

JAN 17 2020

A BILL FOR AN ACT

RELATING TO ENERGY.

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

1 SECTION 1. The legislature finds that Hawaii's energy
2 sector is undergoing a transition to renewable energy that is
3 strengthening the State's economy, environment, security, and
4 energy efficiency. In an effort to attain the State's goal of
5 reaching one hundred per cent renewable portfolio standard by
6 2045, consumers must adopt more energy efficient practices, such
7 as riding bicycles, driving an electric car, and turning off
8 lights in rooms that are not in use. Another option is
9 installing a grid interactive water heater, which could be used
10 in place of solar water heaters.

11 The legislature further finds that under the renewable
12 portfolio standard goals, electric utilities must integrate
13 increasing amounts of variable renewable energy. The
14 intermittent nature of renewable energy generation means that
15 electricity production is not always aligned with customer
16 demand, and there are frequent and sudden fluctuations in
17 generation. To manage this, the grid resources must provide



1 support that can stabilize and shift the demand side to account
2 for the variability. These are valuable services that a grid
3 interactive water heater can supply, but a solar hot water or a
4 conventional hot water heater cannot provide.

5 Water heater tanks represent the potential for large-scale
6 thermal energy storage across Hawaii that are commercially
7 viable technologies that offer relatively inexpensive, non-
8 intrusive control of electric resistive water heaters. The grid
9 interactive water heater can control the best time to heat
10 residential water heaters to allow more grid stability and
11 renewable integration when the public utility may need it most.

12 While solar hot water heaters are required for every new
13 residential home, they may not be as cost effective as a grid
14 interactive water heater. Solar water heaters do not
15 necessarily afford the grid with the same amount of flexibility
16 that a grid interactive water heater offers.

17 The purpose of this Act is to require that, beginning
18 January 1, 2021, no building permit shall be issued for a new
19 single-family dwelling unit unless it includes a solar water
20 heater or a grid interactive water heater.



1 SECTION 2. Section 196-6.5, Hawaii Revised Statutes, is
2 amended by amending its title and subsection (a) to read as
3 follows:

4 "§196-6.5 [~~Solar~~] Renewable resourced water heater system
5 required for new single-family residential construction. (a)
6 On or after January 1, [~~2010~~] 2021, no building permit shall be
7 issued for a new single-family dwelling that does not include a
8 solar water heater system that meets the standards established
9 pursuant to section 269-44 [~~7~~] or a grid interactive water heater
10 system, unless the chief energy officer of the Hawaii state
11 energy office approves a variance. A variance application shall
12 only be accepted if submitted by an architect or mechanical
13 engineer licensed under chapter 464, who attests that:

- 14 (1) Installation of a solar hot water heater is
15 impracticable due to poor solar resource;
- 16 (2) Installation of a grid interactive hot water heater is
17 impractical due to lack of inventory, space, or
18 installer availability;
- 19 [~~+2~~] (3) Installation is cost-prohibitive based upon a
20 life cycle cost-benefit analysis, performed separately
21 for a new solar water heater system or a new grid



1 interactive water heater system, that incorporates the
2 average residential utility bill and the cost of the
3 ~~[new solar water heater]~~ proposed system with a life
4 cycle that does not exceed fifteen years;

5 ~~[(3)]~~ (4) A renewable energy technology system, as defined
6 in section 235-12.5, is substituted for use as the
7 primary energy source for heating water; or

8 ~~[(4)]~~ (5) A demand water heater device approved by
9 Underwriters Laboratories, Inc., is installed;
10 provided that at least one other gas appliance is
11 installed in the dwelling. For the purposes of this
12 paragraph, "demand water heater" means a gas-tankless
13 instantaneous water heater that is sourced from a
14 renewable resource and provides hot water only as it
15 is needed.

16 For purposes of this section, "grid-interactive water
17 heater" means an electric resistance water heater filled with
18 grid-integrated controls that are capable of participating in an
19 electric utility load controls or demand response system."

20 SECTION 3. Section 235-12.5, Hawaii Revised Statutes, is
21 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)(4), the
19 credit shall be reduced by thirty-five per cent
20 of the actual system cost or \$2,250, whichever is
21 less;



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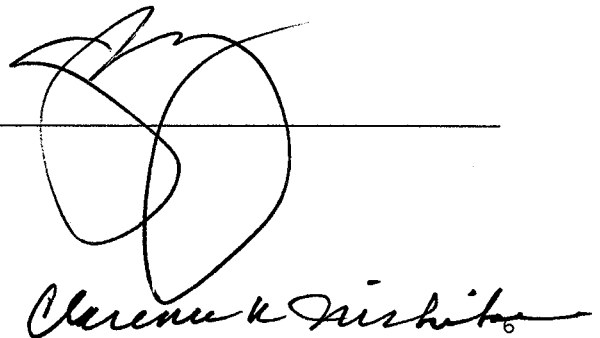
- 1 (B) \$350 per unit per system for multi-family
2 residential property; and
3 (C) \$500,000 per system for commercial property; and
4 (3) For all wind-powered energy systems, the cap amounts
5 shall be:
6 (A) \$1,500 per system for single-family residential
7 property; provided that if all or a portion 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)(4), 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 upon its approval.

19

INTRODUCED BY: _____



Clarence K. Fischer



S.B. NO. 2553

Roseyrl Bob
Rol Phook



S.B. NO. 2553

Report Title:

Grid Interactive Water Heater; Renewable Resource; Single-family Dwelling

Description:

Requires that, beginning 1/1/2021, no building permit shall be issued for a new single-family dwelling unit unless the unit includes a solar water heater or a grid interactive water heater.

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

