



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

NEIL ABERCROMBIE
GOVERNOR

RICHARD C. LIM
DIRECTOR

MARY ALICE EVANS
DEPUTY DIRECTOR

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Statement of
RICHARD C. LIM
Director
Department of Business, Economic Development, and Tourism
before the
HOUSE COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION

Tuesday, March 19, 2013

8:30 a.m.

State Capitol, Conference Room 325

in consideration of

SB 0016, SD2
RELATING TO ENERGY RESOURCES.

Chair Lee and, Vice Chair Thielen, and Members of the Committee.

The Department of Business, Economic Development, and Tourism (DBEDT) supports this bill and recommends an amendment. The proposed measure requires county councils to establish procedures and standards by which their respective county permitting agencies approve, disapprove, or approve with conditions, waivers for the solar water heating mandate. The measure also clarifies existing application procedures. DBEDT supports this measure because by allowing counties to grant the waivers, both the waiver and building permit will be administered by the appropriate county to expedite the process for review and approval. Therefore, this measure will expedite the process for building permit approval by requiring that only one entity, the building departments of each county, approve the waiver and the building permit. The proposed measure also allows the county to collect fees to cover the costs of processing applications for variances.

DBEDT also supports the amendment to delete reference to the Underwriters Laboratories, Inc., and insert references to a North American certification organization, such as the Canadian Standards Association International; the Air-Conditioning, Heating, and Refrigeration Institute; or the Gas Appliance Manufacturers Association Certification Program. This amendment more accurately assures that gas-tankless water heaters still meet performance requirements recognized by a third party, certification organization. Underwriters Laboratories, Inc., lists manufacturers but not the specific product or model numbers of the gas-tankless water heaters. The organizations above test and evaluate gas-tankless water heaters and list which products and models are certified.

DBEDT recommends that on page 4, line 8, a deadline date be included for the counties to establish procedures and standards. We recommend a deadline date of December 30, 2013. This deadline date should be included in Section 4, page 5, of this bill.

Thank you for the opportunity to provide this testimony.

COUNTY COUNCIL

Jay Furfaro, Chair
Nadine K. Nakamura, Vice Chair
Tim Bynum
Gary L. Hooser
Ross Kagawa
Mel Rapozo
JoAnn A. Yukimura



OFFICE OF THE COUNTY CLERK

Ricky Watanabe, County Clerk
Jade K. Fountain-Tanigawa, Deputy County Clerk

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Council Services Division
4396 Rice Street, Suite 209
Lihu'e, Kaua'i, Hawai'i 96766

March 18, 2013

**TESTIMONY OF GARY L. HOOSER
COUNCILMEMBER, KAUAI COUNTY COUNCIL
ON**

**S.B. NO. 16, S.D. 2, RELATING TO ENERGY RESOURCES
Committee on Energy & Environmental Protection
Tuesday, March 19, 2013
8:30 a.m.
Conference Room 325**

Dear Chair Lee and Committee Members:

Thank you for this opportunity to submit testimony in support of S.B. No. 16, S.D. 2. My testimony is submitted in my capacity as an individual member of the Kaua'i County Council.

S.B. No. 16, S.D. 2 requires the appropriate County Permitting Agency to receive and process Solar Water Heating variance/waiver applications as part of the Building Permit process. Additionally, the County Councils are required to collaborate with the Agency in establishing procedures and standards.

Supporting this bill will simplify and efficiently expedite the review process for Solar Water Heating variance/waiver applications, as it will be incorporated into the Building Permit process and administered by the appropriate County Permitting Agency. The Counties are also able to establish procedures and standards which conform to existing County Ordinances and developed based on the unique aspects of each County.

Passage of S.B. No. 16, S.D. 2 will further ensure maximum compliance with the spirit and intent of Hawai'i's "first in the Nation" Solar Hot Water Mandate.

For the reasons stated above, I respectfully request your support for this measure. Again, thank you for this opportunity to submit testimony.

Sincerely,

GARY L. HOOSER
Councilmember, Kaua'i County Council

AB:cy

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March 18, 2013

TESTIMONY OF JOANN A. YUKIMURA
COUNCILMEMBER, KAUAI COUNTY COUNCIL
ON
SB 16, SD 2, RELATING TO ENERGY RESOURCES
House Committee on Energy & Environmental Protection
March 19, 2013
8:30 a.m.
Conference Room 325

Dear Chair Lee and Members of the House Committee on Energy & Environmental Protection:

I am writing in support of SB 16, SD 2 with modifications.

I write as an individual member of the Kaua'i County Council and as Vice Chair of the Kaua'i County Council's Committee on Economic Development (Sustainability / Agriculture / Food / Energy) & Intergovernmental Relations and as a member of the County of Kaua'i's Energy Plan Advisory Committee.

SB 16, SD 2 promotes energy sustainability, home rule, and consumer protection. If approved, it will transfer to the counties the power and responsibility for granting waivers to the state's landmark "solar rooftops" law.

It makes sense to place the responsibility for waivers with the counties because they are already processing building permits for new single-family homes. It will simplify the process for applicants of the single-family building permit who may desire a waiver; they will not have to go to a separate state office.

However, county permitting agencies are understandably apprehensive about potential additional burdens upon their personnel and offices which they expressed in testimony before the Senate committees. After hearing their concerns, we have drafted amendments which I believe not only address county concerns, but make the bill better. Those proposed amendments are attached hereto. I request that SB 16, SD 2 be amended accordingly.

The highlighted modifications to SB 16, SD 2 clarify that procedures under the new law will be established administratively by the county permitting agencies while any substantive (i.e., policy) changes to waivers will be done by the county councils, in their discretion – that is, the councils will have the choice to modify the waivers or not. Unless the councils take action to modify the waivers by ordinance, the language in present state law (HRS 196-6.5) will prevail to define the waivers.

Chair Lee and Members of the House Committee on Energy & Environmental Protection
Re: SB 16, SD 2, Relating to Energy Resources
March 18, 2013
Page 2

The “solar rooftops” law, which has been in effect since January 2009, was intended to be a major step forward toward energy sustainability. No state has more exposure to the sun than Hawai‘i. It makes perfect sense to help families living in single-family homes to move toward energy independence by requiring solar water heaters on new construction of single-family homes. It is both cheaper and easier to incorporate a solar water heater at time of building (versus retrofit) and because the cost can be included in a 30-year mortgage, the upfront and monthly costs to the family is less, especially because those costs will be offset by the monthly savings from a family’s energy bills (on the average, a 30% reduction to an electric bill). Requiring solar water heating on new construction of single-family homes moves our community and our families toward energy independence while lowering the cost of living for our families.

Unfortunately, in some counties, including Kaua‘i, the number of waivers granted are making a lie out of the “solar rooftops” law. About 50% of new single-family homes on Kaua‘i are being built without solar water heating, and instead, most are relying on a fossil fuel – gas – leaving our families dependent on fossil fuels for heating their water. By giving the counties, in their discretion, the power to modify the waivers consistent with the intent of the “solar rooftops” law, SB 16, SD 2, will increase the potential to move Hawai‘i toward energy independence. The Kaua‘i County Council has unanimously supported such modifications to the waivers.

Please approve the bill with the suggested amendments.

Thank you for this opportunity to testify.

Sincerely,



JOANN A. YUKIMURA

Councilmember, Kaua‘i County Council

A BILL FOR AN ACT

Draft 03-18-13: Amendments reflecting county concerns
RELATING TO ENERGY RESOURCES.

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

SECTION 1. The legislature finds that county permitting agencies, rather than the state energy resources coordinator, should have the responsibility to process solar water heating system waiver applications since the county permitting agencies are closer to the particular conditions of the various geographic and climate peculiarities of their respective counties and since waiver applications can logically become part of the building permit process.

The purpose of this Act is to:

- (1) Require the appropriate county permitting agency to receive and process applications for waivers for the solar water heating system requirement for building permits;
- (2) [Require] Allow each [respective] county [council] to establish procedures and [standards] criteria by which its respective county permitting agency approves,

approves with conditions, or disapproves waivers~~[+]~~,
provided that if the respective county council chooses
not to modify the criteria, the waivers in this
section shall apply; and

- (3) Clarify existing application procedures.

SECTION 2. Section 196-6.5, Hawaii Revised Statutes, is amended by amending the title and subsections (a), (b), (c), and (d) to read as follows:

"§196-6.5 Solar water heater system required for new single-family residential or duplex construction. (a) On or after January 1, 2010, no building permit shall be issued for a new single-family dwelling or duplex that does not include a solar water heater system that meets the standards established pursuant to section 269-44, unless the ~~[coordinator]~~ appropriate county permitting agency approves a ~~[variance.]~~ waiver. A ~~[variance]~~ waiver application shall ~~[only]~~ be accepted if ~~[submitted by an architect or mechanical engineer licensed under chapter 464, who attests]~~ the application demonstrates to the satisfaction of the county permitting agency that it meets criteria established by county ordinance, or if none, then it meets the following criteria:

- (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 installed; provided that at least one other gas appliance is 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. The demand water heater shall be approved by a North American certification organization such as the Canadian Standards Association International; the Air-Conditioning, Heating, and Refrigeration Institute; or the Gas Appliance Manufacturers Association.

(b) A request for a [~~variance~~] waiver shall be submitted to the [~~coordinator~~] appropriate county permitting agency in accordance with its procedures on an application prescribed by the [~~coordinator~~] county permitting agency and shall include a description of the location of the property and justification

for the approval of a [~~variance~~] waiver using the criteria established by county ordinance, or if none, by the criteria 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.]~~ [by the counties. Each county council shall establish procedures and standards by which ~~its~~]The appropriate county permitting agency may approve, approve with conditions, or disapprove an application for a waiver, including deadlines for the county permitting agency to act on the application; provided that the county permitting agency shall approve, approve with conditions, or disapprove the application only in accordance with [standards and procedures] criteria established by this section or as modified by the respective [~~its~~] county council by ordinance.

~~(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.]~~ Each county permitting agency may adopt rules pursuant to chapter 91 to implement this section and to impose and collect fees to cover the costs of processing applications for waivers under this section. Any appeal of a waiver decision by the appropriate permitting agency shall be processed according to the appeals process for building permits in that county.

(d) Nothing in this section shall preclude any county from ~~[establishing procedures and standards required to implement this section.]~~ adopting ordinances to promote use of solar water heating."

SECTION 3. Statutory material to be repealed is bracketed and stricken. New statutory material is underscored.

SECTION 4. This Act shall take effect on July 1, ~~[2050]~~ 2013; provided that the energy resources coordinator shall retain the coordinator's power to approve variances pursuant to section 196-6.5, Hawaii Revised Statutes, as that law existed on the day before the effective date of this Act, until the mayor of the respective county notifies the governor that the respective county ~~[has adopted ordinances]~~ is ready to implement this Act ~~[or]~~ or December 30, 2013, whichever is sooner.

Report Title:

Energy Resources; Solar Water Heating; County Waiver Approvals

Description:

Requires appropriate county permitting agency to receive and process application for waivers for installation of solar water heating systems. Requires county councils to establish procedures and standards by which their respective county permitting agencies approve, disapprove, or approve with conditions. Clarifies existing application procedures. Effective 07/01/50. (SD2)

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



Tuesday, March 19, 2013 at 8:30 A.M.
State Capitol, House Conference Room 325
HOUSE COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION (EEP)

Testimony in Opposition with proposed amendments of SB16 SD2

Chair Lee, Vice Chair Thielen, Members of the House Committee on Energy and Environmental Protection, my name is Joe Boivin and I am the Senior Vice President for Public Affairs and Communications at HAWAII'IGAS testifying in opposition to SB16 SD2.

HAWAII'IGAS, the state's only gas utility, provides reliable energy on every island in Hawai'i to nearly 70,000 residential and commercial customers, including nearly every restaurant and hotel in the state. Compared to electricity produced from oil and coal, our synthetic natural gas (SNG) and propane products provide a cleaner, more-cost effective and reliable way to heat water, cook, dry and light the outdoors at our homes and businesses.

Gaseous products such as SNG, propane and natural gas provide firm, clean, reliable and cost-effective energy and are the best energy alternatives available to Hawai'i today.

- The Environmental Protection Agency reports that natural gas emits 30% less carbon dioxide, 80% less nitrogen oxide and 100% less particulate matter than oil and coal.
- Gaseous products increase Hawai'i's energy security and are a critical part of our energy mix and must be included as part of our diversification strategy. When electricity is interrupted due to tsunamis, hurricanes, earthquakes or generation and distribution issues, gas stays on. This provides our homes and businesses with an added layer of energy security and safety unmatched by any other source of energy today because gas can heat water, cook food and light the outdoors when the electrical grid is down.
- Today, gaseous products make living and conducting business in Hawai'i more affordable providing an average savings over grid provided electricity of 30 to 50% on Oahu and 50 to 75% on the neighbor islands.

HAWAII'IGAS opposes SB16 for the following reasons and recommends no changes be made to Hawaii Revised Statutes (HRS) §196-6.5.

- The bill will cause confusion and delay regarding the purchase and use of appliances fueled by gas, which is Hawai'i's cleanest, most reliable and cost-effective source of firm energy. As proposed, each county council will be allowed to create its own procedures and approval criteria for use of gas appliances in new homes and duplexes, which will likely result in four different procedures and approval criteria within one state.



- DBEDT is currently staffed and has the requisite knowledge to administer HRS §196-6.5. The counties may not have qualified or available personnel to administer the law, which may cause further delay and confusion in the variance process.
- Residential on demand gas water heaters, ranges and dryers provide Hawai'i families with the greatest degree of energy security, and should be encouraged as a clean and cost-effective energy solution for our homes.

Thank you.

March 16, 2013

The Honorable Chris Lee, Chair

House Committee on Energy & Environmental Protection
State Capitol, Room 325
Honolulu, Hawaii 96813

RE: S.B. 16, S.D.2, Relating to Energy Resources

HEARING: Monday, March 19, 2013 at 8:30 a.m.

Aloha Chair Lee, Vice Chair Thielen, and Members of the Committee:

I am Myoung Oh, Government Affairs Director, testifying on behalf of the Hawai'i Association of REALTORS® ("HAR"), the voice of real estate in Hawai'i, and its 8,000 members. HAR **supports** S.B. 16, S.D.1 which requires appropriate county permitting agency to receive and process application for waivers for installation of solar water heating systems and requires county councils to establish procedures and standards by which their respective county permitting agencies approve, disapprove, or approve with conditions.

HAR believe S.B. 16, S.D.1 will bring additional consistency to the permit and building process, and transfers decision making processes to the individual counties, which is more appropriate.

Building permits and building inspections, including plumbing inspections, are conducted at the county level, therefore giving the responsibility to the Counties for approving a waiver relative to the installation of a solar hot water heater would centralize all approval and inspections regarding plumbing within the individual counties. In addition, county departments have much greater knowledge of unique weather patterns within the county, than state departments, which will enable better decisions to be made regarding the waiver if the rationale is weather related.

HAR believes this measure will continue to on the basis of "home rule" as we believe solar hot water waivers can be better determined by our respective counties.

Mahalo for the opportunity to testify.



Hawaii Solar Energy Association
Serving Hawaii Since 1977

Before the House Committee on Energy & Environmental Protection
Before the House Committee on Economic Development & Business
Tuesday, March 19, 2013, 8:30 a.m., Conference Room 325
SB 16 SD 2: RELATING TO ELECTRICAL SYSTEMS

Aloha Chair Lee, Chair Tsuji, Vice-Chair Thielen, Vice-Chair Ward, and members of the House Committee on Energy & Environmental Protection, and House Committee on Economic Development & Business,

On behalf of the Hawaii Solar Energy Association (HSEA), I would like to testify **in support for SB 16 SD 2**, which requires the appropriate county agency to receive and process applications for waivers of the installation of solar hot water systems. In addition, HSEA supports an amendment as suggested by the Sierra Club where any request for a variance must be made by the party who intends to pay the utility bill of the dwelling.

Solar hot water ideal for most households

Solar hot water is an ideal efficiency measure for most households. First, solar hot water has a short payback period of 3 to 5 years, which adds to the value of the home as it helps reduce utility bills. In addition, solar hot water does not add to grid saturation, and water heated during the day can be used during the evening peak load, unlike photovoltaic systems and traditional electric water heaters. But most importantly, solar hot water heaters do not rely upon fossil fuels to provide hot water for the home, and with each solar hot water heater installed, Hawaii is one step closer to energy independence.

However, in some cases, solar hot water is not the best choice. This would be in the rare instance that the solar access is not adequate, or if the use of the dwelling is only for a vacation home, whereby large groups may only sporadically use the home. In either of these cases, it makes sense for a waiver to be granted, and the dwelling's home county and the party who intends to pay the utility bill is the best judge of conditions which may warrant a waiver.

Counties best judge of cost-effective placement of solar devices in their areas

Under the current rule, applications for waiver of the solar hot water requirement are processed by the state energy resources coordinator. In 2009, proposed amendments to Act 204 clarified the legislative intent by stating that variances to the act would be rarely granted because the burden of proof would be upon the owner of the system to show that the solar hot water system was not cost effective due to lack of solar access. Yet, under the present statute, 99% of all applications for a waiver have been granted, and of those denied, the denial was due to an incomplete application. Furthermore, of the variances granted, 75% of those were issued because the dwelling already had another gas appliance, not because the solar hot water heater failed the cost-effectiveness test.

By placing the power to grant a waiver in the hands of the individual counties and the owner who intends to pay the utility bill, the intent of the act will be more closely followed as the counties

and individual owners can best judge the cost-effective placement of solar devices in their respective areas. This way, the intent of the act will be more accurately applied, and Hawaii will move a step closer to energy independence.

Thank you for the opportunity to testify.

Leslie Cole-Brooks
Executive Director
Hawaii Solar Energy Association

AET, LLC	Affordable Solar Contracting	Allana Buick & Bers
Alternate Energy	American Electric Company, LLC	B. Bautista Electrical
Bonterra Solar	Bureau Veritas North America	Cano Electric
C & J Solar Solutions	Coffman Engineers, Inc.	Allen's Plumbing
Conergy	DHX	Dr. Stephen Allen
Energy Industries	Enphase	Energy Industries
Dependable Hawaii Express	Energy Unlimited, Inc.	EnergyPro Hawaii
Ferguson	Forest City Residential Group	Gexpro
Giant Solar	Grand Solar	Haleakala Solar
Hawaii Energy Connection	Hawaii Home Expo & Marbelhaus Trading	Hawaii Electric Company
Hawaii Island Solar	Hi-Tech Plumbing	HNU Energy
Hoku Scientific	Honeywell Utility Solutions	Inter-Island Solar Supply
Island Pacific Energy	Island Solar Service	Kheiron Partners
Ku'oko'a	Kyocera Solar Inc.	Lumen Solar, LLC
Maui Pacific Solar	Mercury Solar	Morikawa & Associates
Pacific Basin	Phoenix Solar	PhotonWorks Engineering
Poncho's Solar	R & R Solar Supply	REC Solar, Inc.
Rheem Manufacturing	Schenk's Specialized Services LLC	Schlissel & Associates
Smart Energy Hawaii	Solar Services Hawaii	SolarCity
SolarWave Hawaii	SolarWorld California	Sun King
Sun Earth, Inc.	Sunetric	SunHedge
Talent HR Solutions	WESCODistribution	Unirac
Enecsys Micro-inverters		

BIA-HAWAII

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"Building Better Communities"

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Scotty Anderson

Pacific Rim Partners

W. Bruce Barrett

Castle & Cooke Homes Hawaii, Inc.

Testimony to the House Committee on Energy and Environmental Protection Tuesday, March 19, 2013

8:30 a.m.

Capitol, Room 325

RE: S.B. 16, S.D. 2, RELATING TO ENERGY RESOURCES

Dear Chair Lee, Vice-Chair Thielen, and members of the Committee:

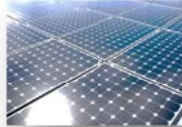
My name is Gladys Marrone, Government Relations Director for the Building Industry Association of Hawaii (BIA-Hawaii), the voice of the construction industry. We promote our members through advocacy and education, and provide community outreach programs to enhance the quality of life for the people of Hawaii. BIA-Hawaii is a not-for-profit professional trade organization chartered in 1955, affiliated with the National Association of Home Builders.

BIA-Hawaii is **opposed** to S.B. 16, S.D. 2, which would require appropriate county permitting agencies to receive and process application for waivers for installation of solar water heating systems. Requires county councils to establish procedures and standards by which their respective county permitting agencies approve, disapprove, or approve with conditions. Clarifies existing application procedures.

We are opposed for the following reasons:

- 1) The bill will limit consumer and builder choice to select their preferred form of energy, forcing owners to use electricity.
- 2) S.B. 16, S.D. 2, requires the counties to receive and process waiver applications for installation of solar hot water systems, which was clearly intended to be a State function, resulting in an unfunded mandate.

Thank you for the opportunity to express our views on this matter.



HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

March 19, 2013, 8:30 A.M.

Room 325

(Testimony is 3 pages long)

TESTIMONY IN SUPPORT OF SB 16 SD2, SUGGESTED AMENDMENT

Chair Lee and members of the Energy & Environmental Protection Committee:

The Blue Planet Foundation supports SB 16 SD2, a measure making amendments to Hawaii's historic Solar Roofs Act, with the primary amendment transferring the variance approval process to from the State Energy Resources Coordinator to the county building permit authority. We support this change—with clear guidance in statute on allowable variances—and hope that the county building departments will exercise greater scrutiny over the approval process.

Blue Planet believes that the variance option should only be exercised in rare circumstances where solar doesn't make sense or is not cost effective. **Therefore, we respectfully request that SB 16 SD2 be amended to allow a variance for gas water heating only if the home has poor solar resource and solar would fail the cost-effectiveness test.** Gas would be an option only if solar is deemed impractical or not cost-effective. *A proposed amendment is provided at the end of this testimony.*

The 2008 Solar Roofs Act, Act 204, was a critical step forward toward Hawaii's clean energy future as it ensures that nearly every new home will be equipped with a solar water heater. Since taking effect in 2010, the law has over doubled the percentage of new homes being built with solar water heaters. While Blue Planet strongly supports the existing law, we believe that it could be significantly improved.

Unfortunately, far too many homes are being built with gas water heaters. Blue Planet Foundation analyzed the variance request information tracked by the Energy Resources Coordinator. Between the time the law took effect in January, 2010, and the beginning of February, 2013, a total of 1420 variances from the solar water requirement have been sought.

- Of the 1420 variance applications, over 99% (1408) have been approved. The majority of those denied were due to incomplete applications. Three requests were cancelled.
- Three architects were responsible for over 50% (710) of the total variances requested.

- One architect, Robert Smelker, alone was responsible for over 38% (541) of the variances requested. He was only denied once (incomplete application).
- Over two-thirds (947) of the total variances were requested on Hawaii Island.
- Of those variances granted, over 95% were for gas heaters, 3% had another renewable energy device, and about 1% were deemed “impractical” for solar.

The history of variance granting by the State Energy Resources Coordinator suggests that the intent behind the Solar Roofs policy is being frustrated. In clarifying amendments in 2009 (HB 1464 CD1), the legislature was unambiguous about the original policy’s intent:

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.

Further, the developer is often installing the gas heaters without the knowledge of the preferences of the ultimate homeowner. The amendments proposed in SB 16 SD2 will extend the solar roof requirement to duplexes as well as ensure greater accountability in the variance process currently in place.

Solar water heating is a foundation block in building Hawaii’s clean energy future. A solar water system is the most basic renewable energy device to harness the clean energy from the sun. The technology is mature, tested, and works (the Romans, in fact, used solar energy to heat the water flowing to baths in aqueducts). Solar water heaters provide the greatest energy savings per dollar for reducing substantial residential energy demand. The Solar Roofs Act ensures that the vast majority of new homes come equipped with this clean energy device, and helps to smooth the transition toward zero-energy homes of the future.

Solar water heating is the single best “clean” energy alternative for residences in Hawai’i. The Solar Roofs law increases 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 bill makes the cost of living more affordable by slashing the electric utility bill of an average new home by 30 to 40 percent—saving upwards of \$1000 annually for an average household statewide.

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. The Solar Roofs law makes new home ownership more affordable by reducing the monthly utility burden. The amendments in SB 16 SD2 ensure that the more benefit from the solar requirement and transfers the decision to exempt developers or homeowners from this requirement to the county building permit departments.

Thank you for the opportunity to testify.

SUGGESTED AMENDMENT

§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 or duplex that does not include a solar water heater system that meets the standards established pursuant to section 269-44, unless the [~~coordinator~~] appropriate county permitting agency approves a variance. 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 installed; provided that at least one other gas appliance is installed in the dwelling **and the first or second variances in subsection (a) (1) and (a) (2) of this section are met.** 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.

**House Energy and Environmental Protection Committee
March 18, 2013**

Testimony Concerning: SB 16, SD 2

Apollo Kaua`i, a group of local citizens assisting our island to become more energy sustainable, is fully in support of SB 16, SD 2 and the amendments proposed by Kaua`i Council member, JoAnn Yukimura.

The best first step for home and business owners to conserve energy, reduce demand while saving on their electricity bills, and decrease our carbon footprint by burning less fossil fuel is understood to be heating water with solar energy. Solar systems with electric or gas backup are 90 plus efficient. According to KIUC the payback period for a typical solar thermal system is between 3-5 years with an immediate saving in an electric bill of 30-50 %.

We were pleased when the original State Act 204 was passed, but disappointed that unlike Oahu which has had 95 % compliance with the act, more than half of the permit applications for new residential construction on Kaua`i have received variances from installing solar thermal systems. They have chosen the initially less costly fossil fueled gas heaters though the gas systems are much more costly financially and environmentally over the life of the units. A majority of the applications for variances have been made by developers, so that the owners or end users of these new homes were denied the opportunity to choose solar water heating systems.

We ask that you please assist the neighbor islands by passing SB 16, SD 2, including our Council member's amendments. We will then be able to continue our progress towards more energy sustainability on Kaua`i, by local control in allowing variances and increasing the number and performance efficiency of solar thermal systems here.

Mahalo for your attention to this matter.

Apollo Kaua`i co-chairs

Laurel Brier
Pam Burrell
Sharry Glass