SB 1172

REVISED

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
SENATE COMMITTEE ON ENERGY AND ENVIRONMENT
AND
SENATE COMMITTEE ON COMERCE AND CONSUMER PROTECTION

Thursday, February 12, 2015
2:45 p.m.
State Capitol, Conference Room 225

in consideration of
SB 1172
RELATING TO ENERGY STORAGE.

Chairs Gabbard and Baker, Vice Chairs Green and Taniguchi, and Members of the Committees.

The Department of Business, Economic Development & Tourism (DBEDT) offers comments on SB 1172, which would create an investment and utilization tax credit for grid-connected energy storage property, and require the Public Utilities Commission (PUC) to direct the utilities to use any energy storage property that benefits from the tax credit for demand response, ancillary services, and other similar advanced energy storage and grid-supportive functions.

DBEDT appreciates the concept of providing incentives for grid-supportive energy storage as well as advanced Distributed Energy Resources (DERs). We also appreciate the provisions for developing demand response, ancillary and other services that would allow DERs to be used to the benefit of the electric grid. This is aligned with the State's energy policy vision of creating a modernized, intelligently-networked grid that provides economic, environmental and system benefits in a balanced and equitable manner.

However, as it pertains to the interconnection of storage systems and DERs, we urge the Legislature to consider this matter under a broader utility planning perspective. Specifically, the interconnection of storage systems and DERs is currently being reviewed under the various interrelated PUC proceedings[1]. Further, recommendations among energy stakeholders are either being formulated[2] or have been submitted to the PUC. Therefore, we suggest that this measure be held pending an update from DBEDT and other energy stakeholders (at the discretion of the Legislature) later this Legislative Session on the progress of those recommendations.

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

Finally, we defer to the Department of Taxation and the PUC on their ability to administer the tasks called for in this bill.

Thank you for the opportunity to offer these comments on SB 1172.

[1] Reference Docket No. 2011-0206 Hawaiian Electric, Inc.'s Power Supply Improvement Plan, Docket No. 2012-0212 Hawaii Electric Light Power Supply Improvement Plan, Docket No. 2011-0092 Maui Electric Power Supply Improvement Plan, Docket No. 2014-0192 Instituting a Proceeding to Investigate Distributed Energy Resource Policies, Docket No. 2014-0192 Regarding a Proceeding Investigate Distributed Energy Resource Policies; Docket No. 2014-0130 Hawaiian Electric Companies, Inc. Application For Approval to Modify Rule 14H – Interconnection of Distributed Generating Facilities Operating in Parallel With the Companies' Electric System.

[2] Per regulatory procedure under Docket No. 2014-0130, stakeholder recommendations on the interconnection process of storage systems and related definitions are to be submitted to the PUC by February 19, 2015.

DAVID Y. IGE
GOVERNOR

SHAN TSUTSUI
LT. GOVERNOR

MARIA E. ZIELINSKI
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To: The Honorable Mike Gabbard, Chair
and Members of the Senate Committee on Energy and Environment

The Honorable Rosalyn H. Baker
and Members of the Senate Committee on Commerce and Consumer Protection

Date: Thursday, February 12, 2015
Time: 2:45 P.M.
Place: Conference Room 225, State Capitol

From: Maria E. Zielinski, Director
Department of Taxation

Re: S.B. 1172, Relating to Energy Storage

The Department of Taxation (Department) appreciates the intent of S.B. 1172, and provides the following information and comments for your consideration.

S.B. 1172 creates an income tax credit for utility scale energy storage property installed and placed in service in the State. The tax credit is calculated as a portion of the basis of the energy storage property, with different amounts for different time periods during which the property is installed and placed in service. Rates start at thirty percent of the basis for property installed in 2016 and 2017, twenty-five percent of the basis for property installed from 2018 through 2020, twenty percent of the basis for property installed from 2021 to 2023, and fifteen percent of the basis for property installed in 2024 and thereafter. The tax credit is refundable if the taxpayer takes a thirty percent reduction in credit. This measure is applied to taxable years beginning after December 31, 2015.

First, the Department notes that this tax credit requires certification by the Department of Business, Economic Development, and Tourism (DBEDT) before the credit may be claimed. Subsection (e), of the certification process requires annual reports to DBEDT which provide certain information about "energy storage project[s]," and it is indicated that DBEDT may rescind certification if certain conditions are not met. It is unclear what effect this provision will have, as a rescission of certification will have no effect once the tax credit is claimed. If the intent is to insert some form of recapture provision, this subsection should be reworded

accordingly. The Department ultimately defers to DBEDT regarding the feasibility of the certification requirements.

Second, the language of the bill needs to be clarified. It is not clear how much credit is available and for what installed equipment. Subsection (b) indicates that the tax credit shall be claimed as a percentage of the basis for energy storage property, but subsection (i) indicates that "battery storage projects" qualify for the credit at a different rate. Subsection (i) needs to be amended as the ranges of capacity and energy storage cannot be reconciled with the paragraphs immediately below. The term "battery storage project" is not defined and it is unclear how it would differ from energy storage property generally. If the intent is to provide the credit at different rates for different types of installations, the Department suggests that all of these provisions be included in subsection (b) to avoid confusion.

Third, the credit proposed by this measure contains an aggregate cap. The Department generally opposes aggregate caps, as they create confusion for taxpayers and difficulty in administration of the credit. In this case, the proposed certification requirements are detailed and complex and would make enforcement difficult. Again, the Department defers to DBEDT regarding this process.

Thank you for the opportunity to provide comments.

DAVID Y. IGE
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SHAN S. TSUTSUI
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TO THE SENATE COMMITTEES ON ENERGY AND ENVIRONMENT
AND COMMERCE AND CONSUMER PROTECTION

THE TWENTY-EIGHTH LEGISLATURE
REGULAR SESSION OF 2015

THURSDAY, FEBRUARY 12, 2015
2:45 p.m.

TESTIMONY OF JEFFREY T. ONO, EXECUTIVE DIRECTOR, DIVISION OF CONSUMER ADVOCACY, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, TO THE HONORABLE MIKE GABBARD AND ROSALYN H. BAKER, CHAIRS, AND MEMBERS OF THE COMMITTEES

SENATE BILL NO. 1172 - RELATING TO ENERGY STORAGE

DESCRIPTION:

This measure proposes to establish an energy storage tax credit for energy storage properties that primarily supply utility customers with electricity for site-specific needs or serve the entire electric system, provided that the energy storage properties are advanced, grid-interactive systems capable of and actively participating in utility demand response programs, providing ancillary services, and serving as a resource to the electric system.

POSITION:

The Division of Consumer Advocacy offers comments to this bill.

COMMENTS:

This bill provides a tax credit to Hawaii taxpayers who install energy storage systems that are grid-connected. Batteries and other storage devices have the potential to provide significant ancillary services to the grid that help smooth out the variability of most renewable energy technologies.

The Consumer Advocate appreciates the Legislature's desire to provide a tax credit to consumers who purchase and install energy storage systems for their solar pv systems. On the other hand, the Consumer Advocate is concerned that the current high cost of an energy storage system makes it affordable to only the very wealthy. Does this bill then provide a tax credit that will be used disproportionately by the wealthiest taxpayers?

Finally, the Consumer Advocate recommends a cautious approach to providing tax credits to one particular technology over another. There may be other more cost-effective means of providing ancillary services other than energy storage. For example, demand response programs may be a less costly means of shifting energy demand away from the evening peak. Tax credits tend to create market distortions that may prevent a more balanced, cost-effective portfolio of resources to meet Hawaii's energy needs.

Thank you for this opportunity to testify.

L E G I S L A T I V E

TAXBILLSERVICE

126 Queen Street, Suite 304 TAX FOUNDATION OF HAWAII Honolulu, Hawaii 96813 Tel. 536-4587

SUBJECT: INCOME, Energy storage tax credit

BILL NUMBER: SB 1172

INTRODUCED BY: Gabbard, Ruderman and 6 Democrats

EXECUTIVE SUMMARY: This bill would allow taxpayers a tax credit for energy storage property to encourage market penetration of this technology. The bill appears to be drafted in a way that would require continued accountability by the taxpayers and enable the State to collect pertinent data. However, technical issues with the bill language make it confusing and difficult to evaluate.

BRIEF SUMMARY: Adds a new section to HRS chapter 235 to allow taxpayers to claim an energy storage tax credit for each energy storage property: (1) that is used primarily to store electricity to supply utility customers; (2) for which the taxpayer enters into an agreement between July 1, 2015 and December 31, 2021; and (3) that is installed and first placed in service by a taxpayer between January 1, 2016 and December 31, 2025.

The tax credit shall be 30% of the basis for energy storage property first placed in service after December 31, 2015 and before January 1, 2018; 25% of the basis for energy storage property first placed in service after December 31, 2017 and before January 1, 2021; 20% of the basis for energy storage property first placed in service after December 31, 2020 and before January 1, 2024; and 15% of the basis for energy storage property first placed in service after December 31, 2023.

Requires the taxpayer to obtain certification from the department of business, economic development and tourism (DBEDT) to qualify for the credit as delineated in the measure. The taxpayer is to provide the department with evidence that the taxpayer has control of the site for the proposed project or that the entity having site control has entered into an agreement (presumably with the taxpayer) for the installation of the energy storage equipment.

When the aggregate tax credit certification reaches $20 million, DBEDT shall cease certification until the following year.

Beginning on January 1 of the calendar year that a taxpayer receives certification, the taxpayer is to annually provide written evidence that the project continues to directly support the ability of the electric system to accept and use renewable energy through participation in utility demand response programs, delivery of ancillary services, and serving as a resource to the electric system to increase the use of renewable resources in the state. (We aren't sure what kind of evidence would be acceptable here.) If a taxpayer does not provide such evidence the certification will be rescinded and the tax credit shall not be available for the year during which the rescission occurs or thereafter.

Requires the public utilities commission to direct the the electric utilities, through appropriate tariffs, programs, and other means, to use all energy storage properties benefitting from the tax credit for

demand response, ancillary services, and other similar advanced energy storage and grid supportive functions.

For battery storage projects with a capacity of at least five kilowatts of power and five kilowatt-hours of energy storage and a maximum capacity of one megawatt of power and one megawatt-hour of energy storage, the tax credit shall be available in the following: (1) 50 per cent of the applicable tax credit for energy storage projects with the capacity of one megawatt of power and one megawatt-hour of energy storage and a maximum of two megawatts of power and two megawatt-hours of energy storage; and (2) 25 per cent of the applicable tax credit for energy storage projects with the capacity of two megawatts of power and two megawatt-hours of energy storage and a maximum of three megawatts of power and three megawatt-hours of energy storage. (Note: It is unclear to us what this section is designed to achieve. If the project qualifies, why wouldn't the credit be awarded at full value pursuant to the subsection previously described, namely 30%, 20%, or 15% of basis?)

Provides that an equipment manufacturer of energy storage properties shall be limited to 40 per cent of the annual aggregate tax credit certification amounts. (That seems to say that, for example, once the department has certified $8 million of Enphase equipment the next person coming in with Enphase equipment won't be certified until the following year when another $8 million will become available.)

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.

For any energy storage property, a taxpayer may make an irrevocable election 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, however, that no refund on account of the tax credit allowed by this section shall be made for amounts less than $1. (Translation: The credit is nonrefundable by default, but a taxpayer can make an irrevocable election to give up 30% of the credit amount in return for making the credit amount refundable.)

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. Multiple owners of a single 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 is 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 section 704(b) of the Internal Revenue Code.

The director of taxation is to prepare any forms that may be necessary to claim a tax credit under this section, including forms identifying the property type of each tax credit claimed under this section. The director may also require the taxpayer to furnish reasonable information to ascertain the validity of the claim for credit made under this section and may adopt rules necessary to effectuate the purposes of this section pursuant to chapter 91.

No credit under this section shall be allowed to any federal, state, or local government or any political

subdivision, agency, or instrumentality thereof; provided that any such entity that enters into a power purchase or energy storage agreement from a third-party provider shall be eligible for the credit.

Provides that by July 1, 2017, DBEDT in collaboration with the department of taxation shall commence a study on the costs incurred and benefits generated by this section and to the extend that it has helped the state to achieve its energy goals. Requires DBEDT in collaboration with the department of taxation, shall submit a joint report to the 2019 legislature.

EFFECTIVE DATE: Tax years beginning after December 31, 2015

STAFF COMMENTS: The proposed measure would establish income tax credits to encourage the use of energy storage technologies and systems. If such systems are an integral part of a renewable energy system, they may already be eligible for the renewable energy technologies credit under HRS section 235-12.5 as the IRS recently recognized, in PLR (Private Letter Ruling) 201308005, that such energy storage systems can be considered an integral part of a renewable energy system because it helps the underlying photovoltaic or wind system stabilize its output and thereby lessen its impact on the grid.

The measure does propose definitions and in that way attempts to specify what types of storage property qualify for the proposed credit. In addition, the measure explicitly refers to Internal Revenue Code sections 25D, 45, and 48. Thus administrators could look to the federal standards for these devices for guidance.

The measure seeks to hold taxpayers accountable by requiring annual reporting of information that the storage system is serving as a resource to the electric system, and specifies that the consequence of failing to do this is rescission of certification, for the year in which the default occurs and thereafter. The effect of rescission is unclear. If the taxpayer has already gotten the credit, there does not seem to be a provision authorizing recapture. If the taxpayer has not already gotten the credit, the credit is forfeited, which seems unduly harsh.

Instead of providing tax incentives via tax credits for the purchase of existing technology, lawmakers may want to take advantage of Hawaii's natural environment which lends itself to all sorts of possibilities to explore and develop more efficient means of harnessing the natural resources that pervade the Islands, from wind to sun to geothermal to hydrogen from Hawaii's vast resources, all of which could be further developed with the assistance and cooperation of government in Hawaii.

Digested 2/10/2015

TESTIMONY OF WARREN BOLLMEIER ON BEHALF OF THE HAWAII RENEWABLE ENERGY ALLIANCE BEFORE THE SENATE COMMITTEE ON ENERGY AND ENVIRONMENT

SB 1172, RELATING TO ENERGY STORAGE

February 12, 2015

Chair Gabbard, Vice-Chair Green and members of the Committee, I am Warren Bollmeier, testifying on behalf of the Hawaii Renewable Energy Alliance (HREA). HREA is an industry-based, nonprofit corporation in Hawaii established in 1995. Our mission is to support, through education and advocacy, the use of renewables for a sustainable, energy-efficient, environmentally-friendly, economically-sound future for Hawaii. One of our goals is to support appropriate policy changes in state and local government, the Public Utilities Commission and the electric utilities to encourage increased use of renewables in Hawaii.

The purpose of SB 1172 is to establish an energy storage tax credit for energy storage properties that primarily supply utility customers with electricity for site-specific needs or serve the entire electric system; provided that the energy storage properties are advanced, grid-interactive systems capable of and actively participating in utility demand response programs, providing ancillary services, and serving as a resource to the electric system

HREA **supports** this measure with the following comments and recommendations.

1) Clean Energy Goals. This measure supports our clean energy goals, as storage can be an enabling technology as well as provide generation. Re enabling: think ancillary services and particularly ask how storage, such as batteries and pumped-hydro help can integrate more variable renewables on our grids. Re generation: pumped hydro (or pumped storage) can provide firm power and ancillary services at key times.

2) Some Concerns. We need to make sure that the storage we incentivize is what the grids need and is in the public interest. For example, HREA does not believe encouraging consumers to just go off-grid or non-export is the way to go; there can be important benefits, if storage can provide for export at key times. Note: related technical issues are now before the PUC in the current Rule 14H docket, and we believe the related economic and equity issues will be considered in the Distributed Energy Resources Policy docket.

3) Alternative Approaches. While we are on the path to solving grid integration and operation, economic and equity issues, there may be another mechanism for supporting storage in the near term – DBEDT's GEMS (Green Energy Market Securitization) Program with $150M already in the bank. HREA believes this may be a good option, if funds can be made available and if the utility and other stakeholders can identify high-value storage opportunities

4) Recommendations: Please pass the bill out for further discussion. Note: we have one recommended amendment per the attached.

Mahalo for this opportunity to testify.

THE SENATE
TWENTY-EIGHTH LEGISLATURE, 2015
STATE OF HAWAII

JAN 2 8 2015

S.B. NO. 1172

A BILL FOR AN ACT

RELATING TO ENERGY STORAGE.

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

SECTION 1. The legislature finds that for economic and energy security reasons, state law and policy direct an increase in the use of renewable energy resources. The majority of renewable energy resources will be interconnected to the Hawaii electric system, however, the quantity and rate of interconnection may be reduced or slowed based on limitations of the electric system's ability to accept variable generation.

The legislature further finds that the limitations of the electric system can be alleviated through an increase in the use of energy storage and the integration of energy storage with the electric system. Small-scale energy storage systems can supply utility customers with electricity to timely serve site-specific needs, and utility scale systems can serve the entire electric system. Small- and large-scale energy storage systems are advanced and grid-interactive, thus improving the electric system's ability to use renewable energy resources.

The purpose of this Act is to facilitate the greater use of renewable energy by establishing a tax credit for energy storage

properties that primarily supply utility customers with electricity for site-specific needs or serve the entire electric system; provided that the energy storage properties are advanced, grid-interactive systems capable of and actively participating in utility demand response programs, providing ancillary services, and serving as a resource to the electric system.

SECTION 2. Chapter 235, Hawaii Revised Statutes, is amended by adding a new section to be appropriately designated and to read as follows:

"**§235- Energy storage tax credit; certification.** (a) There shall be allowed to each taxpayer subject to the tax imposed by this chapter, an energy storage tax credit for each energy storage property:

(1) That is used primarily to store electricity to supply utility customers with electricity for site-specific needs or to serve the entire electric system; provided that all energy storage properties are advanced, grid-interactive systems capable of participating in utility demand response programs, providing ancillary services, and serving as a resource to the electric system;

(2) For which the taxpayer enters into an agreement with an electric utility after June 30, 2015, and on or before December 31, 2021; and

(3) That is installed and first placed in service by a taxpayer during a taxable year after December 31, 2015, and on or before December 31, 2025.

(b) The tax credit shall be claimed as follows:

(1) 30 per cent of the basis for energy storage property first placed in service after December 31, 2015, and before January 1, 2018;

(2) 25 per cent of the basis for energy storage property first placed in service after December 31, 2017, and before January 1, 2021;

(3) 20 per cent of the basis for energy storage property first placed in service after December 31, 2020, and before January 1, 2024; and

(4) 15 per cent of the basis for energy storage property first placed in service after December 31, 2023.

(c) To qualify for the tax credit, a taxpayer shall first obtain certification from the department. When applying for

certification, a taxpayer shall provide the department with evidence that:

(1) The taxpayer has control of the site for the proposed project, including but not limited to a copy of a deed, lease, or option to lease; or

(2) The entity having site control has entered into an agreement for the installation of an energy storage property at the site.

(d) Within twelve months of receiving certification, a taxpayer shall provide the department with evidence that the taxpayer has invested at least 5 per cent of the amount of the taxpayer's projected cumulative tax credits into the project. The department shall rescind the certification of a taxpayer who fails to comply with this subsection and consider the next taxpayer awaiting certification.

(e) Beginning on January 1 of the calendar year that a taxpayer receives certification, the taxpayer shall annually provide written evidence to the department that the energy storage project continues to directly support the ability of the electric system to accept and use renewable energy through participation in utility demand response programs, delivery of

ancillary services, and serving as a resource to the electric system to increase the use of renewable resources in the State. The department shall rescind the certification of a taxpayer who fails to comply with this subsection, and the tax credit shall not be available for the year during which the rescission occurs or thereafter.

(f) When the aggregate tax credit certifications for the year reaches $20,000,000, the department shall cease certification of tax credits for the year; provided that remaining projects awaiting certification shall carry over to the next year.

(g) The department shall notify the department of taxation of all certifications of tax credits and rescissions of certifications.

(h) The public utilities commission shall direct the electric utilities, through appropriate tariffs, programs, and other means, to use all energy storage properties benefiting from the tax credit for demand response, ancillary services, and other similar advanced energy storage and grid supportive functions.

(i) For battery storage projects providing significant energy storage capacity and energy storage projects with a capacity of at least five kilowatts of power and five kilowatt-hours of energy storage and a maximum capacity of one megawatt of power and one megawatt-hour of energy storage, the tax credit shall be available in the following amounts:

(1) 50 per cent of the applicable tax credit for energy storage projects with the capacity of one megawatt of power and one megawatt-hour of energy storage and a maximum of two megawatts of power and two megawatt-hours of energy storage; and

(2) 25 per cent of the applicable tax credit for energy storage projects with the capacity of two megawatts of power and two megawatt-hours of energy storage and a maximum of three megawatts of power and three megawatt-hours of energy storage.

(j) An equipment manufacturer of energy storage properties shall be limited to 40 per cent of the annual aggregate tax credit certification amounts. The department shall not issue tax certifications to a project that uses a technology produced by a manufacturer that has already received 40 per cent of the

annual aggregate tax credit certification amounts. This limit shall be posted by the department at the beginning of each calendar year and shall remain the same throughout the year.

(k) The tax credit shall be deductible from the taxpayer's net income tax liability imposed by this chapter for the taxable year in which the credit is properly claimed. If the tax credits under subsection (b) exceed the taxpayer's income tax liability, the excess of the credit over liability may be used as a credit against the taxpayer's income tax liability in subsequent years until exhausted, unless otherwise elected by the taxpayer pursuant to subsection (l).

(l) For any energy storage property, a taxpayer may elect to reduce the eligible credit amount by 30 per cent 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, however, that no refund on account of the tax credit allowed by this section shall be made for amounts less than $1.

The election required by this subsection shall be made in a manner prescribed by the director of taxation on the taxpayer's return for the taxable year in which the energy storage property

is installed and placed in service. A separate election may be made for each separate property that generates a credit. An election once made is irrevocable.

(m) 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.

(n) Multiple owners of a single 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.

(o) In the case of a partnership, S corporation, estate, or trust, the tax credit allowable is 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 section 704(b) of the Internal Revenue Code.

(p) The director of taxation shall prepare any forms that may be necessary to claim a tax credit under this section, including forms identifying the property type of each tax credit

claimed under this section. The director may also require the taxpayer to furnish reasonable information to ascertain the validity of the claim for credit made under this section and may adopt rules necessary to effectuate the purposes of this section pursuant to chapter 91.

(q) All claims for the tax credit under this section, including amended claims, shall be filed on or before the end of the twelfth month following the close of the taxable year for which the credit may be claimed. Failure to comply with this subsection shall constitute a waiver of the right to claim the credit.

(r) The tax credit provided for in this section shall be construed in accordance with the United States Treasury Regulations and judicial interpretations of similar provisions in sections 25D, 45, and 48 of the Internal Revenue Code.

(s) No credit under this section shall be allowed to any federal, state, or local government or a public sector agency; provided that any such entity that enters into a contractual agreement for the purchase of electric power or energy storage capacity from a third-party provider shall be eligible for the credit.

(t) No later than July 1, 2017, the department shall commence a study on the costs incurred and benefits generated by this section, as well as the extent to which the tax credit under this section has helped the State to achieve its energy goals. In conducting this study, the department shall consult with the department of taxation and industry trade groups and may consult with other stakeholders. The department, in collaboration with the department of taxation, shall submit a joint report to the legislature no later than twenty days prior to the convening of the regular session of 2019. This report to the legislature shall include, at a minimum, the following:

(1) The number of energy storage properties that have qualified for a tax credit during the calendar year, organized by property type and taxpayer type (corporate and individual);

(2) The total cost of the tax credit to the State during the taxable year by property type, taxpayer type, and refundability type;

(3) The estimated economic benefit that may be attributable to the tax credit, including the estimated impact on the economy, net flow of money into or out of the State, general excise and income

tax revenue generated, and number of jobs maintained and created and average pay;

(4) The results of the study; and

(5) Recommendations on whether the tax credit under this section should be wholly or partially continued, eliminated, or revised.

(u) For purposes of this section:

"Basis" means costs related to the energy storage property, including storage devices, power conditioning equipment, transfer equipment, support structures, and parts related to the functioning of those items, including installation and development costs. "Basis" shall not include:

(1) Costs for which another credit is claimed under this chapter; and

(2) Costs for equipment that is unrelated to the functioning of the energy storage property.

The meaning of "basis" shall be consistent with section 25D or section 48 of the Internal Revenue Code; provided that, for the purposes of calculating the credit allowed under this section, the basis of the energy storage property shall not be reduced by

the amount of any federal tax credit or other federally subsidized energy financing received by the taxpayer.

"Certification" means a declaration from the department that the taxpayer has met the minimum criteria to qualify for the tax credit for an energy storage property.

"Department" means the department of business, economic development, and tourism.

"Energy storage capacity" means the amount of electricity measured in kilowatts or kilowatt-hours that may be injected into storage for later retrieval. Energy storage capacity shall be determined based on the storage capability of the equipment, not its actual use when in operation.

"Energy storage property" means a property that is permanently affixed to a site and electrically connected to a site distribution panel by means of an installed conduit, not an electric plug, that supports, improves, and enhances the ability of the electric system to accept and use renewable energy by providing electricity, demand response, ancillary services, or other similar functions through the use of equipment that receives electricity generated from various sources, stores the electricity, and delivers the electricity to an electric utility

or to a user of the electric system. Furthermore, energy storage property shall have an energy storage capacity of at least five kilowatts of power and five kilowatt-hours of energy storage and a maximum of three megawatts of power and three megawatt-hours of energy storage. The construction, reconstruction, or erection of the energy storage property shall be completed by the taxpayer or shall be acquired by the taxpayer if the original use of the property commences with the taxpayer.

"First placed in service" has the same meaning as in United States Treasury Regulation section 1.167(a)-11(e)(1).

"Public sector agency" means any political subdivision, agency, or instrumentality of the State or of the federal government."

SECTION 3. New statutory material is underscored.

SECTION 4. This Act upon approval, shall apply to taxable years beginning after December 31, 2015.

INTRODUCED BY: _____

S.B. NO. 1172

Report Title:
Energy Storage; Tax Credit

Description:
Establishes an energy storage tax credit for energy storage properties that primarily supply utility customers with electricity for site-specific needs or serve the entire electric system; provided that the energy storage properties are advanced, grid-interactive systems capable of and actively participating in utility demand response programs, providing ancillary services, and serving as a resource to the electric system

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

Hawaii Solar Energy Association
Serving Hawaii Since 1977

Before Senate Committee on Energy and Environment & Commerce and Consumer Protection
Thursday, February 12, 2015, 2:45 p.m., room 225
SB 1172: Relating to Energy Storage

Aloha Chairs Gabbard and Baker, Vice Chairs Green and Taniguchi, and members of the Committee,

On behalf of the Hawaii Solar Energy Association (HSEA), I would like to testify in partial support with comments for SB 1172 which establishes an energy storage tax credit for energy storage properties that are grid-interactive systems. HSEA is a non-profit trade organization that has been advocating for solar energy since 1977, with an emphasis on both solar hot water (SHW) and residential and small commercial distributed generation (PV). We currently represent 90 member companies, which employ thousands of local employees working in the solar industry. With 38 years of advocacy behind us, HSEA's goal is to work for a sustainable energy future for all of Hawaii.

Energy storage is key to Hawaii's energy future

Energy storage is the missing link that will allow Hawaii to make the best use of our many indigenous resources, and to greatly reduce our dependence upon imported fossil fuels. Hawaii is blessed with an abundance of indigenous energy resources, but we must have the infrastructure in place that will allow us to have energy available when we need it, and the means to ensure that our grid can be maintained in a safe and reliable manner. Unlike other jurisdictions, Hawaii's load and renewable generation do not necessarily occur at the same. This means that excess energy generated from renewable resources is wasted and results in our continued reliance upon fossil fuels to provide energy when renewables are not available. Energy storage fixes this issue, both by providing the means to store excess energy for when we need it, in addition to providing a variety of grid services that would serve to enhance grid reliability and safety for all ratepayers.

Energy storage can provide many grid benefits

The implementation of a robust network of energy storage would provide a variety of grid benefits. First, energy storage would allow excess energy from renewable generation to be shifted for use at peak load—a valuable service that could be provided both by customers with roof top PV and by the utility with community storage installations. In addition, energy storage would serve to off-set or reduce the need for grid improvements and upgrades, as energy produced locally could be stored and consumed locally as needed, thus lessening the impact on distribution level infrastructure. Energy storage can also play a key role in providing grid services such as voltage and var support on the distribution level, in addition to system wide services such as frequency support and emergency backup.

SB 1172 encourages customers to stay connected to the electrical grid and to install systems capable of providing grid services

SB 1172 has the additional benefit of providing the incentive only to systems which are advanced, grid interactive systems capable of participating in utility demand response programs, providing ancillary services, and serving as a resource to the electric system. Although renewable energy installations which are not grid connected have a purpose in the case where electrical service is not available and especially where a housing shortage could be helped by the ability to affordably invest in storage, it is not to the

advantage of the utility or the ratepayers for customers to flee the grid and significantly remove load from the system. This bill would send a strong market signal to incentivize systems that are grid connected and have the capability to provide advanced grid services. These systems would serve as a stepping stone to a modern, interactive grid that makes the most of all of our energy resources.

SB 1172 is fiscally prudent

SB 1172 is fiscally prudent and a sound investment in our state's future as we strive to reduce our dependence upon imported fossil fuels. SB 1172 provides a safe guard to the state in the form of a cap on investment which would ensure that the tax incentive would not exceed $20,000,000 in any given tax year. SB 1172 also gradually ramps down the tax incentive from 30% of the basis for the energy storage property from 2015 through 2015 to 15% for all energy storage properties placed in service after December 31, 2023. SB 1172 would also make the best use of the federal renewable energy investment tax credit which currently provides a 30% federal tax credit for energy storage connected through 2016. Now is the time to make the most of the ITC while we still have it, and it would be a waste not to use the credit to improve our energy infrastructure.

SB 1172 needs to simplify the requirements and remove the certification requirement

SB 1172has several provisions which HSEA believes should be removed or amended. First, SB 1172 requires that a taxpayer must certify via DBEDT that the taxpayer has control of the site for the proposed system, later certify that at least 5% of the projected cost has in fact been invested in the project, and the taxpayer must subsequently submit a report annually that attests to the fact that the project continues to directly support the electrical grid. These requirements bring up several questions. Why would a taxpayer get a tax incentive for a system that they do not install? How does the taxpayer prove that the project continues to provide grid services, and what if the utility has not yet put the appropriate tariffs in place, and does DBEDT have the infrastructure in place to track and access the systems that qualify under this bill? HSEA believes that this section on certification adds unnecessary complexity with little or no gain.

Next SB 1172 increases the tax credit for systems which provide "significant" energy storage capacity to 50% for systems of 1 MW and 1 MWh. HSEA agrees that greater functionality might be a reason for the state to provide a higher incentive, but the term "significant" in this case must be clearly defined and discussed. As it stands, HSEA believes that both the section on certification and the credit for "significant" energy storage capacity should be removed from the bill.

Now is the time to act

HSEA is in strong support of an incentive that encourages and supports the installation of grid interactive storage to move our grid infrastructure to the next step. With key amendments, SB 1172 will do this, in addition to providing a catalyst to the utility and commission to get the appropriate program infrastructure and tariffs in place to make use of the huge resource that aggregate energy storage can provide. Energy storage is key to moving forward with our energy future if we wish to rid the state of our dependence upon imported fossil fuels, and now is the time to act to make best use of the resources at hand.

Thank you for the opportunity to testify

Leslie Cole-Brooks
Executive Director
Hawaii Solar Energy Association

Email: communications@ulupono.com

SENATE COMMITTEE ON ENERGY & ENVIRONMENT AND COMMERCE & CONSUMER PROTECTION
Thursday, February 12, 2015 — 2:45 p.m. — Room 225

Ulupono Initiative Supports SB 1172 with Amendments, Relating to Energy Storage

Dear Chair Gabbard, Vice Chair Green, Chair Baker, Vice Chair Taniguchi, and Members of the Committees:

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

Ulupono supports SB 1172 with amendments, which establishes an energy storage tax credit, because it aligns with our goal of producing more clean, renewable energy in Hawai'i.

In recent years Hawai'i has seen significant growth in renewable energy adoption moving the State towards its renewable energy goals. However, interconnection of renewable energy systems has become increasingly problematic. The growth rate in new residential solar PV systems has declined over the past few years. If the existing interconnection problems continue, renewable energy growth will continue to stagnate in Hawai'i. A modern, flexible grid is necessary to maximize renewable energy penetration.

Energy storage is one of the primary means by which to increase grid flexibility and resilience. Circuits that are currently completely closed to additional renewable energy could effectively be opened up with sufficient storage in place. Furthermore, energy storage has the ability to decrease the curtailment of existing renewable energy – energy that is currently being wasted. A modest tax credit, as proposed by this bill, could be sufficient to push currently expensive storage technology into mainstream use in Hawai'i, thus opening the door to further renewable energy use and a reduction in expensive imported fossil fuel use.

We recommend, for this committee's consideration, a few amendments to strengthen the

bill:

1) On page 3, line 6 and line 9, we request that the energy storage property first be placed in service during the 2015 year and not as currently written as after December 31, 2015. This would match page 3, line 2, where the taxpayer can enter into an agreement after June 30, 2015. Without this change, a taxpayer can enter into an agreement on July 1st, 2015 but need to wait to complete the project until the end of December 31st, 2015.

2) On page 6, line 4 and 5, we request that the maximum capacity clause be removed from the bill for a few reasons. First, this provision disincentives the cost effective benefits of economies of scale when a larger system is installed. Second, larger battery storage systems can cover a larger geographic area, thus greatly increasing the potential for renewable energy throughout the electric system. Third, this provision will incentivize applicants to game the system. For example, if someone wants to develop a two-megawatt energy storage system, they may instead attempt to create two one-megawatt systems with the goal of obtaining the maximum amount of the credit. Lastly, fewer larger energy storage systems will be easier for DOTAX to administer as compared to more smaller energy storage systems. This is especially relevant given the State's previous experience with the large amount of applicants for the solar PV tax credit.

3) We request the deletion of Section J starting on page 6, line 17. We believe project developers should be able to choose the most competitive technology as compared to one based on their existing share of the credit outstanding.

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

Thank you for this opportunity to testify.

Respectfully,

Murray Clay
Managing Partner



SENATE COMMITTEE ON ENERGY AND ENVIRONMENT
SENATE COMMITTEE ON COMMERCE AND CONSUMER PROTECTION
February 12, 2015, 2:45 P.M.
Room 225
(Testimony is 3 pages long)

TESTIMONY IN SUPPORT OF SB 1172

Aloha Chairs Gabbard and Baker and members of the Committees:

The Blue Planet Foundation supports SB 1172, a policy to facilitate and encourage the use of renewable energy by incentivizing the use of grid-connected energy storage technologies and systems through a limited tax credit that phases down over time. The proposed investment tax credit is intended to promote the use of grid-connected energy storage to address the varying needs of our island electric grids with technologies most applicable to those needs. Energy storage tax incentives are the appropriate and needed tool to enable continued momentum toward Hawaii's independence from fossil fuels.

Energy storage—whether from batteries, ultra-capacitors, thermal storage, or some other technology—will be an integral part of our island electricity systems. These technologies are evolving rapidly and in the technology development and deployment stage where tax credits can contribute a critical boost to early adoption rates, accelerating the benefits to our energy system.

Blue Planet believes SB 1172 is a timely and appropriate policy for the reasons described below. However, we also suggest that SB 1172 should be amended to delete the aggregate caps on the storage tax credit, certification requirements, and tax credit allocations based on energy storage size. These requirements will be difficult to administer and size differentiation should be based on technical analysis, not policy prescription. Further, it is unclear what recourse the Department of Taxation would have if certifications are rescinded. Therefore we request that the language from page 3, line 19, through page 6, line 16 be deleted.

Incentives for energy storage will accelerate development of a smart grid, increasing reliability and lowering costs to ratepayers

Senate Bill 1172 is intended to support variable energy sources, including wind and solar power, while moderating energy demands during peak hours and facilitating a "smart grid" that is more reliable in order to improve Hawaii's island electricity grids and achieve the state's clean energy

future. This measure would help improve the efficiency, versatility and reliability of Hawaii's electric grids, and would offer more affordable energy storage technologies for homes and businesses.

Hawaii's electricity grid needs energy storage to achieve the state's aggressive clean energy goals. To take advantage of distributed and diversified energy like solar and wind and other variable sources of power, the grid has to become smarter and have the capacity to store electricity. It will resemble today's Internet—where distributed servers both send and receive packets of information—and less like yesterday's commercial television. Such a self-aware, robust smart grid will instantaneously adjust to shifts in wind strength or cloud cover over solar, balancing energy loads on the other side of the wire and drawing on stored energy when needed.

Energy storage is an important tool for reliable system operation of a grid with substantial amounts of intermittent renewable generation. Storage can smooth out variable generation, and it can bank excess renewable energy for use during peak demand. Energy storage helps to maximize the use of indigenous renewable energy and strengthen Hawaii's economy. It will accommodate expected increasing proportions of variable and/or intermittent renewable generation resources in the near future.

A 2013 study[1] conducted by Hawaiian Electric Companies on battery storage on the MECO system demonstrates showed that a 15 MWh battery storage resource effectively reduced the amount of curtailed (i.e. wasted) renewable energy by almost 2 gigawatt hours per year. By reducing curtailment, the amount of renewable energy increased and resulted in a corresponding increase in the ability to reduce the cost of electricity and the amount of fossil fuel use. 2 gigawatt hours of electricity is worth more than $600,000 at today's energy rates. Incentivizing this solution can help unlock these savings.

The time is ripe for implementation of existing energy storage strategies and technology

With increased energy storage, the existing grid will be transformed into a "smarter", more efficient, more reliable grid that integrates more renewable energy through the use of various technologies and capabilities and provide more information and options to customers with the overall goal of reducing costs and improving customer service. This clean energy transformation will help to stabilize and strengthen Hawaii's economy by reducing its dependency on imported fuels and will help protect Hawaii's environment by greatly reducing greenhouse gas emissions.

[1] Hawaiian Electric Companies 2013 Integrated Resource Planning ("IRP") Report and Action Plan.

Hawaii's economy needs power that is as dependable as the daily sunrise and sunset. To make full use of all of Hawaii's native energy sources we need the ability to store power for times when the sun isn't shining or the wind isn't blowing. While it's not clear what form will be most cost effective—fuel cells, pumped water, flywheels, ultracapacitors, batteries, thermal storage, dilithium crystals—we do know that the technology is evolving rapidly. Consider data storage for computers. In the late 1950s, cutting-edge data storage could store the equivalent of one MP3 file (4 MB) in the space of half a carport. Today, over 32,000 such files fit on a postage stamp-sized flash SD card (at about 1/30,000,000 the cost per MB). We are seeing a similar evolution for power storage, with the cost of battery storage dropping at nearly 8% annually. But at the same time, our high energy prices mean that the sooner we install energy storage, the more ratepayers can benefit.

Stored energy can serve as an emergency backup to maintain grid reliability

Currently, such backup is often in the form of "spinning reserves," or fossil fuel plants that are kept running even when the energy is not needed. Meanwhile, grid-scale battery technology has is being used with a number of renewable energy projects in Hawai'i, including wind farms on Maui and solar installations on Kaua'i and the Big Island.

Expanding Hawaii's energy storage capacity will improve the efficiency, flexibility, and reliability of our electric grid, allowing us to wring the most power out of it, while adding large amounts of new renewable energy resources like wind and solar.

Please forward SB 1172.

Thank you for the opportunity to testify.

From: mailinglist@capitol.hawaii.gov
To: ENETestimony
Cc: carl.campagna@kamakagreen.com
Subject: *Submitted testimony for SB1172 on Feb 12, 2015 14:45PM*
Date: Wednesday, February 11, 2015 10:02:06 AM

SB1172
Submitted on: 2/11/2015
Testimony for ENE/CPN on Feb 12, 2015 14:45PM in Conference Room 225

Submitted By	Organization	Testifier Position	Present at Hearing
Carl Campagna	Environmental Caucus of the Democratic Party of Hawaii	Support	No

Comments:

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Stem Inc. testimony in support of SB 1172

Testimony in support of SB 1172

Stem, Inc. hereby submits the following testimony in support of Hawai'i Senate Bill SB 1172.

About Stem

Stem sells an automated, turnkey, price-responsive system to commercial and industrial customers that lowers their electricity bill and requires no change to their operations. The Stem system combines predictive analytics and advanced energy storage with a high fidelity software user interface. By buffering spikes in energy usage, Stem also reduces the impact of the commercial or industrial customer on the utility grid and enables better grid citizenship. Stem then offers the excess capacity of the energy storage systems to the electric utility, in order to help them better manage the grid. Through such innovation in technology and financing, our goal is to optimize the relationships between energy providers and consumers.

Position Summary

Stem supports SB 1172.

The distributed or "behind the meter" energy storage industry is dawning in Hawaii, and new entrants in addition to Stem will begin to enter the market here over the coming months. The combination of renewable energy penetration levels in Hawaii along with the high cost of energy, particularly peak power, make this a market that many energy storage companies are competing to enter – with or without incentive structures in place.

That said, as this industry begins to take off, the investment of private capital on the customer side of the meter will not benefit the public without this bill. This bill encourages the utilities and the energy storage industry to invest in collaboration today – while there is still time to set things up in a coordinated fashion – by putting an incentive in place for them to do so.

SB 1172 incentives the utilities and the storage industry to work together from the beginning, so that the energy storage industry comes about in a way that is coordinated, planned and constructive for the state.

Thank you

Thank you for the opportunity to testify.

Please contact Stem with any questions or for further information.

Respectfully submitted,

Tad Glauthier
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Testimony before the
Senate Committees on Energy & Environment
and
Commerce & Consumer Protection

S.B. 1172 – Relating to Energy Storage

Thursday, February 12, 2015
2:45 PM, Conference Room 225

By Darren Ishimura
Manager, Grid Technologies
Hawaiian Electric Company

Chairs Gabbard and Baker, Vice-Chairs Green and Taniguchi, and Members of the Committees:

My name is Darren Ishimura, Manager of Grid Technologies at Hawaiian Electric. I am testifying on behalf of Hawaiian Electric and its subsidiary utilities, Maui Electric and Hawai'i Electric Light (collectively the "Hawaiian Electric Companies").

Hawaiian Electric supports S.B. 1172, but respectfully offers comments for future drafts. Hawaiian Electric strongly supports the bill's requirement that tax credit eligibility be reserved for energy storage properties that are "advanced, grid-interactive systems capable of participating in utility demand response programs, providing ancillary services, and serving as a resource to the electric system". This requirement ensures that tax credits are applied to systems that can provide benefits to ALL electric customers. In addition, this bill contains provisions that are in the best interest of customers/taxpayers, including requirements to provide evidence of site control, ability to provide grid benefits, investment of tax credits into the project(s), and declining tax credit percentages over time under annual aggregated caps.

Hawaiian Electric recommends that the following provisions be incorporated in future drafts of this bill to enhance fairness and grid reliability for ALL customers:

- Instead of requiring the Public Utilities Commission to direct utilities "…to use all energy storage properties benefiting from the tax credit…," the utilities should have operational

flexibility in the amount and timing of the stored energy discharged to the grid in order to maintain grid reliability.

- Eligible project sizes should not be limited to 3 MW/3 MWh, and instead, include larger utility-scale energy storage project sizes (e.g., hundreds of megawatts) that can provide grid benefits to ALL customers.
- The bill should clearly define applicable "systems" that qualify for the tax credit to avoid unintended situations, including but not limited to, claims of multiple tax credits or dollar amounts outside the intent or scope of the tax credit.
- Tax credits for energy storage must not further exacerbate any cost shift situations that unduly favor a subset of customers at the expense of others.

The existing provisions and recommendations described above will create a more fair and balanced tax credit that, if managed under a broad and sustainable approach, will help Hawai`i achieve its clean energy future.

Thank you for the opportunity to testify on this measure.

From: mailinglist@capitol.hawaii.gov
To: ENETestimony
Cc: carl.campagna@kamakagreen.com
Subject: *Submitted testimony for SB1172 on Feb 12, 2015 14:45PM*
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Submitted By	Organization	Testifier Position	Present at Hearing
Carl Campagna	Individual	Support	No

Comments:

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