SB 2737

RELATING TO ENERGY

DAVID Y. IGE
GOVERNOR

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LT. GOVERNOR

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TO THE SENATE COMMITTEE ON TRANSPORTATION AND ENERGY

THE TWENTY-EIGHTH LEGISLATURE
REGULAR SESSION OF 2016

WEDNESDAY, FEBRUARY 17, 2016
2:45 P.M.

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

SENATE BILL NO. SB 2737 - RELATING TO ENERGY STORAGE

DESCRIPTION:

This measure provides an investment income tax credit for self-generation energy storage used primarily to store energy for the utility customer's own use. The credit reduces from 30 per cent to 15 per cent over five years. The measure also provides, in lieu of the investment income tax credit, a production income tax credit for energy storage primarily for energy delivered and sold to a third party during the first ten taxable years the energy storage property is in service. That credit reduces from 8 cents per kilowatt-hour to 4 cents per kilowatt-hour over six years. The measure also requires the Department of Taxation ("DOTAX") and Department of Business, Economic Development, and Tourism ("DBEDT") to submit annual reports to the legislature regarding the energy storage income tax credit, and requires DBEDT to complete a study on the impacts and benefits of the tax credit and its contribution to the State reaching its energy goals.

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.

DAVID Y. IGE
GOVERNOR

SHAN TSUTSUI
LT. GOVERNOR

MARIA E. ZIELINSKI
DIRECTOR OF TAXATION

JOSEPH K. KIM
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF TAXATION
P.O. BOX 259
HONOLULU, HAWAII 96809
PHONE NO: (808) 587-1540
FAX NO: (808) 587-1560

To: The Honorable Lorraine R. Inouye, Chair
and Members of the Senate Committee on Transportation and Energy

Date: February 17, 2016
Time: 2:45 P.M.
Place: Conference Room 225, State Capitol

From: Maria E. Zielinski, Director
Department of Taxation

Re: S.B. 2737, Relating to Energy Storage.

The Department of Taxation (Department) appreciates the intent of S.B. 2737, and offers the following comments for your consideration.

S.B. 2737 creates a new income tax credit for energy storage property based either on the basis of the property, or on the amount of energy stored by the property and delivered and sold to a customer during the first ten taxable years that the energy storage property is in service. The credit based on the basis of the property is refundable if the taxpayer elects to reduce the credit amount by thirty percent. The credit based on the property's energy production is refundable without reduction in amount. S.B. 2737 additionally requires a report to the legislature from the Department, together with the Department of Business, Economic Development, and Tourism. The measure is effective on July 1, 2016, and applies to taxable years beginning after December 31, 2015.

First, the Department notes that this measure is effective for taxable years beginning after December 31, 2015. For an entirely new tax credit, the Department requests that this effective date be extended to taxable years beginning after December 31, 2016 in order to make the necessary form and computer system changes.

Second, the Department is concerned with the inconsistent use of the term "energy storage property." "Energy storage property" is defined as a class of property, but the bill also refers to "each energy storage property." This is inconsistent with the definition of "energy storage property" and limits the effect of defining "energy storage property" as a class of property. "Each energy storage property" suggests that taxpayers may claim the credit for separate properties in a tax year, whereas the definition of "energy storage property" includes the cumulative basis of all property placed in service during the year. Although the per "system" issue that exists in section

235-12.5, Hawaii Revised Statutes, for calculating the credit does not exist in this measure, the per "energy storage property" issue does exist in terms of the refundability election in subsection (h).

Third, as a general matter, the Department notes that non-refundable tax credits are much less problematic to administer and promote compliance. The Department therefore recommends that both credits be made non-refundable.

Fourth, subsection (i) contains a clause stating "No property placed in service pursuant to subsection (b)(2) shall be subject to reduction in refund payments for any subsequent year by any legislative act or executive decision." The Department believes this provision may interfere with its ability to audit claims for the production tax credit, and requests that this clause be deleted.

Finally, subsection (m) requires a report to the legislature. Paragraph (3) requires a report on the estimated economic benefit that may be attributable to the new tax credit. The Department defers to the Department of Business, Economic Development, and Tourism regarding its ability to generate the information required by this paragraph, as the Department is not able to generate dynamic economic estimates as required.

Thank you for the opportunity to provide comments.

DAVID Y. IGE
GOVERNOR

LUIS P. SALAVERIA
DIRECTOR

MARY ALICE EVANS
DEPUTY DIRECTOR

DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

No. 1 Capitol District Building, 250 South Hotel Street, 5th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804
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Statement of
LUIS P. SALAVERIA
Director
Department of Business, Economic Development, and Tourism
before the
SENATE COMMITTEE ON TRANSPORTATION AND ENERGY

Wednesday, February 17, 2016
2:45p.m.
State Capitol, Conference Room 225

in consideration of
SB 2737
RELATING TO ENERGY STORAGE.

Chair Inouye, Vice Chair Gabbard, and Members of the Committee.

The Department of Business, Economic Development & Tourism (DBEDT) offers comments on SB 2737, which, among other provisions, creates storage property and production tax credits whereby taxpayer can only take one or the other, and requires DBEDT to conduct a cost-benefit analysis and provide recommendations to the Legislature on the tax credit.

Given the limited State budgetary resources and without further understanding the relative impact on the expansion of renewable energy resources from storage adoption, we are concerned about the unknown expansion of the aggregate storage tax credit provided by this bill.

This bill appears to be silent on whether or not the storage properties must be grid connected in order to receive the tax credit. We are concerned that providing incentives for independent, non-grid-connected energy storage would not be in the best interest of the State as it would not support overall grid modernization efforts.

Regarding the production tax credit, we note that further clarity with regards to the amount of energy that is *stored* by the energy storage property and *delivered* and *sold* to a customer for such electricity may be difficult to prove and implement in practice.

DBEDT also notes that the financial and human resources required to administer the duties of this bill are not fully addressed in its current budget. Also, should this measure advance, we prefer the online survey approach taken in Act 270 (13) for the Research Activities Tax Credit for the monitoring and data collection component.

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.

Thank you for the opportunity to offer these comments.

Kaala Coleman

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, February 16, 2016 9:11 AM
To: TRE Testimony
Cc: mike.haleakalasolar@gmail.com
Subject: Submitted testimony for SB2737 on Feb 17, 2016 14:45PM

SB2737
Submitted on: 2/16/2016
Testimony for TRE on Feb 17, 2016 14:45PM in Conference Room 225

Submitted By	Organization	Testifier Position	Present at Hearing
Mike Haney	Haleakala Solar	Support	No

Comments: Please support SB 2737.

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

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Kaala Coleman

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, February 16, 2016 1:17 PM
To: TRE Testimony
Cc: rvrstn@hotmail.com
Subject: Submitted testimony for SB2737 on Feb 17, 2016 14:45PM

SB2737
Submitted on: 2/16/2016
Testimony for TRE on Feb 17, 2016 14:45PM in Conference Room 225

Submitted By	Organization	Testifier Position	Present at Hearing
J Riverstone	Positive Energy Arts, Inc	Comments Only	No

Comments: Aloha Hawaii Senate I am writing in support of SB2737, a bill to encourage adoption of energy storage devices (batteries) via a tax credit. Hawaii has set a goal of 100% renewable energy in 30 years, and in order to succeed we will need to support energy storage. Incentivizing home and business owners to install batteries will add to our power grid's resilience, as well as allowing greater adoption of renewables. Please support this important bill. Aloha J Riverstone Positive Energy Arts, Inc Pukalani, HI

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

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Kaala Coleman

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, February 16, 2016 12:50 PM
To: TRE Testimony
Cc: bruce@sunkinghawaii.biz
Subject: *Submitted testimony for SB2737 on Feb 17, 2016 14:45PM*

SB2737
Submitted on: 2/16/2016
Testimony for TRE on Feb 17, 2016 14:45PM in Conference Room 225

Submitted By	Organization	Testifier Position	Present at Hearing
Bruce Booker	Sun King Inc	Support	No

Comments:

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

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Testimony of Green Charge Networks, LLC
Dan Vickery, Manager of Policy and Market Development
e-mail: dvickery@greencharge.net

In SUPPORT of SB 2737 RELATING TO ENERGY STORAGE

Before the
SENATE COMMITTEE ON TRANSPORTATION AND ENERGY

Aloha, Chair Inouye, Vice-Chair Gabbard and members of the Committee.

My name is Dan Vickery and I am submitting these comments on behalf of Green Charge Networks. Green Charge is a developer of customer-sited energy storage systems for commercial customer bill management and utility grid balancing.

Green Charge Networks is in **support** of SB 2737.

Current tax credits, such as the Renewable Energy Technologies Income Tax (RETIT) credit, apply to intermittent renewable resources only, and there is currently no similar credit to dispatchable grid-firming resources such as energy storage. Without substantial development of grid-balancing resources alongside increasing amounts of intermittent solar and wind energy resources, these intermittent resources will become overly burdensome to the state's electrical infrastructure, and accordingly, will provide minimal benefits.

Green Charge therefore **supports** SB 2737 – creating an energy storage investment tax credit – to encourage the development of dispatchable renewable generation, which will support solar and wind energy resources, and serve to meet Hawaii's needs when imported fuels stop flowing to the state.

Thank you for allowing for this testimony.

Testimony of Ron Hooson
Master Electrician, Electrical Contractor,
Owner Solar Inspectors Hawaii
Secretary, Board Member, Hawaii Solar Energy Association
1384 Aupupu St
Kailua, Hawaii 96734
Tel: (808) 542-6200
Ron@SolarInspectorsHawaii.com

In SUPPORT of SB 2737 RELATING TO ENERGY STORAGE

Before the
SENATE COMMITTEE ON TRANSPORTATION AND ENERGY

Wednesday, February 17, 2016 245 p.m.

Aloha, Chair Inouye, Vice-Chair Gabbard and members of the Committee.

My name is Ron Hooson. I have over 40 years of trade experience in the electrical, construction and alternative energy fields including extensive work with the National Oceanic and Atmospheric Administration, the National Wind Technology Center, Honeywell's Energy Center One, Trane Mechanical, Ball Aerospace and Bechtel Corporation working on utility powerhouse control room monitoring systems and long haul high voltage transmission systems both new construction and retrofits.

I **SUPPORT** of SB 2737.

I have been an Intervener on PUC Docket 2014-0192 and have been at all of the meetings over the last year. During those meetings a great deal of information was discussed regarding future iterations of the NEM program and possible ways to evolve it to best serve all Hawaiian customers with a technologically sound and economically fair NEM model. California among other states have been spending a great deal of time and money in similar efforts and are providing us with sound policy models to consider. The sudden and unexpected ending of the Hawaii NEM program before the resent decisions by other states could be reviewed and discussed has crippled the solar industry here in Hawaii. The solar industry had been providing the greatest measurable advances helping Hawaii to move toward it's clearly stated goal of 100% renewable power.

The solar consumer needs an economic model that motivates them to take action. Batteries double the cost of a solar system and need to be replaced every four to ten years depending on the chemistry and maintenance. This reoccurring additional cost, even with initial tax credits that have been proposed removes the economic drive for customers to add batteries to a solar system. We need to find an economically attractive tax credit structure to drive the evolving technology which is moving toward economic parity to continue on it's path for the benefit of all consumers.

Several battery manufacturers are getting very close to solving the earlier problems by integrating layers of software to monitor and control the charge/discharge cycle depth and duration based on continually updated internal retime battery monitoring

and real time intuitive demand modeling. The most significant challenge is the additional cost. Without any tax credit incentive the battery integration model cannot survive.

The battery integration model is critical to helping move Hawaii toward alternative energy sources. It will peak load shift, reducing capital expenditures for the utility. With advanced inverter functionality there is not enough roof space in the state for PV to fill that could hurt the grid. The NREL testing has proven that point. Spinning reserve is the only mathematical model left to be concerned with. Batteries are the answer to spinning reserve.

Batteries and advanced inverter functionality will be the answers to Hawaii's future but the current lack of economic incentive caused by the cancelation of NEM is the roadblock. This Bill would help to remove the roadblock.

Summary:

The bill will help to offset the damage done to the alternative energy integration movement that had been so successful helping Hawaii move toward it's goals for renewable energy.

The bill helps to stabilize the grid power utilizing battery storage both through peak load and power outage periods.

The bill helps to incentivize grid frequency, voltage and kVAR support technologies for the economical benefit of all customers.

Other states are making weekly breakthroughs on total package NEM and, battery compensation rates. We need to fairly value and support energy exported to the grid.

Thank you for allowing me to testify.

Ron Hooson

Licensed Master Electrician,
Licensed Supervising Electrician,
Licensed Electrical Contractor
IAEI Member

Parker Ranch®
est. 1847

TESTIMONY OF JOSE S. DIZON, P.E.
GENERAL MANAGER, PANIOLO POWER COMPANY, LLC A SUBSIDIARY OF PARKER RANCH, INC.
TO THE SENATE COMMITTEES ON TRANSPORTATION AND ENERGY

February 17, 2016
2:45pm
State Capitol, Room 225

MEASURE: S.B. No. 2737
Title: RELATING TO ENERGY STORAGE

Chair Inouye, Vice Chair Gabbard, and Members of the Committee:

Paniolo Power Company, LLC supports Senate Bill 2737.

Tax credits played a major role in the development of wind and solar PV technologies in Hawaii. To enable even more renewable energy penetration on the islands, some form of energy storage will be needed.

Energy storage provides benefit in a number of ways. At the consumer level, those who can afford to purchase energy storage systems can store excess solar PV capacity for use during evenings or during emergencies. At a larger level, Paniolo Power believes that Pumped Storage Hydroelectric (PSH) is a transformational energy storage resource. It allows excess renewable energy that would otherwise be curtailed by the utility is stored for later use to offset fossil fuel-fired generation. PSH would be used to firm up wind and solar PV.

Without energy storage, wind and PV installations may stall, or renewable energy development may focus on combustion technologies such as the burning of biofuels or biomass. This could create a zero-sum game for renewable energy technologies where one renewable energy generator will have to compete and curtail other forms of renewable energy technologies. While a diversified portfolio of renewable energy technologies is important, energy storage mitigates the "one renewable technology in lieu of another" model by allowing the renewable generator that would have been curtailed to pump water to an upper reservoir, in the case where PSH as the energy storage resource.

PSH would play a pivotal role in farming and ranching. The water within the reservoirs could be used for irrigation for row crop farming or the greening of pastures for locally-raised cattle development. This is certainly within the State's purview of sustainability by addressing the ag-water-energy-food nexus.

Paniolo Power believes that a tax credit for energy storage, especially PSH, will enable even greater penetration of wind and solar PV, will provide tremendous benefit in firming intermittent renewable energy, will reduce the curtailment of existing and future renewable energy, and will benefit the agriculture industry by providing irrigation opportunities for farming and ranching, thus increasing the sustainability of Hawaii. Paniolo Power also believes that tax credits are effective as an interim measure to incentivize technologies or an industry, but should be eventually phased out.

Thank you for the opportunity to testify.

blue planet FOUNDATION



SENATE COMMITTEE ON TRANSPORTATION AND ENERGY

February 17, 2016, 2:45 P.M.

Room 225

(Testimony is 2 pages long)

TESTIMONY IN STRONG SUPPORT OF SB 2737

Aloha Chair Inouye, Vice Chair Gabbard, and Committee members,

Blue Planet Foundation supports SB 2737, which revises the state's renewable energy tax credit to account for the growing need for energy storage paired with renewable energy sources. At the same time, SB 2737 provides a pathway for ramping down tax incentives for energy storage systems in the future.

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 grid-connected 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.

We note three potential amendments:

1. Clarifying that the definition of "energy storage property" is focused on equipment used primarily to store *renewable* energy. As noted in item 2 below, this reference to "renewable electricity" would also appear in other portions of the bill.

Energy storage property" means equipment that is used primarily to stores and delivers renewable electricity, the construction, reconstruction, or erection of which is completed by the taxpayer, or which is acquired by the taxpayer if the original use of the property commences with the taxpayer.

2. Revising the tax credit "ramp-down" date. As currently proposed in SB 2737, this ramp-down would commence sooner (2018) than ramp-down approved by the U.S. Congress for renewable energy systems (which will remain at its current level until 2020). If the Committee is considering amendments to SB 2737, the Committee may consider similarly delaying the ramp-down for energy storage tax credits to commence in 2020. Sections (b)(1)-(2) of the amendment to H.R.S. Ch. 235 could be revised as follows (revisions from current bill noted in underlining):

info@blueplanetfoundation.org
55 Merchant Street 17th Floor • Honolulu, Hawai'i 96813 • 808-954-6142 • blueplanetfoundation.org

(1) For each energy storage property that is used primarily to store and deliver renewable energy to offset part or all of the load on the premises on which the energy storage property is located, and is installed and first placed in service in the State by a taxpayer during the taxable year:

A) Thirty per cent of the basis for energy storage property first placed in service after June 30, 2016, and before January 1, 2020;

(B) Twenty-five per cent of the basis for energy storage property first placed in service after December 31, 2019, and before January 1, 2022;

(C) Twenty per cent of the basis for energy storage property first placed in service after December 31, 2021, and before January 1, 2024; and

(D) Fifteen per cent of the basis for energy storage property first placed in service after December 31, 2023; and

(2) For each energy storage property that is used primarily to store renewable electricity, does not receive a tax credit under paragraph (1), and is first placed in service in the State by a taxpayer during the taxable year, the credit shall be equal to the number of kilowatt-hours stored by the energy storage property and delivered and sold to a customer during the first ten taxable years that the energy storage property is in service multiplied by:

(A) 8 cents, on or before December 31, 2019;

(B) 6 cents, after December 31, 2019; and

(C) 4 cents, after December 31, 2023;

3. Clarifying that if a tax credit is claimed for an energy storage device as part of a renewable energy system (pursuant to H.R.S. § 235-12.5), it would not be eligible for a second tax credit under this section.

Thank you for the opportunity to testify.

Before the Senate Committee on Transportation and Energy
Wednesday, February 17, 2016, 2:45 p.m., Room 225
SB 2737: RELATING TO ENERGY STORAGE

Aloha Chair Inouye, Vice Chair Gabbard, and members of the Committee,

On behalf of the Distributed Energy Resources Council of Hawaii ("DER Council"), I would like to testify in opposition to SB 2737, which creates an energy storage income tax credit. 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.

Hawaii has recently experienced many significant changes with its distributed energy market and the choices now available to consumers. Last year, the Public Utilities Commission (" Commission") closed the net energy metering program, and replaced the NEM program with two new tariffs: grid-supply and self-supply systems. We anticipate that once the grid supply allocation is fully subscribed, the use of storage with self-supply systems will greatly increase. Grid-connected self-supply systems with storage stand to provide many valuable services to the electrical grid for the benefit of all utility customers including peak shifting and a variety of ancillary services.

In addition, the utility is currently in the process of reworking its Power Supply Improvement Plans due April 15, 2016. It is anticipated that storage will play an important role in the new plans as the utility grapples with issues of balancing load and generation and meeting our 100% renewable goals.

However, the DER Council does not support SB 2737 in its current form, and we believe that SB 2738 SD 1 is the better vehicle to provide a pathway for our next phase of renewable development. We have several concerns with SB 2737, including the impact of an uncapped incentive, the tracking and valuation of a PTC, and SB 2737's treatment of the refundable credit for PTC systems, as outlined below.

Providing an incentive without a cap might not be sustainable

The DER Council fully supports a more robust incentive for renewable energy that clearly allows customers to install storage. However, we are concerned that providing an incentive without any cap per installation might not be sustainable, as it would be difficult to assess the financial impacts of the new incentive. The DER Council believes that SB 2738 provides a better pathway, by increasing the cap for grid connected system with storage and by allowing stand-alone storage with caps in place.

Valuation of a production tax credit should include several variables

In order to arrive at the correct incentive for a production tax credit several factors need to be considered. First, since systems taking the credit under the PTC would be selling and delivering energy, a more useful metric might be that the incentive for these types of systems would be based upon kW, not kWh, in the case where the overall power delivered to the grid is the more important factor. Also, the value of the

energy delivered may depend upon when the power is delivered: energy delivered at peak should receive a higher credit than energy delivered off peak. This is in contrast to a residential or small commercial system which would already be designed to help customers shift peak and use energy more effectively. Several other factors apply, and because of the increased complexity of the various functions that energy storage property can provide, the DER Council does not believe that a PTC for these types of systems is the best incentive framework.

The refundable credit should be applied at a discount for all taxpayers

The DER Council is concerned that SB 2737 has an express provision under section (2)(i) where in energy storage properties that receive the production tax can receive the credit without discount if the credit exceeds the taxpayers Hawaii state tax liability. In addition, SB 2737 states in section (2)(i) that "No property placed in service pursuant to subsection (a)(2) shall be subject to reduction in refund payments for any subsequent year by any legislative act or executive decision." The DER Council does not support this uneven application of the tax incentive. Right now, under the REITC, any taxpayer who does not have enough Hawaii state tax liability to receive a tax credit may receive the credit in cash at a 30% discount. This discount is applied in SB 2737 to those taxpayers who receive the ITC, but not the PTC as stated above. The DER Council believes that this would unfairly favor systems which receive a PTC and would not be fiscally prudent.

In summary, the DER Council generally supports tax incentives to encourage the development of all types of storage resources. However, the DER Council believes SB 2737 needs several amendments to be a sustainable and fair incentive to move the entire industry forward.

Thank you for the opportunity to testify

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

JPL Hawaii LLC 64-5085 Kalake St. Kamuela, Hawaii 97643

June 3, 2014

JPL Hawaii LLC is in **SUPPORT** of SB 2737.

We are building a 420 unit single family home development in waikoloa Resort. Our plan is to be 100% off grid relying on only renewable energy.

Right now, Hawaii's renewable energy technologies income tax (RETIT) credit applies only to intermittent solar and wind generation. It does not apply to energy storage or any forms of dispatchable renewable generation.

Without large amounts of energy storage, the large amounts of intermittent solar and wind generation that have been and will be installed in Hawaii will be undispatchable and unusable when imported fuels stop flowing to Hawaii.

HB 2511 creates an energy storage tax credit to encourage development of the dispatchable renewable generation that Hawaii needs when imported fuels stop flowing to Hawaii.

There are 2 kinds of energy storage: utility-controlled storage and customer-controlled storage.

Utility-controlled storage charges with energy from the grid and discharges energy to the grid. Utility-controlled storage allows the utility to connect more utility-controlled renewable generation (e.g., solar and wind) to the grid to benefit all utility customers.

To encourage development of utility-controlled storage, the bill provides a production tax credit that scales down from 8 cents per kWh to 4 cents per kWh over 6½ years.

Customer-controlled storage charges with energy from a customer's own renewable generation (e.g., solar and wind) and discharges energy for the customer's own use. Customer-controlled storage allows a customer to self-generate more renewable energy for the customer's own use.

To encourage development of customer-controlled storage, the bill provides an investment tax credit that scales down from 30% to 15% over 5½ years.

JPL Hawaii LLC **SUPPORTS** SB 2737 – creating a production tax credit for utility-controlled energy storage, and an investment tax credit for customer-controlled energy storage -- to encourage development of the dispatchable renewable generation that Hawaii needs when imported fuels stop flowing to Hawaii.

Thank you for allowing me to testify.

Brian Anderson

Green Power Projects LLC
Alan Lennard, Managing Director
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Haleiwa, HI 96712
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Testimony of Alan Lennard
Managing Director of Green Power Projects LLC
e-mail: alan.lennard@greenpowerprojects.com

In SUPPORT of SB 2737 RELATING TO ENERGY STORAGE

Before the
SENATE COMMITTEE ON TRANSPORTATION AND ENERGY

Wednesday, February 17, 2016 2:45 p.m.

Aloha, Chair Inouye, Vice-Chair Gabbard and members of the Committee.

My name is Alan Lennard. I am the Managing director of Green Power Projects LLC and a Director of Renewable Energy Action Coalition of Hawaii (REACH). Green Power Projects LLC is a Solar project facilitation company working towards 100% Renewable Energy capacity in Hawaii. REACH is a trade association whose vision is a Hawaiian energy economy based 100% on renewable sources indigenous to Hawaii.

We are in Full **SUPPORT** of SB 2737.

Right now, Hawaii's renewable energy technologies income tax (RETIT) credit applies only to intermittent solar and wind generation. It does not apply to energy storage or any forms of dispatchable renewable generation.

Without large amounts of energy storage, the large amounts of intermittent solar and wind generation that have been and will be installed in Hawaii will be undispatchable and unusable when imported fuels stop flowing to Hawaii.

SB 2737 creates an energy storage tax credit to encourage development of the dispatchable renewable generation that Hawaii needs when imported fuels stop flowing to Hawaii.

There are 2 kinds of energy storage: utility-controlled storage and customer-controlled storage.
Utility-controlled storage charges with energy from the grid and discharges energy to the grid. Utility-controlled storage allows the utility to connect more utility-controlled renewable generation (e.g., solar and wind) to the grid to benefit all utility customers.

To encourage development of utility-controlled storage, the bill provides a production tax credit that scales down from 8 cents per kWh to 4 cents per kWh over 6½ years.

Customer-controlled storage charges with energy from a customer's own renewable generation (e.g., solar and wind) and discharges energy for the customer's own use. Customer-controlled storage allows a customer to self-generate more renewable energy for the customer's own use.

To encourage development of customer-controlled storage, the bill provides an investment tax credit that scales down from 30% to 15% over 5½ years.

Therefore We **SUPPORT** SB 2737 – creating a production tax credit for utility-controlled energy storage, and an investment tax credit for customer-controlled energy storage -- to encourage development of the dispatchable renewable generation that Hawaii needs when imported fuels stop flowing to Hawaii.

Thank you for allowing me to testify.

Alan Lennard -dig signature

Alan Lennard
Managing Director
Green Power Projects LLC
P.O. Box 818
Haleiwa, HI 96712-0818

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Testimony of Laurence Ponce
RME of Solar Services Hawaii
e-mail: solar.services.hi.testimony@gmail.com

In SUPPORT of SB 2737 RELATING TO ENERGY STORAGE

Before the
SENATE COMMITTEE ON TRANSPORTATION AND ENERGY

Wednesday, February 17, 2016 2:45 p.m.

Aloha, Chair Inouye, Vice-Chair Gabbard and members of the Committee.

My name is Laurence Ponce. I am RME of Solar Services Hawaii. and a Member of Renewable Energy Action Coalition of Hawaii (REACH). Grand Solar is a Solar installation company working towards 100% Renewable Energy capacity in Hawaii. REACH is a trade association whose vision is a Hawaiian energy economy based 100% on renewable sources indigenous to Hawaii.

REACH is in **SUPPORT** of SB 2737.

Right now, Hawaii's renewable energy technologies income tax (RETIT) credit applies only to intermittent solar and wind generation. It does not apply to energy storage or any forms of dispatchable renewable generation.

Without large amounts of energy storage, the large amounts of intermittent solar and wind generation that have been and will be installed in Hawaii will be undispatchable and unusable when imported fuels stop flowing to Hawaii.

SB 2737 creates an energy storage tax credit to encourage development of the dispatchable renewable generation that Hawaii needs when imported fuels stop flowing to Hawaii.

There are 2 kinds of energy storage: utility-controlled storage and customer-controlled storage.
Utility-controlled storage charges with energy from the grid and discharges energy to the grid. Utility-controlled storage allows the utility to connect more utility-controlled renewable generation (e.g., solar and wind) to the grid to benefit all utility customers.

To encourage development of utility-controlled storage, the bill provides a production tax credit that scales down from 8 cents per kWh to 4 cents per kWh over 6½ years.

Customer-controlled storage charges with energy from a customer's own renewable generation (e.g., solar and wind) and discharges energy for the customer's own use. Customer-controlled storage allows a customer to self-generate more renewable energy for the customer's own use.

To encourage development of customer-controlled storage, the bill provides an investment tax credit that scales down from 30% to 15% over 5½ years.

REACH **SUPPORTS** SB 2737 – creating a production tax credit for utility-controlled energy storage, and an investment tax credit for customer-controlled energy storage -- to encourage development of the dispatchable renewable generation that Hawaii needs when imported fuels stop flowing to Hawaii.

Thank you for allowing me to testify.

Laurence Ponce – dig signature

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REACH
RENEWABLE ENERGY ACTION COALITION OF HAWAII
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Testimony of ERIK KVAM
Director of Renewable Energy Action Coalition of Hawaii
e-mail: Erik.Kvam@REACHawaii.org

In SUPPORT of SB 2737 RELATING TO ENERGY STORAGE

Before the
SENATE COMMITTEE ON TRANSPORTATION AND ENERGY

Wednesday, February 17, 2016 2:45 p.m.

Aloha, Chair Inouye, Vice-Chair Gabbard and members of the Committee.

My name is Erik Kvam. I am a Director of Renewable Energy Action Coalition of Hawaii (REACH). REACH is a trade association whose vision is a Hawaiian energy economy based 100% on renewable sources indigenous to Hawaii.

REACH is in **SUPPORT** of SB 2737.

Right now, Hawaii's renewable energy technologies income tax (RETIT) credit applies only to intermittent solar and wind generation. It does not apply to energy storage or any forms of dispatchable renewable generation.

Without large amounts of energy storage, the large amounts of intermittent solar and wind generation that have been and will be installed in Hawaii will be undispatchable and unusable when imported fuels stop flowing to Hawaii.

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REACH **SUPPORTS** SB 2737 – creating a production tax credit for utility-controlled energy storage, and an investment tax credit for customer-controlled energy storage -- to encourage development of the dispatchable renewable generation that Hawaii needs when imported fuels stop flowing to Hawaii.

Thank you for allowing me to testify.

INTER-ISLAND SOLAR SUPPLY

761 Ahua St.	Honolulu, HI	96819	Oahu	Tel: (808) 523-0711	Fax: (808) 536-5586
73-5569 Kauhola St.	Kailua-Kona, HI	96740	West Hawai'i Island	Tel: (808) 329-7890	Fax: (808) 329-5753
16-206 Wiliama St.	Keaau, HI	96749	East Hawai'i Island	Tel: (808) 935-0948	Fax: (808) 498-4606
400 Ala Makani St. #103	Kahului, HI	96732	Maui	Tel: (808) 871-1030	Fax: (808) 873-7825
1764 Haleukana St.	Lihue, HI	96766	Kauai	Tel: (808) 378-4080	Fax: (808) 378-4078

TESTIMONY OF THE HAWAII SOLAR ENERGY ASSOCIATION IN REGARD TO SB 2737, RELATING TO ENERGY STORAGE BEFORE THE SENATE COMMITTEE ON TRANSPORTATION AND ENERGY ON WEDNESDAY 17, 2016

Chair Inouye, Vice-Chair Gabbard and members of the committee, my name is Richard Reed and I represent Inter-Island Solar Supply.

Inter-Island supports the intent of SB 2737 with comments. This measure amends §235 of the Hawaii Revised Statutes to include a comprehensive tax credit to encourage the use of energy storage systems. Energy storage systems will provide measurable support helping to level the electrical demand curve which will be a financial benefit to all grid customers as well as saving both capitol and operation costs for the operating utility.

With the PUC decision to end retail NEM as well as 12-month reconciliation of credits in October of 2015, two new significantly less attractive options for the interconnection of solar systems were instituted: customer grid supply (CGS) and customer self-supply (CSS) with only a 35MW cap across all islands for CGS. Currently, there is no installed MW cap for customer self-supply and the intention appears to be to steer the market towards options that involve energy storage, at least in the interim period before Phase 2 of the DER docket (Docket No. 2014-0192). Tax incentives like those proposed in SB 2737 support the adoption of energy storage technology.

Furthermore, some justification should be given regarding the rates proposed in paragraph (2), section (A) – (C), on page 2 line 16-21 and page 3 line 1-6. Will the amounts, $0.08, $0.06, and $0.04 be fair and equitable moving forward? What is the evidence for this? Additionally, these rates could be open for adjustment to allow sensitivity to the market as well as input by the proposed studies by DBEDT. Inter-Island would recommend $0.10, $0.08 and $0.06 which allow a more favorable rate of return, especially considering that many batteries need to be replaced every 4-10 years.

Thank you for the opportunity to testify.

Hawaii Solar Energy Association
Serving Hawaii Since 1977

TESTIMONY OF THE HAWAII SOLAR ENERGY ASSOCIATION IN REGARD TO SB 2737, RELATING TO ENERGY STORAGE BEFORE THE SENATE COMMITTEE ON TRANSPORTATION AND ENERGY ON WEDNESDAY, FEBRUARY 17, 2016

Chair Inouye, Vice-Chair Gabbard 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 2737 with comments. This measure amends §235 of the Hawaii Revised Statutes to include a comprehensive tax credit to encourage the use of energy storage systems. Energy storage systems will provide measurable support helping to level the electrical demand curve, which will be a financial benefit to all grid customers as well as saving both capitol and operation costs for the operating utility.

With the PUC decision to end retail NEM as well as 12-month reconciliation of credits in October of 2015, two new significantly less attractive options for the interconnection of solar systems were instituted: customer grid supply (CGS) and customer self-supply (CSS) with only a 35MW cap across all islands for CGS. Currently, there is no installed MW cap for customer self-supply and the intention appears to be to steer the market towards options that involve energy storage, at least in the interim period before Phase 2 of the DER docket (Docket No. 2014-0192). Tax incentives like those proposed in SB 2737 support the adoption of energy storage technology.

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Thank you for the opportunity to testify.

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SOLAR HOTLINE (808)232-8371

Testimony before the Senate Committee on Transportation & Energy
17FEB16
Conference Room 225
S.B. 2737 – Relating to Energy Storage

By Keiki-Pua Dancil, Ph.D.
Director, Business Strategy Development
Hawaiian Electric Company, Inc.

Chair Inouye, Vice Chair Gabbard, and Senate 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* 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. 2737 will establish a tax credit for energy storage properties. 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, etc...) to determine the optimal technologies needed to get to 100% RPS, and to avoid unintended consequences affecting our customers.

The Companies also suggest that these energy storage properties be grid connected and controllable to provide the much needed services to enable more renewables.

Thank you for the opportunity to provide these comments.

Hawaii Habitat for Humanity® Association

Date: February 16, 2016
To: Senate Committee on Transportation and Energy
Re: Hearing, Wednesday, February 17, 2016 – SB2737
Time: 2:45 p.m.
Place: State Capitol, Conference Room 225

Testimony in Support

Chair, Inouye, and Vice Chair, Gabbard, and members of the Committee on Transportation and Energy. My name is George Massengale and I am here today on behalf of all seven of Habitat for Humanity affiliates in Hawaii, to testify in support for this measure.

Founded in 1996, Hawaii Habitat for Humanity Association is a resource development and support organization that strengthens, and accelerates the work of local Habitat for Humanity "affiliates" in Hawaii. Our model brings together volunteer labor and donations with lower-income partner families who purchase homes through no-profit, no-interest mortgages. The current build cost for a modest 3 bedroom, 1 bath home is approximately $130,000.

In 2003, Habitat for Humanity International rolled out its Green Build Initiative, since then Habitat affiliates across the nation have built or refitted thousands of homes of with solar panels. Because our lower income families pay a high proportion of their income toward utility bills, low fuel bills and affordable mortgages will save families hundreds of dollars a year, preserving hard-earned cash for other necessities such as food, clothing, medical expenses, and education.

In Hawaii, Habitat for Humanity has an aligned itself with Mercury Solar to install solar panels on new homes, in addition to retrofitting older Habitat homes within the state. Our Habitat affiliate's support the creation of a production tax credit for utility-controlled energy storage, as well as an investment tax credit for customer controlled energy storage.

Thank you for the opportunity to testify here today.

Respectfully,

George S. Massengale
Community Outreach Manager

HNU-ENERGY
Harnessing the Power of Light

320 Hoohana Street
Kahului, Hawaii 96832
Tel: (808) 214-3280
www.hnuenergy.com

Testimony of Dr. Michael Reiley
President, HNU Energy
e-mail: mreiley@hnuenergy.com

In SUPPORT of SB 2737 RELATING TO ENERGY STORAGE

Before the
SENATE COMMITTEE ON TRANSPORTATION AND ENERGY

Wednesday, February 17, 2016 2:45 p.m.

Aloha, Chair Inouye, Vice-Chair Gabbard and members of the Committee.

My name is Michael Reiley. I am the President of HNU Energy. HNU Energy is committed to a Hawaiian energy economy based 100% on renewable energy sources. To achieve Hawaii's 100% clean energy mandate, massive amounts of energy storage will be necessary.

HNU Energy is in **SUPPORT** of SB 2737.

Right now, Hawaii's renewable energy technologies income tax (RETIT) credit applies only to intermittent solar and wind generation. It does not apply to energy storage or any forms of dispatchable renewable generation.

Without large amounts of energy storage, the large amounts of intermittent solar and wind generation that have been and will be installed in Hawaii will be undispatchable and unusable when imported fuels stop flowing to Hawaii.

HB 2511 creates an energy storage tax credit to encourage development of the dispatchable renewable generation that Hawaii needs when imported fuels stop flowing to Hawaii.

My Company has been involved in many megawatt-scale energy storage projects for HECO, MECO and HELCO, as well as the design-build contractor for the 11MW Battery Energy Storage System for the Auwahi Wind Farm.

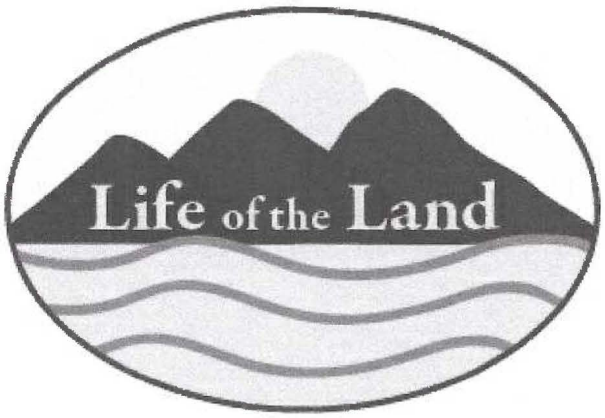
A key new market will be customer-controlled storage with energy from a customer's own renewable generation and discharges energy for the customer's own use. Distributed storage deployed with distributed solar power will be the primary mechanism required to achieve the 100% mandate.

To encourage development of customer-controlled storage, the bill provides an investment tax credit that scales down from 30% to 15% over 5½ years.

HNU Energy **SUPPORTS** SB 2737 – creating a production tax credit for utility-controlled energy storage, and an investment tax credit for customer-controlled energy storage -- to encourage development of the dispatchable renewable generation that Hawaii needs when imported fuels stop flowing to Hawaii.

Thank you for allowing me to testify.

Michael F. Reiley, Ph.D.
President, HNU Energy



P.O. Box 37158, Honolulu, Hawai`i 96837-0158
Phone: 927-0709 henry.lifeoftheland@gmail.com

COMMITTEE ON TRANSPORTATION AND ENERGY
Senator Lorraine R. Inouye, Chair
Senator Mike Gabbard, Vice Chair

DATE: Wednesday, February 17, 2016
TIME: 2:45 p.m.
PLACE: Conference Room 225

Re: SB 2737 Relating to Energy Storage **Support**

Aloha Chair Inouye, Vice Chair Gabbard, and Member of the Committees

Life of the Land is Hawai`i's own energy, environmental and community action group advocating for the people and `aina for 46 years. Our mission is to preserve and protect the life of the land through sound energy and land use policies and to promote open government through research, education, advocacy and, when necessary, litigation.

The National Renewable Energy Laboratory (NREL) released an Issue Brief in 2014.

"Energy storage has the potential to offer multiple benefits1 to the power grid and to be a complimentary technology to variable renewable energy resources such as solar and wind.

As these variable generation technologies increase in market penetration, storage technologies could provide ramping support to moderate a steep change in electricity demand, as well as regulation support to smooth moment-to-moment volatility.

In recent years, several states have introduced policies related to the support and development of energy storage technology markets. In addition, a growing number of states have included storage in their energy assurance plans, created programs, and co-funded storage projects without enacting policy or regulations."

The 2014 Hawai`i Legislature came close to passing HB2618 HD2 SD2. The bill would have established "an income tax credit for each grid-connected energy storage property that is installed and placed in service."

The bill received strong support across the energy sector and lukewarm support from the Administration. The bill passed the Senate 23-0 with two absent, and passed the House 49-0 with two absent and three with reservations.

Mahalo

Henry Curtis
Executive Director

L E G I S L A T I V E T A X B I L L S E R V I C E

TAX FOUNDATION OF HAWAII

126 Queen Street, Suite 304 Honolulu, Hawaii 96813 Tel. 536-4587

SUBJECT: INCOME, Energy Storage Tax Credit

BILL NUMBER: SB 2737

INTRODUCED BY: INOUYE, Dela Cruz, Galuteria, Kidani, Nishihara, Wakai

EXECUTIVE SUMMARY: Provides a credit, either an investment credit as a percentage of property basis or a utilization credit based on kilowatt hours (kWh) stored and resold. Lawmakers must be careful because with a credit incentive such as this, they don't know what they are buying and they don't know how much they are paying for it. A direct appropriation, perhaps for a rebate program, would be far more efficient.

BRIEF SUMMARY: Adds a new section to HRS chapter 235 to provide an energy storage tax credit for energy storage property that is installed and placed in service during a taxable year after 12/31/15 and shall not be available for tax years beginning after 12/31/26. The tax credit may be claimed in either, but not both, of the following forms:

Investment credit: For each energy storage property 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. The credit rate is 30% for calendar year 2017, 25% for calendar years 2018 and 2019, 20% for calendar years 2020 and 2021, and 15% thereafter.

Utilization credit: Alternatively, the credit can be based on the number of kilowatt-hours stored by the energy storage property and delivered and sold to a customer during the first ten taxable years that the energy storage property is in service. The credit rate is 8 cents per kWh for calendar year 2018 and prior, 6 cents per kWh for calendar years 2019 and 2022; and 4 cents per kWh for calendar years 2023 and thereafter.

Multiple owners of an energy storage property shall be entitled to a single tax credit, and the tax credit shall be apportioned between the owners in proportion to their contribution to the basis of the energy storage property. In the case of a partnership, S corporation, estate, or trust, the tax credit allowable shall be for every eligible energy storage property that is installed and placed in service in the state by the entity. The basis upon which the tax credit is computed shall be determined at the entity level. Distribution and share of credit shall be determined pursuant to IRC section 704(b).

Defines "basis," "energy storage property," and "first placed in service" for purposes of the measure. The dollar amount of any utility rebate shall be deducted from the basis of the qualifying energy storage property and its installation before applying the state tax credit.

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.

Credits in excess of a taxpayer's income tax liability may be applied to subsequent income tax liability until exhausted. Requires all claims for the credit to be filed on or before the end of the twelfth month following the close of the taxable year. The director of taxation may adopt rules pursuant to HRS chapter 91 and prepare the necessary forms to claim the credit and may require proof of the claim for the credit.

A taxpayer may elect to reduce the eligible credit amount by 30% and, if this reduced amount exceeds the amount of income tax payment due from the taxpayer, the excess of the credit amount over payments due shall be refunded to the taxpayer; provided that no refund on account of the tax credit allowed by this section shall be made for amounts less than $1. Such an election once made is irrevocable.

Allows an association of owners under HRS chapters 421I, 421J, 514A, or 514B to claim the credit allowed under this section in its own name for energy storage property placed in service and located on common areas. No credit under this section shall be allowed to any federal, state, or local government or any political subdivision, agency, or instrumentality thereof.

Directs the department of taxation, in collaboration with the department of business, economic development, and tourism (DBEDT) to submit a report to the legislature on: (1) the number of energy storage properties that have qualified for a tax credit during the calendar year, listed by property type and taxpayer type (corporate and individual); (2) the total cost of the tax credit to the State during the taxable year, listed by property type, taxpayer type, credit type (investment or production), and by refundable and nonrefundable credit; and (3) the estimated economic impact that may be attributable to the energy storage tax credit, including: (A) economic boost; (B) net flow of money into or out of the State; (C) general excise and income tax revenue generated; and (D) impact on jobs, including the number of jobs maintained, number of jobs created, and average pay.

Directs the department of business, economic development, and tourism to commence a study no later than July 1, 2018, on the costs incurred and benefits generated, as well as the extent to which the tax credit under this section has helped the State to achieve its energy goals. DBEDT is to consult with the department of taxation and industry trade groups and may consult with other stakeholders, and shall submit a report to the legislature no later than December 31, 2019, that is to include: (1) the annual report requirements in the previously mentioned report by the department of taxation; (2) the results of DBEDT's study; and (3) recommendations on whether the tax credit under this section should be wholly or partially continued, eliminated, or revised.

EFFECTIVE DATE: July 1, 2016; applies to taxable years beginning after December 31, 2015.

STAFF COMMENTS: While some may consider an incentive necessary to encourage the use of energy storage 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 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 students are roasting in our schools, 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 through a rebate program would be more accountable and transparent.

Furthermore, 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 2/13/16

Kaala Coleman

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, February 16, 2016 6:31 PM
To: TRE Testimony
Cc: rsaito@sunpower.com
Subject: Submitted testimony for SB2737 on Feb 17, 2016 14:45PM

SB2737
Submitted on: 2/16/2016
Testimony for TRE on Feb 17, 2016 14:45PM in Conference Room 225

Submitted By	Organization	Testifier Position	Present at Hearing
Riley	SunPower Corporation, Systems	Support	No

Comments: SunPower supports the intent of the bill. The bill's current language enables the needed storage technology advancement in Hawaii. Understandably further refinement may be required.

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

In SUPPORT of SB 2737 RELATING TO ENERGY STORAGE

Before the
SENATE COMMITTEE ON TRANSPORTATION AND ENERGY

Wednesday, February 17, 2016 2:45 p.m.

Aloha, Chair Inouye, Vice-Chair Gabbard and members of the Committee.

My name is Chas Learned I am a Energy Consultant with Photonworks Engineering.

I am in **SUPPORT** of SB 2737.

Due to the new PUC actions of eliminating the NEM program, solar is not currently very attractive. The new program does not allow for credits earned to roll from month to month, this greatly undermined renewable energy attractiveness along with the low reimbursement rate.

The only viable path forward is providing energy storage and taking the user off of dependence on the Grid. However this is not yet viable or attractive as we are finding the energy storage solutions cost as much as the solar system itself. This bill will help create a path forward while this new industry of storage achieves greater cost reductions. It will help create an option that works for our customers.

There are 2 kinds of energy storage: utility-controlled storage and customer-controlled storage. Utility-controlled storage charges with energy from the grid and discharges energy to the grid. Utility-controlled storage allows the utility to connect more utility-controlled renewable generation (e.g., solar and wind) to the grid to benefit all utility customers.

To encourage development of utility-controlled storage, the bill provides a production tax credit that scales down from 8 cents per kWh to 4 cents per kWh over 6½ years.

Customer-controlled storage charges with energy from a customer's own renewable generation (e.g., solar and wind) and discharges energy for the customer's own use. Customer-controlled storage allows a customer to self-generate more renewable energy for the customer's own use.

To encourage development of customer-controlled storage, the bill provides an investment tax credit that scales down from 30% to 15% over 5½ years.

I **SUPPORT** SB 2737 – creating a production tax credit for utility-controlled energy storage, and an investment tax credit for customer-controlled energy storage -- to encourage development of the dispatchable renewable generation that Hawaii needs to achieve 100% renewable energy.

Thank you for allowing me to testify.

Senate Bill 2737, Relating to Energy Storage
Testimony of Hermina Morita

Aloha Chair Inouye and Members of the Committee:

This measure provides an investment tax credit for self-generation storage. I strongly oppose Senate Bill 2737 as it would be an inappropriate use of the State's General Fund to further subsidize energy devices that are being used for private benefit. The individuals and businesses that have taken advantage of the Renewable Energy Income Tax Credit and the electric utility's net-energy metering (NEM) programs are the likely taxpayers that will utilize this tax credit. These individuals and businesses have already had the privilege of using public monies to invest in rooftop photovoltaic systems resulting in very short payback periods for private gains. Furthermore, these individuals and businesses continue to reap benefits through the NEM program long after these systems are paid off.

There are issues of equity and fairness as Hawaii implements its clean energy transformation. The Hawaii Public Utilities Commission recently addressed NEM cross subsidization issues by ending the NEM program. Likewise, the Legislature must review the tax incentives related to its renewable energy policies for fairness and equity and its impact to the General Fund before establishing another new tax credit. At the very least, in accordance with the Tax Review Commission's recommendations require a cost/benefit analysis to assess the impact to the General Fund.

For the tax year 2012 alone the renewable energy income tax credit accounted for 48.41% (total $179,018,000) of all state tax credits ($369,811,000) claimed. Information for tax year 2013 is difficult to decipher but PV installation growth indicate nothing different, ditto for tax years 2014 and 2015. This has a significant impact on all programs that receive their funding from the State's General Fund. The total lost contribution to fixed cost for the HECO Companies has increased from an estimated $19 million based on installed NEM capacity at the of 2012, to $38 million at the end of 2013, an annualized $53 million at the end of 2014, and to approximately $64 million in 2015. This is the cost-shift to the non-PV ratepayer to cover the fixed cost of the system.

For these reasons, I urge this committee not to pass this measure. Thank you for the opportunity to testify.

Testimony of Roy Skaggs

In SUPPORT of SB 2737 RELATING TO ENERGY STORAGE

Before the
SENATE COMMITTEE ON TRANSPORTATION AND ENERGY

Wednesday, February 17, 2016 2:45 p.m.

Aloha, Chair Inouye, Vice-Chair Gabbard and members of the Committee,

My name is Roy Skaggs and I **SUPPORT** SB 2737.

Right now, Hawaii's renewable energy technologies income tax (RETIT) credit applies only to intermittent solar and wind generation. It does not apply to energy storage or any forms of dispatchable renewable generation.

Without large amounts of energy storage, the large amounts of intermittent solar and wind generation that have been and will be installed in Hawaii will be undispatchable and unusable when imported fuels stop flowing to Hawaii.

HB 2511 creates an energy storage tax credit to encourage development of the dispatchable renewable generation that Hawaii needs when imported fuels stop flowing to Hawaii.

There are 2 kinds of energy storage: utility-controlled storage and customer-controlled storage.
Utility-controlled storage charges with energy from the grid and discharges energy to the grid. Utility-controlled storage allows the utility to connect more utility-controlled renewable generation (e.g., solar and wind) to the grid to benefit all utility customers.

To encourage development of utility-controlled storage, the bill provides a production tax credit that scales down from 8 cents per kWh to 4 cents per kWh over 6½ years.

Customer-controlled storage charges with energy from a customer's own renewable generation (e.g., solar and wind) and discharges energy for the customer's own use. Customer-controlled storage allows a customer to self-generate more renewable energy for the customer's own use.

To encourage development of customer-controlled storage, the bill provides an investment tax credit that scales down from 30% to 15% over 5½ years.

I **SUPPORT** SB 2737 – creating a production tax credit for utility-controlled energy storage, and an investment tax credit for customer-controlled energy storage -- to encourage development of the dispatchable renewable generation that Hawaii needs when imported fuels stop flowing to Hawaii.

Thank you for allowing me to testify.

Testimony of Geoffrey Schnipper
Independent Solar Energy Consultant

In SUPPORT of SB 2737 RELATING TO ENERGY STORAGE

Before the
SENATE COMMITTEE ON TRANSPORTATION AND ENERGY

Wednesday, February 17, 2016 2:45 p.m.

Aloha, Chair Inouye, Vice-Chair Gabbard and members of the Committee.

My name is Geoffrey Schnipper, an independent solar energy consultant on the Big Island of Hawaii.

I am in **SUPPORT** of SB 2737.

On October 12, 2015, the Public Utilities Commission announced its decision to eliminate net energy metering. SB2737 seems to encourage the new rules set forth by that conclusion. The PUC's ruling established three buckets of energy consumers: Self Supply, Grid Supply (through DER) and Time of Use. If we are to encourage more home owners to self supply, passage of this bill will ease the economic burden of early adopters of this next generation technology. Adoption of storage, powered by PV systems, is one way individual home owners can help Hawaii reach its mandate of being 100% renewable by 2045.

Right now, Hawaii's renewable energy technologies income tax (RETIT) credit applies only to intermittent solar and wind generation. It does not apply to energy storage or any forms of dispatchable renewable generation.

Without large amounts of energy storage, the large amounts of intermittent solar and wind generation that have been and will be installed in Hawaii will be undispatchable and unusable when imported fuels stop flowing to Hawaii.

HB 2511 creates an energy storage tax credit to encourage development of the dispatchable renewable generation that Hawaii needs when imported fuels stop flowing to Hawaii.

There are 2 kinds of energy storage: utility-controlled storage and customer-controlled storage.
Utility-controlled storage charges with energy from the grid and discharges energy to the grid. Utility-controlled storage allows the utility to connect more utility-controlled renewable generation (e.g., solar and wind) to the grid to benefit all utility customers.

To encourage development of utility-controlled storage, the bill provides a production tax credit that scales down from 8 cents per kWh to 4 cents per kWh over 6½ years.

Customer-controlled storage charges with energy from a customer's own renewable generation (e.g., solar and wind) and discharges energy for the customer's own use. Customer-controlled storage allows a customer to self-generate more renewable energy for the customer's own use.

To encourage development of customer-controlled storage, the bill provides an investment tax credit that scales down from 30% to 15% over 5½ years.

I support SB 2737 – creating a production tax credit for utility-controlled energy storage, and an investment tax credit for customer-controlled energy storage -- to encourage development of the dispatchable renewable generation that Hawaii needs when imported fuels stop flowing to Hawaii.

Thank you for allowing me to testify.

Aloha,

I would like to commend our Hawaii government for taking a strong stand for renewable energy growth.

I support the SB2737.

It will enable a grass roots movement to create individual residential energy security, while allowing utility grade storage to develop.

Kauai has already taken steps to this future, and the State will prove it is indeed behind renewables for individuals and business.

Mahalo

Paul Spencer

Kaala Coleman

From: mailinglist@capitol.hawaii.gov
Sent: Sunday, February 14, 2016 10:07 PM
To: TRE Testimony
Cc: carl@votecampagna.com
Subject: Submitted testimony for SB2737 on Feb 17, 2016 14:45PM

SB2737
Submitted on: 2/14/2016
Testimony for TRE on Feb 17, 2016 14:45PM in Conference Room 225

Submitted By	Organization	Testifier Position	Present at Hearing
Carl Campagna	Individual	Support	No

Comments: Mahalo for the opportunity to provide testimony. I fully support this measure. The only way we can achieve our RPS goals and assure energy security is by implementing storage capacity on both sides of the utility circuit. This measure, once passed, allows more renewable integration and would help lower the costs of implementation.

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To: TRE Testimony
Cc: octopus@maui.net
Subject: *Submitted testimony for SB2737 on Feb 17, 2016 14:45PM*

SB2737
Submitted on: 2/15/2016
Testimony for TRE on Feb 17, 2016 14:45PM in Conference Room 225

Submitted By	Organization	Testifier Position	Present at Hearing
Rene Umberger	Individual	Support	No

Comments:

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Kaala Coleman

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Sent:	Monday, February 15, 2016 7:21 AM
To:	TRE Testimony
Cc:	kuaukulike@gmail.com
Subject:	Submitted testimony for SB2737 on Feb 17, 2016 14:45PM

SB2737
Submitted on: 2/15/2016
Testimony for TRE on Feb 17, 2016 14:45PM in Conference Room 225

Submitted By	Organization	Testifier Position	Present at Hearing
Heather	Individual	Support	No

Comments: I support bill SB2737 to create energy storage tax credit in Hawaii. Testimony of ERIK KVAM Director of Renewable Energy Action Coalition of Hawaii e-mail: Erik.Kvam@REACHawaii.org In SUPPORT of SB 2737 RELATING TO ENERGY STORAGE Before the SENATE COMMITTEE ON TRANSPORTATION AND ENERGY Wednesday, February 17, 2016 2:45 p.m. Aloha, Chair Inouye, Vice-Chair Gabbard and members of the Committee. My name is Erik Kvam. I am a Director of Renewable Energy Action Coalition of Hawaii (REACH). REACH is a trade association whose vision is a Hawaiian energy economy based 100% on renewable sources indigenous to Hawaii. REACH is in SUPPORT of SB 2737. Right now, Hawaii's renewable energy technologies income tax (RETIT) credit applies only to intermittent solar and wind generation. It does not apply to energy storage or any forms of dispatchable renewable generation. Without large amounts of energy storage, the large amounts of intermittent solar and wind generation that have been and will be installed in Hawaii will be undispatchable and unusable when imported fuels stop flowing to Hawaii. HB 2511 creates an energy storage tax credit to encourage development of the dispatchable renewable generation that Hawaii needs when imported fuels stop flowing to Hawaii. There are 2 kinds of energy storage: utility-controlled storage and customer-controlled storage. Utility-controlled storage charges with energy from the grid and discharges energy to the grid. Utility-controlled storage allows the utility to connect more utility-controlled renewable generation (e.g., solar and wind) to the grid to benefit all utility customers. To encourage development of utility-controlled storage, the bill provides a production tax credit that scales down from 8 cents per kWh to 4 cents per kWh over 6½ years. Customer-controlled storage charges with energy from a customer's own renewable generation (e.g., solar and wind) and discharges energy for the customer's own use. Customer-controlled storage allows a customer to self-generate more renewable energy for the customer's own use. To encourage development of customer-controlled storage, the bill provides an investment tax credit that scales down from 30% to 15% over 5½ years. REACH SUPPORTS SB 2737 – creating a production tax credit for utility-controlled energy storage, and an investment tax credit for customer-controlled energy storage -- to encourage development of the dispatchable renewable generation that Hawaii needs when imported fuels stop flowing to Hawaii. Thank you for allowing me to testify.

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Kaala Coleman

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To: TRE Testimony
Cc: dylanarm@hawaii.edu
Subject: *Submitted testimony for SB2737 on Feb 17, 2016 14:45PM*

SB2737
Submitted on: 2/15/2016
Testimony for TRE on Feb 17, 2016 14:45PM in Conference Room 225

Submitted By	Organization	Testifier Position	Present at Hearing
Dylan Armstrong	Individual	Support	No

Comments:

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Kaala Coleman

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Sent: Tuesday, February 16, 2016 9:06 AM
To: TRE Testimony
Cc: thomashall@solarspecialtygroup.com
Subject: Submitted testimony for SB2737 on Feb 17, 2016 14:45PM

SB2737
Submitted on: 2/16/2016
Testimony for TRE on Feb 17, 2016 14:45PM in Conference Room 225

Submitted By	Organization	Testifier Position	Present at Hearing
Thomas Hall	Individual	Support	No

Comments: Thomas Hall is in SUPPORT of SB 2737

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Cc: garyjcapozzola@gmail.com
Subject: Submitted testimony for SB2737 on Feb 17, 2016 14:45PM

SB2737
Submitted on: 2/15/2016
Testimony for TRE on Feb 17, 2016 14:45PM in Conference Room 225

Submitted By	Organization	Testifier Position	Present at Hearing
Gary Capozzola	Individual	Support	No

Comments: My Name is Gary Capozzola and I am in support of SB 2737. Right now, Hawaii's renewable energy technologies income tax (RETIT) credit applies only to intermittent solar and wind generation. It does not apply to energy storage or any forms of dispatchable renewable generation. Without large amounts of energy storage, the large amounts of intermittent solar and wind generation that have been and will be installed in Hawaii will be undispatchable and unusable when imported fuels stop flowing to Hawaii. HB 2511 creates an energy storage tax credit to encourage development of the dispatchable renewable generation that Hawaii needs when imported fuels stop flowing to Hawaii. There are 2 kinds of energy storage: utility-controlled storage and customer-controlled storage. Utility-controlled storage charges with energy from the grid and discharges energy to the grid. Utility-controlled storage allows the utility to connect more utility-controlled renewable generation (e.g., solar and wind) to the grid to benefit all utility customers. To encourage development of utility-controlled storage, the bill provides a production tax credit that scales down from 8 cents per kWh to 4 cents per kWh over 6½ years. Customer-controlled storage charges with energy from a customer's own renewable generation (e.g., solar and wind) and discharges energy for the customer's own use. Customer-controlled storage allows a customer to self-generate more renewable energy for the customer's own use. To encourage development of customer-controlled storage, the bill provides an investment tax credit that scales down from 30% to 15% over 5½ years. REACH SUPPORTS SB 2737 – creating a production tax credit for utility-controlled energy storage, and an investment tax credit for customer-controlled energy storage -- to encourage development of the dispatchable renewable generation that Hawaii needs when imported fuels stop flowing to Hawaii. Thank you for allowing me to testify.

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Cc: cord@anekona.com
Subject: *Submitted testimony for SB2737 on Feb 17, 2016 14:45PM*

SB2737
Submitted on: 2/16/2016
Testimony for TRE on Feb 17, 2016 14:45PM in Conference Room 225

Submitted By	Organization	Testifier Position	Present at Hearing
Cord Anderson	Individual	Support	No

Comments:

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