



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

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Statement of  
**LUIS P. SALAVERIA**  
**Director**  
Department of Business, Economic Development, and Tourism  
before the  
**HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION**

Thursday, March 17, 2016  
8:30 a.m.  
State Capitol, Conference Room 325

in consideration of  
**SB 2738, SD2 PROPOSED HD1**  
**RELATING TO RENEWABLE ENERGY**

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

The Department of Business, Economic Development & Tourism (DBEDT) offers comments on SB 2738, SD2 PROPOSED HD1. Part I of this measure, among other provisions, reduces the Hawaii Renewable Energy Technologies Income Tax Credit (REITC) for solar energy properties used to generate electricity from 35% (currently) to 15% after December 31, 2022, and creates energy storage property tax credits. SD2 PROPOSED HD1, Part I made corrections to conflicting dates in the measure. SD2 PROPOSED HD, added Parts II-V which: authorizes the issuance of general obligation bonds (\$3 million) and makes an appropriation (\$1.5 million) for fiscal year 2016-2017 for use by the High Technology Development Corporation (HTDC) to develop an electrolysis process hydrogen production, storage, and dispensing facility; and, requires HTDC to adopt rules pertaining to fees imposed on the sale of hydrogen made commercially available at facilities that are funded by this measure. Appropriates funds for the operation of the facility.

**Part I: Renewable Energy System Tax Credits**

DBEDT is supportive of Part I date corrections made under SD2 PROPOSED HD1.

While acknowledging the success of the REITC in decreasing Hawaii's reliance on fossil fuels, stimulating our economy, and driving innovation, DBEDT would support a ramp-down the tax credit for traditional solar electrical generation systems if it was done in a way to make room in the State budget for other grid-supportive renewable energy resources. This is important given the limited State budgetary resources. Also, without further understanding of the relative impact on the expansion of renewable energy resources, we are concerned about the unknown expansion of the aggregate storage tax credit provided by this bill.

DBEDT appreciates the concept of providing incentives for grid-supportive energy storage, which is aligned with the State's energy policy vision of a creating a modernized, intelligently-networked grid that provides economic, environmental and system benefits in a balanced, cost-effective and equitable manner. Hence, we recommend that storage properties (line 13, page 10) have a grid-connected requirement similar to that of solar energy properties that incorporate storage properties (lines 19-21, page 7 and lines 1-3, page 8).

Also, reducing the 'energy storage property' tax credit caps from \$10,000 to \$5,000 for single-family residential properties and from \$700 to \$350 for multi-family residential properties would bring them into alignment with the caps for 'solar energy properties that incorporate storage' and 'solar energy properties'.

Finally, we defer to the Department of Budget and Finance on the impact of the State budget from this bill and the Department of Taxation on its ability to administer its duties under this bill.

#### **Parts II-V: HTDC Hydrogen Production, Storage and Dispensing Facility**

With regards to Parts II-V of this measure, DBEDT supports the development of hydrogen infrastructure. Hydrogen transportation supports both the decarbonization of the transportation sector as well as being an enabler of increased penetration of intermittent renewable energy.

DBEDT defers to HTDC on the cost benefit of advancing the commercialization of hydrogen transportation as it relates to the particular project costs that the requested funds are in support of.

Thank you for the opportunity to offer these comments.



**Testimony before the House Committee on Energy & Environmental Protection**

**17MAR16**

**Conference Room 325**

**S.B. 2738 SD2 Proposed HD1 – Relating to Renewable Energy**

**By Keiki-Pua Dancil, Ph.D.**

**Director, Business Strategy Development**

**Hawaiian Electric Company, Inc.**

*Chair Lee, Vice Chair Lowen, and House Members of the Committee:*

As the Director of Business Strategy Development at Hawaiian Electric Company, I am testifying on behalf of Hawaiian Electric and its subsidiary utilities, Maui Electric and Hawaii Electric Light (collectively “Companies”). The Companies would like to **offer comments** on this bill for consideration.

Our vision is to deliver cost-effective, clean, reliable, and innovative energy services to ALL of our customers, creating meaningful benefits for Hawaii's economy and environment, and making Hawaii a leader in the nation's energy transformation. To drive our vision for Hawaii, we anchor our strategies in a set of common objectives; lowering customer bills 20 percent by 2030, increasing renewables in our generation portfolio, modernizing our grid, and expanding customer options.

Hawaiian Electric is committed to reach 100% RPS by 2045. This will require us to transform our business to include modernization of the generating fleet/grid, increased renewables, and expanded customer options. As we increase the amount of renewable energy production, energy storage, as well as other technologies, will play a significant role in distributing that energy throughout the day to coincide with demand and providing ancillary services. Hawaiian Electric is supportive of energy storage as a customer option and has prepared the following guiding principles to assist in enacting policy for the benefit of ALL customers:

- Energy storage policies should promote or enable renewable energy production to help Hawaii achieve the state's mandate of 100% RPS by 2045.
- Energy storage policies should provide overall cost effective grid benefits to ALL customers, not just those who choose to install batteries on their property.
- Should the state choose to enact policy to promote energy storage through investment tax credits (ITC) to customers who install energy storage, these customers **should remain connected to the electric system** for the life of the storage system to support the societal benefit for which these ITC are intended -- integrating more cost-effective renewable energy as we progress toward our state's 100% RPS.

S.B. 2738 SD2 Proposed HD 1 proposes four new sections. The first replaces the current renewable energy technology systems tax credit with tax credits for solar energy property, wind energy property, and energy storage property. Energy storage is a set of rapidly advancing technologies and the Companies believe that there will continue to be transformative shifts that will further enable the integration of renewables onto the system. The use, understanding, economics, and performance of energy storage technologies as well as other technologies and grid operations will continue to evolve rapidly during the time horizon of these tax credits. Such changes will impact the optimal resource portfolio on an integrated grid of renewable energy, energy storage and other solutions toward our 100% RPS. **Thus, the Companies suggest that these tax credits be allocated in a phased approach with periodic evaluations (e.g., every two to three years, upon certain volume thresholds, etc) to determine the optimal technologies and application of such technologies to cost-effectively integrate more renewables, and to avoid unintended consequences affecting our customers and achievement of our state's 100% RPS target.**

**The Companies also suggest that these energy storage properties be required to be grid connected and controllable for the life of the storage system to provide the much needed services to enable more renewables. An enforcement**

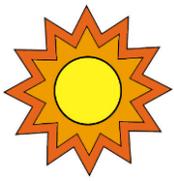


**mechanism would be critical as** such systems may result in the unintended consequence of grid defection which would be in conflict with public policy of achieving our state's 100% RPS and affordable costs for all customers.

The second section applies statute to taxable years beginning after 12/31/2016, the Companies have no comments for this section.

The third and fourth sections authorizes the issuance of general obligation bonds and makes an appropriation for the development of an electrolysis process hydrogen production, storage, and dispensing facility and appropriates funds for the operation of the facility. The Companies support the intent, however there are other mechanisms already in place such as "The Hawaii Renewable Hydrogen Program" which was initiated in 2006, two years before HCEI as well as Hawaii's Hydrogen Investment Capital Special Fund, created by Act 240, SLS 2006, which was established to provide seed and venture capital investments in hydrogen initiatives as well as cost-share grant opportunities. The fund was appropriated \$10MM by the State for this purpose. Before establishing a new fund, the legislature should review the previous efforts to determine 1) whether a new fund is necessary and 2) how successful the previous efforts were in their intent.

Thank you for the opportunity to provide these comments.



# INTER-ISLAND SOLAR SUPPLY

761 Ahua St.	Honolulu, HI	96819	Oahu	Tel: (808) 523-0711	Fax: (808) 536-5586
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400 Ala Makani St. #103	Kahului, HI	96732	Maui	Tel: (808) 871-1030	Fax: (808) 873-7825
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**TESTIMONY OF INTER-ISLAND SOLAR SUPPLY  
IN REGARD TO SB 2738 SD 2, RELATING TO RENEWABLE ENERGY  
BEFORE THE  
HOUSE COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION  
ON  
THURSDAY, MARCH 17, 2016**

Chair Lee, Vice-Chair Lowen and members of the committee, my name is Rick Reed, and I represent Inter-Island Solar Supply.

Inter-Island supports the intent of SB 2738 SD 2 and provides comments. This measure seeks to amend §196-6.5 and §235-12.5 to allow the Renewable Energy Investment Tax Credit (REITC) to apply to solar systems, solar hot water, wind energy, and energy storage systems. This bill is similar in language and intent to the Federal Investment Tax Credit and follows a similar sundown date structure for tax credits.

Both the Federal ITC and Hawaii's REITC have been very effective in allowing a mass adoption of distributed generation solar energy. The solar energy economy in the state is one of the largest in the United States per capita and includes approximately 2800 jobs.<sup>1</sup> At a national level and due to the success and popularity of the program, the Federal ITC was extended to 2022. Tax credits for solar systems have proven to be an effective mechanism to adopt renewable energy and should be instituted or continued whenever possible.

Amending §235-12.5 to allow tax credits to incentivize both traditional grid connected solar systems and energy storage systems will bolster renewable energy in Hawaii. With recent changes in solar policy, there will be a greater emphasis within the market for energy storage systems, which have inherent grid support functionality individually and in aggregate. These tax incentives will accelerate the innovation and adoption of energy storage and benefit customers, the utility, and the state.

Nonetheless, Inter-Island is concerned that by altering the existing language from "solar energy system" to "solar energy property," the \$5,000 credit cap would apply to the entire cost of a Hawaii solar installation. This would result in a considerably lower tax credit for the average 7.5kW PV system since, as it stands, the Renewable Energy Technologies Income Tax Credit (RETITC) is capped at \$5,000 per 5kW system for residential properties with an additional prorated tax credit to be applied to the remaining generating capacity in the following taxable year, essentially allowing customers to qualify for one and a half energy systems credits. Therefore, this measure would only significantly affect tax credits received for storage systems installed without an associated solar system while simultaneously reducing the tax credit amount received for a solar system in other forms.

Adjusting the REITC in this way would effectively reduce the total claimable tax credits on any solar system in most cases. Inter-Island would instead suggest keeping the credits as they are written, and including a separate tax credit for energy storage property.

As we have said in previous testimony, special consideration should be given to the proposed amendment to §235-12.5 found in SB 2738 SB 1 labeled (4), (A)-(C) first found on page 10, line 10.

<sup>1</sup> <http://www.solarstates.org/#state/hawaii/counties/jobs>

This section deals with energy storage installed on an existing solar system. There is concern that modifying a previously installed solar system that is party to a NEM agreement prior to October 12, 2015 would void that NEM agreement. It appears to be the case that the HEI companies are interpreting page 164-165 of Docket 2014-0192, Decision and Order No. 33258<sup>2</sup>, to include energy storage property as a means of additional generating capacity which would subsequently violate a previous NEM agreement if a customer were to retrofit an existing solar energy system with energy storage.<sup>3</sup> A customer would most likely not want to void their current NEM agreement in favor of battery storage. Language should be inserted addressing this and protecting customer who chooses to install a battery system from voiding their NEM agreement. Inter-Island suggests that the following provision be added between subsections (k) and (l):

No existing NEM or any other standard interconnection agreement shall be abrogated with the addition of an energy storage system pursuant to section 235-12.5(a)(3).

Additionally, according to the U.S. Census data, Hawaii issued 2356 new housing single-family building permits, of which 781 solar water heater variances were applied for and approved. This represents 33% of all new single-family homes built. It was not the original intention of the variance outlined in §196-6.5 of the Hawaii Revised Statutes to be used so frequently. We request additional amendments to §196-6.5 to further clarify when a variance should be allowed and close the loop hole allowing such a high percentage of approved variance applications.

Thank you for the opportunity to testify.

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<sup>2</sup> See PUC Docket No. 2014-0192, Decision and Order No. 33258 at pp. 164-165.

<sup>3</sup> See HEI Press Release dated October 13, 2015 here: <https://www.hawaiianelectric.com/public-utilities-commission-approves-new-rooftop-solar-programs>



**Hawaii Solar Energy Association**

*Serving Hawaii Since 1977*

**TESTIMONY OF THE HAWAII SOLAR ENERGY ASSOCIATION  
IN REGARD TO SB 2738 SD 2, RELATING TO RENEWABLE ENERGY  
BEFORE THE  
HOUSE COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION  
ON  
THURSDAY, MARCH 17, 2016**

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

HSEA supports the intent of SB 2738 SD 2 and provides comments. This measure seeks to amend §196-6.5 and §235-12.5 in light of changes in both the overall state of clean energy technology as well as recent alterations in state policy. This bill is similar in language and intent to the Federal ITC and follows a similar step-down structure for tax credits.

Broadly, tax incentives for solar energy need to be adopted by the state to advance the growth of renewable energy and, at a state level, accelerate progress towards a 100% renewable energy goal by 2045. A Bloomberg New Energy Finance study published in September of 2015 found that extending the Federal Solar Investment Tax credit to 2022 is likely to add 22GW of solar energy to the United States' energy infrastructure. Removal of the credit would have only led to 8GW of added PV.

Amending §235-12.5 to allow tax credits to incentivize both traditional grid connected solar systems and energy storage systems will bolster renewable energy in Hawaii. With recent changes in solar policy, there will be a greater emphasis within the market for energy storage systems, which have inherent grid support functionality. These tax incentives will accelerate the innovation and adoption of energy storage and benefit customers, the utility, and the state.

However, HSEA is concerned that by changing the existing language from “solar energy system” to “solar energy property,” the \$5,000 credit cap would apply to the entire cost of a Hawaii solar installation (in accordance with Internal Revenue Code). This would result in a considerably lower tax credit for the average 7.5kW PV system since, as it stands, the Renewable Energy Technologies Income Tax Credit (RETITC) is capped at \$5,000 per 5kW system for residential properties, essentially allowing customers to qualify for more than one and a half energy systems credits. Therefore, this measure would only significantly affect tax credits received for storage systems installed without an associated solar system while simultaneously reducing the tax credit amount received for a solar system in other forms. HSEA would prefer a separate tax credit for an energy storage component in addition to the original tax credits granted for solar systems.



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

As we have said in previous testimony, special consideration should be given to the proposed amendment to §235-12.5 found in SB 2738 SB 1 labeled (4), (A)-(C) first found on page 10, line 10. This section deals with energy storage installed on an existing solar system. There is concern that modifying a previously installed solar system that is party to a NEM agreement prior to October 12, 2015 would void that NEM agreement. It appears to be the case that the HEI companies are interpreting page 164-165 of Docket 2014-0192, Decision and Order No. 33258<sup>1</sup>, to include energy storage property as a means of additional generating capacity which would subsequently violate a previous NEM agreement if a customer were to retrofit an existing solar energy system with energy storage.<sup>2</sup> A customer would most likely not want to void their current NEM agreement in favor of battery storage. Language should be inserted addressing this and protecting customer who chooses to install a battery system from voiding their NEM agreement. HSEA suggests that the following provision be added between subsections (k) and (l):

No existing NEM or any other standard interconnection agreement shall be abrogated with the addition of an energy storage system pursuant to section 235-12.5(a)(3).

Additionally, according to the U.S. Census data, Hawaii issued 2356 new housing single-family building permits, of which 781 solar water heater variances were applied for and approved. This represents 33% of all new single-family homes built. It was not the original intention of the variance outlined in §196-6.5 of the Hawaii Revised Statutes to be used so frequently. We request additional amendments to §196-6.5 to further clarify when a variance should be allowed and close the loop hole allowing such a high percentage of approved variance applications.

SB 2738 SD 2 amends the sundown dates for the proposed tax credits. This clears up some of the confusion associated with the original draft of the bill in regard to these dates. HSEA agrees with the amendments as written.

Thank you for the opportunity to testify.

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<sup>1</sup> See PUC Docket No. 2014-0192, Decision and Order No. 33258 at pp. 164-165.

<sup>2</sup> See HEI Press Release dated October 13, 2015 here: <https://www.hawaiianelectric.com/public-utilities-commission-approves-new-rooftop-solar-programs>

# SUNPOWER®

To: The Honorable Chris Lee, Chair and Members of the House Committee on Energy and Environmental Protection

Date: March 17, 2016; 8:30 AM; Conference Room 325, State Capitol

Re: SB 2738, SD2 Proposed HD1

Dear Honorable Committee Members,

I am writing to you today to express SunPower's support for expanding the renewable energy technology systems tax credit to address the state's immediate need for energy storage technology, consistent with the intent of SB 2738 SD2 Proposed HD1. SunPower is reviewing SB 2738 SD2 Proposed HD1 and considering proposing amendments, but in general, this type of legislation is key to successfully transforming Hawaii into a reliable, sustainable 100% renewable energy economy.

Energy storage is an integral technology available today and is embedded as a key element solution within the Distributed Energy Resources Provider (2014-0192) and Power Supply Improvement Plan (2014-0183) PUC dockets. Establishing appropriate incentives for energy storage technology will ensure Hawaii's renewable energy transformation continues to support local business economics, minimizes impacts to taxpayers, and provides fair cost sharing of ratepayer benefits. This is aligned with SunPower's forward looking initiatives, which are founded in a market framework that enables a grid interconnected solution incorporating a combination of solar power, energy storage and energy intelligence software.

SunPower is considering proposing amendments to the legislation that focus on improving the definitions and ensuring the tax credit is utilized appropriately and administered easily. We look forward to collaborating with the Committee Members and other stakeholders on SB 2738 SD2 Proposed HD1.

Sincerely,



Tom Starrs  
Vice President  
Market Strategy and Policy



Statement of  
**Robbie Melton**  
Executive Director & CEO  
High Technology Development Corporation  
before the  
**HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION**  
Thursday, March 17, 2016  
8:30 a.m.  
State Capitol, Conference Room 325  
in consideration of

**SB 2738, SD2 Proposed HD1**  
**RELATING TO RENEWABLE ENERGY**

Chair Lee, Vice Chair Lowen, and Members of the Committee on Energy & Environmental Protection.

The High Technology Development Corporation (HTDC) **supports with requested amendments** to Part II through V of SB2738 SD2 Proposed HD1, which authorizes the director of finance to issue general obligation bonds in the sum of \$3,000,000 or so much thereof as may be necessary and the same sum or so much thereof as may be necessary is appropriate for fiscal year 2016-2017 for the development of an electrolysis process hydrogen production, storage, and dispensing facility provided that its passage does not replace or adversely impact priorities indicated in the Executive Budget.

For the past decade, HTDC's Hawaii Center for Advanced Transportation Technologies (HCATT) program has been recognized as a national leader in hydrogen demonstration projects. HCATT projects include the renewable hydrogen refueling station at Joint Base Pearl Harbor – Hickam, three hybrid hydrogen fuel cell busses, and a hydrogen fuel cell refueling truck. HCATT has been a strong supporter for hydrogen and has the expertise to deliver on projects. HCATT, together with the State Energy Office, has led the hydrogen working group gathering local stakeholders working together to improve Hawaii's hydrogen infrastructure. Furthermore, last year, Act 098 designated the HCATT Director as the State Hydrogen Implementation Coordinator.

SB2738 SD2 Proposed HD1 provides funding to initiate hydrogen production and dispensing, critical infrastructure required to support the fleet vehicle upgrades planned by the Hawaii Department of Transportation, Airports Division. The two departments are collaborating to establish the state's first hydrogen production, compression, storage

and dispensing facility near the Honolulu International Airport, producing pure, carbon free, hydrogen from renewable energy (on site photo voltaic and custom wind power).

SB2738 SD2 Proposed HD1 signals a commitment to the people of Hawaii that the State is serious about moving Hawaii's transportation sector to clean, fuel, by setting the example, just as Hawaii's private sector has committed by bringing in hydrogen vehicles and hydrogen fuel cell agricultural applications to our communities.

**HTDC comments that depositing funds into the HTDC special fund would require a temporary increase in the special fund ceiling equivalent to the appropriation.** Alternatively, a dedicated special fund may be established.

Thank you for the opportunity to offer these comments.



**HOUSE COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION**

March 17, 2016, 8:30 A.M.

Room 325

(Testimony is 2 pages long)

**TESTIMONY IN SUPPORT OF SB 2738**

And Suggested Clarification

Aloha Chair Lee, Vice Chair Lowen, and Committee members,

Blue Planet Foundation supports SB 2738 SD2 (proposed HD1), which revises the state's renewable energy tax credit to account for the growing need for energy storage. At the same time, SB 2738 provides a pathway for ramping the rate of tax incentives for renewable energy and energy storage systems in the future. We suggest clarifications to ensure that the bill succeeds in applying the renewable energy tax incentive to energy storage, while not unintentionally impacting existing administrative interpretations regarding its application to renewable energy generation.

Energy storage will play an increasingly critical role in transforming the state's electricity system, and for ensuring that electricity customers have options for installing their own clean energy infrastructure. It is sensible and appropriate to accelerate the pace of adoption of energy storage and laying groundwork for the transformed energy system. At the same time, it is sensible and appropriate to forecast a future ramp-down of these incentives, once the clean energy transition has commenced in earnest.

Prior testimony on this bill erroneously suggested that the benefit of the renewable energy credit is limited to those that have the initial capital to make a purchase. This is incorrect. Modern financing mechanisms (such as solar leases) have made it possible for many households and businesses in the state to install renewable energy even if they don't have capital for a purchase. Continuing innovation and refinement of such mechanisms, such as green energy financing, are likely to broaden this trend. Furthermore, while solar installations in early years were more prevalent in neighborhoods with a higher median income, data for later years showed this trend shifting, with the renewable energy accelerating fastest in neighborhoods with lower median incomes. Terminating a renewable energy tax credit would likely result in unfairly impacting residents in these neighborhoods. In addition, commercial renewable energy systems are also eligible for the credits set forth in the bill, and thus all electricity ratepayers can benefit in the form of lower prices paid if renewable electricity is sold to a utility and then re-sold

to customers. Similarly, all residents are benefitting from a shift away from highly volatile fossil fuels and toward renewable energy. A February 2016 analysis by the National Renewable Energy Laboratory concluded that the recent extension of federal renewable energy tax credits will result in more rapid renewable energy development, with the accompanying clean energy benefits.<sup>1</sup> The proposed ramp-down in SB 2738 appropriately balances these benefits with the need to reduce incentives in the future.

While Blue Planet generally believes that it makes sense to make grid-connected energy storage a policy focus, there are also important issues related to access to energy in underserved or remote areas where utility grid energy is not available. Moreover, evolving technology may make it more cost-effective for even an electric utility to provide energy without using a traditional “grid” (e.g. micro-grid, off-grid). The renewable energy incentive should not foreclose access to renewable energy in these new ways. Thus, there may be a need to balance the preference for grid-connected storage with the need to make sure that access to renewable energy is not limited only to those who purchase energy from a traditional utility grid.

Finally, we note that discussion of this bill is likely to focus on energy storage in the form of batteries. However, there are numerous other ways to store energy in ways that promote clean energy and energy independence (e.g. ice-storage air conditioners, grid-interactive water heaters). These provide essentially the same function as batteries, but may often be useful in situations (e.g. condominiums) where they are not paired directly with a renewable energy system. The proposed HD1 appropriately includes these smart solutions within the definition of energy storage, and provides for a tax credit for the installation of these “stand alone” energy storage systems. Any changes to the proposed HD1 should not disturb this outcome.

### **Suggested Clarification**

**“Energy Property” vs. “Energy System”**: The proposed HD1 uses the phrases “energy property” and “energy storage property” to describe equipment that is eligible for the tax credit. Prior administrative materials from the Department of Taxation (e.g. tax information releases) used the prior statutory phrasing “energy systems.” This prior administrative information should remain viable when applied to the new language. **Thus, we suggest replacing “property” with “system” in numerous places in the bill.** This has particular importance for determining how to apply the statutory tax credit cap on various different configurations of equipment. **We also suggest expressly explaining in the preamble that the bill intends to leave in place the existing administrative methods for calculating the tax credit cap.**

Thank you for the opportunity to testify.

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<sup>1</sup> Mai et al., *Impacts of Federal Tax Credit Extensions on Renewable Deployment and Power Sector Emissions* (Nat'l Renewable Energy Lab., Feb. 2016), available at <http://www.nrel.gov/docs/fy16osti/65571.pdf>

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March 17, 2016

**The Honorable Chris Lee, Chair**

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

**RE: S.B. 2738, S.D.2, Proposed H.D.1, Relating to Clean Energy**

**HEARING: Thursday, March 17, 2016 at 8:30 a.m.**

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

I am Myoung Oh, Government Affairs Director, here to offer testimony on behalf of the Hawai'i Association of REALTORS® ("HAR"), the voice of real estate in Hawai'i, and its 8,800 members. HAR **supports Part I** of S.B. 2738, S.D.2, Proposed H.D.1 which:

1. Replaces the current renewable energy technology systems tax credit with tax credits for solar energy property, wind energy property, and energy storage property;
2. Applies to taxable years beginning after 12/31/2016; and
3. Authorizes the issuance of general obligation bonds and makes an appropriation for the development of an electrolysis process hydrogen production, storage, and dispensing facility.

HAR supports Part I to the extent that the use of renewal energy for residential homes continues to be an incentive for homeowners to continue to invest in energy self-sustainability.

By fixing the cost of utility bills over a long period, it makes budgeting home ownership more predictable and sometimes more affordable in the long run. This bill continues the tax credits at a more sustainable level and includes a new component to incentivize energy storage at the producer level.

With new technologies developing quickly, including Tesla mass producing affordable large capacity storage available to home owners and other technologies soon to come to market, this bill incorporates these technologies into existing and new systems. By creating an incentive to allow more homes to utilize storage components, the door will remain open for many people who now own homes in "saturated" neighborhoods, where utilities will no longer accept new PV subscribers.

Having systems such as these increase property values by lowering long terms cost of ownership, and increase resale as the homes are more efficient and affordable to own.

Mahalo for the opportunity to testify.



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P: (808) 237-5050 | [energyexcelserator.com](http://energyexcelserator.com)

Energy Excelserator is a program of the Pacific International Center for High Technology Research (PICHTR), a Hawaii-based nonprofit.

**Before the House Committee on Energy & Environmental Protection  
Thursday, March 17, 2016, 8:30 a.m., Room 325**

Testimony in Support of **2738 SD 2 Proposed HD 1: Relating to Renewable Energy**

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Aloha Chair Lee, Vice Chair Lowen, and members of the Committee,

On behalf of the Energy Excelserator I would like to testify in **strong support** of for SB 2738 SD2 Proposed HD 1.

The proposed bill will modify the current renewable energy technology tax credit ("REITC") with an updated tax credit framework. The premise of the bill is to create a revenue-positive means for the State of Hawaii to ramp down the solar tax credit while allowing a smooth transition for the solar industry to installing distributed, grid-connected energy storage systems. This solution will create a bridge for both the electricity grid and the solar business community via the new, high-growth sector of energy storage. Eligibility would begin with systems installed and placed in service in 2017, and will be revenue positive for the State that year, and every year thereafter versus the status quo.

Energy Excelserator, a program of the non-profit organization PICHTR, the Pacific International Center for High Technology Research, is a multi-stage national accelerator program that uses Hawaii as a test bed for energy innovation. We recruit entrepreneurs locally and from all across the country to come to Hawaii and work on Hawaii's energy challenges and help us achieve our 100% renewable energy goal.

The Energy Excelserator supports SB 2738 SD2 Proposed HD 1 because it updates the current renewable energy technology income tax credit to provide incentives for energy systems that will benefit electrical grid, rate payers, and help Hawaii reach its clean energy future.

Mahalo for the opportunity to submit testimony.



Before the House Committee on Energy & Environmental Protection  
Thursday, March 17, 2016, 8:30 a.m., Room 325  
SB 2738 SD 2 Proposed HD 1: Relating to Renewable Energy

Aloha Chair Lee, Vice Chair Lowen, and Members of the Committee,

On behalf of Stem, Inc. (Stem), I would like to testify in strong support for SB 2738 SD 2 PROPOSED HD 1, with recommendations for several amendments.

The bill will modify the current renewable energy technology tax credit (“REITC”) with an updated tax credit framework. The premise of the bill is to create a revenue-positive means for the State of Hawaii to ramp down the solar tax credit while allowing a smooth transition for the solar industry to installing distributed, grid-connected energy storage systems. This solution will create a bridge for both the electricity grid and the solar business community via the new, high-growth sector of energy storage. Eligibility would begin with systems installed and placed in service in 2017, and will be revenue positive for the State that year, and every year thereafter versus the status quo.

Stem is a leading provider of innovative energy solutions that combine powerful learning software with advanced energy storage. Stem is currently partnered with Hawaiian Electric Company (“HECO”) on a 1MW renewables integration pilot to help the utility reach the State’s renewable energy goals. Stem is also working with the Hawaiian Electric Companies on a data transparency / data availability project for all of the public schools in the Tri-Companies’ service territories.

I. SB 2738 SD 2 PROPOSED HD 1 will encourage private investment in the grid

This bill maintains vital aspects of the REITC, while also updating the structure to allow energy storage to be eligible for the incentive. Stem firmly anticipates that many consumers and businesses will be looking to adopt energy storage over the next few years. These systems can reduce electricity bills and provide other benefits, such as back-up power.

Importantly, the tax incentive should be amended to include a requirement that the tax incentive is only available to customers with grid connected systems or to customers who do not have access to the electrical grid, as opposed to customers choosing to use the credit to fund “grid defection.”

If amended to include this provision, SB 2738 SD 2 PROPOSED HD 1 will motivate those considering energy storage systems to invest in grid-connected systems that leverage private capital to upgrade the grid for all rate-payers’ benefit. Meanwhile, those individuals without existing utility service will not be deprived of taking advantage of the credit.





## II. SB 2738 SD 2 PROPOSED HD 1 is fiscally prudent

The revised REITC structure in SB 2738 SD 2 PROPOSED HD 1 provides a fiscally sound and prudent alternative to continuing the current renewables tax incentive program as it stands. By ramping the incentive down over a six-year period, the bill will save taxpayer dollars while providing the solar industry the opportunity to expand into a new line of work: installing storage systems and solar + storage combination systems. This will be a smooth transition for the local economy, preserve existing jobs and businesses in the solar industry, and create new jobs in the storage industry.

Before closing, Stem would also respectfully request that the Committee consider the financial implications of recent additions to the bill language including bond obligations and other appropriations for additional technology incentives. The ramp-down of the solar tax credit is something the solar community generally supports, because the solar community expects to begin building out energy storage in the wake of a waning solar market. The solar community's support of this revenue-positive deal for the State could be put at risk by additional, less-related expense items that were not considered in the original concept of the bill.

Thank you for the opportunity to provide this testimony.

A handwritten signature in black ink, appearing to read "Tad" followed by a stylized surname.

Tad Glauthier  
Vice President of Hawaii Operations  
Stem, Inc.  
[tad.glauthier@stem.com](mailto:tad.glauthier@stem.com)



**99-1350 Koaha Place  
Aiea, HI 96701  
P: 808-524-7336  
F: 808-442-0040**

To: Committee On Energy & Environmental Protection

Re: Testimony on SB 2738 SD 2, Relating to Renewable Energy

03/15/16

Hawaii Energy Connection, LLC (HEC) is a Hawaii based photovoltaic installation company with over 90 full-time employees in addition to numerous independent sales representatives and outside contractors. HEC does work on all Islands in the State of Hawaii.

**HEC is in strong support of SB 2738 HD 1**

Mahalo,

Chris DeBone  
Managing partner, Hawaii Energy Connection, LLC





Bill van den Hurk, President  
Dave Rolf, Executive Director

HADA testimony in STRONG SUPPORT of  
SB 2738 SD2, Proposed HD1  
RELATING TO RENEWABLE ENERGY

Presented to the House Committee on Energy & Environmental Protection  
at the public hearing to be held  
8:30 a.m. Thursday, March 17, 2016  
in Conference Room 325, Hawaii State Capitol

Chair Lee, Vice Chair Lowen and Members of the Committee:

**The Hawaii Automobile Dealers Association, on behalf of the 68 franchised new-car dealers in the State of Hawaii, who employ 4,215 men and women across the state and who account for almost 15% of the state's retail economy, respectfully submits testimony in STRONG SUPPORT of SB 2738 SD2, Proposed HD1, Relating to Renewable Energy**

The proposed House Draft 1 (HD1) to SB2738 SD2 helps Hawaii adopt the use of hydrogen, a clean renewable fuel for the ground transportation sector.

One international carmaker already has a hydrogen fuel cell electric vehicle operating in Hawaii and other carmakers are preparing to put hydrogen fuel cell electric vehicles into production. Hawaii has become a leader in this clean renewable fuel vehicle sector because of legislative foresight years ago in setting goals for renewable fuel adoption in the ground transportation sector.

The hydrogen fuel cell electric vehicle is an electric vehicle that uses a fuel cell to convert hydrogen gas and oxygen into electricity to charge onboard batteries and power one or more onboard electric motors to propel the vehicle.

Such vehicles, because they are zero emission vehicles (ZEVs), can help Hawaii fulfill the clean energy goals for the ground transportation sector.

Hawaii has been selected by the U.S. Department of Energy for a focus on the development of hydrogen fuel cell electric vehicles.

It will be up to state, and local governments, auto dealers, private investors and the auto driving public in Hawaii to send a signal to all the world's automobile manufacturers that Hawaii has prepared well for the transition to hydrogen.

Hawaii has abundant, some would even say, a "first in the world" level of resources for energy production from renewable sources-- wind, wave, sun, geothermal, ocean thermal, and even has significant capabilities for waste-to-energy production.

Once these resources are harnessed and used for productive purposes like propelling public and private transportation, then Hawaii's 500-million-gallon annual consumption of gasoline, will, along with the reduction in consumption from efficiencies being produced for gasoline engines—significantly reduce our Hawaii consumption of fossil fuels.

HADA representatives have attended meetings which have included State Department of Transportation officials and Department of Transportation Services officials from the City and County of Honolulu and other transportation officials around the state engaging in discussions relating to plans for adopting use of some hydrogen fuel cell electric vehicles—in busses, shuttle busses, and even rubbish trucks.

To begin the journey toward the Hawaii Hydrogen Economy, initial hydrogen production and fueling station infrastructure needs to be put in place.

This bill provides some of the funding necessary for such infrastructure.

For the foregoing reasons, the Hawaii Automobile Dealers Association **STRONGLY SUPPORTS** the proposed HD1 to SB2738, SD2 and encourages all members of the committee to support passage of the bill.

Respectfully submitted,  
David Rolf  
For the Hawaii Automobile Dealers Association  
1100 Alakea St. Suite 2601  
Honolulu, Hawaii 96813



Before the House Committee on Energy & Environmental Protection  
Thursday, March 17, 2016, 8:30 a.m., Room 325  
SB 2738 SD 2 Proposed HD 1: Relating to Renewable Energy

Aloha Chair Lee, Vice Chair Lowen, and members of the Committee,

On behalf of the Distributed Energy Resources Council of Hawaii (“DER Council”), I would like to testify in strong support for SB 2738 SD2 Proposed HD 1 with several recommendations for amendments. SB 2738 SD2 Proposed HD 1 replaces the current renewable energy income tax credit (“REITC”) with an updated tax credit framework for solar, wind, and energy storage property, beginning with systems installed and placed in service in 2017 in addition to authorizing the issuance of a general purpose bond and an appropriation for a hydrogen production facility. The DER Council is a nonprofit trade organization formed to assist with the development of distributed energy resources and smart grid technologies which will support an affordable, reliable, and sustainable energy supply for Hawaii.

The DER Council strongly supports SB 2738 SD2 Proposed HD 1 because SB 2738 SD2 Proposed HD 1 updates the current renewable energy technology income tax credit to provide incentives for energy systems which will benefit the electrical grid and all rate payers.

Specifically, SB 2738 SD2 Proposed HD 1 creates incentives for customer invested PV plus energy storage for both new installs and legacy PV systems in addition to stand alone storage. Energy storage plus PV and stand-alone storage stands to provide many valuable resources to the electrical grid including peak shifting and a variety of ancillary services to assist with grid reliability and resiliency. SB 2738 SD 2 Proposed HD 1 encourages customers to stay grid connected and puts private capital to work by providing incentives for customer-invested and maintained renewable energy systems. Finally, SB 2738 SD 2 Proposed HD 1 is fiscally prudent and will save the State money by ramping down the credit from 35% to 15% while providing multiple grid benefits to the state of Hawaii and to all ratepayers.

However, the DER Council respectfully requests the following amendments to ensure that SB 2738 SD 2 Proposed HD 1 will succeed and effectively update the REITC to support our clean energy goals. The DER Council’s recommendations are as follows:

1. Require that the tax incentive is only available to customers with grid connected systems or to customers who do not have access to the electrical grid

The DER Council believes that tax incentives or rebates should first be applied to renewable energy systems which are connected to the electrical grid. Renewable energy systems which are grid connected stand to provide a wide variety of grid services and benefits towards reliability and resiliency, which will benefit all ratepayers. Although some customers may choose to leave the grid or take some portions of load off-grid, DER Council does not believe that tax dollars should be use to facilitate grid exit. However, in the case where a customer does not have access to the electrical grid, DER Council supports

the use of the REITC for these customers, as it would reduce the use of a fossil fuel generators and assist truly off-grid taxpayers with their energy use.

2. Preserve “system” language and do not replace with “energy property”

Under the current Hawaii administrative rules, the Department of Taxation has promulgated rules which clarify the administration of the REITC for energy systems. If SB 2738 SD 2 Proposed HD 1 replaces “system” with “energy property,” all of the rules under taxation will be moot, and the Department of Taxation may need to promulgate rules again, resulting in unnecessary work and delays. DER Council therefore recommends that the term “system” remain without change under the current bill.

3. Ensure that the application of the REITC does not abrogate any existing interconnection agreement

The DER Council agrees with HSEA that a customer’s existing interconnection agreement with the utility, such as a NEM agreement, should not be invalidated if that customer decides to invest in storage on a legacy system. As such, we agree that the following language should be included in SB 2738 SD 2 Proposed HD 1:

No existing NEM or other standard interconnection agreement shall be abrogated with addition of an energy storage system pursuant to section 235-12.5 (a) (3).

4. Include “electric cooperative” in language regarding electric utility

The DER Council anticipates that a variety of business models for the electrical utility will emerge in the next few years, and wishes to ensure that the grid connection language applies to both the current electrical utility in addition to any and all electrical cooperatives. As such, the DER Council recommends the following amendment:

“Grid-connected” means that the individual or corporate tax payer has obtained an approved interconnection agreement from an electric utility or cooperative for the solar energy property.”

5. Limit SB 2738 SD 2 Proposed HD 1 to REITC Issues

Although the DER Council supports the development of a broad-based portfolio of renewable resources, we do not believe that SB 2738 SD 2 Proposed HD 1 is the right vehicle to promote a new appropriation and general bond obligation for hydrogen production, storage, and dispensing facility. SB 2738 SD 2 Proposed HD 1 simply updates our current REITC to provide incentives for the type of technology the State now needs. We respectfully request that any general bond obligation or appropriation for another technology be considered under a separate vehicle.

SB 2738 SD 2 Proposed HD 1 is key to moving forward with our energy future if we wish to rid the state of our dependence upon imported fossil fuels and reach our RPS goal of 100% by 2045. Now is the time to act to make the best use of all of our resources.

Thank you for the opportunity to testify

Leslie Cole-Brooks  
Executive Director  
Distributed Energy Resources Council of Hawaii

Aquion  
Equana  
E-Gear, LLC  
Enphase Energy  
Geli, Inc.  
Green Charge Networks  
Hawaii Energy Connection  
Holu Energy  
Honeywell  
Johnson Controls  
Optimum Energy  
Stem  
Sunverge  
Tabuchi Electric Company of America

# TAX FOUNDATION OF HAWAII

126 Queen Street, Suite 304

Honolulu, Hawaii 96813 Tel. 536-4587

SUBJECT: INCOME, Renewable Energy Tax Credits

BILL NUMBER: SB 2738, Proposed HD-1

INTRODUCED BY: House Committee on Energy & Environmental Protection

EXECUTIVE SUMMARY: Amends the renewable energy technologies income tax credit to change limitations for certain technology types, and to make the credit caps apply per energy property rather than per system. Provides increased caps for photovoltaic property that is grid-connected and incorporates energy storage property. Generally the credit is being phased down, perhaps in recognition that the technology involved is no longer new. Tightens up definitions to ensure greater conformity with the Internal Revenue Code.

BRIEF SUMMARY: Amends HRS section 235-12.5, the renewable energy technologies income tax credit, to allow credits for each energy property, as follows:

For each solar energy property used exclusively to heat water and is installed and first placed in service in the State by a taxpayer during the taxable year: 35% of the basis up to the applicable cap amount, which is determined as follows: (A) \$2,250 per solar energy property for single-family residential property; (B) \$350 per unit per solar energy property for multi-family residential property; and (C) \$250,000 per solar energy property for commercial property.

For each solar energy property used primarily to generate electricity and is installed and first placed in service in the State by a taxpayer during the taxable year, the credit is a certain percentage of the basis up to the applicable cap amount, which is determined as follows: (A) \$5,000 per solar energy property for single-family residential property, except that if all or a portion of the property is used to fulfill the substitute renewable energy technology requirement in section 196-6.5(a)(3), HRS, the credit will be reduced by the credit rate times basis or \$2,250, whichever is less; (B) \$350 per unit per solar energy property for multi-family residential property; and (C) \$500,000 per solar energy property for commercial property. The credit rate is 25% for calendar years 2017-2019, 20% for calendar years 2020-2022, and 15% thereafter.

If the solar energy property is grid-connected and incorporates an energy storage property, the applicable cap amount is changed to: (A) \$10,000 per solar energy property for single-family residential property, except that if all or a portion of the property is used to fulfill the substitute renewable energy technology requirement in section 196-6.5(a)(3), HRS, the credit will be reduced by the credit rate times basis or \$2,250, whichever is less; (B) \$700 per unit per solar energy property for multi-family residential property; and (C) \$500,000 per solar energy property for commercial property. The credit rate is 25% for calendar years 2017-2019, 20% for calendar years 2020-2022, and 15% thereafter.

For each energy storage property installed and first placed in service in the State by a taxpayer during the taxable year, and is connected to a grid-connected solar energy property that was

placed in service in a prior taxable year: a certain percentage of the basis up to the applicable cap amount, which is determined as follows: (A) \$10,000 per energy storage property for single-family residential property; (B) \$700 per unit per energy storage property for multi-family residential property; and (C) \$500,000 per energy storage property for commercial property. The credit rate is 25% for calendar years 2017-2019, 20% for calendar years 2020-2022, and 15% thereafter.

Wind energy property is also creditable, and the credit rate is 20% basis or \$\_\_\_\_\_, whichever is less.

Provides that multiple owners of a single property shall be entitled to a single tax credit, which is apportioned between the owners in proportion to their contribution to the cost of the property. For a partnership, S corporation, estate, or trust, the credit is allowed for every eligible solar or wind energy property [probably should also include energy storage property] that is installed and placed in service in the State by the entity. The credit is distributed pursuant to IRC section 704(b).

Defines “basis” on which the credit is based as costs related to the solar energy, wind energy, or energy storage property, including accessories, energy storage, and installation, but does not include the cost of consumer incentive premiums unrelated to the operation of the energy property or offered with the sale of the energy property and costs for which another credit is claimed under this chapter. Any cost incurred and paid for the repair, construction, or reconstruction of a structure in conjunction with the installation and placing in service of solar or wind energy property, such as the reroofing of single-family residential property, multi-family residential property, or commercial property, shall not constitute a part of the basis of the eligible property; provided that costs incurred for the physical support of the solar or wind energy property, such as racking and mounting equipment and costs incurred to seal or otherwise return a roof to its pre-installation condition shall constitute part of the basis for the purposes of this section. States that basis shall be consistent with the use of basis in section 25D or section 48 of the Internal Revenue Code.

Provides that the tax credit under this section shall be construed in accordance with Treasury Regulations and judicial interpretations of similar provisions in sections 25D, 45, and 48 of the Internal Revenue Code.

Provides that a planned community association, condominium association of owners, or cooperative housing corporation may claim the tax credit under this section in its own name for property or facilities placed in service and located on common areas.

States that no credit shall be allowed to any federal, state, or local government or any political subdivision, agency, or instrumentality thereof.

**EFFECTIVE DATE:** Takes effect on 7/1/16; provided that the tax credit applies to taxable years beginning after 12/31/16.

**STAFF COMMENTS:** While some may consider an incentive necessary to encourage the use of alternate energy devices, it should be noted that the high cost of these energy systems limits the

benefits to those who have the initial capital to make the purchase. If it is the intent of the legislature to encourage a greater use of renewable energy systems through the use of tax credits, as an alternative, consideration should be given to strengthening or fixing the existing program of low-interest loans known as GEMS. Such low-interest loans, that can be repaid with energy savings, would have a much more broad-based application than a credit which amounts to nothing more than a “free monetary handout” or subsidy by state government.

While this and other measures demand serious consideration in order to stem the abuse of the current tax credit provisions, lawmakers and staff need to spend time during the interim researching and honing the tax incentive to be a more reasonable incentive that is forged in a good understanding of the developing technology. What is currently on the books reflects a handout for existing technology, and might not be efficient to encourage innovation.

In any event, lawmakers need to keep in mind two things. First, the tax system is the device that raises the money that they, lawmakers, like to spend. Using the tax system to shape social policy merely throws the revenue raising system out of whack, making the system less than reliable as there is no way to determine how many taxpayers will avail themselves of the credit and in what amount. The second point to remember about tax credits is that they are nothing more than the expenditure of public dollars, but out the back door. If, in fact, these dollars were subject to the appropriation process, would taxpayers be as kind about the expenditure of these funds when there isn't enough money for social service programs, or our state hospitals are on the verge of collapse?

Utilizing tax credits other than to alleviate an excessive tax burden cannot be justified and is of a questionable benefit relative to the cost for all taxpayers. If lawmakers want to subsidize the purchase of this type of technology, then a direct appropriation would be more accountable and transparent.

Second, the additional credit would require changes to tax forms and instructions, reprogramming, staff training, and other costs that could be massive in amount. A direct appropriation may be a far less costly method to accomplish the same thing.

Digested 3/15/2016

HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION  
Thursday, March 17, 2016 — 8:30 a.m.

TESTIMONY SUPPORTING SB2738 PROPOSED HD1  
RELATING TO RENEWABLE ENERGY

Chair Lee, Vice Chair Lowen, and Members of the Committee:

Kairos Energy Capital SUPPORTS SB2738 Proposed HD1 (hereinafter simply “SB2738 HD1”), which would make various improvements and clarifications in the Renewable Energy Technologies Income Tax Credit (“RETITC”). We also offer comments which we believe would further enhance the effectiveness and advance the purposes of the bill.

Kairos Energy Capital is a Hawai'i merchant bank that focuses entirely on providing and arranging funding for renewable energy projects. We have become one of the leading experts in Hawai'i in solar project financing.

Our comments and suggested changes to the bill are as follows:

1. The cap on commercial installation credits for storage-integrated solar should be increased correspondingly with residential and multi-family: Section (a)(3) of SB2738 HD1 introduces the concept of differing treatment for grid-connected solar energy property which integrates storage. The difference lies in the increased cap amount allowed, but while the cap for residential and multi-family applications is doubled from that for solar without storage, the cap on commercial is unchanged at \$500,000.

The obvious intent of this differing treatment for storage-integrated solar is to respond to the increasing saturation of our utility grids and corresponding need to incorporate storage to further increase the penetration of renewable energy as part of our overall energy mix in Hawai'i. The Public Utilities Commission adoption of the new “Distributed Energy Resources – Customer Grid Supply” (“DER CGS”) tariff last October brought increasing urgency to the need for integrated storage by rendering many former solar configurations un-economic.

So-called “commercial” applications of solar contribute just as much, and perhaps more, to our efforts to wean Hawai'i off its oil dependency than residential and multi-family. I say “so-called” because the “commercial” rules apply to many public and non-profit installations such as schools, hospitals, churches, condominiums and community service organizations. These “commercial” installations, being larger in scale, can be installed at a lower cost than most residential systems, and help to benefit Hawai'i residents in exactly the same way as those residential and multi-family installations.

We strongly recommend that the cap for storage-integrated solar under Section (a)(3) be increased proportionately with residential and multi-family by raising it from \$500,000 to \$1,000,000.

2. The definition of “basis” relating to roofing should be clarified: The updated definition of “basis” in Section (b) of the Bill contains a ‘carve-out’ to the

exclusion of costs to repair, construct or reconstruct a structure. That carve-out allows inclusion of “costs incurred to seal or otherwise return a roof to its pre-installation condition.” While we support the intention of this provision, the wording of “return a roof to its pre-installation condition” could create confusion. We would suggest instead the following changes to SB2738 HD1’s wording of the definition of “basis” (changes from Proposed HD1 marked):

"Basis" means costs related to the solar energy, wind energy, or energy storage property under subsection (a), including accessories, energy storage, and installation, but does not include the cost of consumer incentive premiums unrelated to the operation of the energy property or offered with the sale of the energy property and costs for which another credit is claimed under this chapter. Any cost incurred and paid for the repair, construction, or reconstruction of a structure in conjunction with the installation and placing in service of solar or wind energy property, such as the reroofing of single-family residential property, multi-family residential property, or commercial property, shall not constitute a part of the basis for the purpose of this section; provided that costs incurred for the physical support of the solar or wind energy property, such as racking and mounting equipment and costs incurred to seal or otherwise ~~return a roof to its pre-~~ weatherproof the installation condition of solar energy, wind energy, or energy storage property shall constitute part of the basis for the purposes of this section.

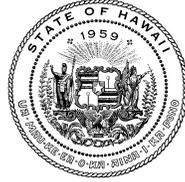
Kairos Energy Capital supports this bill as a long-needed update and improvement of the existing RETITC, for passage this year, recommends that the Committee report it out with a recommendation for passage, preferably with our suggested changes above.

Thank you for the opportunity to provide this testimony.

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Email: [LGilbert@kairosenergycapital.com](mailto:LGilbert@kairosenergycapital.com)

DAVID Y. IGE  
GOVERNOR

SHAN TSUTSUI  
LT. GOVERNOR



STATE OF HAWAII  
**DEPARTMENT OF TAXATION**  
P.O. BOX 259  
HONOLULU, HAWAII 96809  
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MARIA E. ZIELINSKI  
DIRECTOR OF TAXATION

JOSEPH K. KIM  
DEPUTY DIRECTOR

**LATE**

To: The Honorable Chris Lee, Chair  
and Members of the House Committee on Energy and Environmental Protection

Date: March 17, 2016

Time: 8:30 A.M.

Place: Conference Room 325, State Capitol

From: Maria E. Zielinski, Director  
Department of Taxation

Re: S.B. 2738, S.D. 2, Proposed H.D. 1, Relating to Renewable Energy.

The Department of Taxation (Department) appreciates the intent of S.B. 2738, S.D. 2, Proposed H.D. 1, and offers the following comments regarding the portions of this measure that pertain to tax for your consideration.

S.B. 2738, S.D. 2, Proposed H.D. 1, makes amendments to sections 196-6.5 and 235-12.5, Hawaii Revised Statutes (HRS), creates a High Technology Special Fund, and allows issuance of general obligation bonds for the development of an electrolysis process hydrogen production, storage, and dispensing facility. Among other changes, it makes the Renewable Energy Technologies Income Tax Credit (RETITC) applicable to solar or wind energy "property" rather than solar or wind energy "systems," and bases the amount of credit on the basis of property rather than on the "actual cost" of the system.

The amount of the RETITC is changed by this measure to be twenty-five percent of the basis of solar energy property installed before 2020, twenty percent of the basis for solar energy property installed between December 31, 2019 and January 1, 2023, and fifteen percent of the basis for property installed on or after 2023. The credit is subject to per "property" caps. A credit with different cap amounts is created for solar energy property that is grid-connected and incorporates energy storage property, and a similar credit is added for "energy storage property" that is not included as part of solar energy property. The credit for wind energy property is twenty percent of the basis, capped at an unspecified amount. The measure has a defective effective date July 1, 2076, and applies to taxable years beginning after December 31, 2016.

The Department notes that this measure cannot be administered as currently written. As written, this measure poses the same problem with ambiguity as section 235-12.5, HRS, is currently enacted. The renewable energy technologies income tax credit has historically been very difficult to administer, primarily due to the fact that the statute contains no definition for the word

"system," but capped credit amounts on a per-system basis. One of the outcomes of this statutory ambiguity has been a much larger than anticipated number of RETITC claims made and revenue lost. The ambiguity in the statute was ultimately addressed by the Department's enactment of administrative rules pertaining to the RETITC in November 2012. The changes proposed by S.B. 2738, S.D. 2, Proposed H.D. 1, have the effect of making these administrative rules obsolete and reintroducing a problem that has already been resolved.

The definition in this measure for "solar or wind energy property" is not significantly different from the prior definition of "solar or wind energy system," and will result in the same ambiguity seen previously with this tax credit. Although the language is changed to "property" rather than "system" there is no meaningful change in the definition; with this definition "property" is synonymous with "system" as the statute was previously worded. The Department strongly suggests that the measure be amended to include definitions and provisions that will provide sufficient guidance to administer the RETITC without the need for administrative rules. Without sufficient clarity, this tax credit could result in a larger than expected revenue losses, similar to the RETITC.

If the intention of the Legislature is to make Hawaii's tax credit more similar to the federal tax credit, the Department suggests simply allowing taxpayers to claim a credit equal to a percentage of the federal tax credit available for renewable energy property without applying a cap. As explained above, the caps have caused confusion for taxpayers and administrative difficulty for the Department, and resulted in unintended revenue losses for the State.

Finally, the Department notes that this measure provides different cap amounts for renewable energy technology installed with integrated energy storage property. The RETITC as currently administered would apply to the installation of energy property with incorporated energy storage property as an accessory.

Thank you for the opportunity to provide comments.



**LATE**

DAVID Y. IGE  
GOVERNOR

SHAN S. TSUTSUI  
LT. GOVERNOR

STATE OF HAWAII  
OFFICE OF THE DIRECTOR  
DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS  
335 MERCHANT STREET, ROOM 310  
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CATHERINE P. AWAKUNI COLÓN  
DIRECTOR

JO ANN M. UCHIDA TAKEUCHI  
DEPUTY DIRECTOR

TO THE HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

THE TWENTY-EIGHTH LEGISLATURE  
REGULAR SESSION OF 2016

THURSDAY, MARCH 17, 2016  
8:30 A.M.

TESTIMONY OF JEFFREY T. ONO, EXECUTIVE DIRECTOR, DIVISION OF  
CONSUMER ADVOCACY, DEPARTMENT OF COMMERCE AND CONSUMER  
AFFAIRS, TO THE HONORABLE CHRIS LEE, CHAIR,  
AND MEMBERS OF THE COMMITTEE

SENATE BILL NO. 2738, S.D. 2, PROPOSED H.D. 1 - RELATING TO  
RENEWABLE ENERGY

**DESCRIPTION:**

This measure proposes to replace the current renewable energy technology systems tax credit with tax credits for solar energy property, wind energy property, and energy storage property and applies to taxable years beginning after December 31, 2016. This measure also proposes to authorize the issuance of general obligation bonds and makes an appropriation for the development of an electrolysis process hydrogen production, storage, and dispensing facility and appropriates funds for the operation of the facility.

**POSITION:**

The Division of Consumer Advocacy ("Consumer Advocate") opposes this bill.

**COMMENTS:**

Energy storage undoubtedly will play an important role in stabilizing the electricity grid as greater amounts of intermittent renewable energy are added to the electricity generation mix. On the other hand, energy storage is not the only means by which grid stabilization can be achieved. Energy efficiency, demand response, and fast starting and ramping generating units will also be key components in accommodating

intermittent resources. Providing a tax credit for any given resource picks winners and losers in a time of rapidly changing technology. The Consumer Advocate believes that economics and market-driven pricing, without subsidies, should drive the selection of energy resources.

At present, energy storage technologies, such as battery storage, have been improving with costs declining in recent years. In spite of this recent trend, energy storage systems are still very expensive as compared to other alternatives that can be used to modernize the grid. As a result, energy storage systems are likely to be affordable to only the wealthiest consumers until further significant price decreases occur. A tax credit that might encourage wealthy consumers to disconnect from the grid would have the potential unintended consequence of placing a greater financial burden on less affluent consumers who must remain connected to the grid without being able to offset their load with rooftop solar photovoltaic systems and/or take advantage of energy storage systems. The Consumer Advocate therefore objects to this proposed tax credit that will be potentially detrimental to low income ratepayers and may unduly affect technology investment decisions that should be primarily guided by market forces.

Thank you for this opportunity to testify.

**Testimony of  
Gary M. Slovin / Mihoko E. Ito  
on behalf of  
The Alliance of Automobile Manufacturers**

DATE: March 16, 2016

TO: Representative Chris Lee  
Chair, Committee on Energy & Environmental Protection

*Submitted Via [EEPtestimony@capitol.hawaii.gov](mailto:EEPtestimony@capitol.hawaii.gov)*

RE: **S.B. 2738, S.D.2, Proposed H.D.1 – Relating to Renewable Energy**  
**Hearing Date: Thursday, March 17, 2016, 8:30 a.m.**  
**Conference Room: 325**

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

On behalf of the Alliance of Automobile Manufacturers (“Alliance”), we submit this testimony in **support** of S.B. 2738, S.D.2, proposed H.D.1 with respect to parts III, IV and V of the proposed draft. The Alliance is a trade association of twelve car and light truck manufacturers including BMW Group, Fiat Chrysler Automobiles, Ford Motor Company, General Motors Company, Jaguar Land Rover, Mazda, Mercedes-Benz USA, Mitsubishi Motors, Porsche, Toyota, Volkswagen Group of North America, and Volvo.

The Alliance is very supportive of efforts to develop hydrogen as a fuel for motor vehicles and is aware that the state administration and the Legislature are supportive of the development of alternative fuels. We defer to the Legislature as to whether this measure is needed to promote the development of hydrogen but remain ready and willing to help in the pursuit of hydrogen as a feasible alternative fuel. The industry has invested heavily in the research and development of hydrogen and believes that hydrogen has great potential as an alternative to fossil fuels.

Thank you for the opportunity to submit testimony on this measure.

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IN REPLY REFER TO:

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

March 17, 2016  
8:30 a.m.  
State Capitol, Room 325

**S.B. 2738, S.D. 2 proposed H.D. 1**  
**RELATING TO ENERGY**

House Committee on Energy and Environmental Protection

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The Department of Transportation (DOT) **strongly supports** Part III of this bill which authorizes the director of finance to issue general obligation bonds in the sum of \$3,000,000 or so much thereof as may be necessary for fiscal year 2016-2017 for the development of an electrolysis process hydrogen production, storage, and dispensing facility.

Part III of this bill provides funding to initiate hydrogen production and dispensing, critical infrastructure required to support the fleet vehicle upgrades planned by the DOT near the Honolulu International Airport to establish the State's first hydrogen production, compression, storage and dispensing facility.

This bill helps Hawaii meet its renewable energy goals.

Thank you for the opportunity to offer these comments.



Before the House Committee on Energy & Environmental Protection  
Thursday, March 17, 2016, 8:30 AM, Conference Room 325  
SB 2738, SD2 Proposed HD1: Relating to Renewable Energy

Aloha Chair Lee, Vice Chair Lowen and Committee Members,

On behalf of Enphase Energy (“Enphase”), I would like to testify in support for SB 2738 SD2, which replaces the current renewable energy technology tax credit (“REITC”) with an updated tax credit framework for solar, wind, and energy storage property, beginning with systems installed and placed in service in 2017.

As a leading technology developer in the residential solar and energy storage market, and one that has worked for years to assist Hawaii with its grid reliability challenges, we believe it is imperative for the proposed update to the REITC to incentivize the appropriate technologies to ensure they help stabilize the grid, not perpetuate grid quality issues. Therefore, we believe SB 2738 SD2 should be modified to ensure that tax credit eligibility for energy storage property only applies in one of three situations: 1) energy storage property that is grid-connected, 2) energy storage property that is grid-connected to existing grid-connected solar properties, and 3) energy storage property that is connected to existing off-grid solar properties for which no grid interconnection currently exists.

Amending SB 2738 SD2 with the appropriate revisions will ensure energy storage property can assist in helping meet Hawaii’s grid reliability needs. In addition, for those solar and storage customers that cannot interconnect to the grid, the revisions will also ensure that off-grid property owners will not be penalized because they have no means of staying grid-connected.

If Hawaii is to meet its objectives of 1) 100% renewables, 2) greater customer choice, and 3) lower ratepayer costs, it is unlikely that it will be able to do so without the implementation of “grid-connected” storage to mitigate grid reliability challenges associated with intermittent resources like wind and solar. Grid-connected storage allows for greater penetration levels while providing customers with the ability to provide services back to the electricity service provider. If implemented properly, and as intended by the Hawaii Public Utilities Commission, this should result in direct economic benefit to consumers resulting in lower electricity costs.

Grid reliability should be a cornerstone objective of the REITC and energy storage should be prioritized to be grid-connected. A tax incentive that motivates grid flight will only result in an even greater cost to all ratepayers due to the need to spend more money on reliability upgrades and potentially slow down renewable deployment. In this regard, the REITC would work against the State’s renewable objectives and desire for lower ratepayer costs and greater customer choice.

Thank you for the opportunity to testify.

Jason Simon  
Director of Policy Strategy  
Enphase Energy