solar Water Heater Variance?”

The administrative rule that implemented the solar water heater variance online application and the processing fee can be found at:

<<http://files.hawaii.gov/dbedt/rules/15-37-tagged.pdf>>

* If I have more questions, where can I get help?

Send your questions to this e-mail address: [DBEDT.SWH-Variance@hawaii.gov](mailto:DBEDT.SWH-Variance@hawaii.gov?subject=SWH%20Variance)  
Please put "SWH Variance Question" in the subject box.

**How to Use the Online Application**

* How do I start using this [online application](https://swhv.ehawaii.gov)?

1. First, decide if you will create a “company account” or an “individual account.”
   * A “company account” will allow others in the company to also submit variance requests, and all the variances will be in one queue.
     + Create ONE GENERIC email account for the office.
     + An eHawaii.gov account can be the firm’s name, for example: architect@ehawaii.gov.
     + Password should be generic and shared with the staff who will be making the submissions, for example: Password$1.
     + Create a firm profile with the first or last name being the firm name. The main office number, address, and security question should be kept with the manager.
     + If you reset your password, you will need the security question to change it.
   * An “individual account,” in which each person creates his/her own eHawaii.gov email account, will show in the queue only the variances that the individual has submitted.
     + Click here to view videos on creating an account. https://test-swhv.ehawaii.gov/swhv-wikiflow/help.html#section02
2. Create the account.
3. Create a business profile (click on “Manage Profile” tab).
4. Add submitter information.
5. Click on “Submit a Request” tab to begin submitting variance requests.
6. “Sign-in," thereafter, to apply for more solar water heater variances.

* Do I have to be a licensed architect or licensed mechanical engineer to use the online application system?

Yes. Users of this online application must be architects or mechanical engineers licensed to do business in the State of Hawaii. This is specified in Hawaii Revised Statues [§196-6.5](https://www.capitol.hawaii.gov/hrscurrent/Vol03_Ch0121-0200D/HRS0196/HRS_0196-0006_0005.htm)

* How do I make a payment using the online application?
  1. Payments of the $25 processing fee per variance request are made by either credit card or eCheck using this online application.
  2. There is a payment screen where you will be asked to submit your credit card or bank account information.
* What happens if my payment is denied?
  1. Payments that are denied at the submittal stage will stop the submittal of the variance request.
  2. Payments that do not clear after the initial approval cause the variance request to be denied.

NOTE: **There is no refund for denied variance requests.**

* Who receives the information about the approval/denial of the online form?

1. When a decision has been made about the variance request, the approved or denied variance will be sent via email to whomever submitted it.
2. It is the responsibility of the architect or mechanical engineer who submitted the request to submit a copy of the approved solar water heater variance to the county. It is the homeowner's responsibility to ensure that the architect or mechanical engineer submits the approved variance to the county.

* Must the solar water heater variance requests be submitted from only this online application?

No, not necessarily. Although this [online application](https://swhv.ehawaii.gov) helps to expedite the submittal of variance requests and can be used by only Hawaii licensed architects and mechanical engineers, they can also submit variance requests by off-line methods (e-mail, fax, U.S. Postal Service, and hand delivery). Variance requests submitted off-line must meet all requirements, including payment of the $25 processing fee. See more information and download the latest off-line variance request form at: <http://energy.hawaii.gov/resources/solar-water-heater-variance>.

* How long does it take for a variance request to be processed online?

Usually about two weeks, but the law gives DBEDT 30 working days to respond.

* Is it okay for the homeowner or another person to submit solar water heater variance request using this online application?

No. Only architects or mechanical engineers licensed to do business in the State of Hawaii can submit the solar water heater variance requests.

**Processing and Applying for a Solar Water Heater Variance**

* I want to apply for a variance (exemption) from the solar water heater mandate. What are the options for justifying a variance request?

1. **OPTION #1:** Installation of a solar water heater is impracticable due to poor solar resource; and/or 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 15 years.
   * For this option, an architect or mechanical engineer licensed by the State of Hawaii must attach a completed current version of the “[Water Heating Life Cycle Cost Comparison](http://hawaii.gov/dbedt/info/energy/SWHVariance/SWH%20LCC%20Comparison%20templ%204Feb10.xls)” Excel spreadsheet downloaded from: <<http://energy.hawaii.gov/resources/solar-water-heater-variance>>.
2. **OPTION #2:** A renewable energy technology system, as defined in Hawaii Revised Statutes [§235-12.5](https://www.capitol.hawaii.gov/hrscurrent/Vol04_Ch0201-0257/HRS0235/HRS_0235-0012_0005.htm), is substituted for use as the primary energy source for heating water.
   * The variance application form must specify the technology that will be installed: Photovoltaics, Solar Thermal, or Wind.
3. **OPTION #3:** A gas 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 option, "demand water heater" means a gas-tankless instantaneous water heater that provides hot water only as it is needed.  
   The following are requirements for the gas-tankless instantaneous water heater option and must be completed or this SWHV request will not be accepted:

(a) This solar water heater variance request is for a new single-family dwelling and the party making the request is the one who will ultimately pay for the energy cost consumption, as required in Act 155, Part VII, section 13 (June 25, 2009).

(b) The applicant has demonstrated that a solar water heater system, regardless of location or circumstance, is not cost effective in the context of a 30-year mortgage term. Attached is a correctly completed DBEDT “Water Heating Life Cycle Cost Comparison” to support this requirement. (Attach correctly completed DBEDT “Water Heating Life Cycle Cost Comparison” found at <http://energy.hawaii.gov/resources/solar-water-heater-variance>.)

(c) The gas-tankless instantaneous water heater device to be installed has been approved by Underwriters Laboratories, Inc. Manufacturer, model name, and model number must be listed.

(d) At least one additional gas appliance(s)must be installed and listed on the request.

For questions, please contact <[DBEDT.SWH-Variance@hawaii.gov](mailto:DBEDT.SWH-Variance@hawaii.gov)>

* When do I use the "Water Heating Life Cycle Cost Comparison" spreadsheet?

The DBEDT “Life Cycle Cost Comparison” (LCCC) worksheet must be completed when Option #1 or Option #3 is selected on the variance request.

* For Option #1 (Impracticable or cost prohibitive): If the homeowner wants a regular gas, regular electric resistance, or heat pump water heater, it must be shown that installing a solar water heater is impracticable due to poor solar resource, and/or a solar water heater is cost-prohibitive based upon the LCCC worksheet. The LCCC must show that the total cost (over the “life cycle” of the device) is lower than the total cost of a solar water heater. The LCCC will automatically calculate when using a computer with the Microsoft “Excel” application.
* For Option #3 (gas-tankless instantaneous water heater), the LCCC must show that the gas-tankless instantaneous water heater you want to install has a total cost that is lower than the total cost of a solar water heater. The LCCC will automatically calculate when using a computer with the Microsoft “Excel” application.

Submit the LCCC at the same time the solar water heater variance request and $25.00 processing fee are submitted to the DBEDT Energy Division.  
  
The LCCC must show that the alternative water heating device chosen has a lower life cycle cost than a solar water heater, or the variance request will be denied.  
  
**The latest version of the LCCC must be used (dated 3/20/2019 or later) or the variance request will be denied.**

**There are no refunds for denied solar water heater variance requests.**

* How do I complete the "Water Heater Life Cycle Cost Comparison" worksheet?

Please see the instructions on the worksheet found at: <http://energy.hawaii.gov/resources/solar-water-heater-variance>. There is also an explanation of the calculations used in the worksheet on this link.

* Where do I find the "Water Heater Life Cycle Cost Comparison" worksheet?

<http://energy.hawaii.gov/resources/solar-water-heater-variance>

* For justifying a variance request under option #3, what is considered a “gas appliance?”

Additional gas appliances that meet this requirement are stoves, ranges, ovens, cooktops, and clothes dryers. Contact <[dbedt.swh-variance@hawaii.gov](mailto:dbedt.swh-variance@hawaii.gov)> if you are not sure if the gas appliance you plan to install meets this requirement.

* Must the solar water heater variance request be completed and submitted by a Hawaii licensed architect or licensed mechanical engineer?

Yes. Only applications from architects or mechanical engineers licensed in the State of Hawaii under HRS Chapter 464 are accepted. This is specified in HRS [§196-6.5](https://www.capitol.hawaii.gov/hrscurrent/Vol03_Ch0121-0200D/HRS0196/HRS_0196-0006_0005.htm).

* Can another type of engineer substitute for a mechanical engineer?

No. The only engineer authorized by State law for solar water heater variance requests is a MECHANICAL engineer licensed under Hawaii Revised Statutes Chapter 464 (<http://www.capitol.hawaii.gov/hrscurrent/Vol03_Ch0121-0200D/HRS0196/HRS_0196-0006_0005.htm>)

* Is it required that the architect or mechanical engineer who designed my home to also complete the solar water heater variance request?

No. Any architect or mechanical engineer licensed to do business in the State of Hawaii may complete the request.

* DENIAL REASONS: What are the reasons that a solar water heater variance request will be denied in this online application?
  1. The information provided about the property is incorrect or inconsistent with public records.
  2. The $25 payment submitted for this variance request could not be processed.
  3. The Life Cycle Cost Comparison is incomplete.
  4. The Life Cycle Cost Comparison does not demonstrate that a solar water heater installation is cost-prohibitive because the selected water heating device has a higher life-cycle cost than a solar water heater.
  5. The Life Cycle Cost Comparison is inadequate or incorrect.
  6. The renewable energy technology system is inadequate or incorrect.
  7. The additional gas appliance listed is incorrect or not adequate.
  8. There was an error(s) with your variance request or payment.
* What do I do if I get denied?

If the variance request was denied, you can submit a new variance request for consideration. You must pay the $25 fee with each variance request submitted, regardless if you have been denied before.

**Water Heating Technologies**

* Will I be approved for a variance from the solar water heater mandate by installing an electric-powered on-demand water heater?

No. Electric-powered on-demand water heaters are NOT a valid justification for exemption from the solar water heater mandate.

* If I choose to have a gas-tankless instantaneous water heater in my new home instead of a solar water heater, am I required to also install another gas appliance?
  + - 1. Yes, if choosing the gas-tankless instantaneous water heater as an option for a solar water heater variance, you must also install at least one additional gas appliance.
         1. Acceptable gas appliances are stove, range, oven, cooktop, and clothes dryer. If you question whether the device you want will qualify for “one other gas appliance,” please contact [dbedt.swh-variance@hawaii.gov](mailto:dbedt.swh-variance@hawaii.gov).
      2. You must also submit a correctly completed DBEDT “Water Heating Life Cycle Cost Comparison” (LCCC), available on the Hawaii State Energy Office website, <https://energy.hawaii.gov/resources/solar-water-heater-variance>.
         1. It must be signed and stamped by a Hawaii licensed architect or mechanical engineer.
         2. Only the latest version of the LCCC will be accepted (dated “March 20, 2019,” or later). Using an outdated LCCC will cause your request to be denied.
         3. There are no refunds for denied requests.
* How do I find a "UL-certified" gas-tankless instantaneous water heater or know if the gas-tankless instantaneous water heater I want to install is "UL-certified?"

Underwriters Laboratories, Inc., approval is **required** by State law for the gas-tankless instantaneous water heater option ([Hawaii Revised Statutes §196-6.5(a)(4)](https://www.capitol.hawaii.gov/hrscurrent/Vol03_Ch0121-0200D/HRS0196/HRS_0196-0006_0005.htm)). If your gas-tankless instantaneous water heater is not “UL certified” your solar water heater variance request will **not** be accepted for approval.

When applying for a solar water heater variance with the gas-tankless instantaneous water heater option selected, the UL-certification must be verifiable by listing the manufacturer’s name, model name, and model number on the request form.

The “UL Certified” label is usually printed on the box, water heater, instructions manual, brochure, or specification sheet. Check with the manufacturer and keep printed evidence that the model you are using is UL-certified.  
  
You can also check the UL website to check if any UL-certified gas-tankless instantaneous water heaters are listed: <https://iq.ulprospector.com/en/>

1. Register for free.
2. Type “gas tankless water heater” into the “Create a Search Now” box.
3. Click on "Search" button.

* How do I find out the specifications for a solar water heater system in Hawaii?

The specifications for a solar water heater system in Hawaii were developed by the State of Hawaii Public Utilities Commission (PUC). Please see the following PUC websites:

1. PUC page listing all the links regarding solar water heater standards: <http://puc.hawaii.gov/energy/residential-solar-water-heating-systems-standards>
2. Specific standards: "Docket No. 2008-0249, Decision and Order" (the actual standards begin in Exhibit 1, page 36, of the PDF), <http://puc.hawaii.gov/wp-content/uploads/2013/06/Decision-and-Order-Issued-on-Oct-29th-2009.pdf>  
     
   The "Solar Collector BTU/Day Output by Hawaii Sunshine Zone, Attachment A," which begins on page 56 of the PDF, was updated in the link entitled, "Agreed-Upon Revised Output Tables, Updated November 30, 2009 ....": <http://puc.hawaii.gov/wp-content/uploads/2013/06/Updated-Output-Tables.pdf>

**Accessory Dwelling Units (ADUs) and the Solar Water Heater Mandate**

* The City and County of Honolulu allows the construction of an Accessory Dwelling Unit (ADU) on certain properties:  
  <<http://www.honoluludpp.org/Portals/0/pdfs/construction/ADU_FAQ.pdf>>  
  <<http://www.honoluludpp.org/Portals/0/pdfs/construction/ADUquickguide.pdf>>
* Because these units are "single family dwellings," they are covered under the State of Hawaii solar water heater mandate, Hawaii Revised Statutes (HRS) §196-6.5:  
  <<http://www.capitol.hawaii.gov/hrscurrent/Vol03_Ch0121-0200D/HRS0196/HRS_0196-0006_0005.htm>>
* [HRS §196-6.5](https://www.capitol.hawaii.gov/hrscurrent/Vol03_Ch0121-0200D/HRS0196/HRS_0196-0006_0005.htm) requires all new single-family dwellings in the State of Hawaii to install a solar water heater system. ADUs and similar structures are considered single-family dwellings.
* If the home owner wants to apply for a variance from the solar water heater mandate, he/she may have a Hawaii licensed architect or mechanical engineer submit a variance request using this online application: <https://swhv.ehawaii.gov>.
* Variance requests can also be submitted by off-line methods (e-mail, fax, U.S. Postal Service, and hand delivery). Variance requests submitted off-line must meet all requirements, including payment of the $25 processing fee. See <<http://energy.hawaii.gov/resources/solar-water-heater-variance>> for more information and the latest off-line variance request form.
* General information about ADU and Primary Residence water heating

1. According to the City & County of Honolulu Building Division, the primary home's hot water system (which can include a solar water heater system) is allowed to provide hot water to another dwelling within the property. In other words, the hot water system from the primary dwelling can supply hot water to the ADU if the ADU is within the property.
2. All solar water heater systems must comply with the Hawaii Public Utility Commission's (PUC) requirement (Docket No. 2008-0249, Decision and Order: Solar Water Heater Standards) to provide a minimum of 90 percent of the annual average water heating load:  
   <<https://puc.hawaii.gov/wp-content/uploads/2013/06/D-O.pdf>>

* If the homeowner is connecting the solar water heater of the primary residence to the ADU, and the system meets the PUC solar water heater requirements, this meets the requirements of the mandatory solar water heater law ([HRS §196-6.5](https://www.capitol.hawaii.gov/hrscurrent/Vol03_Ch0121-0200D/HRS0196/HRS_0196-0006_0005.htm)) for the ADU. In this situation, a solar water heater variance is not required for the ADU.
* If the hot water for the ADU will be from a device that is not a solar water heater (e.g., electric resistance, heat pump, gas, or gas-tankless instantaneous water heater; photovoltaic system; etc.), then the ADU is required to have a solar water heater variance. In this situation, a solar water heater variance request must be submitted to the DBEDT Energy Division.

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