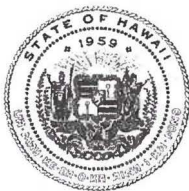


HB2291, HD2

TESTIMONY

DAVID Y. IGE
GOVERNOR



Testimony by:

FORD N. FUCHIGAMI
DIRECTOR

Deputy Directors
JADE T. BUTAY
ROSS M. HIGASHI
EDWIN H. SNIFFEN
DARRELL T. YOUNG

IN REPLY REFER TO:

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

March 18, 2016
9:45 a.m.
State Capitol, Room 229

**H.B. 2291, H.D.2
RELATING TO RENEWABLE ENERGY**

Senate Committee(s) on Transportation and Energy &
Commerce, Consumer Protection and Health

The Department of Transportation (DOT) **strongly supports** the passage of H.B. 2291 as originally intended. This Administration bill meets the objectives of Hawaii's renewable energy goals by amending the definition of renewable portfolio standard to more accurately reflect the percentage of renewable energy penetration in the State.

We need policies that promote renewable energy, improve environmental sustainability, and reduce our dependence on foreign oil.

Thank you for the opportunity to testify on this bill.



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

DAVID Y. IGE
GOVERNOR

LUIS P. SALAVERIA
DIRECTOR

MARY ALICE EVANS
DEPUTY 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

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

Statement of
LUIS P. SALAVERIA
Director

Department of Business, Economic Development, and Tourism
before the
SENATE COMMITTEES ON TRANSPORTATION AND ENERGY
and
COMMERCE, CONSUMER PROTECTION, AND HEALTH

Friday, March 18, 2016
9:45 am
State Capitol, Conference Room 229

in consideration of
HB 2291, HD 2
RELATING TO RENEWABLE ENERGY.

Chairs Inouye and Baker, Vice Chairs Gabbard and Kidani, and Members of the Committees.

The Department of Business, Economic Development, and Tourism (DBEDT) strongly supports Administrative bill HB 2291, HD 2, which modifies the definition of “renewable portfolio standard” to be based on electrical energy ‘generation’ instead of ‘sales’.

We strongly support this measure as it offers the concise, unambiguous language needed to accurately represent the percentage of renewable energy penetration in our State and to fully meet the intent of Act 97 (2015), establishing the 100% renewable portfolio standard (RPS) by 2045, and Act 38 (2015), planning for greater energy security and self-sufficiency through the reduction and ultimate elimination of Hawaii’s dependence on imported fuels.

DBEDT and other energy stakeholders understand the current method of calculating RPS is flawed as it is incongruent to compare ‘renewable electrical energy generation’ to ‘electrical energy sales’ which causes the RPS to be inflated due to: (1) the current RPS excludes from the denominator customer-sited, grid-connected renewable energy and non-renewable energy generated; (2) electrical energy sales does not include transmission and distribution (T&D) energy losses that occur between the points of electrical energy generation and the customer meter where sales are measured.

Thank you for the opportunity to offer comments in strong support of HB 2291, HD 2.

TESTIMONY OF RANDY IWASE
CHAIR, PUBLIC UTILITIES COMMISSION
STATE OF HAWAII
TO THE
SENATE COMMITTEES ON
TRANSPORTATION AND ENERGY
AND
COMMERCE, CONSUMER PROTECTION, AND HEALTH

March 18, 2016
9:45 a.m.

MEASURE: H.B. No. 2291, H.D. 2
TITLE: RELATING TO RENEWABLE ENERGY

Chair Inouye, Chair Baker and Members of the Committee:

DESCRIPTION:

This measure would amend the current definition of “Renewable portfolio standard” to mean the percentage of electrical energy *generation* that is represented by renewable energy rather than the percentage of electrical energy *sales* that is represented by renewable energy.

POSITION:

The Commission offers the following comments for the Committee’s consideration.

COMMENTS:

The Commission notes that the term “electrical energy sales” is currently represented by a definite figure that is regularly calculated and reported by the utility. At the moment, it is unclear how “electrical energy generation” would be calculated and reported, particularly if the legislature intends for the RPS to apply to all electrical energy generation in the State, including customer-sited generation and off-grid generation. The Commission is open to collaborating with DBEDT and other stakeholders on language to address these issues.

Thank you for the opportunity to testify on this measure.



Before the Senate Committee on Transportation and Energy &
the Senate Committee on Commerce, Consumer Protection, and Health
Friday, March 18, 2016, 9:45 a.m., Room 229
HB 2291 HD2: Relating to Renewable Energy

Aloha Chairs Inouye and Baker, Vice Chairs Gabbard and Kidani, and members of the Committees,

On behalf of the Distributed Energy Resources Council of Hawaii ("DER Council"), I would like to testify in strong support for HB 2291 HD 2, which amends the renewable energy portfolio ("RPS") to more accurately reflect the amount of renewable energy generation in Hawaii based upon electricity generation rather than electricity sales. The DER Council is a nonprofit trade organization formed to assist with the development of distributed energy resources and smart grid technologies to support an affordable, reliable, and sustainable energy supply for Hawaii.

Last year, the Hawaii state legislature amended the RPS from 40% renewables for electricity generation by 2030 to 100% renewables for electricity generation by 2045. Most people and even some stakeholders who have worked closely on these issues mistakenly believe that 100% renewables by 2045 as per our current accounting for the RPS literally means that 100% of all energy generated and sold in Hawaii will come from renewable generation. Instead, because the current language in the RPS is calculated by dividing the total amount of renewable generation by the total sales of energy, the state's RPS could actually meet the 100% mandate, but still generate some electricity from fossil fuels. In fact, the more rooftop solar generation that is included in the calculation, the greater the amount of fossil fuels that could be included in the RPS at 100%. Also, some specific industries may currently rely upon the loose interpretation of the RPS and resist changing their generation method to 100% renewables. To those customers, we believe that a deadline of 2045 is ample time to adjust to the new standards, and that it benefits the entire State if everyone is on board for our clean energy goals.

The DER Council supports HB 2291 HD 2 because the proposed amendment clarifies the accounting for the RPS by basing the entire RPS upon electricity generation, and in this way ensures that the RPS will reflect what most think that it already means: a complete independence from imported fossil fuels by 2045.

Thank you for the opportunity to testify

Leslie Cole-Brooks
Executive Director
DER Council of Hawaii



Email: communications@ulupono.com

SENATE COMMITTEES ON TRANSPORTATION & ENERGY AND COMMERCE, CONSUMER
PROTECTION, & HEALTH

Friday, March 18, 2016 — 9:45 a.m. — Room 229

Ulupono Initiative Strongly Supports HB 2291 HD 2, Relating to Renewable Energy

Dear Chair Inouye, Vice Chair Gabbard, Chair Baker, Vice Chair Kidani, and Members of the Committees:

My name is Murray Clay and I am Managing Partner of the Ulupono Initiative, a Hawai'i-based impact investment firm that strives to improve the quality of life for the people of Hawai'i by working toward solutions that create more locally produced food; increase affordable, clean, renewable energy; and reduce waste. We believe that self-sufficiency is essential to our future prosperity and will help shape a future where economic progress and mission-focused impact can work hand in hand.

Ulupono strongly supports HB 2291 HD 2, which amends the calculation for the renewable portfolio standard definition, because it aligns with our goal of increasing the production of clean, renewable energy in Hawai'i.

Last legislative session, the Legislature's intent and the public's perception of the 100% renewable portfolio bill was for all electricity generation to be created via renewable sources. By fixing the calculation to a formula that truly reflects the original bill's intent, the passage of this bill will ensure transparency and accountability while restoring confidence in the legislative process.

As Hawai'i's energy issues become more complex and challenging, we appreciate this committees' efforts to look at policies that support renewable energy production. Thank you for this opportunity to testify.

Respectfully,

Murray Clay
Managing Partner

Investing in a Sustainable Hawai'i

999 Bishop Street, Suite 1202 | Honolulu, Hawai'i 96813 ☎ 808.544.8960 📠 808.432.9695 | www.ulupono.com

Kaala Coleman

From: Chad Christopher <chad@enersolhawaii.com>
Sent: Wednesday, March 16, 2016 12:01 PM
To: TRE Testimony
Subject: Testimony supporting HB 2291

Senate Transportation & Energy Committee
Friday, March 18, 9:45am
Testimony in support of HB 2291 HD2

Aloha Chairs Inouye and Baker and members of the committees:

I would like to strongly support House Bill 2291, clarifying that 100% renewable means 100%. Last year, Hawaii was recognized across the globe for its commitment to a 100% clean energy future. But now we need to make sure we are honest with how we achieve this goal. HB 2291 corrects the method for calculating our renewable energy percentage to make sure we stay on track.

The bill before you should be amended, however, to require that all powerplants—not just those that the utility owns—comply with Hawaii's renewable energy targets. A previous draft of this bill, HB 2291 HD1, contained such language, ensuring that all "grid-connected energy systems" are included in the calculation of the overall renewable energy percentage. This version has the support of the State, the Public Utilities Commission, and other stakeholders. Please pass an amended HB 2291 back to the HD1 form with language that ensures we truly are close to being energy independent.

Thank you for your time, efforts and attention.

cmc

Chad Michael Christopher, LEED AP
Co-Founder

enersol

PO Box 6623
Kaneohe, HI 96744

Office - 808.664.1068
Mobile - 808.554.9784
Facsimile - 877.280.8505
chad@enersolhawaii.com
www.enersolhawaii.com



**Testimony before the
Senate Committees on Transportation and Energy and
Commerce, Consumer Protection and Health**

**March 18, 2016, 9:45 am
Conference Room 229**

H.B. 2291, H.D. 2 – Relating to Renewable Energy

**By Scott Seu
Vice President, System Operation
Hawaiian Electric Company, Inc.**

Chairs Inouye & Baker, Vice-Chairs Gabbard & Kidani and Members of the Committees:

My name is Scott Seu. I am Vice President for System Operation at Hawaiian Electric Company. I am testifying on behalf of Hawaiian Electric and its subsidiary utilities, Maui Electric and Hawaii Electric Light (collectively “Companies”).

Last year, the Hawaiian Electric Companies supported the passing of the new 100% RPS law, and we remain fully committed to moving our generation resources, and the resources of those with whom we contract for electricity generation, to be completely off of fossil fuels by 2045. While we appreciate the intent of this measure to revise the mathematics of the renewable portfolio standard (“RPS”) to more accurately reflect progress towards the state’s goal of moving off of fossil fuels for all electricity generation, we cannot support this bill as drafted.

First, the proposed changes to the RPS do not fully consider the implications of when customers generate their own electricity with fossil fuels. Although the proposed revised RPS calculation in its simplest form – total amount of generation from renewables divided by total amount of generation – is mathematically correct, it does not take into account the fact that more and more large customers are being presented with options to self-generate their electricity using fossil fuels.

Consider the not-too-distant scenario where the utility and its contracted independent power producers have successfully transitioned themselves to generating 100% of their electricity with renewables. But in the meantime, large commercial customers – hotels, schools, hospitals, government entities – have invested in or contracted with third party providers for fossil fuel -fired generation, just as is being actively marketed now around town whether it is in the form of self-supply contracts, combined heat and power units, or microgrids. The utility has no control over this customer generation, and furthermore, if the amount of customer fossil generation increases, then the utility and independent power producers must correspondingly decrease their production of renewable energy. At this point, RPS actually decreases rather than increases. The attachment to this testimony illustrates how this might happen.

Thus, as long as customer generation from fossil fuels is allowed to expand without some sort of oversight or accountability, then the RPS and the state’s clean energy policy

have a major gap. Furthermore, since under the RPS law it is the utility that is held accountable for achieving the RPS, our ability to fully meet our compliance obligations becomes increasingly beyond our control, and that is neither fair nor rational. S.B. 2820 S.D. 1 contained a provision that all grid-connected generation be renewable by 2045 and we support that requirement, along with further consideration of how customer generation be moved towards renewables in the intermediate RPS compliance years.

Our other concern is that the bill does not make corresponding adjustments to the utility's RPS targets that account for the change in methodology. Using the existing methodology we were at approximately 21% RPS at the end of 2014, and it was on this basis that the legislature increased our 2020 RPS requirement from 25% to 30% with our support. If the new methodology is adopted, the calculation results in lower numbers, thus it is only fair to re-evaluate the near term 2020 RPS target or make the new methodology apply to the RPS post-2020.

Fixing the math of the current RPS makes sense, but it must also align with public policy and be fairly applied. If the state is truly committed to moving off of fossil fuels for all electricity generation by 2045, then this bill should be amended to address these concerns. Alternatively, it should be held in committee so that the stakeholders can resolve these issues and revisit this measure in the next legislative session.

Thank you for this opportunity to testify.

Proposed RPS Equation of HB 2291 HD2:

$$\text{RPS} = \frac{\text{Total Renewable Energy Generation}}{\text{Total Energy Generation both Fossil and Renewable}}$$

$$= \frac{\text{Utility Renewables} + \text{Utility-Contracted Renewables}}{\text{Utility Fossil and Renewables} + \text{Utility-Contracted Fossil and Re}}$$

| | Year A | Year B | Year C | Year D | Yea |
|------------------------|--------|--------|--------|--------|-----|
| Utility and Contracted | | | | | |
| Renewable | 10 | 15 | 20 | 25 | |
| Fossil | 75 | 60 | 45 | 30 | |
| Customer | | | | | |
| Renewable | 10 | 15 | 20 | 25 | |
| Fossil | 5 | 10 | 15 | 20 | |
| Total | 100 | 100 | 100 | 100 | |
| RPS | 20.0% | 30.0% | 40.0% | 50.0% | |

Assume total generation on island is constant, no curtailment of customer generation,
and steady incremental growth of 5 units in all generation sectors except utility fossil



COLLEGE OF SOCIAL SCIENCES

HAWAII ENERGY POLICY FORUM

UNIVERSITY OF HAWAI'I AT MĀNOA

Hawaii Energy Policy Forum

Jeanne Schultz Afuvai, Hawaii Inst. for Public Affairs
Karlie Asato, Hawaii Government Employees Assn
Joseph Boivin, Hawaii Gas
Warren Bollmeier, Hawaii Renewable Energy Alliance
Michael Brittain, IBEW, Local Union 1260
Albert Chee, Chevron
Elizabeth Cole, The Kohala Center
Kyle Datta, Ulupono Initiative
Mitch Ewan, UH Hawaii Natural Energy Institute
Jay Fidell, ThinkTech Hawaii
Carl Freedman, Haiku Design & Analysis
Matthias Fripp, REIS at University of Hawaii
Ford Fuchigami, Hawaii Dept of Transportation
Mark Glick, Hawaii State Energy Office, DBEDT
Justin Gruenstein, City & County of Honolulu
Dale Hahn, Ofc of US Senator Brian Schatz
Michael Hamnett, SSRI at University of Hawaii
Senator Lorraine Inouye, Hawaii State Legislature
Randy Iwase, Public Utilities Commission
Ashley Kaono, Ofc of US Representative Tulsi Gabbard
Jim Kelly, Kauai Island Utility Cooperative
Darren Kimura, Energy Industries
Kelly King, Sustainable Biodiesel Alliance
Kal Kobayashi, Maui County Energy Office
Representative Chris Lee, Hawaii State Legislature
Gladys Marrone, Building Industry Assn of Hawaii
Stephen Meder, UH Facilities and Planning
Hermuna Morita, Energy Dynamics
Sharon Moriwaki, UH Public Policy Center
Tim O'Connell, US Dept of Agriculture
Jeffrey Ono, Division of Consumer Advocacy, DCCA
Stan Osseman, HCAIT
Darren Pai, Hawaiian Electric Companies
Melissa Pavlicek, Hawaii Public Policy Advocates
Randy Perreira, Hawaii Government Employees Assn
Rick Reed, Hawaii Solar Energy Assn
Cynthia Rezentes, Ofc of US Representative Mark Takai
Rick Rocheleau, UH Hawaii Natural Energy Institute
Will Rolston, Hawaii County, Research & Development
Riley Saito, SunPower Systems
Scott Seu, Hawaiian Electric Companies
Joelle Simonpietri, US Pacific Command Energy Ofc
H. Ray Starling, Hawaii Energy
Ben Sullivan, Kauai County
Lance Tanaka, Par Hawaii, Inc.
Maria Tome, Public Utilities Commission
Alan Yamamoto, Ofc of US Senator Mazie Hirono

Testimony of the Hawaii Energy Policy Forum to the

Senate Committee on Transportation & Energy and
Senate Committee on Commerce, Consumer Protection, & Health
Friday, March 18, 2016 at 9:45am in Conference Room 229

COMMENTS ON HB 2291 HD2, Relating to Renewable Energy

Chair Inouye, Chair Baker, Vice-Chair Gabbard, Vice-Chair Kidani, and Members of the Committees,

The Hawaii Energy Policy Forum ("HEPF"), created in 2002, is comprised of over 40 representatives from Hawaii's electric utilities, oil and natural gas suppliers, environmental and community groups, renewable energy industry, and federal, state and local government, including representatives from the neighbor islands. Our vision, mission and comprehensive "10 Point Action Plan" guide us in moving Hawaii toward its preferred energy goals and our comments on this bill.

The HEPF supports the intent of clarifying the renewable portfolio standards ("RPS") definition by amending Section 269-91, HRS. The proposed definition, however, falls short of the intent of establishing clear and enforceable standards, particularly in calculating the annual renewable generation/usage amounts.

The HEPF therefore suggests amending the bill to address these concerns by deleting the proposed definition and, instead, directing Department of Business, Economic Development & Tourism ("DBEDT") to convene stakeholders to review the current practice of calculating renewable generation and develop a consensus position on the methodology to calculate the annual renewable generation/usage amounts in relation to the RPS. We believe that this would be the most efficient and productive forum for discussion given there is no urgency to resolve this change in definition. Findings and recommendations can be reported to the Legislature for action in the 2017 legislative session.

Thank you for the opportunity to testify.

*This testimony reflects the position of the Forum as a whole and not necessarily
of the individual Forum members or their companies.*



Hawaii Solar Energy Association
Serving Hawaii Since 1977

**TESTIMONY OF THE HAWAII SOLAR ENERGY ASSOCIATION
IN REGARD TO HB 2291 HD 2, RELATING TO RENEWABLE ENERGY
BEFORE THE
SENATE COMMITTEE ON TRANSPORTATION AND ENERGY
AND THE
SENATE COMMITTEE ON COMMERCE, CONSUMER PROTECTION AND
HEALTH
ON
FRIDAY, MARCH 18, 2016**

Chair Inouye, Chair Baker, Vice-Chair Gabbard, and Vice-Chair Kidani and members of the joint committees, my name is William Giese, and I represent the Hawaii Solar Energy Association, Inc. (HSEA).

HSEA supports HB 2291 HD 2 and provides comments. This measure amends the definition of renewable portfolio standard to reflect the true amount of renewable energy penetration in the state.

In order to accurately track the progress of the state of Hawaii towards it's 100% renewable portfolio standard goals, accurate definitions are imperative. The original Act 97 contains language that defines "renewable portfolio standard" as the "percentage of electrical energy sales that is represented by renewable electrical energy" (HRS §269-91). Electrical energy sales do not reflect the actual amount of energy being produced or used and leads to misconceptions regarding progress towards a 100% RPS. Renewable energy sales figures would tend to overestimate the amount of renewable energy penetration.

Additionally, HSEA cautions against the ambiguity inherent in using the term generation. Is this to mean generation under Standard Testing Conditions (STC), generation in aggregate after one year of use, generation over the lifetime of the system, or another type of generation? As collaboration with the PUC, DBEDT, and other stakeholders continue on this bill, it may be prudent to address this ambiguity. HSEA looks forward to this collaboration and is more than willing to assist in any way.

Thank you for the opportunity to testify.



HAWAI'I LODGING & TOURISM
ASSOCIATION

Testimony of

Mufi Hannemann
President & CEO
Hawai'i Lodging & Tourism Association

Committees on:
Transportation & Energy
Commerce, Consumer Protection, and Health

House Bill 2291 HD2: Relating to Renewable Energy

Chair Inouye, Chair Baker, and members of the committees on Transportation & Energy, and Commerce, Consumer Protection, and Health:

Thank you for the opportunity to testify. On behalf of the Hawai'i Lodging & Tourism Association, we support House Bill 2291 HD2, which conveys the original language of the governor's bill.

This measure offers to amend the "renewable portfolio standard" definition to more accurately reflect the amount of renewable energy generation in Hawaii by basing the renewable portfolio standard calculation on electrical energy generation as opposed to electrical energy sales.

The Association strongly supports the idea of moving towards a more sustainable future; in House Draft 1 we saw the potential for unintended consequences with the language provided. Through the proposed amendments in the bill's HD1, we saw a very strict regulation of the private industry to comply with the current renewable standard portfolio timeline, one that will have a negative impact on many large facilities such as hospitals, schools, and hotels who are currently using, or are in the process of installing, methods of generation such as combined heat and power (CHP) units. CHP units are supported by the federal government for their efficiency and for the role they play in reducing emissions and lowering costs.

We thank the legislature for reverting the bill's language back to its original form, and we support the original intent with HB 2291 HD2.

Thank you for this opportunity to testify.



**SENATE COMMITTEE ON TRANSPORTATION AND ENERGY
SENATE COMMITTEE ON COMMERCE, CONSUMER PROTECTION, AND HEALTH**

March 18, 2016, 9:45 AM

Room 229

(Testimony is 3 pages long)

TESTIMONY IN STRONG SUPPORT OF HB 2291 HD2 WITH PROPOSED AMENDMENT

Chair Inoue, Chair Baker, Vice Chair Gabbard, Vice Chair Kidani, and Committee Members,

Blue Planet Foundation strongly supports HB 2291, which would implement a clarification in the way the state's renewable portfolio standard ("RPS") is calculated. This bill clarifies that for our state's renewable energy targets, 100% means 100%. This is sensible policy that matches the understanding of Hawaii's citizens who have resoundingly approved of the legislature's decision to enact a 100% renewable energy target.

We respectfully request that your committees pass HB 2291 HD1 with language similar to the SD1 of the companion, SB 2820, that these committees passed on February 11, 2016.

The current draft of HB 2291 HD2 leaves uncertainty with respect to how some grid-connected energy generators are to be incorporated in the revised calculation. In addition, HB 2291 would amend H.R.S. § 269-91, but would leave the statute's prior language in place in H.R.S. § 269-92. The companion bill, SB 2820 SD1, was passed by your committees with clarifying amendments to addresses these issues. Your amendments were responsive to comments by the Public Utilities Commission and the Hawaiian Electric Companies. Thus, we firmly believe that HB 2291 can be improved by making the same amendments that were made to SB 2820.

Background: 100% Means 100%

Presently, the state's RPS calculation can provide utilities with "double credit" for some distributed energy sources, such as rooftop solar. This leads to the outcome that the calculated RPS can be greater than the actual percentage of renewable energy on Hawai'i's electric grids. HB 2291 revises the RPS accounting calculation to address this potential outcome, and ensure that the state's renewable energy target (100% by 2045) will actually result in 100% renewable energy.

Current vs. Future Impact of the RPS Accounting Correction

Blue Planet wishes to clarify that the present legal impact of the present calculation is limited. As an example, for 2014 the Hawaiian Electric Companies RPS was 21.3% under the existing method of calculation. From information reported by the Hawaii Electric Companies, the actual amount of renewable energy as a percentage of the total energy was 19.2%. While this

difference of approximately 2% renewable energy represents a significant and important amount of clean energy, the accounting differential did not impact the Hawaiian Electric Companies' achievement of the law's RPS target. In other words, the companies would have met the statutory minimum RPS target¹ with or without the accounting correction in HB 2291. However, in future years, as the amount of distributed energy grows, this accounting inaccuracy will grow in magnitude. **Thus, the correction in HB 2291 is appropriate and necessary.**

Proposed Amendment

To match the same clarity as achieved by your committees with SB 2820 SD1, the bill should be amended to ensure that all grid-connected energy generation is subject to the same renewable energy targets. At the same time, we believe it is appropriate to clarify that grid-connected energy generation used exclusively for emergency services in case of failure of the normal supply of energy from the Hawaii electric system remains a viable option for customers. **This will ensure that the state's renewable energy targets are not over-reaching with respect to the needs of energy customers.**

The following amendments (closely mirroring SB 2820 SD1, in red) would implement this policy. *We note that the proposed Section 3 below is primarily a housekeeping amendment, to make sure that H.R.S. § 269-92 is consistent with H.R.S. § 269-91.*

SECTION 2. Section 269-91, Hawaii Revised Statutes, is amended as follows:

1. By adding a new definition of "grid-connected" to read:
"Grid-connected" means interconnected to the Hawaii electric system under a standard or rule approved by the commission; provided that this shall not apply where the generation is used exclusively for emergency service in case of failure of the normal supply from the Hawaii electric system."

2. By amending the definition of "renewable portfolio standard" to read:
"Renewable portfolio standard" means the percentage of total renewable electrical energy [~~sales that is represented by~~] generated from grid-connected renewable [~~electrical~~] energy[-] systems to the total electrical energy generated from grid-connected energy systems."

SECTION 3. Section 269-92, Hawaii Revised Statutes, is amended as follows:

1. By amending subsection (a) as follows:
(a) Each electric utility company that sells electricity for consumption in the State shall establish a renewable portfolio standard of:

¹ Under H.R.S. § 269-92, utilities were required to achieve 10% RPS by 2010, and 15% by 2015.

- (1) Ten per cent [~~of its net electricity sales~~] by December 31, 2010;
- (2) Fifteen per cent [~~of its net electricity sales~~] by December 31, 2015;
- (3) Thirty per cent [~~of its net electricity sales~~] by December 31, 2020;
- (4) Forty per cent [~~of its net electricity sales~~] by December 31, 2030;
- (5) Seventy per cent [~~of its net electricity sales~~] by December 31, 2040; and
- (6) One hundred per cent [~~of its net electricity sales~~] by December 31, 2045.

2. By inserting a new subsection (b):
(b) All electric grid-connected energy systems shall be one hundred per cent renewable energy systems by December 31, 2045.

Thank you for the opportunity to testify.

Kaala Coleman

From: Chelsea Harder <chelsea.harder@gmail.com>
Sent: Wednesday, March 16, 2016 10:30 AM
To: TRE Testimony
Subject: Testimony in support of HB 2291 HD2

Senate Transportation & Energy Committee

Friday, March 18, 9:45am

Testimony in support of HB 2291 HD2

Aloha Chairs Inouye and Baker and members of the committees:

I strongly support House Bill 2291, clarifying that 100% renewable means 100%. Last year, Hawaii was recognized across the globe for its commitment to a 100% clean energy future. But now we need to make sure we are honest with how we achieve this goal. HB 2291 corrects the method for calculating our renewable energy percentage to make sure we stay on track.

The bill before you should be amended, however, to require that all powerplants—not just those that the utility owns—comply with Hawaii's renewable energy targets. A previous draft of this bill, HB 2291 HD1, contained such language, ensuring that all "grid-connected energy systems" are included in the calculation of the overall renewable energy percentage. This version has the support of the State, the Public Utilities Commission, and other stakeholders. Please pass an amended HB 2291 with language that ensures "100% means 100%."

Mahalo,
Chelsea Harder

Kaala Coleman

From: Danny Han <dannyhan71@icloud.com>
Sent: Wednesday, March 16, 2016 10:36 AM
To: TRE Testimony
Subject: Testimony supporting HB 2291

Aloha Chairs Inouye and Baker and members of the committees:

I strongly support House Bill 2291, clarifying that 100% renewable means 100%. Last year, Hawaii was recognized across the globe for its commitment to a 100% clean energy future. But now we need to make sure we are honest with how we achieve this goal. HB 2291 corrects the method for calculating our renewable energy percentage to make sure we stay on track.

The bill before you should be amended, however, to require that all powerplants—not just those that the utility owns—comply with Hawaii's renewable energy targets. A previous draft of this bill, HB 2291 HD1, contained such language, ensuring that all "grid-connected energy systems" are included in the calculation of the overall renewable energy percentage. This version has the support of the State, the Public Utilities Commission, and other stakeholders. Please pass an amended HB 2291 with language that ensures "100% means 100%."

Mahalo,
Danny Han

Kaala Coleman

From: Darren Kimura <dkimura@enerdigm.com>
Sent: Wednesday, March 16, 2016 10:42 AM
To: TRE Testimony
Subject: Testimony in support of HB 2291 HD2

Senate Transportation & Energy Committee
Friday, March 18, 9:45am
Testimony in support of HB 2291 HD2

Aloha Chairs Inouye and Baker and members of the committees:

I strongly support House Bill 2291, clarifying that 100% renewable means 100%. Last year, Hawaii was recognized across the globe for its commitment to a 100% clean energy future. But now we need to make sure we are honest with how we achieve this goal. HB 2291 corrects the method for calculating our renewable energy percentage to make sure we stay on track.

The bill before you should be amended, however, to require that all powerplants—not just those that the utility owns—comply with Hawaii's renewable energy targets. A previous draft of this bill, HB 2291 HD1, contained such language, ensuring that all "grid-connected energy systems" are included in the calculation of the overall renewable energy percentage. This version has the support of the State, the Public Utilities Commission, and other stakeholders. Please pass an amended HB 2291 with language that ensures "100% means 100%."

Darren T. Kimura, CEM - General Partner
Enerdigm Ventures

www.enerdigm.com

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Kaala Coleman

From: laurag <laurag@divefish.com>
Sent: Wednesday, March 16, 2016 10:50 AM
To: TRE Testimony
Subject: Testimony supporting HB 2291 (support with amendment)

Energy Committee Chairs,

I strongly ask that you support HB 2291, but include language to include all forms of energy to be made by 100% renewable energy, and not just certain segments. The draft of this bill had this inclusive language in it. The purpose of this bill is to ensure that we stop all types of polluting energy that cause climate change and gobble up our natural resources from coming to Hawaii, or even worse, is produced or extracted here.

Mahalo, Laura Gray R.N.

Kaala Coleman

From: Sonja and Andy <sonja_and_andy@yahoo.com>
Sent: Wednesday, March 16, 2016 12:06 PM
To: TRE Testimony
Subject: Testimony in support of HB 2291 HD2

Senate Transportation & Energy Committee
3/16/16
Testimony in support of HB 2291 HD2

Aloha Chairs Inouye and Baker and members of the committees:

I strongly support House Bill 2291, clarifying that 100% renewable means 100% and that all grid-connected energy systems comply with Hawaii's renewable energy targets and to ensure that nothing is counted twice. The HD1 version of the bill contained this already.

Please amend the bill to ensure 100% means just that.

Mahalo
Andy Kass, Kapa'a 96746

Kaala Coleman

From: nix@lifeislight.com
Sent: Wednesday, March 16, 2016 12:28 PM
To: TRE Testimony
Subject: Testimony supporting HB 2291

PLEASE to pass HB 2291 amended back to the HD1 form.

Mahalo,
Dr. John and Debra Nix

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Kaala Coleman

From: mailinglist@capitol.hawaii.gov
Sent: Wednesday, March 16, 2016 12:29 PM
To: TRE Testimony
Cc: lisamarten@hawaii.rr.com
Subject: Submitted testimony for HB2291 on Mar 18, 2016 09:45AM

HB2291

Submitted on: 3/16/2016

Testimony for TRE/CPH on Mar 18, 2016 09:45AM in Conference Room 229

| Submitted By | Organization | Testifier Position | Present at Hearing |
|--------------|--------------|--------------------|--------------------|
| Lisa Marten | Individual | Support | No |

Comments: Dear Chairs Inouye, Baker and committee members. I applaud the Hawaii State legislature for passing the 100% renewable energy Bill last year. Now it is time to clarify the language and make sure that your intentions are what is carried out: 100% means 100%. Thank you, Lisa Marten

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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Kaala Coleman

From: Javier Mendez <mendezj@hawaii.edu>
Sent: Wednesday, March 16, 2016 3:05 PM
To: TRE Testimony
Subject: Testimony supporting HB 2291

Dear Energy committee members,

I urge you to pass HB2291 amended back to the HD1 form. Mahalo!

Yours Truly,

Javier Mendez

Kaala Coleman

From: JANIS WALHOLM <honokaajewelers@msn.com>
Sent: Wednesday, March 16, 2016 2:25 PM
To: TRE Testimony
Subject: Testimony supporting HB 2291

I am with the blue planet foundation, 100% renewable energy means 100%. Please pass amended HB 2291 with language that assures that 100% means 100%.

Thank you, Sincerely, Janis Walholm, Honokaa resident

Kaala Coleman

From: Martha Martin <mauimarttha@gmail.com>
Sent: Wednesday, March 16, 2016 3:43 PM
To: TRE Testimony
Subject: Testimony supporting HB 2291

I support HB2291. Hawaii needs to switch to renewable energy generation so that we do not depend on imported fuel sources. Besides making Hawaii more self sufficient, using local renewable energy sources will combat the destructive effects caused by global warming, such as the loss of beaches and lowlands to rising ocean water.

Martha Martin
POB 790300
Paia, HI 96779

Sent from my iPad

Kaala Coleman

From: Adam Garcia <daman@uw.edu>
Sent: Wednesday, March 16, 2016 3:54 PM
To: TRE Testimony
Subject: Testimony supporting HB 2291

Senate Transportation & Energy Committee
Friday, March 18, 9:45am
Testimony in support of HB 2291 HD2

Aloha Chairs Inouye and Baker and members of the committees:

I strongly support House Bill 2291, clarifying that 100% renewable means 100%. Last year, Hawaii was recognized across the globe for its commitment to a 100% clean energy future. But now we need to make sure we are honest with how we achieve this goal. HB 2291 corrects the method for calculating our renewable energy percentage to make sure we stay on track.

The bill before you should be amended, however, to require that all powerplants—not just those that the utility owns—comply with Hawaii's renewable energy targets. A previous draft of this bill, HB 2291 HD1, contained such language, ensuring that all "grid-connected energy systems" are included in the calculation of the overall renewable energy percentage. This version has the support of the State, the Public Utilities Commission, and other stakeholders. Please pass an amended HB 2291 with language that ensures "100% means 100%."

Mahalo,
Adam Garcia
2717 Nakookoo St
Honolulu, HI 96826

Kaala Coleman

From: Mary Lou Spadaro <mlspadaro@yahoo.com>
Sent: Wednesday, March 16, 2016 5:14 PM
To: TRE Testimony
Subject: Testimony supporting HB 2291

Dear Chair and Members of the Senate Energy and Transportwtion Committee:

Please pass HB 2291 amended back to the HD1 form which is supported by the State, the Public Utilities Commission, and others.

We cannot afford to provide loopholes for circumventing Hawaii's well-considered plan for 100% renewable energy. I agree with Bill 2291 to require all-grid connected energy generators to be only from renewable sources. no gas or other fossil fuels. Please pass this bill with HD 1 wording re-inserted.

Sincerely,
Mary Spadaro

Excuse my iPad, it has its own ideas about spelling!!!!

Kaala Coleman

From: Elisabet Sahtouris <elisabet@sahtouris.com>
Sent: Wednesday, March 16, 2016 5:38 PM
To: TRE Testimony
Subject: Testimony supporting HB 2291

Please vote yes on HB2291

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Elisabet

Elisabet Sahtouris, PhD
Professor in Residence
CHAMINADE UNIVERSITY
School of Business & Communication
Honolulu, Hawaii

Kaala Coleman

From: jeanmaliawithy@gmail.com on behalf of Jean Malia Orque <jm@jeanmalia.com>
Sent: Thursday, March 17, 2016 1:33 PM
To: TRE Testimony
Subject: Testimony supporting HB 2291

Aloha Chairs Inouye and Baker and members of the committees:

I strongly support House Bill 2291, clarifying that 100% renewable means 100%. Last year, Hawaii was recognized across the globe for its commitment to a 100% clean energy future. But now we need to make sure we are honest with how we achieve this goal. HB 2291 corrects the method for calculating our renewable energy percentage to make sure we stay on track.

The bill before you should be amended, however, to require that all power plants—not just those that the utility owns—comply with Hawaii's renewable energy targets. A previous draft of this bill, HB 2291 HD1, contained such language, ensuring that all "grid-connected energy systems" are included in the calculation of the overall renewable energy percentage. This version has the support of the State, the Public Utilities Commission, and other stakeholders. Please pass an amended HB 2291 with language that ensures "100% means 100%."

Thank you,
Jean Malia Orque

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Toll Free: (877) 599-8700
email: jm@jeanmalia.com

Kaala Coleman

From: mailinglist@capitol.hawaii.gov
Sent: Thursday, March 17, 2016 12:08 PM
To: TRE Testimony
Cc: douglasperrine@yahoo.com
Subject: Submitted testimony for HB2291 on Mar 18, 2016 09:45AM

HB2291

Submitted on: 3/17/2016

Testimony for TRE/CPH on Mar 18, 2016 09:45AM in Conference Room 229

| Submitted By | Organization | Testifier Position | Present at Hearing |
|-----------------|--------------|--------------------|--------------------|
| Douglas Perrine | Individual | Support | No |

Comments: Please pass this bill to help Hawaii achieve its energy goals, preferably with the language reverted to that of HB2291 HD1, as important parts were removed in HD2. mahalo

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Kaala Coleman

From: Katt Kitchen <kattkitchen@gmail.com>
Sent: Thursday, March 17, 2016 12:54 AM
To: TRE Testimony
Subject: Aloha for Bill 2291

Senate Transportation & Energy Committee
Friday, March 18, 9:45am
Testimony in support of HB 2291 HD2

Aloha Chairs Inouye and Baker and members of the committees:

I strongly support House Bill 2291, clarifying that 100% renewable means 100%. Last year, Hawaii was recognized across the globe for its commitment to a 100% clean energy future. But now we need to make sure we are honest with how we achieve this goal. HB 2291 corrects the method for calculating our renewable energy percentage to make sure we stay on track.

The bill before you should be amended, however, to require that all powerplants—not just those that the utility owns—comply with Hawaii's renewable energy targets. A previous draft of this bill, HB 2291 HD1, contained such language, ensuring that all "grid-connected energy systems" are included in the calculation of the overall renewable energy percentage. This version has the support of the State, the Public Utilities Commission, and other stakeholders. Please pass an amended HB 2291 with language that ensures "100% means 100%."

We can set the example for the world and keep this place healthy and beautiful.

Mahalo,

Katt

--

Katherine Kitchen
mobile:808.895.1102

Kaala Coleman

From: Cindy Nawilis <cnawilis@gmail.com>
Sent: Wednesday, March 16, 2016 7:54 PM
To: TRE Testimony
Subject: Testimony in support of HB 2291 HD2

For the Senate Transportation & Energy Committee
Hearing time: Friday, March 18, 9:45am

Aloha Chairs Inouye and Baker and members of the committees:

I strongly support House Bill 2291, clarifying that 100% renewable means 100%. Last year, Hawaii was recognized across the globe for its commitment to a 100% clean energy future. But now we need to make sure we are honest with how we achieve this goal. HB 2291 corrects the method for calculating our renewable energy percentage to make sure we stay on track.

The bill before you should be amended, however, to require that all powerplants—not just those that the utility owns—comply with Hawaii's renewable energy targets. A previous draft of this bill, HB 2291 HD1, contained such language, ensuring that all "grid-connected energy systems" are included in the calculation of the overall renewable energy percentage. This version has the support of the State, the Public Utilities Commission, and other stakeholders. Please pass an amended HB 2291 with language that ensures "100% means 100%."

Best,
Cindy

Kaala Coleman

From: kshimata@hawaiiantel.net
Sent: Wednesday, March 16, 2016 7:10 PM
To: TRE Testimony
Subject: Testimony supporting HB 2291

Senate Transportation & Energy Committee
Friday, March 18, 9:45am
Testimony in support of HB 2291 HD2

Aloha Chairs Inouye and Baker and members of the committees:

I strongly support House Bill 2291, clarifying that 100% renewable means 100%. Last year, Hawaii was recognized across the globe for its commitment to a 100% clean energy future.

The bill before you should be amended, however, to require that all powerplants—not just those that the utility owns—comply with Hawaii's renewable energy targets. A previous draft of this bill, HB 2291 HD1, contained such language, ensuring that all "grid-connected energy systems" are included in the calculation of the overall renewable energy percentage. This version has the support of the State, the Public Utilities Commission, and other stakeholders. Please pass an amended HB 2291 with language that ensures "100% means 100%."

Thank you.

Kathy Shimata
3453 Pawaina St
Honolulu 96822

Kaala Coleman

From: Michael Howells <howellsm@earthlink.net>
Sent: Wednesday, March 16, 2016 6:21 PM
To: TRE Testimony
Subject: Testimony supporting HB 2291

To whom it may concern,

I strongly support House Bill 2291, clarifying that 100% renewable means 100%. Last year, Hawaii was recognized across the globe for its commitment to a 100% clean energy future. But now we need to make sure we are honest with how we achieve this goal. HB 2291 corrects the method for calculating our renewable energy percentage to make sure we stay on track.

The bill before you should be amended, however, to require that all powerplants—not just those that the utility owns—comply with Hawaii's renewable energy targets. A previous draft of this bill, HB 2291 HD1, contained such language, ensuring that all "grid-connected energy systems" are included in the calculation of the overall renewable energy percentage. This version has the support of the State, the Public Utilities Commission, and other stakeholders. Please pass an amended HB 2291 with language that ensures "100% means 100%."