

DAVID Y. IGE  
GOVERNOR



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

February 22, 2016  
2:30 p.m.  
State Capitol, Room 325

**H.B. 2291, H.D.1**  
**RELATING TO RENEWABLE ENERGY**

House Committee on Consumer Protection and Commerce

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The Department of Transportation (DOT) **strongly supports** the passage of H.B. 2291, H.D. 1. 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.

**Testimony by:**

FORD N. FUCHIGAMI  
DIRECTOR

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

IN REPLY REFER TO:



## DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

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LUIS P. SALAVERIA  
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Statement of  
**LUIS P. SALAVERIA**  
**Director**  
Department of Business, Economic Development, and Tourism  
before the  
**HOUSE COMMITTEE ON CONSUMER PROTECTION AND COMMERCE**

Monday, February 22, 2016  
2:30 p.m.  
State Capitol, Conference Room 325  
in consideration of  
**HB 2291, HD 1**  
**RELATING TO RENEWABLE ENERGY.**

Chair McKelvey, Vice Chair Woodson, and Members of the Committee.

The Department of Business, Economic Development & Tourism (DBEDT) supports Administrative bill HB 2291, HD 1 with amendments (see attached), which modifies the definition of “renewable portfolio standard” by basing it on electrical energy ‘generation’ instead of ‘sales’ in order to more accurately reflect the percentage of renewable energy penetration in the State.

DBEDT supports this bill as it attempts to re-define renewable portfolio standard (RPS) to accurately represent renewable penetration in Hawaii in order to meet the objectives of Act 97, Session Laws of Hawaii (SLH) 2015 establishing the 100% RPS by 2045 and Act 38, SLH 2015 aspiring for greater energy security and self-sufficiency through the reduction and ultimate elimination of Hawaii’s dependence on imported fuels for electrical generation.

We believe that the attached amendments add further clarity to the RPS calculation and creates consistency with the RPS goals established in §296-92. Namely, as the RPS is no longer a percentage of sales, we propose to amend this section by removing “of its net electricity sales,” from each goal. Also, in alignment with Act 97, HSL 2015, and ACT 38, HSL 2015, the attached proposed amendments clarify that all electric grid-connected energy systems must be one hundred per cent renewable energy systems by December, 31, 2045. Lastly, we relocated language from the definition of “grid-connected” to “renewable portfolio standard” pertaining to

generation used exclusively for emergency services to clarify that such generation would not count towards RPS.

Thank you for the opportunity to offer these comments in support of HB 2291, HD 1.

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# A BILL FOR AN ACT

RELATING TO RENEWABLE ENERGY.

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

1       SECTION 1. The purpose of this Act is to amend the  
2 definition of renewable portfolio standard to more accurately  
3 reflect the percentage of renewable energy penetration in the  
4 State. This amendment is being done in line with Act 97,  
5 Session Laws of Hawaii 2015, which established a 100 per cent  
6 renewable portfolio standard goal by 2045 and the statutory  
7 intent to transition the State away from imported fuels and  
8 toward renewable local resources that provide a secure source of  
9 affordable energy. **Act 97 is complemented by Act 38, Session**  
10 **Laws of Hawaii 2015, Hawaii Revised Statutes Section 226-18,**  
11 **which states, "planning for the State's facility systems with**  
12 **regard to energy shall be directed toward the achievement of the**  
13 **following objectives...increased energy security and self-**  
14 **sufficiency through the reduction and ultimate elimination of**  
15 **Hawaii's dependence on imported fuels for electrical**  
16 **generation."**

17       **Creating a more accurate depiction of renewable energy**  
18 **penetration is** accomplished by amending the renewable portfolio

1 standard calculation to be based on electrical energy generation  
2 as opposed to electrical energy sales. Failure to address this  
3 accounting error means that the current renewable portfolio  
4 standard calculation (renewable **electrical** energy divided by  
5 **electrical energy** sales) would overestimate the amount of  
6 renewable energy serving Hawaii's electric utility customers.  
7 There are two fundamental issues that lead to the current  
8 discrepancy: (1) the current renewable portfolio standard  
9 calculation inflates the reported percentage of renewable energy  
10 by excluding **renewable and non-renewable energy** from customer-  
11 sited, grid-connected renewable energy generation in the  
12 denominator, which becomes material with higher levels of  
13 **customer-sited, grid-connected energy generation** and higher  
14 renewable portfolio standard percentages; and (2) the current  
15 electrical energy sales number does not include energy losses  
16 that occur between the points of electrical energy generation  
17 and the customer meter where sales are measured. Failure to  
18 address these issues would create the incorrect public  
19 perception of the State's progress towards its one hundred per  
20 cent renewable energy statutory goal.

21 SECTION 2. Section 269-91, Hawaii Revised Statutes, is  
22 amended by:

1           1. Adding a new definition of "grid-connected" to read as  
2 follows:

3           "Grid-connected" means interconnected to the Hawaii  
4 electric system under an existing standard or rule approved by  
5 the public utilities commission. As used in this definition,  
6 "interconnection" and "Hawaii electric system" have the same  
7 meaning as in section 269-141."

8           2. Amending the definition of "renewable portfolio  
9 standard" to read as follows:

10          "Renewable portfolio standard" means the percentage of  
11 [electrical energy sales that is represented by renewable  
12 electrical energy] **total electrical energy generated from grid-**  
13 **connected energy systems that is represented by total renewable**  
14 **electrical energy generated from grid-connected renewable energy**  
15 **systems; provided that this will not apply where the generation**  
16 **is used exclusively for emergency service in case of failure of**  
17 **the normal supply from the Hawaii electric system. As used in**  
18 **this definition, "Hawaii electric system" has the same meaning**  
19 **as in section 269-141."**

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

1           "§269-92 Renewable portfolio standards. (a) Each  
2 electric utility company that sells electricity for consumption  
3 in the State shall establish a renewable portfolio standard of:

4           (1) Ten per cent [~~of its net electricity sales~~] by  
5 December 31, 2010;

6           (2) Fifteen per cent [~~of its net electricity sales~~]  
7 by December 31, 2015;

8           (3) Thirty per cent [~~of its net electricity sales~~] by  
9 December 31, 2020;

10          (4) Forty per cent [~~of its net electricity sales~~] by  
11 December 31, 2030;

12          (5) Seventy per cent [~~of its net electricity sales~~]  
13 by December 31, 2040; and

14          (6) One hundred per cent [~~of its net electricity~~  
15 ~~sales~~] by December 31, 2045.

16          (b) All electric grid-connected energy systems must be one  
17 hundred per cent renewable energy systems by December 31, 2045;  
18 provided that this will not apply where the generation is used  
19 exclusively for emergency service in case of failure of the  
20 normal supply from the Hawaii electric system. As used in this  
21 definition, "Hawaii electric system" has the same meaning as in  
22 section 269-141.

1       (c[~~b~~]) The public utilities commission may establish  
2 standards for each utility that prescribe what portion of the  
3 renewable portfolio standards shall be met by specific types of  
4 renewable energy resources; provided that:

5       (1) Prior to January 1, 2015, at least fifty per cent of  
6 the renewable portfolio standards shall be met by electrical  
7 energy generated using renewable energy as the source, and after  
8 December 31, 2014, the entire renewable portfolio standard shall  
9 be met by electrical generation from renewable energy sources;

10       (2) Beginning January 1, 2015, electrical energy savings  
11 shall not count toward renewable energy portfolio standards;

12       (3) Where electrical energy is generated or displaced by a  
13 combination of renewable and nonrenewable means, the proportion  
14 attributable to the renewable means shall be credited as  
15 renewable energy; and

16       (4) Where fossil and renewable fuels are co-fired in the  
17 same generating unit, the unit shall be considered to generate  
18 renewable electrical energy (electricity) in direct proportion  
19 to the percentage of the total heat input value represented by  
20 the heat input value of the renewable fuels.

21       (d[~~e~~]) If the public utilities commission determines  
22 that an electric utility company failed to meet the renewable



1 portfolio standard, after a hearing in accordance with chapter  
2 91, the utility shall be subject to penalties to be established  
3 by the public utilities commission; provided that if the  
4 commission determines that the electric utility company is  
5 unable to meet the renewable portfolio standards due to reasons  
6 beyond the reasonable control of an electric utility, as set  
7 forth in subsection (e[~~d~~]), the commission, in its discretion,  
8 may waive in whole or in part any otherwise applicable  
9 penalties.

10 (e[~~d~~]) Events or circumstances that are outside of an  
11 electric utility company's reasonable control may include, to  
12 the extent the event or circumstance could not be reasonably  
13 foreseen and ameliorated:

- 14 (1) Weather-related damage;
- 15 (2) Natural disasters;
- 16 (3) Mechanical or resource failure;
- 17 (4) Failure of renewable electrical energy producers to  
18 meet contractual obligations to the electric utility company;
- 19 (5) Labor strikes or lockouts;
- 20 (6) Actions of governmental authorities that adversely  
21 affect the generation, transmission, or distribution of

1 renewable electrical energy under contract to an electric  
2 utility company;

3 (7) Inability to acquire sufficient renewable electrical  
4 energy due to lapsing of tax credits related to renewable energy  
5 development;

6 (8) Inability to obtain permits or land use approvals for  
7 renewable electrical energy projects;

8 (9) Inability to acquire sufficient cost-effective  
9 renewable electrical energy;

10 (10) Inability to acquire sufficient renewable electrical  
11 energy to meet the renewable portfolio standard goals beyond  
12 2030 in a manner that is beneficial to Hawaii's economy in  
13 relation to comparable fossil fuel resources;

14 (11) Substantial limitations, restrictions, or  
15 prohibitions on utility renewable electrical energy projects;  
16 and

17 (12) Other events and circumstances of a similar nature.

18 SECTION 4. Statutory material to be repealed is bracketed  
19 and stricken. New statutory material is underscored.

20 SECTION 5. This Act shall take effect upon its approval.

21

22 INTRODUCED BY: \_\_\_\_\_

**1**

BY REQUEST

**2**

**Report Title:**

Renewable Portfolio Standard; Definition

**Description:**

Amends the "renewable portfolio standard" definition to more accurately reflect the amount of renewable energy generation in Hawaii by amending the renewable portfolio standard calculation to be based on total renewable electrical energy generated from grid-connected renewable energy systems to the total electrical energy generated from grid-connected energy systems. (HB2291 **HD2**)

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

TESTIMONY OF RANDY IWASE  
CHAIR, PUBLIC UTILITIES COMMISSION  
STATE OF HAWAII  
TO THE  
HOUSE COMMITTEE ON  
CONSUMER PROTECTION AND COMMERCE

February 22, 2016  
2:30 PM

**MEASURE:** H.B. No. 2291, H.D. 1  
**TITLE:** RELATING TO RENEWABLE ENERGY

Chair McKelvey and Members of the Committee:

**DESCRIPTION:**

This measure would amend the current definition of “Renewable portfolio standard” to mean “the percentage of total renewable electrical energy generated from grid-connected renewable energy systems to the total electrical energy generated from grid-connected energy systems[.]”

**POSITION:**

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

**COMMENTS:**

The Commission notes that the language in the H.D. 1 before this Committee reflects the result of collaboration between the Commission, DBEDT, and other stakeholders. This H.D. 1 addresses the potential issues the Commission had noted previously. The Commission continues to collaborate with DBEDT and other stakeholders on ways to refine this measure as appropriate.

Thank you for the opportunity to testify on this measure.



Before the House Committee on Consumer Protection and Commerce  
Monday, February 22, 2016, 2:30 p.m., room 325  
HB 2291 HD 1: RELATING TO RENEWABLE ENERGY

Aloha Chair McKelvey, Vice Chair Woodson, Members of the Committee,

On behalf of the Distributed Energy Resources Council of Hawaii, I would like to testify in strong support for HB 2291 HD 1 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 sources. 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 roof top generation that is included in the calculation, the greater the amount of fossil fuels that could be included in the RPS at 100%.

The DER Council supports HB 2291 HD 1 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  
The Distributed Energy Resources Council of Hawaii



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  
Hermina Morita, Energy Dynamics  
Sharon Moriaki, UH Public Policy Center  
Tim O'Connell, US Dept of Agriculture  
Jeffrey Ono, Division of Consumer Advocacy, DCCA  
Stan Osserman, HCATT  
Darren Pai, Hawaiian Electric Companies  
Melissa Pavlicek, Hawaii Public Policy Advocates  
Randy Pereira, 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

House Committee on Consumer Protection & Commerce  
February 22, 2016 at 2:30 pm in Conference Room 325

## COMMENTS ON HB 2291 HD1, Relating to Renewable Energy

Chair McKelvey, Vice-Chair Woodson, and Members of the Committee,

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.*



## HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE

February 22, 2016, 2:30 PM

Room 325

(Testimony is 3 pages long)

### TESTIMONY IN SUPPORT OF HB 2291 HD1

Chair McKelvey, Vice Chair Woodson, and Committee Members,

Blue Planet Foundation supports HB 2291 HD1, which would implement an accounting correction for the state's renewable portfolio standard ("RPS") calculation. Based on an analysis of the data and recent facts, we propose amendments in response to prior testimony.

#### **Background**

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. House Bill 2291 would revise the RPS accounting calculation to address this potential outcome.

#### **Current vs. Future Impact of the RPS Accounting Correction**

Blue Planet wishes to clarify that the present legal impact of this accounting issue is limited. As an example, for 2014 the Hawaiian Electric Companies RPS was calculated at 21.3%. 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 target<sup>1</sup> with or without the accounting correction in HB 2291 HD1. However, in future years, as the amount of distributed energy continues to grow, this accounting inaccuracy will grow in magnitude. **Thus, the correction in HB 2291 HD1 is appropriate and necessary.**

#### **Proposed Amendments**

In prior testimony, the Hawaiian Electric Companies acknowledged the value in accurately calculating the RPS figure, but expressed concern about two aspects of the bill. We proposed amendments in response to those concerns.

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



**First, the Committee should consider adding language to confirm the policy decision that all grid-connected energy generation shall be 100% renewable by 2045.** Hawaiian Electric justifiably suggested that all grid-connected generation should be renewable by 2045, even if that generation is not controlled by the utility. This is fair, it mirrors the intent of Act 97 from 2015 (setting the 100% target), and it is consistent with the general understanding of how the RPS law should work. On this topic, the language proposed below is the same as language added to the Senate companion bill (SB 2820 SD1)

**Second, the Committee should consider delaying the implementation of this new accounting calculation for a period of time.** This should help to address Hawaiian Electric's second concern; that nearer-term targets should be re-evaluated in light of the new calculation. In addition, this strategy would recognize and maintain the small incentive that the current "double counting" calculation provides in favor of utilities allowing their customers to interconnect rooftop solar systems. This will help the development of a distributed energy system.

**Third, the Committee should consider advancing the interim RPS targets, based on testimony in the NextEra/Hawaiian Electric merger hearing.** In that hearing, the utilities acknowledged that more progressive interim targets are achievable. NextEra committed to increasing the 2020 target from 30% to 35%, and the 2030 target from 40% to 50%. These targets should therefore be embodied in the law. For the 2020 target, this is especially reasonable given the proposal above to continue using the prior accounting method for the purpose of the 2020 target.

The following revised language, revising Section 2 and adding a new Section 3, would accomplish these amendments (revisions to HD1 noted in red):

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

1. Adding a new definition of "grid-connected" to read as follows:

"Grid-connected" means interconnected to the Hawaii electric system under an existing standard or rule approved by the public utilities commission; provided that this will not apply where the generation is used exclusively for emergency service in case of failure of the normal supply from the Hawaii electric system. As used in this definition, "interconnection" and "Hawaii electric system" have the same meaning as in section 269-141."

2. Amending the definition of "renewable portfolio standard" to read as follows:

"Renewable portfolio standard" means: (i) prior to January 1, 2026, the percentage of electrical energy sales that is represented by renewable electrical energy; (ii) after December 31, 2025, the percentage of total renewable electrical energy generated from grid-connected renewable energy systems to the total electrical energy

generated from grid-connected energy systems; provided that "renewable energy system" has the same meaning as that term is defined in section 269-1."

Section 3. Section 269-21, Hawaii Revised Statutes, is amending as follows:

1. Amending the targets in subsection (a) as follows:

§269-92 Renewable portfolio standards. (a) Each electric utility company that sells electricity for consumption in the State shall establish a renewable portfolio standard of:

(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-five per cent of its net electricity sales by December 31, 2020;

(4) ~~Forty~~ Fifty 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. Inserting a new subsection(b) as follows:

(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.



Email: [communications@ulupono.com](mailto:communications@ulupono.com)

HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE  
Monday, February 22, 2016 — 2:30 p.m. — Room 325

**Ulupono Initiative Strongly Supports HB 2291 HD 1, Relating to Renewable Energy**

Dear Chair McKelvey, Vice Chair Woodson, and Members of the Committee:

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 1**, 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 committee's 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*

**Testimony before the  
House Committee on Consumer Protection & Commerce**

**February 22, 2016, 2:30 pm  
Conference Room 325**

**H.B. No. 2291, HD 1 – Relating to Renewable Energy**

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

*Chair McKelvey, Vice-Chair Woodson and Members of the Committee:*

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 in its current form. As such, we have been working with DBEDT on amendments.

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.

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 we believe it is only fair to at least re-evaluate the near term 2020 RPS target or make the new methodology apply to the RPS post-2020, as has been suggested by others. To be clear, we are fully committed to the state's goal of moving off of fossil fuels for all electricity generation by 2045.

We have been working with DBEDT on amendments that will address many of our concerns, and that work continues to progress. Fixing the math of the current RPS makes sense, but it must also be updated to align with market realities and public policy.

Thank you for this opportunity to testify.

Proposed RPS Equation of HB 2291:

RPS = 

Total Renewable Energy Generation

Total Energy Generation both Fossil and Renewable

= 

Utility Renewables + Utility-Contracted Renewables + Customer Renewables

Utility Fossil and Renewables + Utility-Contracted Fossil and Renewables + Customer Fossil and Renewables

	Year A	Year B	Year C	Year D	Year E	Year F	Year G
Utility and Contracted							
Renewable	10	15	20	25	30	35	25
Fossil	75	60	45	30	15	0	0
Customer							
Renewable	10	15	20	25	30	35	40
Fossil	5	10	15	20	25	30	35
Total	100	100	100	100	100	100	100
RPS	20.0%	30.0%	40.0%	50.0%	60.0%	70.0%	65.0%

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



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

**TESTIMONY OF THE HAWAII SOLAR ENERGY ASSOCIATION  
IN REGARD TO HB 2291 HD 1, RELATING TO RENEWABLE ENERGY  
BEFORE THE  
HOUSE COMMITTEE ON CONSUMER PROTECTION AND COMMERCE  
ON  
MONDAY, FEBRUARY 22, 2016**

Chair McKelvey, Vice-Chair Woodson and members of the committee, my name is Hajime Alabanza, and I represent the Hawaii Solar Energy Association, Inc. (HSEA)

HSEA supports HB 2291 HD 1. 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 its 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.

Furthermore, HB 2291 HD 1 compares grid connected renewable energy generation with total energy generation, further clarifying term definitions. HSEA agrees with the draft amendments as written.

Thank you for the opportunity to testify.



Testimony before the  
House Committee on Consumer Protection & Commerce

February 22, 2016, 2:30 pm  
Conference Room 325

H.B. No. 2291, HD1 – Relating to Renewable Energy

SUPPORT with AMENDMENTS

By Albert Perez  
Executive Director  
Maui Tomorrow Foundation, Inc.

Chair McKelvey, Vice-Chair Woodson and Members of the Committee:

The Maui Tomorrow Foundation SUPPORTS HB 2291 HD1, which fixes a problem in the way we calculate our progress toward a 100% Renewable Portfolio Standard (RPS). Under current law, RPS is a fraction that measures energy sales in the numerator and energy generation in the denominator. Due to this mixing of terms, it is possible to meet a “100% renewable” RPS under current law and also burn coal or other fossil fuels.

Without this amendment, we risk the credibility of the Hawaii Clean Energy Initiative. HB 2291 HD1 moves us to an “apples to apples” situation where we will calculate the RPS based on all grid tied generators that provide electricity, regardless of ownership.

Unfortunately the current wording of the proposed changes a) is grammatically unclear, and b) leaves other problems unaddressed. Accordingly, we suggest amendments to the language of the bill (see below).

Current Language of Proposed HB2291 HD1

"Renewable portfolio standard" means the total renewable electrical energy generated from grid-connected renewable energy systems to the total electrical energy generated



from grid-connected energy systems; provided that "renewable energy system" has the same meaning as that term is defined in section 269-1."

#### Suggested Amendment for Clarity

"Renewable portfolio standard" means a ratio (expressed as a percentage) of (a) to (b), where:

(a) is the total renewable electrical energy generated from grid-connected renewable energy systems, and

(b) is the total electrical energy generated from grid-connected energy systems; provided that "renewable energy system" shall have the same meaning as that defined in section 269-1."

#### Preference for Minimal Use of Carbon

Since Hawaii is known as a leader in renewable energy, our efforts need to withstand closer examination. The Maui Tomorrow Foundation is concerned that this Bill does not change the existing definition of "renewable energy", which means that we include in the definition of "renewable" a number of biomass and biofuel options which have disproportionately high near-term carbon impacts.

For us as humans to keep adding heat and carbon to the atmosphere by burning carbon based fuels, fossil or otherwise, is reckless. To do so and call it "renewable energy" risks losing our leadership and credibility. Biofuels may be an excellent choice for vehicle use replacing imported fuel, but we have many options for making electricity that produce little to no carbon footprint.

Although sequestration of carbon eventually brings biomass/biofuel operations near to being carbon neutral, the immediate impact of these operations is to quickly generate carbon dioxide, and thus heat the planet. The time that it takes for the carbon to be re-sequestered is, for some crops, too lengthy in this time of climate emergency. For example, trees that are planted to recapture the carbon generated by their predecessors that were chipped to burn as energy will not sequester the released carbon for several decades.

Accordingly, the Maui Tomorrow Foundation would like to see state policy give preference to methods of making renewable electricity that use lower amounts of carbon based fuels, with shorter time periods for sequestration of any carbon that is used.

Thank you for the opportunity to comment on this important legislation.



From: mailinglist@capitol.hawaii.gov  
Sent: Friday, February 19, 2016 8:18 AM  
To: CPCtestimony  
Cc: michael.noon@lejardinacademy.org  
Subject: Submitted testimony for HB2291 on Feb 22, 2016 14:30PM

**HB2291**

Submitted on: 2/19/2016

Testimony for CPC on Feb 22, 2016 14:30PM in Conference Room 325

Submitted By	Organization	Testifier Position	Present at Hearing
Michael Noon	Individual	Support	No

Comments: My name is Michael P. Noon and I am a freshman in high school at Le Jardin Academy. I strongly support this bill because Hawaii is an amazing place and it has great potential for renewable energy and I want to help in any way I can make this island state completely powered off of renewable energy and I think that we can achieve this. Right now, the current amount of renewable energy that we produce is not even nearly enough and I believe this bill will allow us to come closer to a completely renewable power supply for the Hawaiian islands. Thanks and Best, Michael P. Noon

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.

Do not reply to this email. This inbox is not monitored. For assistance please email [webmaster@capitol.hawaii.gov](mailto:webmaster@capitol.hawaii.gov)

**LATE**



February 20, 2016

Representative Angus I.K. McKelvey, Chair  
Representative Justin H. Woodson, Vice Chair  
House Committee on Consumer Protection and Commerce

**Opposition to HB 2291, HD1 Relating to Renewable Energy. (Amends the "renewable portfolio standard" (RPS) definition to more accurately reflect the amount of renewable energy generation in Hawaii by amending the RPS calculation to be based on total renewable electrical energy generated from grid-connected renewable energy systems to the total electrical energy generated from grid-connected energy systems.)**

**CPC Hearing: Monday, February 22, 2016, 2:30 p.m., in Conf. Rm. 325**

The Land Use Research Foundation of Hawaii (LURF) is a private, non-profit research and trade association whose members include major Hawaii landowners, developers and a utility company. One of LURF's missions is to advocate for reasonable, rational and equitable land use planning, legislation and regulations that encourage well-planned economic growth and development, while safeguarding Hawaii's significant natural and cultural resources and public health and safety.

LURF supports the general intent of this bill, which is the clarification of the definition of "*Renewable Portfolio Standard*" (RPS) to more accurately reflect the amount of renewable energy generation in Hawaii. However, LURF must **oppose HB 2291, HD1** based on the following facts:

- 1) Technical definitions, calculations and reporting requirements relating to RPS are best evaluated and recommended by the PUC in a collaborative effort with utilities, power producers and other stakeholders, and not by legislative mandates.**
- 2) The Legislature should not create its own new definitions of "*Grid-connected*" and "*RPS*," because it lacks the factual information, technical expertise and collaborative process to address the technical issues and complicated consequences relating to RPS;**
- 3) This bill is unnecessary, because the Public Utilities Commission (PUC) has already expressed its willingness to work with the State Department of Business, Economic Development and Tourism (DBEDT), the utilities and other stakeholders, on issues relating to this bill.**

**4) All renewable energy stakeholders in the State have either objected to, or criticized this bill.**

Under the circumstances, LURF respectfully recommends that the Legislature should consider refraining from creating its own legislative mandates relating to definitions, calculations or reporting requirements relating to RPS; this Committee should **defer HB 2291, HD1**; and allow the PUC to work with DBEDT, the utilities, and the renewable energy stakeholders regarding the issues that are the subject of this measure.

**HB 2291, HD1.** This bill seeks to amend the "renewable portfolio standard" definition to more accurately reflect the amount of renewable energy generation in Hawaii by amending the renewable portfolio standard calculation to be based on total renewable electrical energy generated from grid-connected renewable energy systems to the total electrical energy generated from grid-connected energy systems.

**LURF's Position.** LURF's **opposition** to is based on, among other things,

- **Technical definitions, calculations and reporting relating to RPS and renewable energy are best investigated, evaluated and recommended by the PUC in a collaborative effort with utilities, power producers and other stakeholders, and not by legislative mandates.** LURF supports the idea of clarifying the definition of RPS to more accurately reflect the amount of renewable energy generation in Hawaii, however, the technical, economic and policy issues and the impacts on other energy programs and rate payers are complex and are linked with various issues raised in the prior testimonies of energy stakeholders relating to the original version of this bill. Thus, instead of legislative mandates that attempt to dictate the outcome of the PUC decisions, such technical energy issues are best investigated, evaluated and recommended by the PUC in a collaborative effort with utilities, power producers and other stakeholders.
- **HB 2291, HD1 is unnecessary, because the Hawaiian Electric Companies are already working with DBEDT and the PUC is willing to collaborate with DBEDT, the electrical utilities and other stakeholders on language to address issues such as the definitions of "RPS" and "electrical energy generation;" and to clarify how those terms would be calculated and reported.** The Hawaiian Electric Companies have indicated in their prior testimony that they are already working with DBEDT on amendments that will address many of their concerns with the RPS definitions and to unregulated production of fossil fuels, and that work continues to progress. Also, in its prior testimony relating to this bill, the PUC **did not support** this bill, and did not even support the *intent* of this bill. Instead, the PUC's testimony stated: *"The Commission is open to collaborating with DBEDT and other stakeholders on language to address these issues."*

- **All renewable energy stakeholder in the State have criticized this bill (which is part of the Governor’s package), except for the Director of the Department of Business, Economic Development and Tourism (who works for the Governor) and two individuals.** The truth is - based on the current criticism of this bill, the Administration and Legislature should consider refraining from dictating any conclusions or outcomes through legislative mandates relating to technical issues relating to RPS definitions, calculations or reporting.
- **Criticism by PUC: The mere change of definitions proposed by HB 2291, HD1, does not clarify important technical issues, including, among other things, how “electrical energy generation” would be calculated and reported (PUC).** In its prior testimony, the PUC commented that “At the moment is unclear how the term “electrical energy generation” would be calculated and reported. “
- **Opposition by the Electric Companies.** The Hawaiian Electric Company, Inc. and its subsidiary utilities, Maui Electric and Hawaii Electric Light (collectively “Electric Companies”) have objected to HB 2291, based on two crucial omissions and flaws in the bill:
  - 1) **The proposed changes to the RPS do not fully consider the implications of when customers generate their own electricity with fossil fuels**; and long as customer generation from fossil fuels is allowed to expand without any sort of oversight or accountability, then the RPS and the State’s clean energy policy will have a major gap.
    - The bill 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 and the real possibility that large commercial customers (hotels, schools, hospitals, government entities) will invest in or contract with third party providers for fossil fuel-fired generation;
    - This measure does not address the fact that the Electric Companies do not have any control over this customer-generation using fossil fuels;
    - HB 2291 does not consider the fact that as the amount of customer fossil generation increases, then, correspondingly, the utility and independent power producers must decrease their renewable energy production; and
    - At that point, RPS actually decreases rather than increases.
  - 2) **The bill does not make corresponding adjustments to the utilities’ RPS targets that account for the change in methodology.** Using the existing methodology, the Electric Companies were at approximately 21% RPS at the end of 2014, and it was on this basis

that the Legislature increased the 2020 RPS requirement on the Electric Companies from 25% to 30% with the support of the electric companies. If the new methodology is adopted, the calculation results in lower numbers, thus it would be fair and prudent to at least re-evaluate the near term 2020 RPS target, or make the new methodology apply to the RPS post-2020, as has been suggested by Blue Planet and others.

- **Opposition by The Alliance for Solar Choice (TASC).** TASC is actually **opposed** to this measure. TASC is the organization that advocates for maintaining successful distributed solar energy policies and markets throughout the United States; and collectively, TASC members serve a majority of the solar customers in Hawaii. In its testimony on the original version of this bill, TASC objects to the very premise of this measure – its TASC’s position is that ***“customer-sited generation should not count towards the electrical utilities renewable portfolio standards.”***
- **Blue Planet’s suggestion to postpone the amendment of the RPS definition:** While Blue Planet supported the original version of this bill, its prior testimony also suggested the consideration of postponing the amendment of the RPS definition: *“If the Committee is reluctant to implement the accounting correction immediately, it may consider implementing the new RPS calculation after some period of time, thus retaining this small rooftop solar incentive during the interim. For example, **the Committee could consider amending the bill to implement the HB 2291 accounting correction beginning after the 2020 RPS target of 30%.**”*

Under the circumstances, LURF respectfully recommends that the Legislature should consider refraining from creating its own legislative mandates relating to RPS definitions, calculations or reporting requirements; this Committee should **defer HB 2291, HD1**; and allow the PUC to work with DBEDT, the Electric Companies, other utilities, and the renewable energy stakeholders regarding the issues that are the subject of this measure.

For the reasons stated above, LURF **must oppose HB 1730, HD1** and respectfully requests that this bill be **held** in this Committee.

Thank you for the opportunity to present testimony regarding this measure.

**LATE**



**HAWAII LODGING & TOURISM  
ASSOCIATION**

**LATE TESTIMONY**

Testimony of

Mufi Hannemann  
President & CEO  
Hawaii Lodging & Tourism Association

Committee on:  
Consumer Protection and Commerce  
February 22, 2016

House Bill 2291: Relating to Renewable Energy

Chair McKelvey, Vice Chair Woodson, and members of the committee on Consumer Protection and Commerce:

Thank you for the opportunity to testify. On behalf of the Hawaii Lodging & Tourism Association, we would like to offer these comments on House Bill 2291 HD1. This measure offers to change the definition of "renewable portfolio standard" to more accurately reflect the amount of renewable energy generation in Hawaii by amending the renewable portfolio standard calculation to be based on total renewable electrical energy generated from grid-connected renewable energy systems to the total electrical energy generated from grid-connected energy systems.

The Association strongly supports the idea of moving towards a more sustainable future; however we see the potential for unintended consequences with the language provided in HB2291 HD1. Through the proposed amendments in the bill's HD1, we see 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 feel that this amended bill will not only affect private consumer choice, but due to the lack and high cost of renewable gas will also hurt the entities who are currently using or plan to use cogeneration as a means to improve efficiency, increase reliability, and lower costs.

We humbly ask that you please look at addressing the matter without issuing this mandated regulation on the private sector.

Thank you for this opportunity to testify.