

JAN 24 2018

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# A BILL FOR AN ACT

RELATING TO ENERGY EFFICIENCY.

**BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:**

1           SECTION 1. The legislature finds that Act 204, Session  
2   Laws of Hawaii 2008 (Act 204), required that new homes utilize  
3   solar water heating except in narrowly limited circumstances, to  
4   benefit consumers. This is known as the "solar water heater  
5   mandate."

6           The legislature further finds that the variance provision  
7   in the solar water heater mandate is being substantially abused  
8   to circumvent the objectives of Act 204, to the detriment of  
9   consumers and to the detriment of the State's progress toward  
10   renewable energy. This Act provides amendments to close this  
11   loophole and protect consumers, while promoting the State's  
12   energy security and sustainability.

13           In Part I of Act 155, Session Laws of Hawaii 2009 (Act  
14   155), the legislature noted that the Act presented "a range of  
15   measures to reach aggressive energy goals while balancing the  
16   interests of various stakeholders." Part VII of Act 155 focused  
17   on the solar water heater mandate. Act 155 explained that in



1 passing Act 204, the legislature "found that retrofitting a home  
2 for a solar water heater after [the home] was constructed was  
3 more costly, and that such upfront costs . . . were substantial  
4 barriers for the average consumer. The financial barriers can  
5 be addressed, however, by including the installation of a solar  
6 water heater into the purchase price and mortgage of a home,  
7 where the cost of the system may pay for itself immediately."

8 The solar water heater mandate included a variance process  
9 by which a single family dwelling can be built without a solar  
10 water heater if:

- 11 (1) Installation is impractical due to poor solar  
12 resource;
- 13 (2) Installation is cost-prohibitive based upon a life  
14 cycle cost-benefit analysis;
- 15 (3) A renewable energy technology system, such as a solar  
16 photovoltaic system, is substituted for use as the  
17 primary energy source for heating water; or
- 18 (4) A demand water heater device approved by Underwriter  
19 Laboratories, Inc., is installed; provided that at  
20 least one other gas appliance is installed in the  
21 dwelling.



1        In this context, a demand water heater means "a gas-  
2        tankless instantaneous water heater that provides hot water only  
3        as it is needed." In Hawaii, the gas used for this type of  
4        tankless water heater is typically ninety-seven per cent to one  
5        hundred per cent derived from fossil fuels.

6        The legislature finds that until the State's gas  
7        infrastructure can supply consumers with a more renewable fuel,  
8        allowing variance exceptions for gas-fired demand water heaters  
9        is inconsistent with the State's transition to renewable energy.

10       In Act 155, the legislature found "that it [was] necessary  
11       to clarify the intent of the variance provision that allows for  
12       a demand water heater device. There is a potential that this  
13       provision may be used to allow a developer/builder, the  
14       purchaser of a water heating device, of a single-family  
15       dwelling, to circumvent the policy objectives of Act 204." The  
16       legislature noted that it "intended for a consumer to have the  
17       option to use gas appliances with the full knowledge that such a  
18       system may be more costly and less efficient. To obviate any  
19       attempt to circumvent Act 204, then, the legislature intends  
20       that if the potential variance applicant is not the party who



1 will ultimately pay for the energy cost consumption, then only  
2 [variance exceptions (1), (2) or (3)] should apply."

3 Furthermore, the legislature intended "that the variances  
4 provided for in Act 204, Session Laws of Hawaii 2008, (Act 204)  
5 will be rarely, if ever, exercised or granted because the burden  
6 of proof will lie with the applicant to demonstrate that a solar  
7 water heater system, regardless of location or circumstance, is  
8 not cost effective in the context of a thirty-year mortgage  
9 term."

10 Despite Act 155's clarification of the legislature's  
11 intent, it is apparent that the variance process is being used  
12 to circumvent the objectives of Act 204. Variances have not  
13 been as rare as intended. Through December 2016, 4,450 variance  
14 requests were filed. More than ninety-nine per cent  
15 (approximately 4,425) of those variances were granted. The vast  
16 majority - nearly ninety-four per cent (approximately  
17 4,173) - of the variance requests were for demand gas water  
18 heaters. More than 1,750 of the variance requests were  
19 submitted by a single architect. It is clear that variances  
20 requests are often not being submitted by the end consumer as  
21 the legislature intended.



1       The legislature finds that it is necessary to amend the  
2 solar water heater mandate to implement the intent of Act 204  
3 and Act 155 and to protect consumers. This need is particularly  
4 acute at a time when substantial new residential tracts are  
5 being developed, and where the solar water heater mandate must  
6 be implemented as intended.

7       The purpose of this Act is to ensure that the variance for  
8 a demand water heater may only be granted if solar water heating  
9 is cost-prohibitive or if a renewable energy technology system  
10 is substituted for use as the primary energy source for heating  
11 water. Where a variance request is granted on this basis,  
12 consumers may utilize grid-interactive water heaters, which,  
13 unlike demand water heaters, will help to balance renewable  
14 energy in the State.

15       SECTION 2. Section 196-6.5, Hawaii Revised Statutes, is  
16 amended to read as follows:

17       "§196-6.5 Solar water heater system required for new  
18 single-family residential construction. (a) On or after  
19 January 1, 2010, no building permit shall be issued for a new  
20 single-family dwelling that does not include a solar water  
21 heater system that meets the standards established pursuant to



1 section 269-44, unless the coordinator approves a variance. A  
2 variance application shall only be accepted if [submitted]  
3 signed by an architect or mechanical engineer licensed under  
4 chapter 464, who attests and demonstrates that:

5 ~~[(1) Installation is impracticable due to poor solar~~  
6 ~~resource;~~

7 ~~-(2)]~~ (1) Installation is cost-prohibitive based upon a  
8 life cycle cost-benefit analysis that incorporates the  
9 average residential utility bill and the cost of the  
10 new solar water heater system with a life cycle that  
11 does not exceed fifteen years; or

12 ~~[(3)]~~ (2) A renewable energy technology system, as defined  
13 in section 235-12.5, is substituted for use as the  
14 primary energy source for heating water [~~or~~

15 ~~-(4) A demand water heater device approved by Underwriters~~  
16 ~~Laboratories, Inc., is installed; provided that at~~  
17 ~~least one other gas appliance is installed in the~~  
18 ~~dwelling. For the purposes of this paragraph, "demand~~  
19 ~~water heater" means a gas tankless instantaneous water~~  
20 ~~heater that provides hot water only as it is needed].~~



1        (b) If a variance is granted for a property that will be  
2 connected to an electric utility grid, a grid-interactive water  
3 heater or a heat pump water heater shall be used in place of a  
4 solar water heater. For the purposes of this subsection, "grid-  
5 interactive water heater" means an electric resistance water  
6 heater fitted with grid-integrated controls that are capable of  
7 participating in an electric utility load controls or demand  
8 response program.

9        [~~(b)~~] (c) A request for a variance shall be submitted to  
10 the coordinator on an application prescribed by the coordinator  
11 and shall include a description of the location of the property  
12 and detailed justification for the approval of a variance using  
13 the criteria established in subsection (a) [~~-~~], and the type of  
14 replacement water heater being used in accordance with  
15 subsection (b). The coordinator may exercise discretion in  
16 denying any variance application deemed incomplete or  
17 insufficient to satisfy the criteria in subsections (a) and (b).  
18 A variance shall be deemed approved if not denied within [~~thirty~~  
19 ~~working~~] sixty calendar days after receipt of the variance  
20 application. The coordinator shall publicize:



(1) All applications for a variance within seven days after receipt of the variance application; and

(2) The disposition of all applications for a variance within seven days of the determination of the variance application.

~~[(e)]~~ (d) The director of business, economic development, and tourism may adopt rules pursuant to chapter 91 to impose and collect fees to cover the costs of administering variances under this section~~[-]~~ and to impose appropriate penalties or fines for false attestations in variance applications. The fees, fines, or penalties, if any, shall be deposited into the energy security special fund established under section 201-12.8.

~~[(d)]~~ (e) Nothing in this section shall preclude any county from establishing procedures and standards required to implement this section.

~~[(e)]~~ (f) Nothing in this section shall preclude participation in any utility demand-side management program or public benefits fee program under part VII of chapter 269."

SECTION 3. Section 235-12.5, Hawaii Revised Statutes, is amended by amending subsection (b) to read as follows:





1       "(b) The amount of credit allowed for each eligible  
2 renewable energy technology system shall not exceed the  
3 applicable cap amount, which is determined as follows:

4       (1) If the primary purpose of the solar energy system is  
5 to use energy from the sun to heat water for household  
6 use, then the cap amounts shall be:

7       (A) \$2,250 per system for single-family residential  
8 property;

9       (B) \$350 per unit per system for multi-family  
10 residential property; and

11       (C) \$250,000 per system for commercial property;

12       (2) For all other solar energy systems, the cap amounts  
13 shall be:

14       (A) \$5,000 per system for single-family residential  
15 property; provided that if all or a portion of  
16 the system is used to fulfill the substitute  
17 renewable energy technology requirement pursuant  
18 to section [~~196-6.5(a)(3)~~], 196-6.5(a)(2), the  
19 credit shall be reduced by thirty-five per cent  
20 of the actual system cost or \$2,250, whichever is  
21 less;



1 (B) \$350 per unit per system for multi-family

2 residential property; and

3 (C) \$500,000 per system for commercial property; and

4 (3) For all wind-powered energy systems, the cap amounts  
5 shall be:

6 (A) \$1,500 per system for single-family residential

7 property; provided that if all or a portion of

8 the system is used to fulfill the substitute

9 renewable energy technology requirement pursuant

10 to section [~~196-6.5(a)(3)~~], 196-6.5(a)(2), the

11 credit shall be reduced by twenty per cent of the

12 actual system cost or \$1,500, whichever is less;

13 (B) \$200 per unit per system for multi-family

14 residential property; and

15 (C) \$500,000 per system for commercial property."

16 SECTION 4. Statutory material to be repealed is bracketed  
17 and stricken. New statutory material is underscored.

18 SECTION 5. This Act shall take effect on July 1, 2018.

19  
INTRODUCED BY:

*M. J. M.*  
**By Request**



# S.B. NO. 2934

**Report Title:**

Energy Efficiency; Solar Water Heater Requirement; Variances

**Description:**

Further restricts the criteria for variances from the requirement that all new single-family homes utilize solar water heating.

*The summary description of legislation appearing on this page is for informational purposes only and is not legislation or evidence of legislative intent.*

