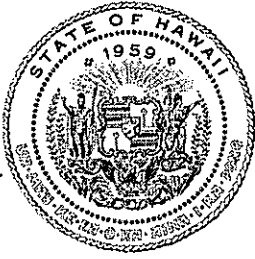


SB 1372



**DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM**

NEIL ABERCROMBIE  
GOVERNOR

RICHARD C. LIM  
INTERIM DIRECTOR

No. 1 Capitol District Building, 250 South Hotel Street, 5th Floor, Honolulu, Hawaii 96813  
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804  
Web site: [www.hawaii.gov/dbedt](http://www.hawaii.gov/dbedt)

Telephone: (808) 586-2355  
Fax: (808) 586-2377

Statement of  
**RICHARD C. LIM**  
Director  
Department of Business, Economic Development, and Tourism  
before the  
**SENATE COMMITTEES**  
on  
**ENERGY AND ENVIRONMENT**  
and  
**PUBLIC SAFETY, GOVERNMENT OPERATIONS, AND MILITARY AFFAIRS**  
Thursday, February 10, 2011  
3:30 p.m.  
State Capitol, Conference Room 225

in consideration of

**SB1372**  
**RELATING TO RENEWABLE ENERGY.**

Chairs Gabbard and Espero, Vice Chairs English and Kidani, and members of the committees.

The Department of Business, Economic Development, and Tourism (DBEDT) supports SB1372 which transfers the power to grant variances on the solar water heater requirement for new construction from DBEDT to the counties and eliminates the provision requiring that fees to administer the variances go to the Energy Security Special Fund.

The present law requires that the Energy Resource Coordinator grant a variance before a building permit shall be issued for a new single-family dwelling that does not include a solar water heater system. DBEDT's mission is to support the installation of renewable energy

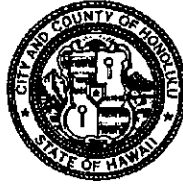
technologies and granting variances from the solar water heating requirement is not in keeping with our mission. Also, DBEDT is not a regulatory agency insofar as granting approvals for variances. By allowing counties to grant the variance, both the variance and building permit will be administered by the appropriate counties to expedite the process for review and approval. Counties and homeowners do not have an extra step of coordinating building permits applications with the State Energy Resource Coordinator, and home owners will know at the building department, that they will need a variance before applying for a building permit. This measure will expedite the process for building permit approval by requiring that only one entity, the building departments of each county, approve the variance and the building permit. In addition, this measure allows the counties to charge a fee for variance applications. Since counties already charge a fee for building permit applications, the fee can be increased for applications for variances.

Thank you for the opportunity to testify on this bill.

DEPARTMENT OF PLANNING AND PERMITTING  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET, 7<sup>TH</sup> FLOOR • HONOLULU, HAWAII 96813  
PHONE: (808) 768-8000 • FAX: (808) 768-6041  
DEPT. WEB SITE: [www.honolulu.dpp.org](http://www.honolulu.dpp.org) • CITY WEB SITE: [www.honolulu.gov](http://www.honolulu.gov)

PETER B. CARLISLE  
MAYOR



DAVID K. TANOUE  
DIRECTOR

JIRO A. SUMADA  
DEPUTY DIRECTOR

February 10, 2011

The Honorable Mike Gabbard, Chair  
and Members of the Committee on Energy  
and Environment  
The Honorable Will Espero, Chair  
And Members of the Committee on Public Safety,  
Government Operations, and Military Affairs  
State Senate  
State Capitol  
Honolulu, Hawaii 96813

Dear Chairs Gabbard, Espero and Members:

**Subject: Senate Bill No. 1372  
Related to Renewable Energy**

The Department of Planning and Permitting (DPP), **strongly opposes** Senate Bill No. 1372, in its current form. This bill amends Hawaii Revised Statutes (HRS) Section 196-6.5 to mandate that the county planning department approves a variance to the mandatory installation of solar water heater system.

The proposed amendment is inherently flawed for two primary reasons:

- First, this amendment will add another layer of review (and possibly appeal) to a process that many feel is already too complex and takes too long. **All** building permits will be affected because it will be the same limited resources that must process these variances that are processing all other permit applications. This measure, with the added responsibilities, will no doubt slow the entire process down and impede a speedy recovery of our construction industry.
- Secondly, this amendment violates HRS 46-1.5 which empowers the counties to make and enforce all matters pertaining to inspections of buildings as this requirement imposes an administrative requirement upon building permits not mandated by the county enforcement agency and therefore is in violation of this Chapter.

The Honorable Mike Gabbard, Chair  
and Members of the Committee on Energy  
and Environment

The Honorable Will Espero, Chair  
And Members of the Committee on Public Safety,  
Government Operations, and Military Affairs  
State Senate

Re: Senate Bill No. 1372

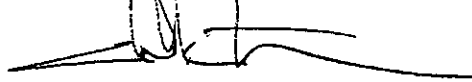
February 10, 2011

Page 2

A much better approach is to empower the county generically to have the authority to grant a variance rather than to mandate the approval of the variance.

Thank you for the opportunity to testify.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'David K. Tanoue', with a long horizontal flourish extending to the right.

David K. Tanoue, Director  
Department of Planning and Permitting

DKT:jmf

sb1372-RenewEneSolar-th.doc

# THE GAS COMPANY

P.O. Box 3000  
Honolulu, Hawaii 96802-3000  
[www.hawaiigas.com](http://www.hawaiigas.com)

February 9, 2010

To: Senator Will Espero, Chair, Public Safety, Government Operations & Military Affairs (PGM)  
Senator Michelle Kidani, Vice Chair, PGM  
Senator Mike Gabbard, Chair, Energy & Environment (ENE)  
Senator J. Kalani English, Vice Chair, ENE  
Members of the Committee on Public Safety, Government Operations & Military Affairs  
Members of the Committee on Energy & Environment

Re: Testimony on SB 1372 Relating to Renewable Energy

Aloha Senators:

My name is Stephanie Ackerman, Vice President, Public Policy and Communications of The Gas Company.

Thank you for this opportunity to provide comment on SB1372.

The Gas Company (TGC) is a public utility and Hawaii's only government franchised full-service gas energy company making gas products and services available in Hawaii. For more than a century, we have provided Hawaii's people with reliable, clean and efficient thermal energy. Gas is truly an energy saver and is fully aligned with the Hawaii Clean Energy Initiative goals. It has the lowest GHG (greenhouse gas) emissions of any carbon based energy source, and requires no additional imported oil to deliver three times more energy to the home for industrial tasks such as cooking, heating and drying.

TGC has consistently expressed its support of all forms of alternative energy to encourage innovation and to drive our state toward reducing its dependence on imported petroleum. At the Gas Company, we are excited about our two renewable pilot programs moving forward: our biosynthesis project designed to process all forms of virgin oils and animal fats (generally referred to as "Triglycerides") to make a biofeedstock or biofuel at our synthetic gas manufacturing plant, and the Hawaii Hydrogen Initiative project with General Motors to utilize our infrastructure to support hydrogen fuel cell technology. Our goal is to produce at least 50% of our SNG from renewable sources by 2015.

This measure, if passed, will amend Hawaii Revised Statutes section 196-6.5, commonly known as the solar water heating mandate law. This new law, which has been effect for one year, has been working well. Prior to the law, about 35 percent of new homes were built with solar water heater. After the law was enacted on January 1, 2010, nearly **80 percent** of new homes utilize solar water heaters.

We believe that the law is working as intended and that there is no need to keep this measure advancing. Therefore we ask that the committee hold the measure.

Thank you for allowing us the opportunity to provide comment on SB 1372.



**Hawaii Solar Energy Association**  
*Serving Hawaii Since 1977*

**February 10, 2011**  
**3:30PM**

**SENATE**  
**COMMITTEE ON ENERGY AND ENVIRONMENT**  
**&**  
**COMMITTEE ON PUBLIC SAFETY, GOVERNMENT**  
**OPERATIONS, AND MILITARY AFFAIRS**  
**SB 1372**

**Mark Duda**

**TESTIMONY IN OPPOSITION WITH SUGGESTED AMENDMENTS**

Aloha Chair Gabbard, Vice Chair English, Chair Espero, Vice Chair Kidani, and Members of the Committees:

To the extent that the intent of this measure is to provide greater oversight in the granting of variances, HSEA is supportive. However, HSEA does not believe that this can be accomplished without fixing the portion of the statute referring to the ability to grant variances. HSEA, along with the Sierra Club, Blue Planet Foundation and Hawaii Renewable Energy Alliance, therefore offers language to improve the statute and with which HSEA could support the devolution of responsibility for administration of the variances to the counties, should the legislature see fit to do so.

In support of its position that the current law is broken, HSEA offers the following information:

- 24.4% of all new homes permitted since the effective date of the 'solar mandate' use gas made from petroleum to heat their water
- This number is nearly 50 percent for Hawaii and Kauai Counties
- Roughly half of all variances are granted by 'variance specialists' – 3 individuals who started in Hawaii County and Kauai County and have subsequently branched out to Oahu and Maui Counties
- The data analysis by Booz Allen Hamilton underlying Hawaii's Energy Efficiency Portfolio Standards law found that nearly 100 percent penetration of solar water heating on single family homes is required to reach the state's 4300 GWh energy savings target.

**Background**

In June 2008, the Hawaii State Legislature passed SB644 CD1, which was subsequently signed into law as Act 204. The Act's primary policy motivation was to

reduce carbon emissions by mandating the use of solar water heating (SWH) systems on all new single-family dwellings for which a building permit was pulled after December 31, 2009. Specifically, the measure sought to "...increase the use of renewable energy to protect our environment, reduce pollution, make housing more affordable, and enhance Hawaii's local economy".<sup>1</sup>

Although Act 204 is widely believed to require the use of solar thermal systems for residential water heating on newly constructed single-family homes, it also left the door open for developers to fully comply with the law by requesting a 'variance' to install one of three alternatives: solar PV, wind, or tankless gas water heating systems. The only requirement for the variance to be accepted is to have a licensed architect or mechanical engineer approve the request and for the paperwork to be complete.

The 'solar water heating mandate' has now been in effect for twelve months - long enough to examine its impact, and the frequency with which the gas loophole is being used by developers. To this end, HSEA has assembled data on the number of variance requests submitted and granted for the period January 1, 2010 to December 31, 2010 from the *Summary Chart of Requests for Variance from Solar Water Heating Mandate* on the DBEDT website.<sup>2</sup> HSEA also compiled data on the number of building permits pulled for construction of new single-family dwellings through December 31 from the websites of the various counties.<sup>3</sup> All of these data are summarized in Table 1 of Attachment A.

#### **Data: January 1, 2010 – December 31, 2010**

As shown in the attached table, statewide, there have been 457 variance requests submitted during the first year of the mandate. Of these, 453 have been granted; 1 request has been canceled, 2 denied, 1 not applicable<sup>4</sup>. Overall, the Table shows that 24.4 percent - nearly one in four new single-family homes in the state have a variance request associated with it.

Virtually all of the variance applications – 450 of 457 - were for tankless gas systems<sup>5</sup>. As HSEA had predicted, many developers, when confronted with a lower cost option, will choose it. As a result, the existence of the gas loophole is at odds with the intent of the Act and over time we can expect fewer and fewer solar systems as a result of the 'solar roofs' bill.

Of particular concern is the deployment of gas systems in areas where the sun is best. In the past few months 35 homes in a single development in Kapolei, where the solar resource is as good as anywhere on Oahu have been granted variances.<sup>6</sup>

Another area of great concern is the ability for architects or mechanical engineers to specialize in variance requesting. To date, this has mostly been isolated to the Kauai and Hawaii counties, though it is unlikely to remain limited to the neighbor islands.

---

<sup>1</sup> Section 1, Act 204 from the 2009 Legislative Session

<sup>2</sup> <http://hawaii.gov/dbedt/info/energy/SWHVariance/requestinfo>

<sup>3</sup> City & County of Honolulu: <http://honolulu.gov/pp.org/permitinfo/dailybulletin.htm>; County of Hawaii: <http://www.co.hawaii.hi.us/permits/2010permits.html>; Maui County: <http://www.co.maui.hi.us/index.aspx?NID=1032>

<sup>4</sup> House built in 2009.

<sup>5</sup> 5 for PV, 2 undisclosed (notated as "installation is impractical").

<sup>6</sup> 27 variances issued in 2010; 8 variances issued for 2011 as of February 9, 2011.



In summary, the solar mandate is failing to mandate solar, even in desirable sun zones. This is simply not good public policy.

Thank you for the opportunity to testify on this measure.

Mark Duda  
President, Hawaii Solar Energy Association

**About Hawaii Solar Energy Association**

*Hawaii Solar Energy Association (HSEA) is comprised of installers, distributors, manufacturers and financers of solar energy systems, both hot water and PV, most of which are Hawaii based, owned and operated. Our primary goals are: (1) to further solar energy and related arts, sciences and technologies with concern for the ecologic, social and economic fabric of the area; (2) to encourage the widespread utilization of solar equipment as a means of lowering the cost of energy to the American public, to help stabilize our economy, to develop independence from fossil fuel and thereby reduce carbon emissions that contribute to climate change; (3) to establish, foster and advance the usefulness of the members, and their various products and services related to the economic applications of the conversion of solar energy for various useful purposes; and (4) to cooperate in, and contribute toward, the enhancement of widespread understanding of the various applications of solar energy conversion in order to increase their usefulness to society.*

## Suggested Amendments

§196-6.5 Solar water heater system required for new single-family residential construction. (a) On or after January 1, 2010, 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, unless, at the coordinator's discretion, [the coordinator approves ] a variance is approved. A variance application shall only be accepted if submitted by an architect or mechanical engineer licensed under chapter 464, who attests that:

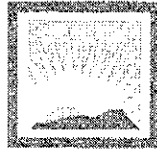
- (1) Installation is impracticable due to poor solar resource;
- (2) Installation is cost-prohibitive based upon a life cycle cost-benefit analysis that incorporates the average residential utility bill and the cost of the new solar water heater system with a life cycle that does not exceed fifteen 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.~~] a North American certification entity [is] will be installed that would better address the state's renewable energy goals expressed in section 269-92 because of unique aspects of the proposed single-family dwelling; provided that at least one other gas appliance, not including decorative lighting or outdoor grilling equipment, [is] will be 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.

(b) A request for a variance shall be submitted to the coordinator on an application prescribed by the coordinator and shall include the name of the dwelling owner, a description of the location of the property, and justification for the approval of a variance using the criteria established in subsection (a). A variance shall be deemed approved if not denied within thirty working days after receipt of the variance 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.

(c) 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. The fees, if any, shall be deposited into the energy security special fund established under section 201-12.8.

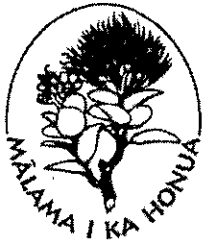
(d) Nothing in this section shall preclude any county from establishing procedures and standards required to implement this section.



**Hawaii Solar Energy Association**  
*Serving Hawaii Since 1977*

<b>2010 Variance Requests and Single Family Building Permits</b>													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
<b>Variance Requests</b>													
<b>Honolulu</b>	3	2	4	2	1	0	3	0	0	3	11	22	51
<b>Kauai</b>	7	4	10	10	38	3	1	3	2	4	7	4	93
<b>Maui</b>	0	1	0	0	0	0	0	1	2	0	1	3	8
<b>Hawaii</b>	9	21	25	32	16	22	28	24	40	24	23	39	303
<b>Unknown</b>	0	0	0	0	0	0	0	0	0	0	2	0	2
<b>Total</b>	19	28	39	44	55	25	32	28	44	31	44	68	457
<b>Single-Family Building Permits</b>													
<b>Honolulu</b>	33	54	50	106	108	52	51	53	111	91	48	58	815
<b>Kauai*</b>	16	8	14	11	46	11	9	25	7	8	15	14	184
<b>Maui</b>	19	18	15	27	13	22	19	24	14	14	12	18	215
<b>Hawaii</b>	50	67	46	57	40	71	64	43	67	49	57	49	660
<b>Total</b>	118	147	125	201	207	156	143	145	199	162	132	139	1874
<b>Ratio of Variances to Permits Issued</b>													
<b>Honolulu</b>	9%	4%	8%	2%	1%	0%	6%	0%	0%	3%	23%	38%	6.3%
<b>Kauai</b>	44%	50%	71%	91%	83%	27%	11%	12%	29%	50%	47%	29%	50.5%
<b>Maui</b>	0%	6%	0%	0%	0%	0%	0%	4%	14%	0%	8%	17%	3.7%
<b>Hawaii</b>	18%	31%	54%	56%	40%	31%	44%	56%	60%	49%	40%	80%	45.9%
<b>Total</b>	16%	19%	31%	22%	27%	16%	22%	19%	22%	19%	33%	49%	<b>24.4%</b>

Note: For May, added 37 permits to the original 9 because 38 variance requests were for the Kukui'ula development, which was reflected in the building permit data as a single permit.



# Sierra Club Hawai'i Chapter

PO Box 2577, Honolulu, HI 96803  
808.538.6616 hawaii.chapter@sierraclub.org

**SENATE COMMITTEE ON ENERGY AND ENVIRONMENT  
SENATE COMMITTEE ON WATER, LAND, AND HOUSING  
SENATE COMMITTEE ON PUBLIC SAFETY, GOVERNMENT OPERATIONS, AND  
MILITARY AFFAIRS**

February 10, 2011, 3:30 P.M.

**(Testimony is 4 pages long)**

**TESTIMONY IN OPPOSITION TO SB 1372 WITH PROPOSED AMENDMENTS**

Aloha Chair Gabbard, Chair Espero and Members of the Committees:

The Hawai'i Chapter of the Sierra Club, with 8,000 dues-paying members and supporters, *opposes* SB 1372 and offers amendments that better fulfill the intent of the historic Solar Roof Act. SB 1372, in its present form, would delegate the responsibility of certifying solar variance exception requests to the various counties.

The 2008 Solar Roofs Act was a historic first that attempted to allow every new homeowner the benefits of solar water heating. This Legislature recognized that solar water heaters are one of the most effective ways to reduce high electricity bills -- slashing the average utility bill by 30 to 40 percent. When these systems are installed during construction, solar water heaters are less expensive than an electric heater retrofit and avoid the need for tax incentives.

Our current law provides for four variances to the "mandatory" solar hot water heater. The first two provide for a variance if the installation of a solar heater would be inefficient (i.e., the location is too shady) or cost prohibitive. The third variance allows for a "substitute renewable energy technology," i.e., it allows for future technology to be installed.

The fourth variance, however, is really not a variance. Haw. Rev. Stat. § 196-6.5 simply allows for the installation of a gas water heater. Thus, our law currently mandates the use of either a solar or a gas water heater.

Recognizing that gas water heaters are not as economic or as efficient as solar hot water heaters, this Legislature expressed a strong intent to avoid the granting of a variance:

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 thirty-year mortgage term. This requires the use of realistic assumptions regarding interest rates, discount rates, inflation rates, and the expected average cost of electricity by island over the thirty-year period, regardless of the cost of electricity, or of oil or other fossil fuels, at a specific time.

Act (emphasis added).

Unfortunately, this strong expression of intent has not been followed. As reported in the Civil Beat (Michael Levine 11/11/2010) and later in the Honolulu StarAdvertiser, a significant number of developers have utilized the "gaping loophole" in the Solar Roof Act. Within the first year of this Solar Roof Act, twenty five percent of homes failed to install solar. *Nearly half of the new homes on the Big Island -- 303 of 660 -- installed gas-powered heaters instead of solar.* One developer reported that variances were "granted as a matter of course, as I understand it."<sup>1</sup>

	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
<b>Variance Requests</b>													
Honolulu	3	2	4	2	1	0	3	0	0	3	11	22	51
Kauai	7	4	10	10	38	3	1	3	2	4	7	4	93
Maui	0	1	0	0	0	0	0	1	2	0	1	3	8
Hawaii	9	21	25	32	16	22	28	24	40	24	23	39	303
Unknown	0	0	0	0	0	0	0	0	0	0	2	0	2
<b>Total</b>	<b>19</b>	<b>28</b>	<b>39</b>	<b>44</b>	<b>55</b>	<b>25</b>	<b>32</b>	<b>28</b>	<b>44</b>	<b>31</b>	<b>44</b>	<b>68</b>	<b>457</b>
<b>Single-Family Building Permits</b>													
Honolulu	33	54	50	106	108	52	51	53	111	91	48	58	815
Kauai	16	8	14	11	46	11	9	25	7	8	15	14	184
Maui	19	18	15	27	13	22	19	24	14	14	12	18	215
Hawaii	50	67	46	57	40	71	64	43	67	49	57	49	660
<b>Total</b>	<b>118</b>	<b>147</b>	<b>125</b>	<b>201</b>	<b>207</b>	<b>156</b>	<b>143</b>	<b>145</b>	<b>199</b>	<b>162</b>	<b>132</b>	<b>139</b>	<b>1874</b>
<b>Ratio of Variances to Permits Issued</b>													
Honolulu	9.1%	3.7%	8.0%	1.9%	0.9%	0.0%	5.9%	0.0%	0.0%	3.3%	22.9%	37.9%	6.3%
Kauai	43.8%	50.0%	71.4%	90.9%	82.6%	27.3%	11.1%	12.0%	28.6%	50.0%	46.7%	28.6%	50.5%
Maui	0.0%	5.6%	0.0%	0.0%	0.0%	0.0%	0.0%	4.2%	14.3%	0.0%	8.3%	16.7%	3.7%
Hawaii	18.0%	31.3%	54.3%	56.1%	40.0%	31.0%	43.8%	55.8%	59.7%	49.0%	40.4%	79.6%	45.9%
<b>Total</b>	<b>16.1%</b>	<b>19.0%</b>	<b>31.2%</b>	<b>21.9%</b>	<b>26.6%</b>	<b>16.0%</b>	<b>22.4%</b>	<b>19.3%</b>	<b>22.1%</b>	<b>19.1%</b>	<b>33.3%</b>	<b>48.9%</b>	<b>24.4%</b>

<sup>1</sup> Civil Beat, "State Allows Developers to Flout Solar Mandate," available at <http://www.civilbeat.com/articles/2010/11/12/6389-dbedt-developers-burn-gas-flout-solar-mandate/>

It would quite simple to stop this abuse of the Solar Roof Act.

We could amend SB 1372 to fulfill the intent of this Legislature by giving the coordinator the discretion and responsibility to review variance applications. This allows the coordinator to grant the variance in legitimate situations -- like a infrequently-used vacation rental house -- and deny developers that are simply trying to flout the intent of the law, namely to ensure Hawai'i residents obtain the cleanest and cheapest form of energy.

**Proposed Amendments:**

**§196-6.5 Solar water heater system required for new single-family residential construction.** (a) On or after January 1, 2010, 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, unless[, at the coordinator's discretion,] ~~the coordinator approves~~ a variance[ is approved]. A variance application shall only be accepted if submitted by an architect or mechanical engineer licensed under chapter 464, who attests that:

(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~~] a North American certification entity will be installed that would better address the state's renewable energy goals expressed in section 269-92 because of unique aspects of the proposed single-family dwelling; provided that at least one other gas appliance, not including decorative lighting or outdoor grilling equipment, [~~is~~] will be 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.

(b) A request for a variance shall be submitted to the coordinator on an application prescribed by the coordinator and shall include the name of the dwelling owner, a description of the location of the property, and justification for the approval of a variance using the criteria established in subsection (a). A variance shall be deemed approved if not denied within thirty working days after receipt of the variance 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.

(c) 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. The fees, if any, shall be deposited into the energy security special fund established under section 201-12.8.

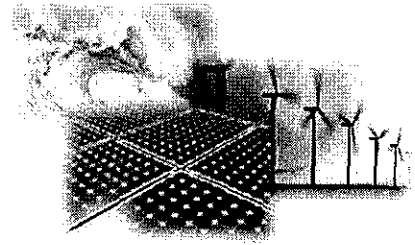
(d) Nothing in this section shall preclude any county from establishing procedures and standards required to implement this section.

(e) 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.

The solar mandate was a critical step in securing Hawaii's energy future, reducing our contribution to global climate change, and improving the affordability of housing in Hawai'i. Respectfully, we ask this Committee to reject 25% or 50% success, and instead ensure a solar water heater on each and every home in Hawai'i.

Mahalo for the opportunity to provide testimony.





**SENATE COMMITTEE ON ENERGY AND ENVIRONMENT  
SENATE COMMITTEE ON PUBLIC SAFETY,  
GOVERNMENT OPERATIONS, AND MILITARY AFFAIRS**  
February 10, 2011, 3:30 P.M.  
Room 225  
(Testimony is 3 pages long)

**TESTIMONY SUPPORTING INTENT OF SB 1372, SUGGESTED AMENDMENTS**

Chairs Gabbard and Espero and members of the Committees:

The Blue Planet Foundation supports the intent SB 1372, a measure to transfer the duties of granting variances to the solar mandate for new homes to county planning departments. While we support the intent of these amendments, we believe that further changes are needed to the existing law to ensure that it achieves its original intent.

The 2008 Solar Roofs Act, Act 204, was a critical step forward toward Hawaii's clean energy future as it was intended to ensure that nearly every new home in Hawai'i come equipped with a solar water heater. In the first year that the law was in effect Hawai'i saw a more than doubling of the number of new homes with solar water heaters. But the first year revealed some of the law's deficiencies. The primary problem was that nearly every variance request for a gas water heater was granted, despite the legislative intent that such variances for a fossil fuel heater "be rarely, if ever, exercised or granted."

Section 13 of HB 1464 CD1 (2009), enacted as Act 155 on June 25, 2009, clearly stated the legislative intent of the variance to the solar mandate:

SECTION 13. 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 thirty-year mortgage term. This requires the use of realistic assumptions regarding interest rates, discount rates, inflation rates, and the expected average cost of electricity by

island over the thirty-year period, regardless of the cost of electricity, or of oil or other fossil fuels, at a specific time.

Achieving the legislative intent of this law is critical to realize the benefits of the policy for new home owners. Building new housing with solar will increase the efficiency and affordability of new homes built in Hawai'i. Solar water heaters are among the most effective means of reducing the high electricity cost burden that residents now endure. The solar roofs law makes the cost of living more affordable by slashing the electric utility bill of an average new home by 30 to 40 percent—saving over \$1000 annually for an average household on Kaua'i.

With average household use, most solar water heaters will pay for themselves in energy savings between 3 and 7 years. When systems are built into a home during construction—and when many systems are installed simultaneously in a larger subdivision and economies of scale are realized—solar water heaters are less expensive than an electric heater retrofit. When rolled into a 30-year mortgage, homeowners with solar will start saving money on day one. Even with other financing schemes, solar is a no-brainer investment that brings down the monthly cost of living. If current trends continue, the cost of residential electricity will continue to grow, making electric water heating even more expensive—and solar water heating more of a “no-brainer.”

The cost of living is a top-of-mind issue for many in Hawai'i. Hawaii's solar roofs mandate makes new home ownership more affordable by reducing the monthly utility burden.

To better achieve the legislative intent of the solar roofs mandate, Blue Planet Foundation respectfully asks that this bill be amended to contain the language provided below.

Thank you for the opportunity to testify.

### **SUGGESTED AMENDMENTS**

§196-6.5 Solar water heater system required for new single-family residential construction. (a) On or after January 1, 2010, 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, unless, at the coordinator's discretion, ~~[the coordinator approves]~~ a variance is approved. A variance application shall only be accepted if submitted by an architect or mechanical engineer licensed under chapter 464, who attests that:

- (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.~~] a North American certification entity [is] will be installed that would better address the state's renewable energy goals expressed in section 269-92 because of unique aspects of the proposed single-family dwelling; provided that at least one other gas appliance, not including decorative lighting or outdoor grilling equipment, [is] will be 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.

(b) A request for a variance shall be submitted to the coordinator on an application prescribed by the coordinator and shall include the name of the dwelling owner, a description of the location of the property, and justification for the approval of a variance using the criteria established in subsection (a). A variance shall be deemed approved if not denied within thirty working days after receipt of the variance 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.

(c) 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. The fees, if any, shall be deposited into the energy security special fund established under section 201-12.8.

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

SENATE COMMITTEE ON ENERGY AND ENVIRONMENT  
SENATE COMMITTEE ON WATER, LAND, AND HOUSING  
SENATE COMMITTEE ON PUBLIC SAFETY, GOVERNMENT OPERATIONS, AND  
MILITARY AFFAIRS

February 10, 2011, 3:30 P.M.

TESTIMONY IN OPPOSITION TO SB 1372 WITH PROPOSED AMENDMENTS

Aloha Chair Gabbard, Chair Espero and Members of the Committees:

I opposes SB 1372 and support the testimony and amendments offered by the Sierra Club (mostly copied below) that better fulfill the intent of the historic Solar Roof Act. SB 1372, in its present form, would delegate the responsibility of certifying solar variance exception requests to the various counties.

The 2008 Solar Roofs Act was a historic first that attempted to allow every new homeowner the benefits of solar water heating. This Legislature recognized that solar water heaters are one of the most effective ways to reduce high electricity bills -- slashing the average utility bill by 30 to 40 percent. When these systems are installed during construction, solar water heaters are less expensive than an electric heater retrofit and avoid the need for tax incentives.

Our current law provides for four variances to the "mandatory" solar hot water heater. The first two provide for a variance if the installation of a solar heater would be inefficient (i.e., the location is too shady) or cost prohibitive. The third variance allows for a "substitute renewable energy technology," i.e., it allows for future technology to be installed.

The fourth variance, however, is really not a variance. Haw. Rev. Stat. § 196-6.5 simply allows for the installation of a gas water heater. Thus, our law currently mandates the use of either a solar or a gas water heater.

Recognizing that gas water heaters are not as economic or as efficient as solar hot water heaters, this Legislature expressed a strong intent to avoid the granting of a variance:

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 thirty-year mortgage term. This requires the use of realistic assumptions regarding interest rates, discount rates, inflation rates, and the expected average cost of electricity by island over the thirty-year period, regardless of the cost of electricity, or of oil or other fossil fuels, at a specific time.

Unfortunately, this strong expression of intent has not been followed. As reported in the Civil Beat (Michael Levine 11/11/2010) and later in the Honolulu StarAdvertiser, a significant number of developers have utilized the "gaping loophole" in the Solar Roof Act. Within the first year of this Solar Roof Act, twenty five percent of homes failed to install solar. Nearly half of the new homes on the Big Island -- 303 of 660 -- installed gas-powered heaters instead of solar. One developer reported that variances were "granted as a matter of course, as I understand it." (Civil Beat, "State Allows Developers to Flout Solar Mandate," available at <http://www.civilbeat.com/articles/2010/11/12/6389-dbedt-developers-burn-gas-flout-solar-mandate/>)

It would quite simple to stop this abuse of the Solar Roof Act.

We could amend SB 1372 to fulfill the intent of this Legislature by giving the coordinator the discretion and responsibility to review variance applications. This allows the coordinator to grant the variance in legitimate situations -- like a infrequently-used vacation rental house -- and deny developers that are simply trying to flout the intent of the law, namely to ensure Hawai'i residents obtain the cleanest and cheapest form of energy.

Proposed Amendments:

§196-6.5 Solar water heater system required for new single-family residential construction. (a) On or after January 1, 2010, 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, unless[, at the coordinator's discretion,] A variance application shall only be accepted if submitted by an architect or mechanical engineer licensed under chapter 464, who attests that:

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(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 a North American certification entity will be installed that would better address the state's renewable energy goals expressed in section 269-92 because of unique aspects of the proposed single-family dwelling; provided that at least one other gas appliance, not including decorative lighting or outdoor grilling equipment, will be 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.

(b) A request for a variance shall be submitted to the coordinator on an application prescribed by the coordinator and shall include the name of the dwelling owner, a description of the location of the property, and justification for the approval of a variance using the criteria established in subsection (a). A variance shall be deemed approved if not denied within thirty working days after receipt of the variance application. The coordinator shall publicize:

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(c) 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. The fees, if any, shall be deposited into the energy security special fund established under section 201-12.8.

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

(e) 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.

The solar mandate was a critical step in securing Hawaii's energy future, reducing our contribution to global climate change, and improving the affordability of housing in Hawai'i. Respectfully, we ask this Committee to reject 25% or 50% success, and instead ensure a solar water heater on each and every home in Hawai'i.

Mahalo for the opportunity to provide testimony.

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