DAVID Y. IGE
GOVERNOR

LUIS P. SALAVERIA
DIRECTOR

MARY ALICE EVANS
DEPUTY DIRECTOR

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
Tuesday, March 13, 2018
8:30 a.m.
State Capitol, Conference Room 325

in consideration of
SB2100, SD2
RELATING TO RENEWABLE ENERGY.

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

The Department of Business, Economic Development, and Tourism (DBEDT) provides **comments** on SB2100, SD2, which replaces the current renewable energy technology systems tax credit with tax credits for solar energy system, wind energy system, and energy storage system; applies to taxable years beginning after December 31, 2018.

With respect to tax credits, DBEDT highlights that ramping down the tax credit at this time for solar energy systems, given recent 30% federal tariff on imported solar cells and panels, has the potential to increase their installed cost. In addition, the Net Energy Metering program which provided for attractive payback periods has been replaced with other programs (i.e. Customer Grid Supply Plus and Smart Export[1]) which have lengthened the payback periods. As a whole, the number of solar energy systems installed in Honolulu has dropped in recent years.[2] Therefore, we caution against further accelerating this trend.

DBEDT recognizes that energy storage can play an important role in achieving Hawaii's clean energy goals and believes energy storage can provide benefits to the entire electric system, if the appropriate energy storage technologies are implemented and used in an optimal manner.

[1] Public Utilities Commission (PUC) Order No. 34924 established a revised Customer Grid Supply (CGS+) at 10.08 cents per kilowatt-hour (kwh) as opposed to 15.07 cents per kwh for current Customer Grid Supply (CGS) rate in Oahu, capped at 35 MW. Order No. 34924 also established Smart Export program, which compensates permissible exports (during 12 a.m-9 a.m. and 4 p.m. – 12 a.m.) in Oahu at 14.97 cents/kwh. Rates and caps vary per utility for each program.

[2] According to *Solar PV Installations in Honolulu: an analysis based on building permit data*, 2017 update, "PV installation further slowed down after 2016 with less than 5,000 PV permits issued in 2016 and mere 1,000 permits in the first six months of 2017", page 1. Reference: http://files.hawaii.gov/dbedt/economic/data_reports/Solar_PV_Installation_In_Honolulu_Sep2017.pdf

In addition, DBEDT has concerns about using tax credits as the preferred method for incentivizing an increase in use of energy storage. Consistent with our energy policy of promoting an efficient marketplace, the implementation of PUC-ordered rates that incentivize more adoption of energy storage would be a more direct mechanism to deliver price signals to the marketplace.

Should the Legislature chose to move forward with this bill, we recommend deleting lines 13-20 on page 13 as the combined energy storage and solar energy system tax credit provided in section (5) appears redundant to prior sections (2) and (3).

Given the limited State budget, we are concerned about the unknown additional cost of expansion of the aggregate storage tax credit provided by this bill. We defer to the Department of Taxation on its ability to administer its duties under this bill.

DBEDT also defers to the Public Utilities Commission in setting tariffs that can incentivize the adoption of energy storage that align with its orders that are supportive of Hawaii's 100% Renewable Portfolio Standards goal by 2045.

Lastly, with respect to the solar water heater (SWH) variance statutes on the first two pages of the bill, DBEDT proposes the following edits to (1) be consistent with the original intent of the SWH mandate (Act 204 SLH 2008) and ensure that customers spend the least amount of money to heat water and (2) remove the technically flawed reference to Underwriters Laboratories because they do not certify gas-tankless water heaters.

Page 2, lines 6-9:

> (4) A demand water heater device [~~approved by Underwriters Laboratories, Inc.,~~] is installed; provided that at least one other gas appliance is installed in the dwelling and the life cycle cost for the device is less than a solar water heater system based on analysis in (2).

Thank you for the opportunity to offer these comments on SB2100, SD2.

DAVID Y. IGE
GOVERNOR

DOUGLAS S. CHIN
LIEUTENANT GOVERNOR

LINDA CHU TAKAYAMA
DIRECTOR

DAMIEN A. ELEFANTE
DEPUTY DIRECTOR

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

Date: Tuesday, March 13, 2018
Time: 8:30 A.M.
Place: Conference Room 325, State Capitol

From: Linda Chu Takayama, Director
Department of Taxation

Re: S.B. 2100, S.D. 2, Relating to Renewable Energy

The Department of Taxation (Department) appreciates the intent of S.B. 2100, S.D. 2, but has concerns about its ability to administer the provisions of this bill and offers the following comments for your consideration.

S.B. 2100, S.D. 2, makes amendments to Hawaii Revised Statutes (HRS) section 235-12.5, which governs the Renewable Energy Technologies Income Tax Credit (RETITC). A summary of key provisions are as follows:

- Eliminates the term "renewable energy technologies" and recognizes three general categories of "systems" that are eligible for tax credits: solar energy systems, energy storage systems, and wind energy systems;
    - Solar energy property is further divided into property used exclusively to heat water and property that is used primarily to generate electricity.
- Changes the RETITC percentages (up to respective applicable cap amounts) as follows:
    - For solar energy systems used exclusively to heat water, 35% of the basis up to the applicable cap amounts:
        - $2,250 per system for single-family residential property;
        - $350 per unit per system for multi-family residential property; and
        - $250,000 per system for commercial property.
    - For solar energy systems used primarily to generate electricity, and energy storage systems not included in the basis of a solar or wind energy system:
        - 35% of the basis for systems that have an executed customer service contract dated prior to June 30, 2018, if installed and first placed into service before December 31, 2019;

        - 25% of the basis for systems first placed into service after December 31, 2018 and before January 1, 2024;
        - 20% of the basis for systems placed into service between December 31, 2023 and January 1, 2025; and
        - 15% for property placed into service after December 31, 2024;
    - Sets higher applicable cap amounts for solar energy systems that are grid-connected and incorporate an energy storage system, doubling the cap from $5,000 to $10,000 per system for single-family residential property and from $350 to $700 per unit per system for multi-family residential property.
    - For wind energy systems, 20% of the basis up to the following applicable cap amounts:
        - $1,500 per wind energy system for single-family residential property; provided that if the system is used to fulfill the substitute renewable energy technology requirement pursuant to section 196-6.5(a)(3), the credit shall be reduced by 20% of the basis or $1,500, whichever is less;
        - $200 per unit per system for multi-family residential property; and
        - $500,000 per wind energy stem for commercial property;
- Determines distribution and share of credit pursuant to section 704(b) of the Internal Revenue Code (IRC);
- States that the use of "basis" in the statute shall be consistent with use of "basis" in section 25D or section 48 of the IRC;
- Defines "energy storage system" as any identifiable facility, equipment, or apparatus, such as a battery, grid-interactive water heater, ice storage air conditioner, or similar, that is permanently fixed to a site and electrically connected to a site distribution panel by means of an installed wiring, and that receives, stores, and delivers electricity generated from various sources;
- States that the credit shall be construed in accordance with federal regulations and judicial interpretations of similar provisions in sections 25D, 45, and 48 of the IRC;
- Allows for planned community associations, condominium associations, and cooperative housing corporations to claim the credit for systems placed into service and located on common areas;
- Prohibits the credit from being allowed to any government agency or instrumentality;
- Terminates authorization of the credit for taxable years ending after December 31, 2036;
- Has a defective effective date of July 1, 2050; and
- Applies to taxable years beginning after December 31, 2018.

First, the Department notes that the Senate Committee on Transportation and Energy amended this measure to reinstate language referring to "systems" instead of "properties." The term "system," which is not defined in Hawaii income tax law, has caused much confusion and uncertainty for taxpayers and industry participants and has resulted in a much larger than anticipated number of RETITC claims 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. (See §§ 18-235-12.5-01 through 18-235-12.5-06, Hawaii Administrative Rules (HAR)).

The Department appreciates the reinstatement of language referring to "systems" instead

of "properties," as the use of "properties" by this measure would have the effect of making these administrative rules obsolete and reintroducing a problem that has already been resolved. However, the addition of the new category of "energy storage systems," without a more detailed definition or guidelines for required energy capacity or output, may create new uncertainty for taxpayers and industry. 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 larger than expected revenue losses, as seen previously with the RETITC.

If the intent 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, resulting in unintended revenue losses for the State.

Second, the Department also notes that the tax credit in this measure is refundable in certain circumstances. As a general matter, the Department prefers nonrefundable credits because refundable credits create a higher potential for improper claims and abuse. The Department therefore recommends that this credit be made non-refundable.

Third, the Department notes that a government agency is only deemed to be a taxpayer for employment tax (wage withholding) purposes. As such, subsection (k) which prohibits a government from claiming the credit is not necessary.

Finally, if the Committee wishes to advance this measure, the Department notes that it is able to implement this measure with current applicability to taxable years beginning after December 31, 2018. This will allow the Department sufficient time to make the necessary form and computer system changes.

Thank you for the opportunity to provide comments.

SB-2100-SD-2
Submitted on: 3/11/2018 9:07:48 PM
Testimony for EEP on 3/13/2018 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Melodie Aduja	OCC Legislative Priorities Committee, Democratic Party of Hawai'i	Support	No

Comments:

PRESENTATION OF THE
OAHU COUNTY COMMITTEE ON LEGISLATIVE PRIORITIES
DEMOCRATIC PARTY OF HAWAII
TO THE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION
THE HOUSE OF REPRESENTATIVES
TWENTY-NINTH LEGISLATURE
REGULAR SESSION OF 2018
Tuesday, March 13, 2018
8:30 p.m.
Hawaii State Capitol, Conference Room 325

RE: Testimony in Support of **SB2100 SD2**, RELATING TO RENEWABLE ENERGY

To the Honorable Chris Lee, Chair; the Honorable Nicole E. Lowen, Vice-Chair and Members of the Committee on Energy & Environmental Protection:

Good morning. My name is Melodie Aduja. I serve as Chair of the Oahu County Committee ("OCC") Legislative Priorities Committee of the Democratic Party of Hawaii. Thank you for the opportunity to provide written testimony on **SB2100 SD2**, regarding Renewable Energy; Solar and Wind Energy System; Energy Storage System; and a Tax Credit.

The OCC Legislative Priorities Committee is in favor of **SB2100 SD2** and supports its passage.

SB2100 SD2 is in accord with the Platform of the Democratic Party of Hawai'i ("DPH"), 2016, as it replaces the current renewable energy technology systems tax credit with tax credits for solar or wind energy systems and energy storage systems.

Specifically, the DPH Platform provides that "[w]e seek to achieve energy sustainability based on renewable energy sources. We must encourage the use of clean alternative fuel sources to include our public transportation systems. . . . We must also urgently develop the use of a variety of cost-effective energy providing systems, encourage transit-oriented development, and support tax incentives that encourage renewable energy initiatives.

We oppose any tax breaks to fossil fuel industries.

We support energy independence, self-sufficiency, affordability and reliability for Hawai‘i through the development of renewable alternative energy sources. Specifically, we need to support policies that foster the development of energy production methods that de-emphasize carbon based fuels and promote renewable sources such as wind, solar, wave, geothermal and Ocean Thermal Energy Conversion (OTEC).

Electricity rates in Hawaii are among the highest in the nation despite the fact that we enjoy an abundance of sunshine year round. Electric utility companies and cooperatives must open the grid to alternative power sources including solar panels and geothermal energy. We support the effort of our government officials to require utilities to provide for the maximum, comprehensive, integrated use of renewable energy and associated technologies such as storage and smart grid technologies. (Platform of the DPH, P. 7, Lines 443-444, 446-462 (2016)).

Given that **SB2100 SD2** replaces the current renewable energy technology systems tax credit with tax credits for solar or wind energy systems and energy storage systems, it is the position of the OCC Legislative Priorities Committee to support this measure.

Thank you very much for your kind consideration.

Sincerely yours,

/s/ Melodie Aduja

Melodie Aduja, Chair, OCC Legislative Priorities Committee

Email: legislativepriorities@gmail.com, Text/Tel.: (808) 258-8889

Before the House Committee on Energy & Environmental Protection
Tuesday, March 13, 2018, 8:30 a.m., Room 325
SB 2100 SD 2: 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 and in support with comments of SB 2100 SD 2 which creates tax incentives for customer-invested PV plus energy storage for both new installs and legacy PV systems in addition to stand alone storage. SB 2100 SB 2 also ramps down the tax credit over a 7-year period.

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 investment in energy storage is seen as a crucial next step towards the development of a resilient and reliable electrical grid which can accommodate more renewable energy resources and help Hawaii achieve its clean energy goals. Specifically, energy storage contributes to grid modernization in a variety of ways. Energy storage can be utilized to shift peak load and supply capacity, provide many valuable ancillary services such as fast frequency response and regulating reserves[1], delay or offset the need for grid upgrades, and provide energy back-up during emergencies. Distributed energy storage also provides the greatest number of benefits in comparison to other storage technologies, and should be seen as a key driver in Hawaii's clean energy development.[2]

In addition, distributed energy storage puts private capital to work through customer investments which provide benefits to all rate payers. Energy storage also helps keep local dollars at home by reducing the need for fossil fuels, reducing federal tax liability through the federal investment tax credit, and by supporting an industry that provides good local green jobs that cannot be outsourced. SB 2100 SD 2 is drafted to provide benefits that support both the State's clean energy goals and local industry while remaining relatively revenue neutral as the credit ramps down for all installations from 35% to 15% over a seven-year period.

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[1] *See* Docket No. 2015-0412 Demand Response Pilot Project currently underway.
[2] *See* "The Economics of Battery Energy Storage," Rocky Mountain Institute October 2015 at 6 where distributed behind the meter battery storage provides 13 grid services—the greatest number of grid services when compared to energy storage located on the distribution and transmission system.

However, DERC wishes to recommend the following amendments:

- Extend the ramp of the credit by two years. DERC wants to ensure that the ramp of the credit balances the increased cost associated with the amended caps with the reduced credit percentage. It is also key that the ramp provides for a gradual and predicable change in order to support industry and investment in renewables. SB 2100 SD 2 reduces the credit from 35% to 15 % over a seven-year period. We recommend that the ramp be extended to include a 9-year period, with the additional years included on the 20% ramp.

- Allow taxpayers to take the tax credit in the following tax year. We recommend that taxpayers have an option on which year to apply for the tax credit during the transition years of 2018-2019 to prevent a stall in development should customers wait for the new credit to go into effect. We suggest the following language:

  "Provided that for any solar energy system that incorporates energy storage and is first installed and placed in service after July 1, 2017, and before January 1, 2019, the system owner may choose either 2018 or 2019 as the "First placed in service year" for state tax purposes.

- Replace "solar or wind energy systems" with "solar, wind, or energy storage system" for consistency and easy application of the tax credit.

- Delete section 235.15 (5) as this section is no longer relevant.

- Include exemption language "provided that a solar energy system that has an executed customer service contract dated prior to June 30, 2018, and is installed and first placed in service before December 31, 2019, shall receive thirty-five per cent of the basis for the solar energy system, up to the applicable cap amount," only under section 235.12.5 (2).

Thank you for the opportunity to testify. We welcome any questions that you might have.

Best regards,
Leslie Cole-Brooks
Executive Director
Distributed Energy Council of Hawaii

Email: communications@ulupono.com

HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION
Tuesday, March 13, 2018 — 8:30 a.m. — Room 325

Ulupono Initiative Strongly Supports SB 2100 SD 2 with Amendments, Relating to Renewable Energy

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

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

Ulupono strongly supports SB 2100 SD 2 with Amendments, which replaces the renewable energy systems tax credit with tax credits for energy storage, because it aligns with our goal of increasing the production of clean, renewable energy in Hawai'i, while being revenue neutral to revenue positive for the State.

Much of SB 2100 SD 2 appears to be indentical to the latest version of SB 665 from last session.

The first amendment we recommend is to ensure that an energy storage system is defined as including both electrochemical energy storage (i.e. batteries) and kinetic energy storage (e.g. pumped storage hydropower, and compressed air). In Hawai'i, pumped hydro energy storage tends to be cheaper than batteries, and the incentives should be indifferent to technology so that the least cost technology is selected. Therefore, we suggest language for page 18, line 15:

"Energy Storage System" means any identifable facility, equipment, or apparatus, including battery, grid-interactive water heater, ice storage air conditioner, pumped storage hydropower, compressed air storage, or the like, ...

In considering the alternatives for energy storage tax credits, Ulupono believes that SB 2100 SD 2 adheres to all the following good policy principles.

Renewable Energy Subsidies Policy Principles:

- Subsidies should be used to accelerate the market penetration of energy technologies that are critically important to electric system operations, where large scale adoption of these technologies would lower the risk adjusted rates to all ratepayers.

- Subsidies should have defined sunset dates set to the expected point at which the renewable technologies are cost effective without the subsidies.

- If no clear sunset date has been set, subsidies should ramp down to allow the smaller, typically local companies time to adapt, and to prevent the precipitous loss of jobs.

- Subsidies should benefit those who have provided the source of funds used to provide the subsidies, whether these be taxpayer or ratepayer funds.

- To that end, funds approved by the public, capital markets, and the Legislature for other purposes should not be used for subsidies, if these subsidies do not serve the same purpose.

Budget Considerations

- Renewable energy subsidies should have a total annual cap to ensure the State budget exposure is managed or attempt to be fiscally neutral (ramp down other program to pay for new program)

- Maximization of federal subsidies for the benefit of the state should occur before these subsidies are phased out in five years. Therefore, state energy storage subsidies should start immediately.

- Cognizant of the Department of Taxation reorganization, the definition of energy storage subsidies should fit within the current Department of Taxation schemes to the maximum extent possible. Our understanding from last session's Department of Taxation testimony is that the use of the word property is acceptable and that the current language is this bill adheres to the Department's needs.

Our financial analysis, based on the projections of new solar in the Hawaiian Electric Companies' most recent Power Supply Improvement Plans provides an indication of the total net cost exposure (incomplete because it does not cover Kaua'i). One of the biggest impacts to the State's budget is the usage of this credit by residential or commercial customers. Greater residential adoption would increase the fiscal deficit to the State because currently many residential customers use the existing tax credit in full. If residential uptake accounts for 50 percent of the new solar/storage, the net impact through

2025 of implementing this bill would be an approximate **savings to the State of $65 million dollars** with 50 percent residential new solar/storage. However, if residential uptake accounts for 75 percent of the new solar/storage, then there would be an approximate net cost of $55 million dollars through 2025. The expected savings to the State is likely to hit in the later years as tax credits ramp down. We caution these numbers are only indicative of the important levers that can impact the overall State budget exposure.

The second amendment Ulupono would propose is to delete section 2, paragraph (5), which is found on page 13, lines 13 – 19. This language was previously added to mitigate double dipping of the tax credit in a prior year's bill version. However, the numbers in the bill have since been updated to solve that issue, thereby not making this section necessary.

As Hawai'i's energy issues become more complex and challenging, we appreciate this committee's efforts to look at policies that support renewable energy production.

Thank you for this opportunity to testify.

Respectfully,

Kyle Datta
General Partner

THE ALLIANCE FOR SOLAR CHOICE

HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

March 13, 2018, 8:30 A.M.
(Testimony is 1 page long)

TESTIMONY IN SUPORT OF SB 2100 SD2 WITH A PROPOSED AMENDMENT

Aloha Chair Lee and Members of the Committee:

The Alliance for Solar Choice (TASC) supports SB 2100, SD2, relating to renewable energy, but recommends several amendments so as to avoid unintended and unfair consequences. This measure ramps down the existing renewable energy tax credit starting in 2019 and incorporates energy storage.

TASC supports smart, prudent incentives to meet Hawaii's ambitious clean energy goals. Successful incentives must be predictable and give the market time to react. The proposed bill wisely incorporates energy storage into the eligible tax credit, but also starts a process to wind down the credit over time.

As with any draft bill, improvements can be made and nits removed. The term "renewable energy technology system" appears to be replaced with the terms of "solar energy," "energy storage," and "wind energy system." However these changes are not consistent. For example, as drafted, partnerships, S corporations, estates, or trusts are not eligible for the energy storage tax credit, as the term "energy storage system" seems to be inadvertently left out. See page 15. There are similar omissions throughout the bill. These omissions appear to be unintentional, but, among other things, could leave homeowners with properties in trust or small businesses unable to take advantage of the proposed tax tax credit.

TASC respectfully recommends that for every removal of the term "renewable energy technology system," this Committee consistently use the term "solar, wind or energy storage system."

Mahalo for the opportunity to submit these comments.

TESTIMONY REGARDING SB 2100 SD 2

being heard by the House Committee on Energy & Environmental Protection
on Tuesday, March 13, 2018 at 8:30 AM.

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

Thank you for the opportunity to provide testimony regarding SB 2100 SD 2, which would modify the current Renewable Energy Technology Tax Credit (REITC) program by including energy storage as an eligible technology and modifying the tax credit available to other technologies. Overall, Tesla strongly supports this bill. However, we do request a number of amendments and/or clarifications as discussed in more detail below.

Tesla's mission is to accelerate the world's transition to sustainable energy through electric vehicles and sustainable energy products, like storage and solar. As the penetration of variable renewable resources, most notably solar, has increased in the state, it is appropriate to take steps to actively support the deployment of energy storage technologies because they have an essential role to play in integrating renewable energy onto the electricity grid. Energy storage in effect transforms an "as-available" resource, i.e. one that produces energy based on when the wind blows or sun shines, into a resource that can be dispatched based on the needs of the energy system.

Energy storage can also benefit the grid in a number of other ways. Leveraged through well-designed programs, energy storage offers the potential to significantly improve overall grid resiliency and efficiency and can serve as an alternative to costly investments in distribution and transmission infrastructure by storing and delivering power in transmission or distribution constrained areas during times of grid congestion. For these reasons, Tesla strongly supports including energy storage as an eligible technology under the REITC.

Tesla also supports the ramp-down structure in the tax credit level proposed by the bill. Although a ramp down in the solar tax credit will be challenging for Hawaii's solar industry, we believe that can be offset through new opportunities resulting from the inclusion of energy storage as an eligible technology. In this regard, Tesla believes the bill strikes an appropriate balance between supporting the deployment of those technologies that are necessary if Hawaii is to be successful in its efforts to transition away from fossil fuels, while imposing cost discipline on technology providers and ensuring the program's budgetary impacts relative to the status quo are minimal.

Notwithstanding Tesla's overall support for this bill, we do request a number of amendments:

First, in a number of places the bill appears to inadvertently exclude energy storage, leading to potentially disparate treatment for different technologies despite all of them being eligible for the REITC. To ensure consistency throughout this legislation, we request that the language in the bill be amended where appropriate to ensure consistency with the stated scope of the bill, as articulated on

page 4, lines 3 and 4, which recognizes solar energy, *energy storage* [emphasis added], and wind energy systems, as well as the "basis" definition found on page 17, line 18 of the bill, which also explicitly includes energy storage. Specifically, the bill should be amended to include "energy storage" in addition to solar and wind where those technologies are identified on page 15, line 3; page 21, lines 3, 14 and 16; page 22, line 18; and page 24, line 5-6.

Second, we note that the in a number of places, the bill includes language that allows systems with customer contracts executed before June 30, 2018 and placed into service before December 31, 2019 to receive a 35% tax credit. While Tesla supports this language for those system types that are currently eligible for the tax credit under existing law, we are concerned about extending this to those system types that would be newly eligible should this bill pass. As Tesla understands it, the intent of this language was to avoid blindsiding project that were negotiated and executed under the premise of a 35% tax credit with a dramatic reduction in the incentive systems would eligible for under the language of this bill. However, for newly eligible system types, specifically solar combined with storage and stand-alone storage systems, no such expectation existed since these specific system types have not, to date, been eligible for the tax credit. Further, removing these provisions as they apply to newly eligible system types can further mitigate the cost implications of the bill. To address this, Tesla proposes removing the language below as it currently appears on page 9, lines 10-16, and page 12, lines 5-11.

> *"Provided that a solar energy system that has an executed customer service contract dated prior to June 30, 2018, and is installed and first placed in service before December 31, 2019, shall receive thirty-five per cent of the basis for the solar energy system, up to the applicable cap amount as described in this subparagraph".*

Third, and finally, Tesla is unclear on the intent or implications of the language that was added to the definition of a "solar or wind energy system" (see page 19, lines 15-20). Absent a clear understanding of this language and what it is seeking to accomplish, Tesla requests that it be removed from the bill to avoid uncertainty and unintended consequences.

Thank you for the opportunity to submit this testimony.

LEGISLATIVE TAX BILL SERVICE

TAX FOUNDATION OF HAWAII

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

LATE

SUBJECT: INCOME, Renewable Energy Tax Credits

BILL NUMBER: SB 2100, SD-2

INTRODUCED BY: Senate Committee on Ways & Means

EXECUTIVE SUMMARY: Amends the renewable energy technologies income tax credit to change limitations for certain technology types. Provides increased caps for photovoltaic property that is grid-connected and incorporates energy storage system. Generally the credit is being phased down, perhaps in recognition that the technology involved is no longer new. If approved, the credit would be an indeterminate expenditure of public dollars out the back door, and could carry with it large administrative costs.

SYNOPSIS: Amends HRS section 196-6.5, relating to requiring a solar water heater system for new single-family residential construction, to decouple the definition from the tax credit definition.

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

For each solar energy system 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 system for single-family residential property; (B) $350 per unit per solar energy system for multi-family residential property; and (C) $250,000 per solar energy system for commercial property.

For each solar energy system 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 system 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 system for multi-family residential property; and (C) $500,000 per solar energy system for commercial property. The credit rate is 25% for calendar years 2019-2023, 20% for calendar year 2024, and 15% thereafter.

If the solar energy system is grid-connected and incorporates an energy storage system, the applicable cap amount is changed to: (A) $10,000 per solar energy system 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 system for multi-family residential property; and (C) $500,000 per solar energy system

for commercial property. The credit rate is 25% for calendar years 2019-2023, 20% for calendar year 2024, and 15% thereafter.

For each energy storage system installed and first placed in service in the State by a taxpayer during the taxable year, if the cost of the energy storage system is not also included in the creditable basis of a solar or wind energy system: a certain percentage of the basis up to the applicable cap amount, which is determined as follows: (A) $5,000 per energy storage system for single-family residential property; (B) $350 per unit per energy storage system for multi-family residential property; and (C) $500,000 per energy storage system for commercial property. The credit rate is 25% for calendar years 2019-2023, 20% for calendar year 2024, and 15% thereafter.

Credits for energy storage and a solar energy system may stack.

A wind energy system is also creditable, and the credit rate is 20% basis up to the applicable cap amount, which is determined as follows: (A) $1,500 per wind energy system 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 20% of basis or $1,500, whichever is less; (B) $200 per unit per wind energy system for multi-family residential property; and (C) $500,000 per wind energy system for commercial property.

Defines "basis" on which the credit is based as costs related to the solar energy, wind energy, or energy storage system, including accessories, energy storage, and installation, but does not include the cost of consumer incentive premiums unrelated to the operation of the energy system or offered with the sale of the energy system 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 system, 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 system, 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.

Defines "energy storage system" as any identifiable facility, equipment, or apparatus, including battery, grid-interactive water heater, ice storage air-conditioner, or the like, that is permanently fixed to a site and electrically connected to a site distribution panel by means of an installed wiring, and that receives electricity generated from various sources, stores that electricity as electrical, chemical, thermal, or mechanical energy, and delivers the energy back to an electric utility or the user of the electric system at a later time.

Defines "solar or wind energy system" as any identifiable facility, equipment, apparatus, or the like that converts solar or wind energy to useful thermal or electrical energy for heating, cooling, or reducing the use of other types of energy that are dependent upon fossil fuel for their

generation, if (1) the construction, reconstruction, or erection of the solar or wind energy system is completed by the taxpayer; or (2) the solar or wind energy system is acquired by the taxpayer if the original use of the solar or wind energy system commences with the taxpayer.

The tax credit for solar or wind energy properties is nonrefundable by default, but a taxpayer may elect to give up 30% of the credit to make it refundable. Alternatively, a taxpayer whose adjusted gross income is $20,000 or less for single filers or $40,000 or less for joint filers may elect to make the tax credit refundable without discount. If a taxpayer receives the nonrefundable credit and is unable to use all of it, the unused credit may be carried forward indefinitely until exhausted. Spouses not filing a joint return may only make the election to the extent that they would have been able to make the election if they had filed a joint return. An election once made is irrevocable.

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.

States that no credit shall be authorized for taxable years ending after December 31, 2036.

EFFECTIVE DATE: July 1, 2050; the tax credit applies to taxable years beginning after December 31, 2018.

STAFF COMMENTS: 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 generous about the expenditure of these funds when our kids are roasting in the public school classrooms, there isn't enough money for social service programs, or our state hospitals are on the verge of collapse?

If lawmakers want to subsidize the purchase of this type of technology, then a direct appropriation 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, or adding on to an existing program such as Hawaii Energy, may be a far less costly method to accomplish the same thing.

As a technical matter, the refundability elections in section 235-12.5(f) and (g) in the bill are written to apply for "solar or wind energy systems." This language means that the election does not apply to energy storage systems. That result may not be what was intended, and may create unnecessary complexity. If it is intended that the refundability elections apply to the credit in general, the Committee should consider revising subsections (f) and (g) to replace "solar or wind energy system" with "solar , wind energy, or energy storage system" throughout.

Digested 3/12/2018

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Hawaii Solar Energy Association

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TESTIMONY OF THE HAWAII SOLAR ENERGY ASSOCIATION IN REGARD TO SB 2100 SD2, RELATING TO RENEWABLE ENERGY BEFORE THE HOUSE COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION ON TUESDAY, MARCH 13, 2018

Chair Lee, Vice-Chair Lowen, and members of the committee, my name is Will Giese, and I am the executive Director of the Hawaii Solar Energy Association, Inc. (HSEA).

The HSEA was founded in 1977 to further solar energy and related arts, sciences and technologies with concern for the ecologic, social and economic fabric of the Hawaiian Islands. Our membership includes the vast majority of locally owned and operated solar installers, contractors, distributors, manufacturers, and inspectors across all islands.

HSEA **supports, with amendments, SB 2100 SD2**. 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.

Over the last 2 years, since the closing of NEM, the HSEA has witnessed and recorded significant job losses across all levels of our industry.[1] Permitted and interconnected systems have declined between 40-60% year over year and several local companies have ceased operations and closed their doors for good. On some islands, it is likely that there has been a reduction of up to 50% of the solar workforce as a result of this decline.

This precipitous decline in systems installed, while troubling for both state energy goals and the local economy, has also had the effect of lowering the state's tax obligation for claimed solar investment tax credits. Therefore, the argument that the solar tax credit creates an undue financial burden on the state is simply false, given that the amount of credits claimed over the past two years have declined. In fact, over the life of a system Hawaii may actually be *decreasing* its own taxable revenue. A recent study of Hawaii's investment tax credit found that it benefits both the state and the individual energy consumer.[2] Specifically, the study found that an average residential PV system **generated $1.97 in state revenue for every $1.00 spent** on that system's construction over the life of that system.

From a state policy perspective, Hawaii PUC's order ending NEM in October 2015 and its subsequent orders in Docket 2014-0192 as well as the Power Supply Improvement Plan (2015-0183) and HECO's Grid Modernization Plan (April 2017), have urged the adoption of energy storage technology in congress with renewable energy generators

[1] See "HSEA Industry Reports" 2016-2017. Provided upon request or at hsea.org.

[2] Loudat, Thomas A., and Kasturi, Prahlad. "The Economic and Fiscal Impacts of Hawaii's Solar Tax Credit." *International Journal of Energy Economics and Policy : IJEEP*, vol. 7, no. 1, 2017, pp. 224–252.

such as solar PV as a means to a 100% renewable portfolio standard as outlined in Act 97.[3] Thus, any incentive that could be adopted by the Hawaii state legislature that would allow our state's energy markets to utilize these types of technologies should be encouraged.

However, given recent federal tariff decisions regarding foreign manufactured solar modules[4] as well as the White House administration's increasingly troubling tendency to push energy schemas favoring fossil fuels like coal and natural gas[5] it is ***imperative*** that Hawaii be a leader in both federal and state energy policy. Recent tariff decisions on PV modules manufactured outside the United States are already impacting financing models of both large and small PV developments. Significant changes to the state's tax code will put further pressure on already overstressed project development timelines and financing structures. This will likely increase project timelines or force developers back to the drawing board, slowing Hawaii's progress towards a 100% 2045 RPS and preventing energy consumers from benefiting from renewable energy deployment.

In general, tax credits without step-downs create market stability and allow for reliable benchmarks that the state can use to measure consistent revenue projections. If a stepdown as proposed in this bill were to be considered, **we suggest SB2100 be amended to better fit current market realities.**

If the legislature were to consider a step-down structure like the one proposed in SB2100 SD2, we would suggest the following amendments be considered:

- A step-down of 10% within the first year of SB 2100's effect would have an overall negative impact on renewable projects currently in the pipeline for deployment. We instead suggest a step-down of 5% for the first year, then another 5% for the next 4 years, then the step down structure as currently defined in SD2.
- We appreciate efforts by the Senate to amend this bill more in-line with state RPS goals. While the current final step sunsets in 2036, we urge the committee to consider a step-down structure more in line with the state's 2045 RPS goals and amended the sunset year to the 100% RPS goal year of 2045.
- Some word-smithing for consistency should be considered in this bill. For instance; solar, wind, and energy storage are all considered in part or together for a tax credit within SB 2100 SD2, yet the definition in the bill only calls out "solar and wind energy" systems (section (b)). This should include energy storage, as well as in other portions of the bill that reference these systems.

[3] https://governor.hawaii.gov/newsroom/press-release-governor-ige-signs-bill-setting-100-percent-renewable-energy-goal-in-power-sector/
[4] Shallenberger, Krysti. "Will Utilities Keep Investing in Solar after Trump's Tariffs?" *Utility Dive*, 25 Jan. 2018, www.utilitydive.com/news/will-utilities-keep-investing-in-solar-after-trumps-tariffs/515556/.
[5] Roberts, David. "Rick Perry's Proposed Coal Bailout Just Died an Unceremonious Death."*Vox*, Vox, 9 Jan. 2018, www.vox.com/energy-and-environment/2018/1/9/16866196/perry-coal-bailout-nopr-ferc.

- Consider amendments in Section (3)(A)(iii) that allows for a taxpayer to opt for a tax credit in 2018 or 2019 as the "first placed in service" year. This allows a smooth transition during tax credit switchover and prevents a six-month period (July 2018-Jan 2019) where taxpayers would opt not to install a solar + storage system as the credit would not be as substantial.
- Consider clarifying or deleting language in Section (b), (1) and (2). It is unclear what the purpose or function of this language is meant to be and may cause confusion for the tax beneficiary.

While we greatly appreciate efforts by the prior committee to work with stakeholders on this measure, we continue to urge the committee to consider these points and offer **support SB 2100 SD2 with amendments**.

Thank you for the opportunity to testify.

SB-2100-SD-2
Submitted on: 3/10/2018 4:27:08 PM
Testimony for EEP on 3/13/2018 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Erica Scott	Individual	Support	No

Comments:

SB-2100-SD-2
Submitted on: 3/12/2018 10:39:18 AM
Testimony for EEP on 3/13/2018 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
R. Kinslow	Individual	Support	No

Comments:

I support the shift of tax credits for storage systems.