

JAN 28 2009

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# A BILL FOR AN ACT

RELATING TO ENERGY RESOURCES.

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

1           SECTION 1. The legislature finds that solar water heating  
2 systems provide numerous financial, economic, and environmental  
3 benefits to Hawaii's residents, businesses, electric utility  
4 companies, and to the State. Solar water heating systems that  
5 are appropriate for the State, operate in excess of fifteen  
6 years and can save between thirty to fifty per cent of the  
7 average homeowner's monthly electric bill. The State annually  
8 exports between \$3,000,000,000 to \$7,000,000,000 to import  
9 fossil fuels. By using the sun instead of expensive and  
10 polluting fossil fuel to heat water, Hawaii immediately benefits  
11 from one of its best and least expensive import substitution  
12 opportunities.

13           A conventional solar water heating system will save an  
14 average of four barrels of imported oil each year over its  
15 useful operating life. With approximately one hundred thousand  
16 solar systems now in service in Hawaii, the annual energy  
17 savings at \$50 per barrel of oil is \$20,000,000. These savings



1 increase annually as new systems are installed or as energy  
2 prices increase. Of equal importance, this money remains in the  
3 local economy supporting job growth, consumer spending, and new  
4 business investment.

5 Hawaii's installed base of solar water heating systems  
6 annually mitigates thousands of tons of carbon dioxide, sulfur  
7 dioxide, nitrogen oxide and airborne particulate matter that  
8 contributes to both global climate change and local air quality.

9 The legislature finds that the State leads the nation in  
10 the per-capita installation of solar water heating systems.  
11 Since 1996, the Hawaiian Electric Company group of electric  
12 utility companies has sponsored the nation's most effective and  
13 successful residential solar water heating programs for both  
14 existing homes and new construction by providing rebates for  
15 over forty thousand systems. In 2007, nearly half of the  
16 installed solar water heating systems in the United States were  
17 installed in Hawaii. Over thirty-five per cent of these  
18 installations were in new homes and the trend is quickly  
19 accelerating in this area.

20 The primary reason for Hawaii's predominance in solar water  
21 heating has been the State's consistent support for renewable  
22 energy utilization and development. Since 1976, Act 189,



1 Session Laws of Hawaii, 1976 established Hawaii's energy  
2 conservation income tax credits, the legislature understood the  
3 importance of consistent energy policy in developing and  
4 maintaining the renewable energy industry infrastructure  
5 required to deliver the products and services necessary to  
6 effect change in this area.

7 While the federal and other state governments wavered in  
8 their commitment to renewable energy development over the past  
9 thirty years, primarily at times when oil prices have been low,  
10 the legislature has remained cognizant of the seamless  
11 interrelationship in Hawaii between energy prices and the  
12 overall health of our economy and environment.

13 Given Hawaii's nearly complete dependence on imported oil,  
14 and in recognition of the high volatility of oil prices, the  
15 legislature finds that the State must move with all due haste  
16 and determination to make all of Hawaii's new and existing homes  
17 and buildings, including State and county government buildings,  
18 significantly more energy efficient. There are many ways to do  
19 this, including the continuation of cost-effective market  
20 mechanisms like tax credits and utility and third-party demand-  
21 side management rebates.



1 Finding an expeditious path to reducing dependence of the  
2 State upon fossil fuel consumption, the legislature in 2008  
3 enacted Act 204, Session Laws of Hawaii, 2008 to require the  
4 installation of solar water heating systems for all new single-  
5 family dwellings constructed after December 31, 2009.

6 Recognizing that which is expeditious, however, still must  
7 be tempered in reality and experience. The legislature finds  
8 that for public policy to be truly successful, the outcome must  
9 lead to a quantifiable increase in energy savings from mandated  
10 solar water heating systems as measured in kilowatt hours and  
11 utility system capacity benefits as measured in kilowatts. The  
12 kilowatt capacity benefit plays an important role in electric  
13 utility company generation planning and in delaying the  
14 necessity of adding costly new utility generation plants.

15 In order to achieve this purpose, the required solar water  
16 heating systems must provide nominal energy savings of not less  
17 than ninety per cent of the fossil energy required by a  
18 conventional electric water heater.

19 Solar water heating systems must also be designed and  
20 installed in accordance with prescriptive guidelines that  
21 deliver the quantitative benefits outlined above to both the  
22 ratepayer and the electric utility company for not less than



1 fifteen years. The vast majority of the solar water heating  
2 systems installed within the electric utility company demand-  
3 side management programs since 1995, will last far longer than  
4 fifteen years with minimal maintenance.

5 System longevity must be assured by the establishment of  
6 rigorous component and equipment standards that protect  
7 ratepayers from both substandard products and specious  
8 performance claims. Comprehensive third-party system  
9 inspections such as those presently conducted by the electric  
10 utility companies need to be maintained to verify adherence to  
11 established performance and prescriptive standards and  
12 specifications.

13 The purpose of this Act is to clarify provisions of Act  
14 204, Session Laws of Hawaii, 2008 and to limit to an absolute  
15 minimum, the circumstances by which a fossil fuel fired water  
16 heater of any type may be substituted. The variances provided  
17 for in this Act will be rarely if ever exercised or granted.  
18 The overwhelming burden of proof shall lie on the applicant for  
19 a variance to prove that a solar water heating system in the  
20 State, regardless of location or circumstances, is not cost  
21 effective in the context of a thirty-year mortgage term. This  
22 requires the use of realistic assumptions about interest rates,



1 discount rates, inflation rates and the expected average cost of  
2 electricity by island over the thirty-year period, regardless of  
3 the cost of electricity, or of oil or some other fossil fuel, at  
4 a specific point in time.

5 The legislature further finds that the continuation of the  
6 popular and cost-effective renewable energy income tax credit  
7 needs to remain available for all single-family dwellings.

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

10 "[+]§196-6.5[+] **Solar water heater system required for new**  
11 **single-family residential construction.** (a) On or after  
12 January 1, 2010, no building permit shall be issued for a new  
13 single-family dwelling that does not include a solar water  
14 heater system that meets the standards established pursuant to  
15 section 269-44, unless the [~~energy resources coordinator~~  
16 approves] public benefits fund administrator accepts a variance.  
17 The public benefits fund administrator shall prescribe and  
18 publish objective criteria for variances allowed under this  
19 subsection. A variance application shall only be [~~approved~~]  
20 accepted if submitted by an architect or mechanical engineer  
21 licensed under chapter 464, who attests that:



- 1 (1) Installation is impracticable due to poor solar  
2 resource;
- 3 (2) Installation is cost-prohibitive based upon a life  
4 cycle cost-benefit analysis that incorporates the  
5 average residential utility bill and the cost of the  
6 new solar water heater system with a life cycle that  
7 does not exceed fifteen years; or
- 8 (3) A substitute of a renewable energy technology system,  
9 as defined in section 235-12.5, [~~is used as the~~  
10 ~~primary energy source~~] produces at least the  
11 equivalent amount of energy needed for heating water[~~+~~  
12 ~~or~~
- 13 ~~(4) A demand water heater device approved by Underwriters~~  
14 ~~Laboratories, Inc., is installed; provided that at~~  
15 ~~least one other gas appliance is installed in the~~  
16 ~~dwelling. For the purposes of this paragraph, "demand~~  
17 ~~water heater" means a gas-tankless instantaneous water~~  
18 ~~heater that provides hot water only as it is needed].~~
- 19 (b) A request for a variance shall be submitted to the  
20 [~~energy resources coordinator~~] public benefits fund  
21 administrator on an application prescribed by the [~~energy~~  
22 ~~resources coordinator~~] public benefits fund administrator and



1 shall include, but not be limited to, a description of the  
2 location of the property and justification for the approval of a  
3 variance using the criteria established in subsection (a). A  
4 variance shall be granted for duly accepted applications that  
5 meet the established criteria; provided that an ENERGY STAR  
6 water heater is installed in lieu of a solar thermal energy  
7 system. A variance shall be deemed approved if not denied  
8 within thirty working days after receipt of the variance  
9 application. The public benefits fund administrator shall  
10 publicize:

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

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

16 (c) Nothing in this section shall preclude any county from  
17 establishing procedures and standards required to implement this  
18 section.

19 (d) Nothing in this section shall preclude participation  
20 in any utility demand-side management program or public benefits  
21 fund under part VII of chapter 269."





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

3 "(a) When the requirements of subsection (c) are met, each  
4 individual or corporate taxpayer that files an individual or  
5 corporate net income tax return for a taxable year may claim a  
6 tax credit under this section against the Hawaii state  
7 individual or corporate net income tax. The tax credit may be  
8 claimed for every eligible renewable energy technology system  
9 that is installed and placed in service in the State by a  
10 taxpayer during the taxable year. This credit shall be  
11 available for systems installed and placed in service in the  
12 State after June 30, 2003. The tax credit may be claimed as  
13 follows:

14 (1) Solar thermal energy systems for:

15 (A) Single-family residential property [~~for which a~~  
16 ~~building permit was issued prior to January 1,~~  
17 ~~2010~~]: thirty-five per cent of the actual cost  
18 or \$2,250, whichever is less;

19 (B) Multi-family residential property: thirty-five  
20 per cent of the actual cost or \$350 per unit,  
21 whichever is less; and



1 (C) Commercial property: thirty-five per cent of the  
2 actual cost or \$250,000, whichever is less;

3 (2) Wind-powered energy systems for:

4 (A) Single-family residential property: twenty per  
5 cent of the actual cost or \$1,500, whichever is  
6 less[+], unless all or a portion of the system is  
7 used pursuant to section 196-6.5(a)(3), then the  
8 credit is reduced by twenty per cent of the  
9 actual system cost or \$1,500, whichever is less;

10 (B) Multi-family residential property: twenty per  
11 cent of the actual cost or \$200 per unit,  
12 whichever is less; and

13 (C) Commercial property: twenty per cent of the  
14 actual cost or \$500,000, whichever is less; and

15 (3) Photovoltaic energy systems for:

16 (A) Single-family residential property: thirty-five  
17 per cent of the actual cost or \$5,000, whichever  
18 is less[+], unless all or a portion of the system  
19 is used pursuant to section 196-6.5(a)(3), then  
20 the credit is reduced by thirty-five per cent of  
21 the actual system cost or \$2,250, whichever is  
22 less;



1 (B) Multi-family residential property: thirty-five  
2 per cent of the actual cost or \$350 per unit,  
3 whichever is less; and

4 (C) Commercial property: thirty-five per cent of the  
5 actual cost or \$500,000, whichever is less;

6 provided that multiple owners of a single system shall be  
7 entitled to a single tax credit; and provided further that the  
8 tax credit shall be apportioned between the owners in proportion  
9 to their contribution to the cost of the system.

10 In the case of a partnership, S corporation, estate, or  
11 trust, the tax credit allowable is for every eligible renewable  
12 energy technology system that is installed and placed in service  
13 in the State by the entity. The cost upon which the tax credit  
14 is computed shall be determined at the entity level.

15 Distribution and share of credit shall be determined pursuant to  
16 section 235-110.7(a)."

17 SECTION 4. Section 269-44, Hawaii Revised Statutes, is  
18 amended to read as follows:

19 "[~~H~~]**\$269-44**[~~]~~ **Solar water heater system standards.** (a)

20 Not later than July 1, 2009, or as soon as reasonably  
21 practicable, the public utilities commission shall adopt or  
22 establish by rule, tariff, or order, standards for solar water



1 heater systems to include, but not be limited to, specifications  
2 for the performance, materials, components, durability,  
3 longevity, proper sizing, installation, and quality to promote  
4 the objectives of section 269-124.

5 (b) The public utilities commission, to the extent  
6 reasonably practicable, shall conform its standards for solar  
7 water heating systems with those adopted or established by the  
8 public benefits fund administrator.

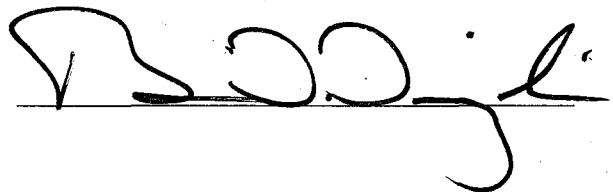
9 (c) The public utilities commission shall use the public  
10 benefits fund under section 269-121 to support compliance with  
11 subsection (a) in the form of post-installation verification  
12 inspections of the water heating technology installed pursuant  
13 section 196.5."

14 SECTION 5. Statutory material to be repealed is bracketed  
15 and stricken. New statutory material is underscored.

16 SECTION 6. This Act shall take effect upon its approval  
17 and apply to taxable year beginning after December 31, 2008.

18

INTRODUCED BY:



**Report Title:**

Renewable Energy Technologies; Tax Credit

**Description:**

Removes the restriction on the state income tax credit for single-family residential property solar thermal energy systems installed after 01/01/2010 and clarifies variance qualification for solar water heaters.

