DAVID Y. IGE
GOVERNOR

WESLEY K. MACHIDA
DIRECTOR

LAUREL A. JOHNSTON
DEPUTY DIRECTOR

EMPLOYEES' RETIREMENT SYSTEM
HAWAII EMPLOYER-UNION HEALTH BENEFITS TRUST FUND
OFFICE OF THE PUBLIC DEFENDER

STATE OF HAWAII
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ADMINISTRATIVE AND RESEARCH OFFICE
BUDGET, PROGRAM PLANNING AND
MANAGEMENT DIVISION
FINANCIAL ADMINISTRATION DIVISION
OFFICE OF FEDERAL AWARDS MANAGEMENT (OFAM)

WRITTEN ONLY

TESTIMONY BY WESLEY K. MACHIDA
DIRECTOR, DEPARTMENT OF BUDGET AND FINANCE
TO THE SENATE COMMITTEE ON WAYS AND MEANS
ON
HOUSE BILL NO. 1593, H.D. 1, S.D. 1

April 4, 2017
9:35 a.m.
Room 211

RELATING TO GREEN INFRASTRUCTURE

House Bill No. 1593, H.D. 1, S.D. 1: establishes the Clean Energy Savings Jump Start Program (CESJSP) and special fund; establishes the Energy Storage System Rebate Program as a three-year pilot program; requires the Green Infrastructure Authority to submit annual reports to the Legislature on the program's progress and activities; amends the Green Infrastructure Loan Program by deleting the Public Utilities Commission's (PUC) loan approval authority; appropriates $20,000,000 from the Hawaii Green Infrastructure Special Fund for deposit into the CESJSP Special Fund; and appropriates $10,000,000 for FY 18 from the CESJSP Special Fund.

As a matter of general policy, the Department of Budget and Finance does not support the creation of any special fund which does not meet the requirements of Section 37-52.3, HRS. Special funds should: 1) serve a need as demonstrated by the purpose, scope of work and an explanation why the program cannot be implemented successfully under the general fund appropriation process; 2) reflect a clear nexus between the benefits sought and charges made upon the users or beneficiaries or a

clear link between the program and the sources of revenue; 3) provide an appropriate means of financing for the program or activity; and 4) demonstrate the capacity to be financially self-sustaining. In regards to House Bill No. 1593, H.D. 1, S.D. 1, it is difficult to determine whether the proposed special fund would be self-sustaining.

We defer to the Department of Business, Economic Development and Tourism's Hawaii Green Infrastructure Authority and the Department of Commerce and Consumer Affair's PUC on the remaining provisions of this measure, including whether the proposed program changes comply with the requirements of the Green Energy Market Securitization Program Order.

Thank you for your consideration of our comments.

DAVID Y. IGE
GOVERNOR

SHAN TSUTSUI
LT. GOVERNOR

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DIRECTOR OF TAXATION

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To: The Honorable Jill N. Tokuda, Chair
and Members of the Senate Committee on Ways and Means

Date: Tuesday, April 4, 2017
Time: 9:35 A.M.
Place: Conference Room 211, State Capitol

From: Maria E. Zielinski, Director
Department of Taxation

Re: H.B. 1593, H.D. 1, S.D. 1, Relating to Green Infrastructure

The Department of Taxation (Department) appreciates the intent of H.B. 1593, H.D. 1, S.D. 1, and provides the following comments for your consideration.

H.B. 1593, H.D. 1, S.D. 1, among other changes, creates the Clean Energy Jump Start Program, to be administered by the Hawaii Green Infrastructure Authority, which provides rebates, pursuant to proposed section 196-B, Hawaii Revised Statutes (HRS), for energy storage systems installed and placed in service after December 31, 2017. The amount of the rebate is calculated based on an unspecified number of cents per watt-hour of the system's stored energy capacity and is capped at unspecified amounts. The measure has a defective effective date of January 28, 2081.

The Department notes that the rebate program created by this measure would apply to energy storage installations for which a tax credit is already provided. In certain circumstances, the cost of an energy storage system may be included in the cost on which the Renewable Energy Technologies Income Tax Credit (RETITC) codified at section 235-12.5, HRS, is calculated. If energy storage equipment is installed and placed in service together with equipment that generates electricity, the actual cost of the total installed equipment can be used to calculate the RETITC. This rebate would apply to systems for which the RETITC is already available.

To prevent a double benefit for the same installation, (rebate and RETITC), the Department suggests the addition of a provision that prevents a rebate being claimed for an energy storage system that is included in the "actual cost" for which the RETITC is claimed. To that end, adding the following requirement to the end of section 196-B(a), HRS, will prevent a double benefit:

;provided that the rebate program shall not be available for energy storage systems or portions

thereof for which the renewable energy technologies income tax credit found at section 235-12.5, is claimed.

Thank you for the opportunity to provide comments.

DAVID Y. IGE
GOVERNOR

GWEN S. YAMAMOTO LAU
EXECUTIVE DIRECTOR

HAWAII GREEN INFRASTRUCTURE AUTHORITY

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TESTIMONY OF GWEN YAMAMOTO LAU
EXECUTIVE DIRECTOR, HAWAII GREEN INFRASTRUCTURE AUTHORITY

BEFORE THE SENATE COMMITTEE ON WAYS AND MEANS

TUESDAY, APRIL 4, 2017
9:35 A.M.
STATE CAPITOL, CONFERENCE ROOM 211

HOUSE BILL NO. 1593 HD1, SD1
RELATING TO GREEN INFRASTRUCTURE

Chair Tokuda, Vice Chair Dela Cruz, and Members of the Ways and Means Committee:

The Hawaii Green Infrastructure Authority ("Authority") **strongly supports** House Bill 1593 SD1, relating to green infrastructure and offers suggestions on Sections 5, 7, 8 and 9. This bill proposes to eliminate Public Utilities Commission oversight of the program to encourage more rapid deployment of loans and to create a clean energy savings jump start program. The Authority respectfully offer the following comments and suggested amendments to better serve the ratepayers, especially those identified as underserved (renters, low and moderate income households and nonprofit organizations).

As the original legislation envisioned GEMS to be a loan fund which generates a repayment stream, and as the Authority is committed to replenishing these funds, it is imperative that (1) the Authority be allowed to re-invest and re-loan GEMS funds collected to redeploy into additional loans, enabling it to recoup funds allocated to the clean energy jump start fund over time; and (2) the amount appropriated to the clean energy jump start fund should be limited to a manageable level ($20.0 million) at which the Authority would be able to replenish these funds. Thus we suggest the following changes below.

SECTION 5. Section 196-64, Hawaii Revised Statutes, is amended to read as follows:

§196-64 Functions, powers, and duties of the authority. In performance of, and with respect to the functions, powers, and duties vested in the authority by this part, the authority, as directed by the director, may:

(1) Make the GEMS loan~~s~~ fund a revolving fund, from which payments collected are redeployed and reinvested into new loans, ~~and~~ expend~~ing~~ funds to finance the purchase of installation of green infrastructure equipment for clean energy technology, demand response technology, and energy use reduction and demand side management infrastructure, programs, and services;

As the on-bill repayment ("OBR") mechanism is a critical tool for the Authority to democratize clean energy and reduce energy poverty by expanding access and affordability of renewable energy and energy efficiency to renters and low and moderate-income homeowners, as well as small businesses and nonprofit organizations on the Utility's Rate Schedule G, the Public Utilities Commission must retain ongoing oversight of the Authority's OBR mechanism in order to ensure utility bill integrity. Thus we suggest the following changes below.

SECTION 7. Section 196-66, Hawaii Revised Statutes, it is amended to read as follows:

(b) The authority shall obtain approval from the public utilities commission requiring the electric utilities to serve as agents to bill and collect the green infrastructure charge imposed to repay green infrastructure costs and transfer all green infrastructure charges collected to the authority on behalf of the department. Further, the public utilities commission shall retain ongoing oversight of the authority's OBR mechanism for the duration that said OBR program is in place. Notwithstanding anything to the contrary, electric utilities shall not be obligated to bill, collect, or remit green infrastructure charges from nonutility customers.

To minimize the confusion over the effect a change in governance may have with the deletion of the "green infrastructure loan program order," we suggest the following change below.

SECTION 8. Section 269-161, Hawaii Revised Statutes, is amended by deleting the definition of "green infrastructure loan program order."

SECTION 9. Section 269-170, Hawaii Revised Statutes, is repealed, however, all of the existing GEMS program elements shall remain in effect until such time that the authority's board approves future enhancements and/or modifications.

While the GEMS program has suffered setbacks and was clearly not able to meet its initial deployment targets, the deployment of loan funds, which began in January 2016, has gained positive momentum and is expected to continue over the remainder of the current fiscal year. As of March 2017, $14.0 million in GEMS funds have been committed.

Further, while the PUC Decision and Order requires 51% of the funds to benefit the "underserved,[1]" to date, 87% of the loans funded benefit this target group. Additionally, the Authority, its loan servicer and the HECO Companies are diligently working on an on-bill repayment mechanism expected to launch year. This mechanism will truly democratize clean energy by providing renters and low-income households an opportunity to participate.

Thank you for this opportunity to testify.

[1] Defined as renters, low and moderate-income households and nonprofits.

DAVID Y. IGE
GOVERNOR

SHAN S. TSUTSUI
LT. GOVERNOR

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CATHERINE P. AWAKUNI COLÓN
DIRECTOR

JO ANN M. UCHIDA TAKEUCHI
DEPUTY DIRECTOR

TO THE SENATE COMMITTEE ON WAYS AND MEANS

THE TWENTY-NINTH LEGISLATURE
REGULAR SESSION OF 2017

TUESDAY, APRIL 4, 2017
9:35 A.M.

TESTIMONY OF DEAN NISHINA, EXECUTIVE DIRECTOR, DIVISION OF CONSUMER ADVOCACY, DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS, TO THE HONORABLE JILL N. TOKUDA, CHAIR, AND MEMBERS OF THE COMMITTEE

HOUSE BILL NO. 1593, H.D. 1, S.D. 1 - RELATING TO GREEN INFRASTRUCTURE

DESCRIPTION:

This measure proposes to establish the Clean Energy Savings Jump Start Program and Fund, establish the Energy Storage System Rebate Program as a three-year pilot program and require the Green Infrastructure Authority to submit annual reports to the Legislature on the program's progress and activities. This measure also proposes to delete the Public Utilities Commission's ("PUC" or "Commission") approval authority relative to the Green Infrastructure Loan Program.

POSITION:

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

COMMENTS:

The Consumer Advocate recognizes the Legislature's interest in creating a clean energy savings jump start program and an energy storage system rebate program. In order to comply with the 100% renewable portfolio standard, innovation in clean energy technology and energy storage will likely play important roles. The Consumer Advocate appreciates the Legislature's intent to ensure that low- and middle-income residents are not left behind in the clean energy transition.

However, the Consumer Advocate has concerns with the proposed measure as it is likely that the intended results may not be realized. First, it is the Consumer Advocate's understanding that many low- and middle-income customers cannot afford the upfront costs of the investments that will be required; therefore, the low- and middle-income customers are not likely to be able to take advantage of the rebate. Furthermore, providing a rebate for any given resource can boost an uneconomic option over more cost-effective alternatives, which may actually stifle innovation. The Consumer Advocate believes that economics and true cost should drive the market selection of energy resources.

In addition, the large majority of utility ratepayers have been paying the Public Benefits Fee[1] as well as the Green Infrastructure Fee, both of which have supported the Hawaii green infrastructure special fund, through their monthly utility bills. As noted in Section 1 of the proposed measure, the Consumer Advocate supported the program when first proposed because the program would allow beneficiaries to participate in the adoption of clean energy technologies, but it would require the beneficiaries to pay back the money borrowed and reduce the risk and costs to other non-participating customers. However, by appropriating funds toward the described jump start program in this measure from the Hawaii green infrastructure special fund, such a rebate program would be contrary to the design of the Hawaii green infrastructure special fund since any rebate would not replenish the fund. As originally envisioned, GEMS beneficiaries would repay the GEMS loans such that the special fund would be replenished and repay the amounts taken from the Public Benefits Fund. As a result, if rebates are granted, this will guarantee that additional contributions from ratepayers will be required.

Furthermore, the proposal to remove Commission approval of the rebate program raises serious concerns whether adequate consumer protections can be exercised. Given that the GEMS program is essentially insured by general ratepayer contributions to the green infrastructure fund, it is important that there is adequate oversight in place to ensure the use of the funds is in the interest of all ratepayers who have made and will continue to make contributions to GEMS and not just in the interest of direct program beneficiaries. As long as the GEMS program is funded or guaranteed by general ratepayers, Commission oversight should be a prerequisite of the program. The annual report to the Commission to be required under proposed HRS § 196-B(e) will not be an adequate tool for such oversight and consumer protection.

The Consumer Advocate notes that Section 3 of the proposed measure attempts to ensure that the energy storage systems will be interconnected to the grid. Earlier versions of this measure included conditional language that weakened this important requirement. Should the Committee choose to move this measure forward, this is an important public interest provision that should be retained and should not be diluted in any fashion.

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[1] On electric bills, this appears as the PBF Surcharge.

Additionally, if the Committee chooses to move this forward, the Consumer Advocate asks that the Committee consider modifying the language in this measure to ensure that any beneficiary can only receive a single rebate. Based on the current language, it may be possible for a beneficiary to install multiple systems and receive multiple rebates. The Consumer Advocate would offer that this program should not be designed to allow a single beneficiary to receive multiple rebates to the detriment of other ratepayers (in the form of higher electricity bills).

In summary, the Consumer Advocate opposes this measure and respectfully requests the Committee to defer this bill as it will be inconsistent with the original design of the GEMS program, and allowing rebates to be granted using GEMS funds will ensure that electricity bills will increase.

Thank you for this opportunity to testify.

DAVID Y. IGE
GOVERNOR

SARAH ALLEN
ADMINISTRATOR

MARA SMITH
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TESTIMONY
OF
SARAH ALLEN, ADMINISTRATOR
STATE PROCUREMENT OFFICE

TO THE SENATE COMMITTEE
ON
WAYS AND MEANS
April 4, 2017 2017, 9:35 a.m.

HOUSE BILL 1593, HD1, SD1
RELATING TO GREEN INFRASTRUCTURE

Chair Tokuda and Vice-Chair Dela Cruz, and members of the committee, thank you for the opportunity to submit testimony on House Bill 1593 HD1 SD1.

The State Procurement Office (SPO) recommends that the administration of the clean energy savings jump start program and administration of the loan program be subject to HRS Chapter 103D.

The SPO supports the intent of the bill, however, SPO has concerns over the verbiage on page 6, lines 7 to 10, which states: " The authority may contract with a third party for services to assist with administering the clean energy savings jump start program. Procurement of services shall be exempt from the requirements of chapter 103D." Also on page 16, lines 1 to 3, which states: "Enter into contracts for the administration of the loan program, without the necessity of complying with chapter 103D;"

The Hawaii Public Procurement Code (Code) is the single source of public procurement policy to be applied equally and uniformly, while providing fairness, open competition, a level playing field, government disclosure and transparency in the procurement and contracting process vital to good government.

Public procurement's primary objective is to provide everyone equal opportunity to compete for government contracts, to prevent favoritism, collusion, or fraud in awarding of contracts. To legislate that any one entity should be exempt from compliance with HRS chapter 103D conveys a sense of disproportionate equality in the law's application.

Exemptions to the Code mean that all procurements made with taxpayer monies will not have the same oversight, accountability and transparency requirements mandated by those procurements processes provided in the code. It means that there is no requirement for due diligence, proper planning or consideration of protections for the state in contract terms and conditions, nor are there any set requirements to conduct cost and price analysis and market research or post-award contract management. As such, Agencies can choose whether to compete or go directly to one contractor. As a result, leveraging economies of scale and cost savings efficiencies found in the consistent application of the procurement code are lost. It also means Agencies are not required to adhere to the code's procurement integrity laws.

The National Association of State Procurement Officials state: "Businesses suffer when there is inconsistency in procurement laws and regulations. Complex, arcane procurement rules of numerous jurisdictions discourage competition by raising the costs to businesses to understand and comply with these different rules. Higher costs are recovered through the prices offered by a smaller pool of competitors, resulting in unnecessarily inflated costs to state and local governments."

When public bodies or programs are removed from the state's Procurement Code it results in the harm described above. As these entities create their own procurement rules, businesses are forced to track their various practices.

Relieving some programs from some laws exempting or excluding them from compliance with a common set of legal requirements create an imbalance wherein the competitive environment become different among the various jurisdictions and the entire procurement process because less efficient and costlier for the state and vendors.

Thank you.

TESTIMONY OF RANDY IWASE
CHAIR, PUBLIC UTILITIES COMMISSION
STATE OF HAWAII
TO THE
SENATE COMMITTEE ON
WAYS AND MEANS

April 4, 2017
9:35 a.m.

MEASURE: H.B. No. 1593, H.D. 1, S.D. 1
TITLE: RELATING TO GREEN INFRASTRUCTURE

Chair Tokuda and Members of the Committee:

DESCRIPTION:

This measure would establish the clean energy savings jump start program and fund to expend moneys for the issuance of rebates, energy education, energy demonstration projects for affordable multi-family rental projects, and credit enhancements. This measure would also establish the energy storage system rebate program within the clean energy savings jump start program to expend moneys on energy storage rebates. This measure would also amend the Green Infrastructure Loan Program ("Loan Program") by deleting the Public Utilities Commission's ("Commission's") loan approval authority relative to the Loan Program. This measure retains the existing statutory provisions regarding the Commission's authority to review and approve the Hawaii Green Infrastructure Authority's ("HGIA's") Annual Plan. This measure also appropriates $20M from the Hawaii Green Infrastructure Special Fund ("HGISF") to be deposited into the clean energy savings jump start fund. This measure also appropriates $10M from the clean energy savings jump start program fund for the energy storage system rebate program.

POSITION:

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

COMMENTS:

The Commission defers to the Department of Business, Economic Development, and Tourism with respect to the proposals to establish a Clean Energy Jump Start Program and an Energy Storage System Rebate Program.

However, the Commission raises a concern if moneys from the HGISF are to be designated for a rebate program or any other type of program that does not generate a repayment stream, as is proposed in this measure. Use of HGISF moneys for purposes other than providing loans is inconsistent with the purpose and design of the Loan Program. The moneys in the HGISF have been secured through a surcharge to all customers called the Green Infrastructure Fee ("GIF"). In order to offset the economic impact of the GIF to customers, the Commission reduced the Public Benefits Fee ("PBF"), which is a surcharge to all customers that supports the State's Public Benefits Fee Administrator ("PBFA" aka "Hawaii Energy") in achieving the State's statutorily mandated Energy Efficiency Portfolio Standards ("EEPS"), pursuant to Section 269-96, HRS. The Loan Program was designed so that the proceeds from repayments made on loans would be used, in part, to replenish the reduced PBF. If the moneys in the HGISF are provided as a rebate with no repayment obligation, as is proposed in this measure, then the Commission may be forced to replenish the reduced PBF through an additional surcharge to ensure that the statutorily mandated EEPS goals are achieved.

The Commission defers to the legislature regarding the level of oversight the Commission should retain over the Loan Program going forward. However, the Commission notes that it is unclear whether it is the intent of the legislature to retroactively negate existing Commission orders related to the program. Retroactively negating certain existing Commission orders relating to the program may raise legal questions. For example, as written, it is unclear whether this measure would remove the requirement that HGIA abide by the Commission's existing Program Order (See Sections 5-6 of this measure). In the Commission's Program Order the Commission required the proceeds from loan repayments to be used to replenish the PBF. (See Docket No. 2014-0135, D&O No. 32318, pp. 74-76). If the legislature intends to reduce Commission oversight, as proposed in this measure, then the legislature should retain the Commission's requirement that the proceeds from loan repayments be used to replenish the PBF. Absent this requirement, PBF replenishment is not guaranteed and potential unintended consequences may occur (i.e. increased customer surcharges and/or a limited ability for the State to achieve its statutory EEPS requirements). The legislature should also expressly state whether existing Commission Orders relating to the program, including the Program Order, remain in effect and whether the requirements in those orders may be modified as part of the Commission's limited oversight during its review and approval of HGIA's annual plan.

The Commission stands ready to work with the Legislature on language to address these, or any other related issues.

Thank you for the opportunity to testify on this measure.

Before the Senate Committee on Ways and Means
Tuesday, April 4, 2017; 9:35 a.m., Room 211
HB 1593 HD 1 SD 1: Relating to Green Infrastructure

Aloha Chair Tokuda, Vice Chair Dela Cruz, and members of the Committee,

On behalf of the Distributed Energy Resources Council of Hawaii ("DER Council"), I would like to testify in support for HB 1593 HD 1 SD 1 which establishes the energy savings jump start program and an energy storage rebate program, in addition to streamlining the loan notification approval process.

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 establishment of a rebate program under the GEMS authority would put a portion of the dormant GEMS funds to good use and spur development in a way that benefits all ratepayers. A GEMS rebate would support existing and new clean energy tariffs such as the interim time of use program and the upcoming demand response tariffs which are designed to provide ancillary services to the grid and will be open for enrollment the end of 2017. The GEMS rebate for energy storage is also designed to be allocated over several installation types from residential, to commercial, and utility scale projects connected to Community Solar installations, with a special focus on underserved customers. HB 1593 SD 1 thus serves as both a catalyst for clean energy development and a recalibration of the GEMS program in a way that serves all customers.

The DER Council respectfully suggests the following amendments:

1. Include installations with stand-alone storage in the definition of "Eligible energy storage system." Commercial energy storage systems are often installed as storage only without a connection to PV. Often, commercial businesses do not have the roof space or roof access to install PV. However, stand-alone commercial systems are grid connected and provide valuable grid services for the benefits of all customers, in addition to providing a grid support to allow more intermittent renewables. As such, we recommend the following amendment:

SECTION 3.

""Eligible energy storage system" means any identifiable facility, equipment, or apparatus that:

~~(1) Receives electricity generated from a solar photovoltaic system, s~~ Stores the electricity within a chemical battery or mechanical battery, such as flywheel energy storage, and delivers the energy back at a later time to the energy storage system user, an electric utility, or the Hawaii electric system;

2. Allow systems installed and placed in service by July 31, 2017 to participate. HB 1593 SD 1 currently sets the start date at December 31, 2017. If HB 1593 SD 1 were to pass as is, this delayed date would cause the entire industry to stall as customers would delay any purchases until January 1, 2018 in order to qualify for the rebate. This delay would be very harmful to local business and contradict the purpose of this legislation. We recommend the following amendment:

SECTION 2

(d) This section shall apply to eligible energy storage systems that are installed and first placed in service after ~~December~~ July 31, 2017.

3. Increase the Jump Start Program Allocation to $40,000,000 and $30,000,000 to the energy storage rebate program. This will ensure that the energy storage rebate program will have enough runway to accomplish its goal of incentivizing the next wave of clean energy development.

The DER Council has also made recommendations on the metrics regarding rebate amounts, caps, and fund allocations (all highlighted in yellow). We've attached an amended version of HB 1593 SD 1 to this testimony. Distributed energy generation and storage stands to take Hawaii to a new era where customer- invested systems are aggregated and utilized by the utility as a resource for all ratepayers. We ask that the legislature support this next stage in Hawaii's development by voting yes on HB 1593 HD 1 SD 1.

Thank you for the opportunity to testify

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

HOUSE OF REPRESENTATIVES
TWENTY-NINTH LEGISLATURE, 2017
STATE OF HAWAII

H.B. NO. 1593 H.D. 1 S.D. 1

A BILL FOR AN ACT

RELATING TO GREEN INFRASTRUCTURE.

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

SECTION 1. The legislature finds that the Hawaii green infrastructure loan program was established in 2013 to "serve as a potential source of capital for a range of clean energy technology users, including renters and residents that have not been able to take advantage of current financing programs and may now take advantage of increasing opportunities to install clean energy technology", according to the strongly supportive testimony of the public utilities commission.

The legislature furthers finds that a variety of executive branch departments and the Hawaiian Electric Companies testified in support of the program, explaining the potential benefits of a green infrastructure loan program and expressing a willingness to collaborate with one another to implement the program.

The department of business, economic development, and tourism testified that the program "will make low-cost credit available, including to the underserved markets - low to moderate income homeowners, renters, churches, non-profits - those who may not be able to access or afford clean energy installations today. One application

of the program is that consumers will be able to install solar photovoltaic equipment and receive immediate benefits today, while amortizing the costs over time and paying for those benefits on their utility bill."

The consumer advocate testified in support of this program, noting that "on bill financing allows the consumer to pay for these energy systems through the electricity cost savings on their monthly bill . . . [T]he Consumer Advocate will work closely with DBEDT, the Hawaiian Electric Companies, the Public Utilities Commission, and all interested parties in designing an on bill financing program that minimizes the financial risk to electric utilities' ratepayers."

Hawaiian Electric Company testified that "the companies indicated their willingness to assist with billing, collecting, and transmitting customer payments related to on-bill financing" and that "the companies have been working with DBEDT and the PUC . . . [T]hat collaborative effort has resulted in language which the companies strongly support."

The legislature finds that despite the testimony, an on bill financing program has not yet been developed. Further, the small amount of funds deployed from the Hawaii green infrastructure loan program is dwarfed by the cost of the program's administration and debt service.

The legislature further finds that the failure of the Hawaii green infrastructure loan program to achieve its intended result has resulted in most ratepayers paying for the program without reaping the benefits. Rather than obtaining immediate relief from high electric

power rates, ratepayers are instead having to pay the debt service on a loan that is not being effectively deployed. This is particularly true for low- to middle-income homeowners, renters, churches, and nonprofit organizations, the people and entities that the green infrastructure loan program was primarily intended to benefit. Moreover, all ratepayers are denied the benefits of wider deployment of clean energy and energy efficiency, including reduced reliance on fossil fuels, lower overall system costs, and economic and environmental benefits.

Accordingly, the purpose of this Act is to:

(1) Reduce some of the oversight of the green infrastructure loan program to encourage more rapid deployment of loans in furtherance of the intent of the program; and

(2) Directly assist Hawaii's underserved residents by using dormant funds from the Hawaii green infrastructure loan program to create the clean energy savings jump start program, with the intent of rapidly deploying funds to assist disadvantaged communities with investments in clean energy and energy efficiency.

SECTION 2. Chapter 196, Hawaii Revised Statutes, is amended by adding two new sections to part IV to be appropriately designated and to read as follows:

"**§196-A Clean energy savings jump start program; clean energy savings jump start fund.** (a) There is established a clean energy savings jump start program that shall be administered by the Hawaii green infrastructure authority in a manner consistent with this

part. The authority, in collaboration with others, shall expend moneys on rebate and other programs that rapidly advance state goals of clean energy and energy efficiency, with a focus on serving low- and middle-income residents.

(b) The authority shall:

(1) Prepare any forms that may be necessary for the applicant to claim a rebate under this part;

(2) Require each applicant claiming a rebate under this part to furnish reasonable information to ascertain the validity of the claim, including but not limited to documentation necessary to demonstrate that the system or installation for which the rebate is claimed is eligible;

(3) Allow each applicant to establish income eligibility, as necessary, through a declaration asserting that the information provided is true and correct and made under penalty of law;

(4) Make best efforts to post on a publicly available website, within regular and reasonable periods of time, the current amounts remaining in the Hawaii clean energy savings jump start fund; and

(5) Establish guidelines necessary to effectuate the purposes of this section; provided that the establishment of guidelines shall not be subject to chapter 91; provided further that the authority's guidelines shall include procedures to allow an applicant to secure the applicable level of rebate after the purchase or lease of an applicable system, but

prior to the system's installation, so long as the system is installed and placed into service within a reasonable time frame established by the authority.

(c) The authority may contract with a third party for services to assist with administering the clean energy savings jump start program. Procurement of services shall be exempt from the requirements of chapter 103D.

(d) There is established a special fund to be known as the clean energy savings jump start fund, into which shall be deposited appropriations from the legislature.

(e) Moneys in the clean energy savings jump start fund shall be used for the following purposes:

(1) Making jump start program payments pursuant to this part, which may include but not be limited to rebates, energy education, energy demonstration projects for affordable multi-family rental projects, and credit enhancements, such as loan loss reserves and interest rate buy-downs;

(2) Paying the authority's administrative costs for operating the clean energy savings jump start program; and

(3) Paying the authority's administrative costs for operating the clean energy savings jump start fund.

§196-B Energy storage system rebate program. (a) Notwithstanding any other law to the contrary, the authority shall establish a rebate program within the clean energy savings jump start program that incentivizes the installation of

energy storage systems that installed concurrently with solar photovoltaic systems and are connected to a utility grid.

(b) An energy storage system owner who provides third-party financing to an energy storage system user, or purchases and installs in this State an eligible energy storage system, may apply to the authority within twelve months of the eligible energy storage system being first placed into service to claim a rebate from the energy storage system fund. Rebates shall be distributed as follows:

(1) Each eligible residential energy storage system shall receive the lesser of 40 cents per watt-hour of the system's warranted capacity of stored energy or the cap amount determined in subsection (c);

(2) Each eligible commercial energy storage system shall receive the lesser of 20 cents per watt-hour of the system's warranted capacity of stored energy or the cap amount determined in subsection (c);

(3) Each eligible utility-scale energy storage system shall receive the lesser of 10 cents per watt-hour of the system's warranted capacity of stored energy or the cap amount determined in subsection (c); and

(4) No more than $ 6 million of the energy storage system fund may be expended on utility-scale energy storage systems, and no more than $12 million of the energy storage system fund may be expended on commercial energy storage systems.

(c) The amount of rebate allowed for each eligible energy storage system shall not exceed the applicable cap amount, which shall be:

(1) $10,000 per system for single-family residential property; provided that:

(A) If the combined federal adjusted gross income of household members of the energy storage system user is $75,000 or less for single filers, or $150,000 or less for joint filers, in the preceding tax year in which the rebate is claimed, then the energy storage system property owner shall be eligible to receive 100 per cent of the rebate;

(B) If the combined federal adjusted gross income of household members of the energy storage system user is greater than $75,000 but less than $150,000 for single filers, or is greater than $150,000 but less than $300,000 for joint filers, in the preceding tax year in which the rebate is claimed, then the energy storage system property owner shall be eligible to receive 50 per cent of the rebate; or

(C) If the combined federal adjusted gross income of household members of the energy storage system

user is greater than $150,000 for single filers, or greater than $300,000 for joint filers, in the preceding tax year in which the rebate is claimed, then the energy storage system property owner is eligible to receive 40 per cent of the rebate;

(2) $500,000 per system for commercial property; and

(3) $500,000 per system for utility-scale energy storage systems; provided that the system is co-sited and electrically connected to an eligible community-based renewable energy project.

(d) This section shall apply to eligible energy storage systems that are installed and first placed in service after ~~December~~ July 31, 2017.

(e) The energy storage system rebate program established by this section shall be a three-year pilot program that shall operate from January 1, 2018, to December 31, 2020. The authority shall submit an annual report detailing the pilot program's progress and activities, including details of all rebates distributed in accordance with the pilot program, to the legislature no later than twenty days prior to the convening of each regular session.

(f) Nothing in this section shall alter taxes due on the original purchase price of an eligible energy storage system prior to the application of this rebate. Any rebate received pursuant to the

energy storage system rebate program shall not be considered income for the purposes of state or county taxes."

SECTION 3. Section 196-61, Hawaii Revised Statutes, is amended by adding four new definitions to be appropriately inserted and to read as follows:

""Eligible energy storage system" means any identifiable facility, equipment, or apparatus that:

(1) ~~Receives electricity generated from a solar photovoltaic system, s~~Stores the electricity within a chemical battery or mechanical battery, such as flywheel energy storage, and delivers the energy back at a later time to the energy storage system user, an electric utility, or the Hawaii electric system;

(2) Is fixed to a residential or commercial property and electrically connected to an energy storage system user's load or generation, or in the case of a utility-scale energy storage system, is fixed to a property and electrically connected to an eligible community-based renewable energy project;

(3) Has a deployable capacity of at least 2.5 kilowatts of continuous battery charge and discharge power and at least five kilowatt-hours of stored energy at time of purchase for residential and commercial energy storage systems;

(4) Has a minimum deployable capacity of 2.5 megawatt-hours and five megawatt-hours at time of purchase for utility-scale energy storage systems;

(5) Is protected by a manufacturer's warranty of at least ten years or a minimum of three thousand cycles for residential and commercial energy storage systems;

(6) Is protected by a manufacturer's warranty of at least twenty years with a degradation not to exceed 1.5 per cent per year and controls sufficient to provide real power and reactive power dispatch for utility-scale energy storage systems;

(7) Is not owned by an electric utility; and

(8) Is connected to an electric utility grid.

"Energy storage system property owner" means the person, individual, partnership, corporation, association, or public or private organization other than an agency that holds legal title to the energy storage system. An energy storage system property owner shall include the owner of third-party financed energy storage systems.

"Energy storage system user" means the property owner, or the property owner's lessees or tenants, that use the energy discharged by the eligible energy storage system on the property where the eligible energy storage system is located or on contiguous property owned or leased by the property owner without regard to interruptions in contiguity caused by easements, public thoroughfares, transportation rights-of-way, and utility rights-of-way.

"First placed in service" has the same meaning as title 26 Code of Federal Regulations section 1.167(a)-11(e)(1), as amended."

SECTION 4. Section 196-61, Hawaii Revised Statutes, is amended as follows:

1. By amending the definition of "loan program" and "green infrastructure loans" to read:

""Loan program" and "green infrastructure loans" means the program established by this part and loans made to finance the purchase or installation of green infrastructure equipment for clean energy technology, demand response technology, and energy use reduction and demand side management infrastructure, programs, and services [~~as authorized by the public utilities commission~~] using the proceeds of bonds or other proceeds."

2. By deleting the definition of "green infrastructure loan program order".

["~~"Green infrastructure loan program order" means the same as defined in section 269-161.~~"]

SECTION 5. Section 196-64, Hawaii Revised Statutes, is amended by amending subsection (a) to read as follows:

"(a) In the performance of, and with respect to the functions, powers, and duties vested in the authority by this part, the authority, as directed by the director [~~and in accordance with a green infrastructure loan program order or orders under section 269-171 or an annual plan submitted by the authority pursuant to this section, as approved by the public utilities commission~~], may:

(1) Make loans and expend funds to finance the purchase or installation of green infrastructure equipment for clean energy technology, demand response technology, and energy

use reduction and demand side management infrastructure, programs, and services;

(2) Hold and invest moneys in the green infrastructure special fund in investments as permitted by law [~~and in accordance with approved investment guidelines established in one or more orders issued by the public utilities commission pursuant to section 269-171~~];

(3) Hire employees necessary to perform its duties, including an executive director. The executive director shall be appointed by the authority, and the employees' positions, including the executive director's position, shall be exempt from chapter 76;

(4) Enter into contracts for the service of consultants for rendering professional and technical assistance and advice, and any other contracts that are necessary and proper for the implementation of the loan program;

(5) Enter into contracts for the administration of the loan program, without the necessity of complying with chapter 103D;

(6) Establish loan program guidelines [~~to be approved in one or more orders issued by the public utilities commission pursuant to section 269-171~~] to carry out the purposes of this part;

(7) Be audited at least annually by a firm of independent certified public accountants selected by the authority, and

provide the results of this audit to the department and the public utilities commission; and

(8) Perform all functions necessary to effectuate the purposes of this part."

SECTION 6. Section 196-65, Hawaii Revised Statutes, is amended to read as follows:

"**[~~[~~]§196-65[~~]~~] Hawaii green infrastructure special fund.** (a) There is established the Hawaii green infrastructure special fund into which shall be deposited:

(1) The proceeds of bonds net of issuance costs and reserves or overcollateralization amounts;

(2) Green infrastructure charges received for the use and services of the loan program, including the repayment of loans made under the loan program;

(3) All other funds received by the department or the authority and legally available for the purposes of the green infrastructure special fund;

(4) Interest earnings on all amounts in the green infrastructure special fund; and

(5) [~~Such other~~] Other moneys as shall be permitted by an order of the [~~public utilities commission.~~] authority.

The Hawaii green infrastructure special fund shall not be subject to section 37-53. Any amounts received from green infrastructure charges or any other net proceeds earned from the allocation, use, expenditure, or other disposition of amounts [~~approved by the public utilities commission~~] and deposited or held in the Hawaii green

infrastructure special fund in excess of amounts necessary for the purposes of subsection (b) shall be credited to electric utility customers [~~as provided in a green infrastructure loan program order or orders~~]. Funds that are transferred back to the electric utility in order to credit electric utility customers under this subsection shall not be considered revenue of the electric utility and shall not be subject to state or county taxes.

(b) Moneys in the Hawaii green infrastructure special fund may be used[~~, subject to the approval of the public utilities commission,~~] for the purposes of:

(1) Making green infrastructure loans;

(2) Paying administrative costs of the Hawaii green infrastructure loan program;

(3) Paying any other costs related to the Hawaii green infrastructure loan program; or

(4) Paying financing costs, as defined in section 269-161, to the extent permitted by the public utilities commission in a financing order issued pursuant to section 269-163.

(c) The authority may invest funds held in the Hawaii green infrastructure special fund in investments as permitted by law[~~, and in accordance with approved investment guidelines established in one or more orders issued by the public utilities commission pursuant to section 269-171~~]. All amounts in the Hawaii green infrastructure special fund shall be exempt from all taxes and surcharges imposed by the State or the counties."

SECTION 7. Section 196-66, Hawaii Revised Statutes, is amended to read as follows:

"**[~~[~~]§196-66[~~]~~] Use of Hawaii green infrastructure special fund[~~,~~ application]**. [~~(a) The authority shall apply to the public utilities commission for one or more orders to effectuate the Hawaii green infrastructure loan program, pursuant to section 269-170.~~

~~Nothing herein shall preclude the department from applying for a financing order, pursuant to section 269-162, prior to the issuance of an order or orders to effectuate the Hawaii green infrastructure loan program under section 269-171, nor from requesting consolidation of the proceeding for a financing order with such a loan program implementation order.~~

~~(b) An application shall be submitted by the authority to the public utilities commission in accordance with section 269-170.~~

~~(c) In accordance with an approved green infrastructure loan program order or orders, the~~] (a) The authority shall utilize the proceeds of bonds and other amounts deposited in the Hawaii green infrastructure special fund pursuant to [~~[~~]section[~~]~~] 196-65, or to the extent permitted by a financing order, to pay financing costs, as defined in section 269-161.

[~~(d) Within the order or orders issued by the public utilities commission under section 269-171, the~~] (b) The authority shall obtain approval from the public utilities commission requiring the electric utilities to serve as agents to bill and collect the green infrastructure charge imposed to repay green infrastructure costs and transfer all green infrastructure charges collected to the authority

on behalf of the department. Notwithstanding anything to the contrary, electric utilities shall not be obligated to bill, collect, or remit green infrastructure charges from nonutility customers."

SECTION 8. Section 269-161, Hawaii Revised Statutes, is amended by deleting the definition of "green infrastructure loan program order".

["~~"Green infrastructure loan program order" means an order issued by the public utilities commission under section 269-171 that establishes the use or other disposition of amounts deposited and held in the Hawaii green infrastructure special fund pursuant to section 196-65.~~"]

SECTION 9. Section 269-170, Hawaii Revised Statutes, is repealed.

["~~[§269-170] Green infrastructure loan program order; application.~~ ~~(a) The authority shall submit an application to the public utilities commission for the use or other disposition of amounts deposited or held in the green infrastructure special fund pursuant to section 196-65 prior to the allocation, use, expenditure, or other disposition of any such amounts; provided that this subsection shall not apply to the expenditure of amounts deposited or held in the green infrastructure special fund that have been reviewed and approved by the public utilities commission for operational or administrative expenses of the authority pursuant to section 196-64.~~

~~(b) An application submitted by the authority to the public utilities commission under this section shall include the following:~~

~~(1) A description of each project, program, financing agreement, or other arrangement for which the authority seeks to allocate, use, expend, or otherwise dispose of amounts deposited or held in the green infrastructure special fund, including:~~

~~(A) The clean energy technology, demand response technology, and energy use reduction and demand side management infrastructure, programs, and services to be financed;~~

~~(B) A description of the parties, both direct and incidental, intended to benefit from any financing made in connection with the green infrastructure special fund amounts requested by the authority in an application submitted to the public utilities commission under this section;~~

~~(C) A description of the loan programs or other arrangements designed, established, identified, agreed to, agreed to in principle, continued, carried over, or otherwise intended to be effectuated for the use of the green infrastructure special fund amounts requested by the authority in an application submitted to the public utilities commission under this section; and~~

~~(D) Any and all funding or credit sources identified, pledged, dedicated, or otherwise provided to supplement the green infrastructure special fund amounts requested by the authority in an application submitted to the public utilities commission under this section;~~

~~(2) Minimum lending, crediting, or investing criteria in relation to each project, program, financing agreement, or other arrangement described in an application submitted to the public utilities commission under this section;~~

~~(3) A description of the repayment processes, mechanisms, and applicable calculations for each project, program, financing agreement, or other arrangement described in an application submitted to the public utilities commission under this section;~~

~~(4) An explanation of the anticipated impacts and benefits to electric utility ratepayers of any project, program, financing agreement, or other arrangement described under an application submitted by the authority to the public utilities commission under this section; and~~

~~(5) Any other additional information determined to be necessary by the public utilities commission upon the review of an application submitted or resubmitted by the authority under this section.~~"]

SECTION 10. Section 269-171, Hawaii Revised Statutes, is repealed.

["~~[§269-171] Green infrastructure loan program order; issuance.~~ ~~(a) The public utilities commission may issue a program order authorizing the allocation, use, expenditure, or other disposition of any amounts deposited or held in the green infrastructure special fund upon the submission by the authority to the commission of a completed application, as described in this section. A green infrastructure loan program order issued by the public utilities commission shall include the following, where determined necessary and applicable by the commission:~~

~~(1) An identification and description of each project, program, financing agreement, or other arrangement approved by the public utilities commission for which amounts deposited or held in the green infrastructure special fund may be allocated, used, expended, or otherwise disposed of;~~

~~(2) Minimum criteria for the lending, crediting, or investing of amounts deposited or held in the green infrastructure special fund;~~

~~(3) A description of the repayment processes, mechanisms, and applicable calculations for each project, program, financing agreement, or other arrangement approved by the public utilities commission for which amounts deposited or held in the green infrastructure special fund may be allocated, used, expended, or otherwise disposed of;~~

~~(4) A review of the anticipated impacts and benefits to electric utility ratepayers of any project, program, financing agreement, or other arrangement approved under a green infrastructure loan program order; and~~

~~(5) Any other provision or information determined to be necessary by the public utilities commission.~~

~~(b) The public utilities commission shall issue an order under this section as expeditiously as possible upon the receipt from the authority of a completed application submitted pursuant to section 269-170.~~

~~(c) The order shall specify the following, including:~~

~~(1) The procedures to be followed by the electric utilities in the event of nonpayment or partial payment of the green infrastructure charge by the electric utilities' customers, which procedures shall be consistent with the public utilities commission's approved procedures for nonpayment and partial payment of rates, charges, and fees under the electric utilities' tariffs; and~~

~~(2) The distribution of the total amounts collected by the electric utilities for amounts billed to customers for the electric utilities' rates, fees, and charges, for the green infrastructure charge, for other fees and charges approved by the public utilities commission, and for associated taxes, in the event of partial payments of the billed amounts.~~

~~The electric utilities serving as billing and collecting agents shall be parties to the proceedings in which the order or orders are issued.~~"]

SECTION 11. (a) The legislature finds and declares that the benefits of the clean energy savings jump start program, which may include but not be limited to the issuance of rebates, energy education, energy demonstration projects for affordable multi-family rental projects, and credit enhancements under this Act is in the public interest and for the public health, safety, and welfare.

(b) The department of business, economic development, and tourism, and the green infrastructure authority embedded within the department, shall use the moneys appropriated pursuant to section 12 of this Act for the purposes of section 196-A, Hawaii Revised Statutes.

(c) To the extent there is any conflict between this Act and part III of chapter 39, Hawaii Revised Statutes, this Act shall prevail.

SECTION 12. There is appropriated out of the Hawaii green infrastructure special fund established pursuant to section 196-65, Hawaii Revised Statutes, or any other eligible funds procured by the Hawaii green infrastructure authority, the sum of $~~20,000,000~~ $40,000,000 or so much thereof as may be necessary for fiscal year 2017-2018 to be deposited into the clean energy savings jump start fund established pursuant to section 196-A, Hawaii Revised Statutes.

SECTION 13. There is appropriated out of the clean energy savings jump start program fund, the sum of $~~10,000,000~~ $30,000,000 or

so much thereof as may be necessary for fiscal year 2017-2018 for the energy storage system rebate program.

The sum appropriated shall be expended by the Hawaii green infrastructure authority for the purposes of this Act.

SECTION 14. In codifying the new sections added by section 2 of this Act, the revisor of statutes shall substitute appropriate section numbers for the letters used in designating the new sections in this Act.

SECTION 15. If any provision of this Act, or the application thereof to any person or circumstance, is held invalid, the invalidity does not affect other provisions or applications of the Act that can be given effect without the invalid provision or application, and to this end the provisions of this Act are severable.

SECTION 16. Statutory material to be repealed is bracketed and stricken. New statutory material is underscored.

SECTION 17. This Act shall take effect on January 28, 2081.

Report Title:
Green Infrastructure Authority; PUC; Loan Program; Clean Energy Savings; Energy Storage System Rebate Pilot Program; Appropriation

Description:
Establishes the Clean Energy Savings Jump Start Program and Clean Energy Savings Jump Start Fund. Establishes the Energy Storage System Rebate Program as a three-year pilot program and requires the Green Infrastructure Authority to submit annual reports to the legislature on the program's progress and activities. Deletes the Public Utilities Commission's approval authority relative to the Green Infrastructure Loan Program. Appropriates funds. Effective 1/28/2081. (SD1)

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

HAWAII ENERGY CONNECTION
Sustainable Energy Solutions

kumukit
Hybrid Solar Electricity

TESTIMONY OF HAWAII ENERGY CONNECTION
IN REGARD TO HB 1593 HD1 SD1, RELATING TO GREEN INFRASTRUCTURE
BEFORE THE
SENATE COMMITTEE ON WAYS AND MEANS
ON
TUESDAY, APRIL 4, 2017

Aloha Chair Tokuda, Vice Chairs Dela Cruz and members of the Committees,

Hawaii Energy Connection supports HB 1593 HD1 SD1. This measure seeks to broaden the scope of the Green Energy Market Securitization (GEMS) program by allowing the GEMS authority to accelerate the energy storage market by strategically deploying funds to the "clean energy savings jump start" program.

Fueled by a passion to accelerate the adoption of renewable energy in Hawaii, our locally owned company has become a nationally recognized solar integrator, dedicated to affordable energy solutions. We are proud to say that 2017 marks our 10th anniversary of serving the citizenry of Hawaii. The latest version of our popular KumuKit systems now employ the latest technologies to optimize energy usage with smart energy management and energy storage. Although these new products are technically what is needed to achieve the goal of a 100% renewable energy future, actual sales of these new products have been low due to the additional cost of the energy storage component.

Over the past 10 years we have reinvested our success back into the local community so that we can continue providing jobs and affordable energy solutions for may more years to come. We humbly ask for you support on this important bill so we can continue our mission.

Hawaii Energy Connection respectfully suggests the following amendments:

1. Include installations with stand-alone storage in the definition of "Eligible energy storage system." Commercial energy storage systems are often installed as storage only without a connection to PV. Often, commercial businesses do not have the roof space or roof access to install PV. However, stand-alone commercial systems are grid connected and provide valuable grid services for the benefits of all customers, in addition to providing a grid support to allow more intermittent renewables. As such, we recommend the following amendment:

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

HAWAII ENERGY CONNECTION
Sustainable Energy Solutions

SECTION 3.

""Eligible energy storage system" means any identifiable facility, equipment, or apparatus that:

(1) ~~Receives electricity generated from a solar photovoltaic system, s~~ Stores the electricity within a chemical battery or mechanical battery, such as flywheel energy storage, and delivers the energy back at a later time to the energy storage system user, an electric utility, or the Hawaii electric system;

2. Allow systems installed and placed in service by July 31, 2017 to participate. HB 1593 SD 1 currently sets the start date at December 31, 2017. If HB 1593 SD 1 were to pass as is, this delayed date would cause the entire industry to stall as customers would delay any purchases until January 1, 2018 in order to qualify for the rebate. This delay would be very harmful to local business and contradict the purpose of this legislation. We recommend the following amendment:

SECTION 2

(d) This section shall apply to eligible energy storage systems that are installed and first placed in service after ~~December~~ **July** 31, 2017.

3. Increase the Jump Start Program Allocation to $40,000,000 and $30,000,000 to the energy storage rebate program. This will ensure that the energy storage rebate program will have enough runway to accomplish its goal of incentivizing the next wave of clean energy development.

Sincerely,

Chris DeBone

Managing Partner

Hawaii Energy Connection, LLC

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

LEGISLATIVE TAX BILL SERVICE

TAX FOUNDATION OF HAWAII

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

SUBJECT: MISCELLANEOUS, Raid GEMS for Rebate Program

BILL NUMBER: HB 1593, SD-1

INTRODUCED BY: Senate Committees on Transportation and Energy and Commerce, Consumer Protection, and Health

EXECUTIVE SUMMARY: Proposes a rebate program for energy storage systems. Funds the program by raiding the GEMS fund, which may well be in breach of the bond indentures signed when the initial $150 million for the GEMS fund was raised on the bond market.

Deletes the PUC's regulatory authority over GEMS.

BRIEF SUMMARY: Adds a new section to HRS chapter 196 to establish the clean energy savings jump start program and the clean energy savings jump start fund, to be administered by the existing green infrastructure authority. The authority, in collaboration with others, is to expend moneys on rebate and other programs that rapidly advance state goals of clean energy and energy efficiency.

Adds another new section to HRS chapter 196 that describes the energy storage system rebate program, with blank dollar amounts.

Repeals HRS sections 269-170 and -171, which provide for regulation of the GEMS authority by the Public Utilities Commission.

Appropriates $20 million from the Hawaii green infrastructure special fund to the clean energy savings jump start fund. Appropriates $10 million from the jump start fund for the energy storage system rebate program.

Makes conforming amendments.

EFFECTIVE DATE: January 28, 2081.

STAFF COMMENTS: This measure is proposed to encourage taxpayers to purchase residential energy storage systems by allowing taxpayers to claim a rebate based on the storage capacity of a system.

This approach is preferable to an income tax credit, which previous versions of this measure used. First, the tax system is the device that raises the money that 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 it is very difficult to determine how many taxpayers will avail themselves of the credit and in what amount. Second, tax credits are nothing more than the expenditure of public dollars, but out the back door. If, in fact, these dollars were subject to the appropriation process, would taxpayers be as kind about the expenditure of these

funds when students are roasting in our schools, or when there isn't enough money for social service programs? Utilizing tax credits other than to alleviate an excessive tax burden cannot be justified and is of a questionable benefit relative to the cost for all taxpayers. Furthermore, a tax credit would require changes to tax forms and instructions, reprogramming, staff training, and other costs that could be massive in amount compared to the loss in revenue from the credit.

Getting the money for this program by raiding the Green Infrastructure Special Fund, however, is quite a different issue.

This fund concerns GEMS, which stands for Green Energy Market Securitization, a program adopted by our state government in Act 211, SLH 2013. It is codified in Hawaii Revised Statutes chapter 196, part IV.

The idea behind GEMS is that the state wanted to facilitate the buildout of "clean energy infrastructure," which was seen as a necessary step to reaching a goal of 70% clean energy by 2030. (This was under Gov. Abercrombie's administration, before the current goal of 100% clean energy by 2045 was signed by Gov. Ige.) GEMS is a financing program that provides low-cost capital to finance solar photovoltaic systems and other clean energy improvements for those who may otherwise have difficulty obtaining financing for these projects. Low-credit homeowners and renters, as well as nonprofits, are among those who qualify for project financing through GEMS. The "securitization" part refers to how this money was going to be raised. The plan was for the State to raise $150 million on the bond market. Those dollars would then be loaned to these individuals and business entities so they could purchase renewable energy systems or other energy efficiency paraphernalia.

Remember that "raising the money in the bond market" means borrowing it. That money needs to be paid back, with interest. That's where ordinary folks who get an electric bill every month come in. Buried in the electric bill is a "Green Energy Infrastructure Fee" collected by the utility and passed on to DBEDT. For residential customers, the fee was $1.29 per month from December 2014 through June 2015. It went up to $1.42 per month through December 2015, and is anticipated to be $1.30 per month for the first half of 2016. Commercial customers, of course, pay more.

This fee pays for principal, interest, and other charges. According to "Revenue Requirements Certificates" filed by DBEDT with the PUC in Docket 2014-0134, principal and interest on the bonds exceeds $6.5 million every six months, and there are other financing costs, most of which were expended in the beginning to set up and market the bond issue. Official filings with the Public Utilities Commission in Docket 2014-0135, indicate how much was actually deployed, and we understand that the actual deployment is dwarfed by the administrative costs necessary to set up the program and maintain it to date.

Apparently, GEMS is an attractive target for raiding because most of the $150 million raised in the bond issue is still there. But some things need to be remembered: First, it's a financing program, not a grant program. Second, it's been established for specific purposes.

The first point, that it is a financing program rather than a grant program, means that if we are using GEMS money we are supposed to be borrowing it. Principal and interest on the GEMS bonds were and are being paid by a surcharge on utility bills. If we use GEMS money, we need to pay it back in the future or we need to admit that the surcharge is an additional tax on the ratepayers.

The second point is that the financing program is for specific purposes, namely to fund green infrastructure costs, meaning clean energy technology like solar and wind; demand response technology; and energy use reduction and demand side management infrastructure, which infrastructure owners will then pay back. This is where the disconnect occurs: a rebate isn't paid back. Investors who bought bonds might not be happy about a significant deployment of the capital for purposes other than those mentioned in the GEMS statute as it existed when the bonds were sold. At a minimum, we had better make sure that we are loaning the money at institutional market rates, and are not breaching covenants in the bond indenture.

Digested 4/1/2017

REACH
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Testimony of ERIK KVAM
Director of Renewable Energy Action Coalition of Hawaii
e-mail: Erik.Kvam@REACHawaii.org

In SUPPORT OF THE INTENT of HB 1593
RELATING TO GREEN INFRASTRUCTURE

Before the
SENATE COMMITTEE ON WAYS AND MEANS

Tuesday, April 4, 2017 9:35 a.m.

Aloha, Chair Tokuda, Vice-Chair Dela Cruz and members of the Committee.

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

100% renewable energy means energy security, energy resiliency and environmental preservation benefits for all Hawaiians.

REACH **SUPPORTS** the **INTENT** of the Energy Storage System Rebate Program contained in **HB 1593** to incentivize Hawaii power customers' investments in energy storage and new renewable generation, and to bring back hundreds of renewable energy jobs lost during the last 2 years.

REACH offers **COMMENTS** inviting the Committee to consider **AMENDING HB 1593** to provide that:

- the Energy Storage System Rebate Program be a rebate program administered by the public benefits fee administrator pursuant to HRS section 269-122, and

- the Energy Storage System Rebate Program be funded through the public benefits fee pursuant to HRS section 269-121.

AMENDING HB 1593 to provide an energy storage rebate program paid out of the Public Benefits Fee (PBF), instead of the Green Energy Market Securitization (GEMS) fund, would be congruent with the purpose of the PBF, and would not alter the legislature's intended purpose of the GEMS fund.

AMENDING HB 1593 to provide an energy storage rebate program paid out of the PBF, instead of the GEMS fund, would avoid the risk that holders of GEMS bonds would take legal action to prevent GEMS funds from being used to pay rebates to owners of eligible energy storage systems.

Thank you for allowing me to testify in **SUPPORT** of the **INTENT** of **HB 1593** and to offer **COMMENTS** for **AMENDING HB 1593**.

From: mailinglist@capitol.hawaii.gov
Sent: Saturday, April 1, 2017 3:49 PM
To: WAM Testimony
Cc: nick.azari@arionenergy.com
Subject: Submitted testimony for HB1593 on Apr 4, 2017 09:35AM

HB1593
Submitted on: 4/1/2017
Testimony for WAM on Apr 4, 2017 09:35AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Nick Azari	Arion Energy	Support	No

Comments: Testimony In SUPPORT OF THE INTENT of HB 1593 RELATING TO GREEN INFRASTRUCTURE Before the SENATE WAYS AND MEANS COMMITTEE Tuesday, April 4, 2017 9:35 a.m. Aloha Chair Tokuda, Vice-Chair Dela Cruz and members of the Committee. I support the intent of the Energy Storage System Rebate Program contained in HB 1593 to incentivize Hawaii power customers' investments in energy storage and new renewable generation, and to bring back hundreds of renewable energy jobs lost during the last 2 years. I invite the Committee to consider amending HB 1593 to provide that: • the Energy Storage System Rebate Program be a rebate program administered by the public benefits fee administrator pursuant to HRS section 269-122, and • the Energy Storage System Rebate Program be funded through the public benefits fee pursuant to HRS section 269-121. Amending HB 1593 to provide an energy storage rebate paid out of the Public Benefits Fee (PBF), instead of the Green Energy Market Securitization (GEMS) fund, would be consistent with the purpose of the PBF, and would not alter the legislature's intended purpose of the GEMS fund. Thank you for allowing me to testify in support of the intent of HB 1593 and to offer comments for amending HB 1593.

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

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Testimony

In SUPPORT OF THE INTENT of HB 1593
RELATING TO GREEN INFRASTRUCTURE

HB1593 is being heard by the

Before the
Senate Ways & Means Committee on
Tuesday, April 4, 9:35 am in **Room 211** at the **Hawaii State Capitol**.

Aloha members of the Committees.

I **support** the **intent** of the Energy Storage System Rebate Program contained in **HB 1593** to incentivize Hawaii power customers' investments in energy storage and new renewable generation.

The people of Hawaii are overwhelming in favor of solar energy. We all want to participate. Giving back to those who are willing to invest in storage systems is a small price to pay toward these goals.

It is a majority consensus that storage is crucial in Hawaii meeting it's 100% renewable portfolio. Let us all step up and make steps so everyone may participate in this goal.

Aloha,

Paul Spencer

Sun King Hawaii

Before the Senate Committee on Ways and Means
Tuesday, April 4, 2017; 9:35 a.m., Room 211
HB 1593 HD 1 SD 1: Relating to Green Infrastructure

Aloha Chair Tokuda, Vice Chair Dela Cruz, and members of the Committee,

On behalf of Go Electric Inc., I would like to testify in support for HB 1593 HD 1 SD 1 which establishes the energy savings jump start program and an energy storage rebate program, in addition to streamlining the loan notification approval process.

Go Electric ("GoE") is a small business focused on energy resiliency and renewable energy adoption in Hawaii. Go Electric produces a customer-side-of -the-meter energy storage solution that uniquely delivers energy security and energy efficiency services to facilities, demand response services to the grid and supports renewables integration.

The establishment of a rebate program under the GEMS authority would put a portion of the dormant GEMS funds to good use and spur development in a way that benefits all ratepayers. A GEMS rebate would support existing and new clean energy tariffs such as the interim time of use program and the upcoming demand response tariffs which are designed to provide ancillary services to the grid and will be open for enrollment the end of 2017. The GEMS rebate for energy storage is also designed to be allocated over several installation types from residential, to commercial, and utility scale projects connected to Community Solar installations, with a special focus on underserved customers. HB 1593 SD 1 thus serves as both a catalyst for clean energy development and a recalibration of the GEMS program in a way that serves all customers.

Go Electric respectfully suggests the following amendments:

1. Include installations with stand-alone energy storage in the definition of "Eligible energy storage system." Commercial energy storage systems are often installed as storage only without a connection to PV. Stand-alone commercial systems are valuable assets for utility demand response, facility uninterruptible power and energy efficiency services, in addition to providing a grid support to allow more intermittent renewables. As such, GoE recommends the following amendment:

SECTION 3.

""Eligible energy storage system" means any identifiable facility, equipment, or apparatus that:

~~(1) Receives electricity generated from a solar photovoltaic system, s~~ Stores the electricity within a chemical battery or mechanical battery, such as flywheel energy storage, and delivers the energy back at a later time to the energy storage system user, an electric utility, or the Hawaii electric system;

2. Allow systems installed and placed in service by July 31, 2017 to participate. HB 1593 SD 1 currently sets the start date at December 31, 2017. If HB 1593 SD 1 were to pass as is, this delayed date would cause the entire industry to stall as customers would delay any purchases until January 1, 2018 in order to qualify for the rebate. This delay would be very harmful to local business and contradict the purpose of this legislation. In addition, Hawaiian Electric plans to launch its Demand Response program in 2017, and the rebate will help support the roll out of that program. GoE recommends the following amendment:

SECTION 2

(d) This section shall apply to eligible energy storage systems that are installed and first placed in service after ~~December~~ July 31, 2017.

3. Increase the Jump Start Program Allocation to $40,000,000 and $30,000,000 to the energy storage rebate program. This will ensure that the energy storage rebate program will have enough runway to accomplish its goal of incentivizing the next wave of clean energy development.

Go Electric is poised to help take Hawaii to a new era where energy storage systems are aggregated and utilized by the utility as a resource for all ratepayers. We ask that the legislature support this next stage in Hawaii's development by voting yes on HB 1593 HD 1 SD 1.

Thank you for the opportunity to testify.

Lisa M. Laughner
President & CEO
Go Electric Inc.
1000 Bishop St. STE 505
Honolulu, HI 96813

Before the Senate Committee on Ways and Means
Tuesday, April 4, 2017; 9:35 a.m., Room 211
HB 1593 HD 1 SD 1: Relating to Green Infrastructure

Aloha Chair Tokuda, Vice Chair Dela Cruz, and members of the Committee,

On behalf of Stem, Inc. (Stem), I would like to testify in strong support for HB 1593 HD 1 SD 1 which establishes the energy savings jump start program and an energy storage rebate program, in addition to making certain changes to improve the effectiveness of the current GEMS loan program.

Stem is a leading provider of advanced energy storage in Hawaii and across the mainland. Stem is currently partnered with Hawaiian Electric Company ("HECO") on a 1MW renewables integration project to demonstrate how distributed energy storage can help the utility reach the State's lofty renewable energy goals. As part of this pilot, Stem is currently serving 27 customers on Oahu with grid-connected, advanced energy storage systems. These customers are paying to be part of this pilot, and they save more than they pay on their electricity bills. When not in use, their batteries are also used to support the grid.

In addition to indicating our strong support, Stem respectfully suggests the following amendments:

1. Include installations with stand-alone storage in the definition of "Eligible energy storage system."

Stem currently operates 27 commercial energy storage systems on Oahu. All systems were commissioned in 2015 or 2016. And, all are enrolled in a HECO pilot to show how batteries can lower electricity bills for end customers **and** support the grid at the same time. Of the pilot group of customers, 40% have solar PV systems. The remaining 60% are reaping the benefits of energy storage and do NOT have solar PV systems. They benefit by using the batteries to smooth out expensive spikes in demand – and by marketing to their customers that they are helping support the grid through a new, shared partnership with the utility.

Customers who cannot install solar PV make up the majority of the commercial population across Hawaii today. They include high rise office buildings, businesses that rent instead of own their buildings, and condominium towers. Many of these customers want to take action to reduce their bills and to help Hawaii move closer to 100% renewable energy by 2045… but they cannot install solar. Allowing this majority of the commercial market to participate is a key to achieving statewide success of this program for as many customers as possible.

As such, Stem recommends the following amendment:

SECTION 3.

""Eligible energy storage system" means any identifiable facility, equipment, or apparatus that:

~~(1) Receives electricity generated from a solar photovoltaic system, s~~Stores the electricity within a chemical battery or mechanical battery, such as flywheel energy storage, and delivers the energy back at a later time to the energy storage system user, an electric utility, or the Hawaii electric system;

2. Allow systems installed and placed in service by July 31, 2017 to participate. HB 1593 SD 1 currently sets the start date at December 31, 2017. If HB 1593 SD 1 were to pass as is, this delayed date would cause the solar and storage industries to stall as customers would delay any purchases until January 1, 2018 in order to qualify for the rebate. This "hiccup" in the market would be harmful to local business and contradict the purpose of this legislation. We recommend the following amendment:

SECTION 2

(d) This section shall apply to eligible energy storage systems that are installed and first placed in service after ~~December~~ July 31, 2017.

3. Increase the Jump Start Program Allocation to $40,000,000, including $30,000,000 to the energy storage rebate program. Stem estimates that the storage offerings in Hawaii from both residential and commercial sales would need about $10 million per year of support in the early years of a program, so a seed amount of just $10m would likely be fully expended within one year. To offer the solar industry a meaningful transition to the next phase of customer offerings in Hawaii, and to help businesses install storage that will help realize the next phase of Grid Services programs with the utility, funding for this program for an expected 3 year lifecycle is appropriate and will be a meaningful ramp to success.

4. Finally, the trade association the DER Council of Hawaii has also made recommendations on the metrics regarding rebate amounts, caps, and fund allocations. We support the recommendations of the DER Council on these figures.

Thank you for the opportunity to provide this testimony.

Tad Glauthier
VP of Hawaii Operations
Stem, Inc.

,

Before the Senate Committee on Ways and Means

Tuesday, April 4, 2017 Room 211

HB 1593 HD 1: Relating to Green Infrastructure

Aloha Chair Tokuda, Vice Chair Dela Cruz, and members of the Committee,

On behalf of Green Charge, I would like to testify in strong support for HB 1593 HD 1 SD1 which will help establish the energy savings necessary to effectively jump start a commercial and school storage program and will also provide the necessary support distributed generation projects currently facing a major slow-down in the state.

Green Charge-an ENGIE company- is a market leader in behind-the-meter energy storage, often teaming up with local solar installers in multiple states since 2009 to provide consumer savings which are reinvested locally. The majority of Green Charge projects are on schools, providing environmental and economic benefits to the whole community of ratepayers and local taxpayers due to school district savings. Founded in 2009, Green Charge has gained valuable technical and policy insights, having worked closely with numerous utilities and regulators in storage pilot programs, behind the meter storage program design processes, demonstration projects, deployment partnership arrangements. Our company eagerly awaits the opportunity for a full time presence and local investment in Hawaii along other ENGIE companies and we view HD 1593 as the key opportunity to do so.

As a fast-responding and flexible asset, energy storage solutions will play critical roles in helping Hawaii achieve its 100% clean energy and greenhouse gas emissions goals by capturing and discharging energy from renewables (on site and in front of the meter renewables), empowering customers to make smart decisions with their energy use, supporting grid needs such as ramping and voltage support, and reducing the need to rely on high emissions power sources. Simply put, a storage rebate program will help “bridge the gap” for commercial and school projects that can no longer participate in net metering or could never go solar in the first place due to physical contends. The growth of onsite storage will benefit ratepayers over time via the decrease in transmission and infrastructure investments as Hawaii continues to drive its national and international leadership in setting up a “grid of the future” with a focus on clean, smart and decentralized generation leading to jobs that can’t be exported.

With respect we suggest the following amendments:

1. Include installations with stand-alone storage in the definition of "Eligible energy storage system." Commercial energy storage systems are often installed as storage only without a connection to PV. Often, commercial businesses, hotels and schools in Hawaii do not have the roof space, roof access, or other physical attributes to install PV. However, stand-alone commercial systems are grid connected and provide valuable grid services for the benefits of all customers and ratepayers lessoning the need for costly transmission and grid infrastructure upgrades , in addition to providing a grid support to allow more intermittent renewables. As such, we recommend the following amendment:

SECTION 3.

""Eligible energy storage system" means any identifiable facility, equipment, or apparatus that:

~~(1) Receives electricity generated from a solar photovoltaic system, s~~ Stores the electricity within a chemical battery or mechanical battery, such as flywheel energy storage, and delivers the energy back at a later time to the energy storage system user, an electric utility, or the Hawaii electric system;

2. Allow systems installed and placed in service by July 31, 2017 to participate. HB 1593 SD 1 currently sets the start date at December 31, 2017. If HB 1593 SD 1 were to pass as is, this delayed date would cause the entire industry to stall as customers would delay any purchases until January 1, 2018 in order to qualify for the rebate. This delay would be very harmful to local business and contradict the purpose of this legislation. We recommend the following amendment:

SECTION 2

(d) This section shall apply to eligible energy storage systems that are installed and first placed in service after ~~December~~ July 31, 2017.

3. Increase the Jump Start Program Allocation to $40,000,000 and $30,000,000 to the energy storage rebate program. This will ensure that the energy storage rebate program will have enough runway to accomplish its goal of incentivizing the next wave of clean energy development.

Thank you for the opportunity to testify and please feel free to contact me at wwright@greencharge.net

Walker Wright
Vice President of Public Policy
Green Charge http://www.greencharge.net/

Advanced Microgrid Solutions

WRITTEN ONLY

TESTIMONY OF MANAL YAMOUT
VICE PRESIDENT, POLICY & MARKETS
ADVANCED MICROGRID SOLUTIONS

BEFORE THE

SENATE COMMITTEE ON WAYS & MEANS

April 4, 2017
9:35 A.M.

MEASURE: HOUSE BILL NO. 1593 HD1 SD1
TITLE: RELATING TO GREEN INFRASTRUCTURE

POSITION: **Advanced Microgrid Solutions strongly supports passage of HB 1593 HD 1 SD1**

COMMENTS:

Chair Tokuda, Vice Chair DelaCruz, and Members of the Senate Ways & Means Committee:

On behalf of Advanced Microgrid Solutions (AMS), thank you for the opportunity to testify on House Bill 1593 HD1 SD1, related to green infrastructure. HB 1593 HD1 SD1 would encourage the more rapid deployment of loans and create a clean energy savings jump start program for advanced energy storage technologies directly serving Hawai'i residents and businesses.

Today, AMS submits testimony in support of HB 1593 HD1 SD1. HB 1593 HD1 SD1 would allow significant benefits to Hawaii's energy infrastructure, consumer protection, ratepayer savings and business development goals. Importantly, it would allow for advanced clean energy technology companies, such as AMS, to be market entrants, bringing with them millions of dollars in local investments and tax benefits and hundreds of direct and indirect jobs for Hawai'i. This is particularly important as the State moves toward 100 percent renewable generation by 2045. Energy storage will be a critical component in reaching the Hawaii's clean energy goal; however, energy storage cannot support these goals without key policy and economic drivers, like HB 1593 HD1 SD1.

Recent amendments to HB 1593 HD1 SD1 would require that qualifying projects be connected to solar PV systems. The intent of the bill, however, is to establish an energy storage rebate energy program for the purposes of reductions in ratepayer costs and greenhouse gas emissions, as well as needed market transformation for Hawaii's

electrical grid. The originally proposed program would therefore be for standalone energy storage systems that can, where economical and to the best benefit to ratepayers, connect to solar PV systems. Importantly, solar is supported by existing state and federal tax incentives, whereas energy storage has none. I respectfully ask the Committee to consider revising the language back to its original intent as follows:

SECTION 3.
"Eligible energy storage system" means any identifiable facility, equipment, or apparatus that:

~~(1) Receives electricity generated from a solar photovoltaic system, s~~ Stores the electricity within a chemical battery or mechanical battery, such as flywheel energy storage, and delivers the energy back at a later time to the energy storage system user, an electric utility, or the Hawaii electric system;

AMS is one of the nation's leading energy storage companies, with over 120 megawatts (MW) of storage projects under contract with electric utilities throughout the United States. As a company, AMS designs, finances, installs and operates energy storage and software systems for large-scale commercial and industrial customers. We specialize in customer-sited projects that also provide grid support to local utilities and grid operators. We are currently building a 90 MW / 360 MWh fleet for Southern California Edison that will provide capacity for load-constrained parts of their electric grid following the unexpected closure of one of their power plants. The flexibility of energy storage as a grid resource allows it to provide increased grid reliability, ratepayer savings and participation in capacity or ancillary services markets. Our installation sizes range from 250 kilowatts (kW) to 2.5 MW – enough to help large electricity consumers, such as Hawaii's universities, hospitals and government buildings, save hundreds of thousands of dollars in annual electricity costs.

HB 1593 HD1 SD1 is critical for companies, like AMS, looking to make significant business and economic investments in Hawai'i. Now more than ever, energy storage can provide a variety of important resources to Hawai'i as it moves toward a cleaner, more affordable and reliable grid. That is why we encourage Members of the Senate Ways & Means Committee to vote YES on HB 1593 HD1 SD1.

Thank you for the opportunity to testify.

Regards,

Manal Yamout
Vice President, Policy & Markets
Advanced Microgrid Solutions

COLLEGE OF SOCIAL SCIENCES

HAWAII ENERGY POLICY FORUM

UNIVERSITY OF HAWAI'I AT MĀNOA

Testimony of Ray Starling
Chair, Energy Efficiency Working Group
Hawaii Energy Policy Forum

To the
Senate Ways and Means Committee

April 4, 2017 at 9:35 AM in Conference Room 211

IN OPPOSITION TO HB1593 HD1 SD1, Relating to Green Infrastructure

Chair Tokuda, Vice Chair Dela Cruz, and Members of the Committee,

I am Ray Starling, Chair of the Energy Efficiency Working Group of the Hawaii Energy Policy Forum (Forum). The Forum, created in 2002, is comprised of over 40 representatives from Hawaii's electric utilities, oil and natural gas suppliers, environmental and community groups, renewable energy industry, and federal, state and local government, including representatives from the neighbor islands. Our vision and mission, and comprehensive "10 Point Action Plan" serves as a guide to move Hawaii toward its preferred energy goals and drive our comments on this bill.

HB1593 HD1 SD1 establishes the Clean Energy Savings Jump Start Program, Clean Energy Savings Jump Start Fund, and Energy Storage System Rebate Program. It also appropriates funds, and deletes the Public Utilities Commission's approval authority relative to the Green Infrastructure Loan Program.

The Forum **OPPOSES** HB1593 HD1 SD1 in its current form and offers the following comments for the Committee's consideration:

(1) GEMS Original Purpose Subverted by Use of Funds for "Rebates": The bill proposes to fund "rebates" for energy storage installations using monies from the Green Energy Market Securitization (GEMS) program. However, GEMS was originally set up as a revolving "loan" program for individual ratepayers installing clean energy technologies. It was funded by $150M in bond proceeds sold by the state, but secured by ratepayer fees, not tax dollars, in the event the there are insufficient funds to make the bond repayments. If the GEMS bond proceeds are diverted to "rebates" instead of "loans," the GEMS program will be unable to make the bond repayments without significantly increasing fee charges to all utility ratepayers - not taxpayers. And, contrary to original legislative intent, the GEMS program would cease to be self-sustaining. Moreover, the GEMS program would be subject to complex and unintended consequences, which have not been fully explored nor explained.

(2) Electric Ratepayers Unfairly Burdened: Using GEMS funds to make "rebates" for energy storage installations will unfairly advantage those economically well-enough-off to install solar PV/storage to the disadvantage of those financially or physically unable to install PV. Since all ratepayers contribute to the GEMS funding, this would create significant unfair burden on those ratepayers who could not take advantage of the energy storage rebates.

(3) Using GEMS Funds for Rebates Will Adversely Impact Energy Efficiency Programs: Because of the complex way the GEMS program was originally set up, every rebate dollar not paid back to GEMS as a loan will automatically diminish the Public Benefits Fund by an equal amount, causing significant impact on Hawaii's Energy Efficiency Program, by far the most cost-effective energy resource on our grid. This reduction of Energy Efficiency funds would also jeopardize the State's ability to meet its EEPS goals.

(4) Premature to Remove PUC Oversight of GEMS Programs/Operations: The bill further proposes to remove PUC oversight from GEMS programs and operations to speed up the administrative processes. Given the challenges of the GEMS program with making loans to date, continuing to have independent PUC oversight is the more prudent and preferred approach. In contrast, the competitively bid Energy Efficiency Rebate Program has three layers of third party oversight, all reporting to the PUC, not to mention performance goals with financial consequences.

Thank you for the opportunity to testify.

This testimony reflects the position of the Forum as a whole and not necessarily of the individual Forum members or their companies

Solar Supply

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TESTIMONY
IN REGARD TO HB 1593 HD1 SD1, RELATING TO GREEN INFRASTRUCTURE
BEFORE THE
SENATE COMMITTEE ON WAYS AND MEANS
ON
TUESDAY, APRIL 4, 2017

Chair Tokuda and members of the committee, my name is Rolf Christ and I represent R & R Solar Supply.

R&R stands in strong support of HB 1593.

Since the popular NEM program has ended in 2015 and it's successor Grid Supply Program is almost fully subscribed, the only option remaining are battery based systems, that store renewable energy not used during the day for later use at night. A small percentage of system only supplying daytime loads without batteries will not be enough to help us with our 100% renewable goal and will only achieve an average of 25% savings.

We want battery based systems to be affordable to a broad range of residents of all income levels. At today's battery costs that can only be achieved with financial incentives that provide homeowners with a return of investment.

Installations with batteries will benefit all ratepayers, since those systems smooth the intermittent energy production of PV systems and are able to provide grid services when called upon, especially here in Hawaii where we find the greatest PV saturation in the nation, but also the highest energy cost and the largest percentage of electricity generation by oil.

Thank you for the opportunity to testify

Rolf Christ

President

Hawaii Solar Energy Association
Serving Hawaii Since 1977

TESTIMONY OF THE HAWAII SOLAR ENERGY ASSOCIATION
IN REGARD TO HB 1593 HD1, RELATING TO GREEN INFRASTRUCTURE
BEFORE THE
SENATE COMMITTEE ON WAYS AND MEANS
ON
TUESDAY, APRIL 4TH, 2017

Chair Tokuda, Vice Chair Dela Cruz, and members of the joint committees, my name is Hajime Alabanza and I represent the Hawaii Solar Energy Association, Inc. (HSEA)

HSEA **supports** HB 1593 HD1 SD1. This measure seeks to broaden the scope of the Green Energy Market Securitization (GEMS) program by allowing the GEMS authority to accelerate the energy storage market by strategically deploying funds to the "clean energy savings jump start" program.

Introduction and General Comments:

As Hawaii transitions away from traditional grid-tied PV systems without energy storage to a market that requires the use of energy storage, the need to maintain a sustainable and low cost market for all residents of the state has never been more imperative.

Currently, there are no state incentives for battery storage systems. Customers who want to lower their bill as well as assist the state's goals to a 100% Renewable Portfolio Standard are now met with a higher cost to do so. Although energy storage costs continue and are projected to decline at an exponential rate[1], Hawai'i's energy policy is ahead of the curve. The PUC's October 2015 decision to end the Net Energy program, combined with the Customer Grid Supply cap being met in late 2016, means that only one viable program (Customer Self Supply) exists for residential customers to connect to the grid. Although the PUC, utility, and several key stakeholders are negotiating a longer-term strategy for residential PV, this will most likely require energy storage in some form. Additionally, the HGIA Authority overseeing GEMS also contends that energy storage is essential to its mission, stating in their recent quarterly report:

> "The Authority believes that its ability to finance storage is critical, especially given the limited interconnection options currently offered by the utility. The Authority is working closely with the CA's office in developing a response to address Its concerns. At the request of the CA, two revised Program Notifications will be submitted, separately addressing the consumer and commercial energy storage technology."[2]

[1] See Deutche Bank Solar Report attached
[2] HGIA Quarterly Report, filed in PUC Docket No. 2014-0135 January 31st, 2017

The legislature has stated several times that its goal is to help make PV available to all people in the state, especially those at the middle and lower income levels. It has also implemented programs such as Community Based Renewable Energy to meet this goals. Unfortunately, requiring an additional expensive component to residential PV systems as a means to interconnect to the grid without providing an appropriate incentive will only result in two things: those fortunate enough to afford it who do not already have a system may grid defect due to cost, or low to middle income people who cannot afford it will opt out and continue paying high energy bills.

This trend is already evident in data regarding the solar industry in Hawai'i. Since the beginning of the CSS tariff a total of 563 projects have been proposed or approved. For reference, over 3,000 CGS systems were proposed or approved in half that time. As the market slows down, local people and local business, not huge national companies or wealthy snow birds, will suffer. Without a program like HB 1593 HD1 SD 1 is proposing, what kind of market is likely to be left by the time battery prices have become more affordable? It is absolutely imperative that the state provide an incentive to customers if it hopes to have a market that will benefit all people, regardless of income.

Specific comments:

In order to expedite the process by which the GEMS authority can deploy funds for the proposed rebate program, overarching approval by the Public Utilities Commission should be removed. This control is detailed in the Hawaii Revised Statutes, §196-64.

Although the Public Utilities Commission is a competent and professional regulatory arm of the state of Hawai'i, removing them from the burden of having to approve every deployment of funds by the GEMS authority will allow it more time to focus on its primary mission. Additionally, having GEMS seeks approval from the PUC on every deployment of funds it seeks to make over complicates the matter and ultimately slows the progress towards a 100% RPS by 2045

Additionally, we suggest a cap amount of total deployed funds to this program to not exceed $50,000,000. The HSEA believes that this is an appropriate amount of money to be allocated to this program while still allowing the HGIA funds to power other programs that helps its mission in serving the underserved. We suggest the following changes be made:

There is appropriated out of the Hawaii green infrastructure special fund established pursuant to section 196-65, Hawaii Revised Statutes, or any other eligible funds procured by the Hawaii green infrastructure authority, a sum up to $50,000,000 or so much thereof as may be necessary for fiscal year 2017-2018 to be deposited

into the clean energy savings jump start fund established pursuant to section 196-A, Hawaii Revised Statutes.

SECTION 13. There is allocated out of the clean energy savings jump start program fund, the sum of $30,000,000 or so much thereof as may be necessary for fiscal year 2017-2018 for the energy storage system rebate program.

The additional $10,000,000 should be allocated to energy efficiency, education, and heat abatement programs as seen fit by the HGIA.

We also suggest that the definition of "eligible energy storage property" as defined on page 10 and 11 of the most recent draft HD1 is overly prescriptive. The HSEA remains agnostic on the type of energy storage technology deployed in the state. As such, outlining such specific technical requirements to qualify for the proposed rebate may inadvertently preclude new or current technology from participating in the rebate program. According to this draft, ***at least 5, if not more, current energy storage technologies are precluded from participation in this program.*** Greater discussion should be had as to the technical requirements regarding this proposed program. Cutting out certain technologies also cuts out customers who may not be able to afford higher initial capital costs of larger capacity storage products. Accordingly, HSEA proposes the following amendments to allow for a greater range of options:

""Eligible energy storage system" means any identifiable facility, equipment, or apparatus that:

(1) Receives electricity generated from another source or other sources, stores the electricity within a battery and delivers the energy back at a later time to the energy storage system user, an electric utility, or the Hawaii electric system;

(2) Is fixed to a residential or commercial property and electrically connected to an energy storage system user's load or generation, or in the case of a utility-scale energy storage system, is fixed to a property and electrically connected to an eligible community-based renewable energy project;

(3) Has a deployable capacity of at least ~~2.5~~ 1.5 kilowatts of continuous battery charge and discharge power

and at least ~~five~~ three kilowatt-hours of stored energy at time of purchase for residential and commercial energy storage systems;

(4) Has a minimum deployable capacity of 2.5 megawatt-hours and five megawatt-hours at time of purchase for utility-scale energy storage systems;

(5) Is protected by a manufacturer's warranty of at least ten years or a minimum of three thousand cycles for residential and commercial energy storage systems;

(6) Is protected by a manufacturer's warranty of at least twenty years with a degradation not to exceed 1.5 per cent per year and controls sufficient to provide real power and reactive power dispatch for utility-scale energy storage systems;

(7) Is not owned by an electric utility; and

(8) Is connected to an electric utility grid under nationally accepted standards, unless the electric utility has proposed interconnection fees of ten per cent or greater of the purchase price of the energy storage system.

We urge the committee to pass HB 1593 HD1 SD 1.

Thank you for the opportunity to testify.

TESTIMONY IN SUPPORT WITH AMENDMENTS OF HB 1593, HD1
being heard by the Senate Committee on Ways and Means
on Tuesday, April 4, 2017 at 9:35 a.m.
In Conference Room 211

Aloha Chair Tokuda and members of the Committee:

Thank you for providing the opportunity to provide testimony in support of HB 1593 SD 1. This bill would repurpose a portion of the funding from the Hawaii Green Infrastructure Loan Program, also known as the Green Energy Market Securitization (GEMS) Program, to provide rebates to support the deployment of energy storage systems. Tesla strongly supports this legislation. Policy measures like those proposed in this bill can play a pivotal role in transforming the market for energy storage, by helping the industry scale and drive costs down to the point where incentives are no longer needed. By way of this testimony, Tesla offers a number of friendly amendments that we believe would help make the envisioned program even more effective.

As Tesla has previously testified, we anticipate that energy storage will play a very significant role in Hawaii's energy system in the years and decades ahead. In the context of high penetrations of renewables, energy storage represents an increasingly important asset class that can help integrate these resources into the system. Energy storage effectively transforms intermittent renewables that generate energy based on the rising and setting of the sun or the vagaries of the wind, into a fully dispatchable resource that is available when it is needed by the grid and customers. As Hawaii transitions toward a future where 100% of the State's energy needs are met from renewables, it is vitally important that the State take steps today to support the deployment of energy storage systems today.

In addition to the fundamental role that energy storage can play in facilitating increased reliance on renewables, energy storage also creates a more dynamic and efficient grid. When deployed behind the customer meter, it enables customers to more easily respond to time-of-use rates or other dynamic tariff and demand response programs. Similarly, grid operators can utilize energy storage to help more effectively and efficiently address system peak needs, by strategically locating storage and using it as an alternative to more conventional and bulky investments in transmission and distribution facilities, or additional generation.

Projects utilizing battery storage technology hold significant promise that has yet to be fully realized because of two factors – the current cost of battery systems, and the limited number of use cases or applications that the existing regulatory framework allows storage systems to address, despite their technical capacity to do so today. It is expected that significant progress will be made on both fronts over the next five years as the production capacity for batteries continues to increase and economies of scale are realized, and as the Hawaii Public Utilities Commission makes progress in proceedings that we are confident will facilitate new opportunities for energy storage systems. A state incentive program, as proposed by HB 1593

SD 1, can play a significant role in creating a bridge to the future, enabling near-term deployments and driving demand and real-world experience with this important technology.

The current bill language envisions repurposing $20 million from the GEMS program for a "clean energy savings jump start fund", with $10 million of this being allocated to support a three-year energy storage rebate pilot program. Tesla observes that this amount represents only about 7% of the available GEMS funding[1], and, assuming that the rebate level per watt hour (Wh) is ultimately set at between $.20/Wh and $.40/Wh, the envisioned program would support between 25 MWh and 50 MWh of energy storage, or between only 0.8% and 1.5% of the combined system peak demand across the islands.[2] If an objective of this program is to both support market transformation as well as materially impact system needs, this level of funding should be increased. Recognizing that the costs of the electricity system are disproportionately driven by peak demand[3], a program that will drive sufficient storage deployment to meet five to ten percent of the combined system peak across the islands would have more impact. We believe a program budget that would accomplish that objective is approximately $40 million.

Tesla also wishes to address the language requiring that participating energy storage systems receive electricity generated by a solar photovoltaic system. We believe this approach would create significant administrative challenges since it would require some means of assessing the type of energy used to charge a storage system, something that may be extremely difficult, especially in the case of stand-alone systems. This approach, while well-intentioned, also seems unnecessary. Notably, stand-alone storage systems can play important role in integrating renewable resources by charging at times when there is an overabundance of renewable power on the grid and discharging that energy when it is more valuable. In light of this, Tesla does not believe it is necessary to include language that would appear to create a de facto ban on stand-alone systems participating in this program. To the degree customers see price signals that align with those periods when there is an abundance of renewable energy on the grid, stand-alone storage systems can and will be dispatched accordingly. To that end, we request that this requirement be removed from the bill.

In prior testimony, Tesla suggested that the incentive budget be allocated between residential, commercial and utility-scale segments as a means to ensure that no individual segment crowds out any other segment while also providing a measure of certainty to project developers about the amount of incentives available to support projects. We understand that some stakeholders

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[1] According to the Pacific Business News, as of October 31, 2016, there is $144.9 million available in the GEMS budget. See http://www.bizjournals.com/pacific/news/2016/11/14/clean-energy-loan-program-has-issued-no-commercial.html

[2] Based on "Hawaii Energy Facts and Figures: November 2014", published by the Department of Business, Economic Development and Tourism and the Hawaii State Energy Office, which shows the combined Peak Demands across the islands to be 1,614 MW. Available for download at https://energy.hawaii.gov/wp-content/uploads/2014/11/HSEO_FF_Nov2014.pdf. Also assumes that energy storage systems deployed have a 2-hour duration.

[3] See, for example, "State of Charge", Massachusetts Department of Energy Resources, pg. ii, Figure 2. Available for download at http://www.mass.gov/eea/docs/doer/state-of-charge-report.pdf

would like the share of total funding set aside for residential projects to be as much as 50% of the overall funding in the program. If this approach is taken, Tesla would support the balance of non-residential funding being treated as a general pool rather than allocating specific shares to commercial and utility projects. Given the relatively limited level of funding overall, and questions regarding the timing of a community renewables program, we believe allowing funds from the non-residential incentive budget to flow to whatever projects are able to put those funds to use will best serve the interests of the program and the State.

Finally, Tesla requests that the current date for determining when systems placed in service will be eligible to participate in this program be moved forward from December 31, 2017, to July 31, 2017. The sooner funding can be made available, the more quickly customers can begin deploying systems and realizing the policy objectives of this important program.

Tesla thanks you again for the opportunity to submit this testimony.

657 Mission Street, Suite 500
San Francisco, CA 94105

April 3, 2017

Testimony

In SUPPORT OF THE INTENT of HB 1593
RELATING TO GREEN INFRASTRUCTURE

Before the
SENATE WAYS AND MEANS COMMITTEE
Tuesday, April 4, 2017 9:35 a.m.

Aloha Chair Tokuda, Vice-Chair Dela Cruz and members of the Committee.

I **support** the **intent** of the Energy Storage System Rebate Program contained in **HB 1593** to incentivize Hawaii power customers' investments in energy storage and new renewable generation, and to bring back hundreds of renewable energy jobs lost during the last 2 years.

I invite the Committee to consider **amending HB 1593** to provide that:

- the Energy Storage System Rebate Program be a rebate program administered by the public benefits fee administrator pursuant to HRS section 269-122, and
- the Energy Storage System Rebate Program be funded through the public benefits fee pursuant to HRS section 269-121.

Amending HB 1593 to provide an energy storage rebate paid out of the Public Benefits Fee (PBF), instead of the Green Energy Market Securitization (GEMS) fund, would be consistent with the purpose of the PBF, and would not alter the legislature's intended purpose of the GEMS fund.

Thank you for allowing me to testify in **support** of the **intent** of **HB 1593** and to offer comments for **amending HB 1593**.

Sincerely,

Andrew Tanner
VP, Business Development

TESTIMONY OF ALTERNATE ENERGY, INC.
IN REGARD TO HB 1593 HD1 SD1, RELATING TO GREEN INFRASTRUCTURE
BEFORE THE
SENATE COMMITTEE ON WAYS AND MEANS
ON
TUESDAY, APRIL 4, 2017

Chair Tokuda and members of the joint committee, my name is David Panther and I represent Alternate Energy, Inc.

Alternate Energy **supports** HB 1593 HD1 SD1. This measure seeks to broaden the scope of the Green Energy Market Securitization (GEMS) program by allowing the GEMS authority to accelerate the energy storage market by strategically deploying funds to the "clean energy savings jump start" program.

As Hawaii transitions away from traditional grid-tied PV systems without energy storage to a market that requires the use of energy storage, the need to maintain a sustainable and low cost market for all residents of the state has never been more imperative.

Currently, there are no state incentives for battery storage systems. Customers who want to lower their bill as well as assist the state's goals to a 100% Renewable Portfolio Standard are now met with a higher cost to do so. Although energy storage costs continue and are projected to decline at an exponential rate, Hawai'i's energy policy is ahead of the curve. The PUC's October 2015 decision to end the Net Energy program, combined with the Customer Grid Supply cap being met in late 2016, means that only one viable program (Customer Self Supply) exists for residential customers to connect to the grid. Although the PUC, utility, and several key stakeholders are negotiating a longer-term strategy for residential PV, this will most likely require energy storage in some form.

The legislature has stated several times that its goal is to help make PV available to all people in the state, especially those at the middle and lower income levels. It has also implemented programs such as Community Based Renewable Energy to meet this goals. Unfortunately, requiring an additional expensive component to residential PV systems as a means to interconnect to the grid without providing an appropriate incentive will only result in two things: those fortunate enough to afford it who do not already have a system may grid defect due to cost, or low to middle income people who cannot afford it will opt out and continue paying high energy bills.

This trend is already evident in data regarding the solar industry in Hawai'i. Since the beginning of the CSS tariff a total of 653 projects have been proposed or approved. For reference, over 3,000 CGS systems were proposed or approved in half that time. As the market slows down, local people and local business, not huge national companies or wealthy snow birds, will suffer. It is absolutely imperative that the state provide an incentive to customers if it hopes to have a market that will benefit all people, regardless of income.

We urge the committee to pass HB 1593 HD1 SD1.

Thank you for the opportunity to testify.

Sincerely,
David Panther

AMBER KINETICS

April 3, 2017

Senator Jill N. Tokuda, Chair
Senator Donovan M. Dela Cruz, Vice Chair
Committee on Ways and Means

Re: Testimony on HB 1593, HD1, SD1 (Relating to Green Infrastructure)
Tue., April 4, 2017 @ 9:35 a.m.; Conference Room 211, State Capitol

Purpose: Amber Kinetics supports an energy storage rebate program as established by HB 1593, HD1, SD1.

Amber Kinetics and Flywheel Energy Storage Technology

Amber Kinetics is a California based company that has developed the first utility-scale flywheel capable of providing safe, cost-effective, four hour discharge duration energy storage to supply both capacity and ancillary services to help meet Hawaii's renewable energy goals.

Hawaii is leading the nation with its goal of 100 percent renewable energy for electricity by 2045. We commend and support the legislature's commitment to advancing this goal through initiatives that support renewable energy technology.

Amber Kinetics' technology can store renewable energy for optimal dispatch, replace or defer fossil fuel peaking generation or transmission, avoid distribution upgrades, and increase the overall reliability of the grid.

Amber's flywheel storage system acts as a mechanical battery. The storage system helps make renewable energy, such as solar, which changes its output according to the weather, be more consistent. This mechanical form of energy storage also has a number of distinct advantages relative to other storage technologies such as chemical batteries. These include unlimited cycling, no degradation, no fire risk, and no hazardous material storage or disposal needs. Our company has been awarded a 20 MW/80 MWh Energy Services Agreement with PG&E for a project in California, and has commercial units operating in the Philippines.

Amber Flywheel Demonstration Project at Campbell Industrial Park

Amber welcomes the opportunity to expand the use of our technology in Hawaii to help the State achieve its laudable renewable energy goals. In 2016, Amber and HECO signed an

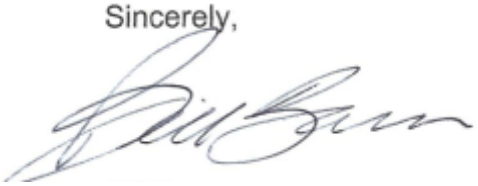
agreement to install an Amber flywheel at Campbell Industrial Park as a demonstration project. The flywheel is expected to be in full operation this year. Previously, we were selected for grant funding by the Hawaii-based Energy Excelerator, which is helping fund the HECO demonstration.

Testimony in Support of HB 1593, HD 1, SD 1

The integration of energy storage technology is essential for Hawaii to meet its renewable energy goals. Providing for energy storage system rebates would incentivize growth of an essential component of the green energy infrastructure. Amber supports the definition of "eligible energy storage system" as set forth in HB 1593, HD 1, SD 1.

Thank you for the opportunity to testify in support of this bill.

Sincerely,



Bill Barnes
Managing Director, Development

INTER-ISLAND SOLAR SUPPLY

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

TESTIMONY OF INTER-ISLAND SOLAR SUPPLY
IN REGARD TO HB 1593 HD1, RELATING TO GREEN INFRASTRUCTURE
BEFORE THE
SENATE COMMITTEE ON WAYS AND MEANS
ON
TUESDAY, APRIL 4TH, 2017

Chair Tokuda, Vice Chair Dela Cruz, and members of the joint committees, my name is Will Giese and I represent Inter Island Solar Supply. Our company has been engaged in the distribution of solar water heating, PV, wind energy and other renewable energy equipment and component parts since 1975. We also have been involved in various discussions since that time regarding the most appropriate standards, specifications and quality control provisions for all types of renewable energy devices.

IISS **supports** HB 1593 HD1 SD1. This measure seeks to broaden the scope of the Green Energy Market Securitization (GEMS) program by allowing the GEMS authority to accelerate the energy storage market by strategically deploying funds to the "clean energy savings jump start" program.

Introduction and General Comments:

As Hawaii transitions away from traditional grid-tied PV systems without energy storage to a market that requires the use of energy storage, the need to maintain a sustainable and low cost market for all residents of the state has never been more imperative.

Currently, there are no state incentives for battery storage systems. Customers who want to lower their bill as well as assist the state's goals to a 100% Renewable Portfolio Standard are now met with a higher cost to do so. Although energy storage costs continue and are projected to decline at an exponential rate[1], Hawai'i's energy policy is ahead of the curve. The PUC's October 2015 decision to end the Net Energy program, combined with the Customer Grid Supply cap being met in late 2016, means that only one viable program (Customer Self Supply) exists for residential customers to connect to the grid. Although the PUC, utility, and several key stakeholders are negotiating a longer-term strategy for residential PV, this will most likely require energy storage in some form. Additionally, the HGIA Authority overseeing GEMS also contends that energy storage is essential to its mission, stating in their recent quarterly report:

> "The Authority believes that its ability to finance storage is critical, especially given the limited interconnection options currently offered by the utility. The Authority is working closely with the CA's office in developing a response to address Its concerns. At the request of the CA, two revised Program Notifications will be submitted, separately addressing the consumer and commercial energy storage technology."[2]

The legislature has stated several times that its goal is to help make PV available to all people in the state, especially those at the middle and lower income levels. It has also implemented programs such as Community Based Renewable Energy to meet this goals. Unfortunately, requiring an additional expensive component to residential PV systems as a means to interconnect to the grid without providing

[1] See Deutche Bank Solar Report attached
[2] HGIA Quarterly Report, filed in PUC Docket No. 2014-0135 January 31st, 2017

an appropriate incentive will only result in two things: those fortunate enough to afford it who do not already have a system may grid defect due to cost, or low to middle income people who cannot afford it will opt out and continue paying high energy bills.

This trend is already evident in data regarding the solar industry in Hawai'i. Since the beginning of the CSS tariff a total of 563 projects have been proposed or approved. For reference, over 3,000 CGS systems were proposed or approved in half that time. As the market slows down, local people and local business, not huge national companies or wealthy snow birds, will suffer. Without a program like HB 1593 HD1 SD 1 is proposing, what kind of market is likely to be left by the time battery prices have become more affordable? It is absolutely imperative that the state provide an incentive to customers if it hopes to have a market that will benefit all people, regardless of income.

Specific comments:

In order to expedite the process by which the GEMS authority can deploy funds for the proposed rebate program, overarching approval by the Public Utilities Commission should be removed. This control is detailed in the Hawaii Revised Statutes, §196-64.

Although the Public Utilities Commission is a competent and professional regulatory arm of the state of Hawai'i, removing them from the burden of having to approve every deployment of funds by the GEMS authority will allow it more time to focus on its primary mission. Additionally, having GEMS seeks approval from the PUC on every deployment of funds it seeks to make over complicates the matter and ultimately slows the progress towards a 100% RPS by 2045

Additionally, we suggest a cap amount of total deployed funds to this program to not exceed $50,000,000. The HSEA believes that this is an appropriate amount of money to be allocated to this program while still allowing the HGIA funds to power other programs that helps its mission in serving the underserved. We suggest the following changes be made:

There is appropriated out of the Hawaii green infrastructure special fund established pursuant to section 196-65, Hawaii Revised Statutes, or any other eligible funds procured by the Hawaii green infrastructure authority, a sum up to $40,000,000 or so much thereof as may be necessary for fiscal year 2017-2018 to be deposited into the clean energy savings jump start fund established pursuant to section 196-A, Hawaii Revised Statutes.

SECTION 13. There is allocated out of the clean energy savings jump start program fund, the sum of $30,000,000 or so much thereof as may be necessary for fiscal year 2017-2018 for the energy storage system rebate program.

The additional $30,000,000 should be allocated to energy efficiency, education, and heat abatement programs as seen fit by the HGIA.

We also suggest that the definition of "eligible energy storage property" as defined on page 10 and 11 of the most recent draft HD1 is overly prescriptive. The HSEA remains agnostic on the type of energy storage technology deployed in the state. As such, outlining such specific technical requirements to qualify for the proposed rebate may inadvertently preclude new or current technology from participating in the rebate program. According to this draft, ***at least 5, if not more, current energy storage technologies are precluded from participation in this program.*** Greater discussion should be had as to

the technical requirements regarding this proposed program. Cutting out certain technologies also cuts out customers who may not be able to afford higher initial capital costs of larger capacity storage products. Accordingly, IISS proposes the following amendments to allow for a greater range of options:

""Eligible energy storage system" means any identifiable facility, equipment, or apparatus that:

(1) Receives electricity generated from another source or other sources, stores the electricity within a battery and delivers the energy back at a later time to the energy storage system user, an electric utility, or the Hawaii electric system;

(2) Is fixed to a residential or commercial property and electrically connected to an energy storage system user's load or generation, or in the case of a utility-scale energy storage system, is fixed to a property and electrically connected to an eligible community-based renewable energy project;

(3) Has a deployable capacity of at least ~~2.5~~ 1.5 kilowatts of continuous battery charge and discharge power and at least ~~five~~ three kilowatt-hours of stored energy at time of purchase for residential and commercial energy storage systems;

(4) Has a minimum deployable capacity of 2.5 megawatt-hours and five megawatt-hours at time of purchase for utility-scale energy storage systems;

(5) Is protected by a manufacturer's warranty of at least ten years or a minimum of three thousand cycles for residential and commercial energy storage systems;

(6) Is protected by a manufacturer's warranty of at least twenty years with a degradation not to exceed 1.5 per cent per year and controls sufficient to provide real power and reactive power dispatch for utility-scale energy storage systems;

(7) Is not owned by an electric utility; and

(8) Is connected to an electric utility grid under nationally accepted standards, unless the electric utility has proposed interconnection fees of ten per cent or greater of the purchase price of the energy storage system.

We urge the committee to pass HB 1593 HD1 SD 1.

Thank you for the opportunity to testify.

TESTIMONY OF AMERICAN ELECTRIC, LLC – MILILANI HAWAI'I
IN REGARD TO HB 1593 HD1 SD1, RELATING TO GREEN INFRASTRUCTURE
BEFORE THE
SENATE COMMITTEE ON WAYS AND MEANS
ON
TUESDAY, APRIL 4, 2017

Chair Tokuda and members of the joint committee, my name is David Moakley and I represent American Electric, LLC

American Electric **supports** HB 1593 HD1 SD1. This measure seeks to broaden the scope of the Green Energy Market Securitization (GEMS) program by allowing the GEMS authority to accelerate the energy storage market by strategically deploying funds to the "clean energy savings jump start" program.

As Hawaii transitions away from traditional grid-tied PV systems without energy storage to a market that requires the use of energy storage, the need to maintain a sustainable and low cost market for all residents of the state has never been more imperative.

Currently, there are no state incentives for battery storage systems. Customers who want to lower their bill as well as assist the state's goals to a 100% Renewable Portfolio Standard are now met with a higher cost to do so. Although energy storage costs continue and are projected to decline at an exponential rate, Hawai'i's energy policy is ahead of the curve. The PUC's October 2015 decision to end the Net Energy program, combined with the Customer Grid Supply cap being met in late 2016, means that only one viable program (Customer Self Supply) exists for residential customers to connect to the grid. Although the PUC, utility, and several key stakeholders are negotiating a longer-term strategy for residential PV, this will most likely require energy storage in some form.

The legislature has stated several times that its goal is to help make PV available to all people in the state, especially those at the middle and lower income levels. It has also implemented programs such as Community Based Renewable Energy to meet this goals. Unfortunately, requiring an additional expensive component to residential PV systems as a means to interconnect to the grid without providing an appropriate incentive will only result in two things: those fortunate enough to afford it who do not already have a system may grid defect due to cost, or low to middle income people who cannot afford it will opt out and continue paying high energy bills.

This trend is already evident in data regarding the solar industry in Hawai'i. Since the beginning of the CSS tariff a total of 653 projects have been proposed or approved. For reference, over 3,000 CGS systems were proposed or approved in half that time. As the market slows down, local people and local business, not huge national companies or wealthy snow birds, will suffer. It is absolutely imperative that the state provide an incentive to customers if it hopes to have a market that will benefit all people, regardless of income.

As a multifaceted electrical contracting firm which has served Hawai'i for over 70 years, we are experiencing the impact of transition and the effects of CSS versus the NEM and

CGS policies. It is evident and documented that the cost of storage in order to be able to utilize photovoltaic has hampered our alternative energy offering to the residential market-place. We feel certain, that if it wasn't for the diversified offering our company brings to market, that we would not be in business with solar PV as our only revenue stream.
We have and are still experiencing work shortage, which obviously has profound financial effect on employees and their families.
We obviously see the benefit of a financial incentive for customers to utilize battery storage, while proudly playing a key role in Hawai'i's renewable energy goals.

We urge the committee to pass HB 1593 HD1 SD1.

Thank you for the opportunity to testify.

David Moakley – V.P. Energy and Service
American Electric, LLC
Mililani, HI
808-220-6891
dmoakley@american-electric.cc

THE ALLIANCE FOR SOLAR CHOICE

SENATE COMMITTEE ON WAYS AND MEANS

April 4, 2017, 1:15 P.M.
(Testimony is 2 pages long)

TESTIMONY IN SUPPORT OF HB 1593 HD1 SD1, WITH PROPOSED AMENDMENTS

Aloha Chair Tokuda and Members of the Committees:

The Alliance for Solar Choice (TASC) respectfully supports HB 1593 HD1 SD1, relating to green infrastructure. This measure smartly incentivizes the deployment of energy storage for disadvantaged communities, a needed technology that must be deployed at greater levels if Hawaii is to achieve its aggressive clean energy goals. It also reduces regulatory oversight over a governmental agency, which presumably serves in the public interest and does not require the same level of oversight as, say, a privately-owned utility.

This measure cleverly creates a rebate that goes away as energy storage technology is more broadly used and becomes more cost effective. It's a terrific way to "kickstart" an energy storage market. A similar mechanism was used in California — the California Solar Initiative — which helped initiate the current solar boom in the United States.

Some have opposed this measure arguing, in effect, that the Green Energy Market Securitization ("GEMS") program was originally established as a loan program and any other use of the money would contradict the original purpose. This logic is flawed. First, GEMS was created exactly for this type of purpose: to help residents take advantage of renewable energy and energy efficiency so as to reduce his or her electric bill. GEMS is funded through the Public Benefit Fund which, for years, has provided rebates for CFLs, LEDs, and solar water heaters. Thus, ratepayer funds will ultimately be used to provide rebates one way or another. Whether the ultimate goal is achieved through a loan or rebate program is relatively immaterial.

Secondly, and perhaps more importantly, very little of the GEMS funding is being deployed. Ratepayers are currently on the hook for millions of dollars of interest payments on money that isn't being used for its intended purpose. Even if the money is lent over the next 2-3 years, current ratepayers will not see a return until years later when the loans are paid back. So putting the money back to its intended purposes ensures current ratepayers see some of the benefit now, instead of later.

Finally, this measure is intended to be a bridge. It helps ensure a vibrant solar and storage market is available for a time when a more successful GEMS program is able to successfully deploy loans. It is not intended to be a permanent program, nor is it intended to replace the GEMS program.

From an economic perspective, this measure is needed. A recent StarAdvertiser report noted that the solar industry is reeling from the recent decision to eliminate net energy metering and require that future installations to stop exporting power out onto the grid. While the solar industry's future remains bright in Hawaii, these types of drastic changes do not happen over

night. This type of measure will help with the transition. More importantly, this measure allows low and middle-income residents to become a part of the solution. To wit, they can generate clean, renewable energy and be a part of Hawaii's clean energy future.

Proposed Amendments:

Attached is a redline version of the bill with proposed amendments that attempt to achieve the following:

1. Limits eligibility for the Energy Storage System Rebate program to those who pay into the public benefits fund, which is the source of the GEMS funding;
2. Inserts dollar amounts into the Energy Storage System Rebate program;
3. Allows energy storage systems installed after June 30, 2017 to be eligible for the rebate; and
4. Miscellaneous and non-substantive changes.

Mahalo for the opportunity to submit these comments.

HOUSE OF REPRESENTATIVES

H.B. NO.

1593
TWENTY-NINTH LEGISLATURE, 2017
H.D. 1
STATE OF HAWAII
S.D. 1

A BILL FOR AN ACT

RELATING TO GREEN INFRASTRUCTURE.

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

SECTION 1. The legislature finds that the Hawaii green infrastructure loan program was established in 2013 to "serve as a potential source of capital for a range of clean energy technology users, including renters and residents that have not been able to take advantage of current financing programs and may now take advantage of increasing opportunities to install clean energy technology", according to the strongly supportive testimony of the public utilities commission.

The legislature furthers finds that a variety of executive branch departments and the Hawaiian Electric Companies testified in support of the program, explaining the potential benefits of a green infrastructure loan program and expressing a willingness to collaborate with one another to implement the program.

The department of business, economic development, and tourism testified that the program "will make low-cost credit available, including to the underserved markets - low to moderate income homeowners, renters, churches, non-profits - those who may not be able to access or afford clean energy installations today. One application of the program is that consumers will be able to install solar photovoltaic equipment and receive immediate benefits to-

day, while amortizing the costs over time and paying for those benefits on their utility bill."

The consumer advocate testified in support of this program, noting that "on bill financing allows the consumer to pay for these energy systems through the electricity cost savings on their monthly bill . . . [T]he Consumer Advocate will work closely with DBEDT, the Hawaiian Electric Companies, the Public Utilities Commission, and all interested parties in designing an on bill financing program that minimizes the financial risk to electric utilities' ratepayers."

Hawaiian Electric Company testified that "the companies indicated their willingness to assist with billing, collecting, and transmitting customer payments related to on-bill financing" and that "the companies have been working with DBEDT and the PUC . . . [T]hat collaborative effort has resulted in language which the companies strongly support."

The legislature finds that despite the testimony, an on bill financing program has not yet been developed. Further, the small amount of funds deployed from the Hawaii green infrastructure loan program is dwarfed by the cost of the program's administration and debt service.

The legislature further finds that the failure of the Hawaii green infrastructure loan program to achieve its intended result has resulted in most ratepayers paying for the program without reaping the benefits. Rather than obtaining immediate relief from high electric power rates, ratepayers are instead having to pay the debt service on a loan that is not being effectively deployed. This is particularly true for low- to middle-income homeowners, renters, churches, and nonprofit organizations, the people and entities that the green infrastructure loan program was primarily intended to benefit. Moreover, all ratepayers are denied the benefits of wider deployment of clean energy and energy efficiency, including reduced reliance on fossil fuels, lower overall system costs, and economic and environmental benefits.

Accordingly, the purpose of this Act is to:

(1) Reduce some of the oversight of the green infrastructure loan program to encourage more rapid deployment of loans in furtherance of the intent of the program; and

(2) Directly assist Hawaii's underserved residents by using dormant funds from the Hawaii green infrastructure loan program to create the clean energy savings jump start program, with the intent of rapidly deploying funds to assist disadvantaged communities with investments in clean energy and energy efficiency.

SECTION 2. Chapter 196, Hawaii Revised Statutes, is amended by adding two new sections to part IV to be appropriately designated and to read as follows:

"**§196-A Clean energy savings jump start program; clean energy savings jump start fund.** (a) There is established a clean energy savings jump start program that shall be administered by the Hawaii green infrastructure authority in a manner consistent with this part. The authority, in collaboration with others, shall expend moneys on rebate and other programs that rapidly advance state goals of clean energy and energy efficiency, with a focus on serving low- and middle-income residents.

(b) The authority shall:

(1) Prepare any forms that may be necessary for the applicant to claim a rebate under this part;

(2) Require each applicant claiming a rebate under this part to furnish reasonable information to ascertain the validity of the claim, including but not limited to documentation necessary to demonstrate that the system or installation for which the rebate is claimed is eligible;

(3) Allow each applicant to establish income eligibility, as necessary, through a declaration asserting that the information provided is true and correct and made under penalty of law;

(4) Make best efforts to post on a publicly available website, within regular and reasonable periods of time, the current amounts remaining in the Hawaii clean energy savings jump start fund; and

(5) Establish guidelines necessary to effectuate the purposes of this section; provided that the establishment of guidelines shall not be subject to chapter 91; provided further that the authority's guidelines shall include procedures to allow an applicant to secure the applicable level of rebate after the purchase or lease of an applicable system, but prior to the system's installation, so long as the system is installed and placed into service within a reasonable time frame established by the authority.

(c) The authority may contract with a third party for services to assist with administering the clean energy savings jump start program. Procurement of services shall be exempt from the requirements of chapter 103D.

(d) There is established a special fund to be known as the clean energy savings jump start fund, into which shall be deposited appropriations from the legislature.

(e) Moneys in the clean energy savings jump start fund shall be used for the following purposes:

(1) Making jump start program payments pursuant to this part, which may include but not be limited to rebates, energy education, energy demonstration projects for affordable multi-family rental projects, and credit enhancements, such as loan loss reserves and interest rate buy-downs;

(2) Paying the authority's administrative costs for operating the clean energy savings jump start program; and

(3) Paying the authority's administrative costs for operating the clean energy savings jump start fund.

§196-B Energy storage system rebate program. (a) Notwithstanding any other law to the contrary, the authority shall establish a rebate program within the clean energy savings jump start program that incentivizes the installation of grid connected energy storage systems .

(b) An Eligible Applicant may apply to the authority within twelve months of the eligible energy storage system being first placed into service to claim a rebate from the energy storage system fund. Rebates shall be distributed as follows:

(1) Each eligible residential energy storage system shall receive the lesser of 40 cents per watt-hour of the system's warranted capacity of stored energy or the cap amount determined in subsection (c);

(2) Each eligible commercial energy storage system shall receive the lesser of 20 cents per watt-hour of the system's warranted capacity of stored energy or the cap amount determined in subsection (c);

(3) Each eligible utility-scale energy storage system shall receive the lesser of 10 cents per watt-hour of the system's warranted capacity of stored energy or the cap amount determined in subsection (c); and

(4) No more than $ 5,000,000 of the energy storage system fund may be expended on utility-scale energy storage systems, and no more than $ 10,000,000 of the energy storage system fund may be expended on commercial energy storage systems.

(c) The amount of rebate allowed for each eligible energy storage system shall not exceed the applicable cap amount, which shall be:

(1) $ 5,000 per single-family residential property; provided that:

(A) If the combined federal adjusted gross income of household members of the energy storage system user is

$75,000 or less for single filers, or $150,000 or less for joint filers, in the preceding tax year in which the rebate is claimed, then the energy storage system property owner shall be eligible to receive 100 per cent of the rebate;

(B) If the combined federal adjusted gross income of household members of the energy storage system user is greater than $75,000 but less than $150,000 for single filers, or is greater than $150,000 but less than $300,000 for joint filers, in the preceding tax year in which the rebate is claimed, then the energy storage system property owner shall be eligible to receive 50 per cent of the rebate; or

(C) If the combined federal adjusted gross income of household members of the energy storage system user is greater than $150,000 for single filers, or greater than $300,000 for joint filers, in the preceding tax year in which the rebate is claimed, then the energy storage system property owner is eligible to receive 25 per cent of the rebate;

(2) $ 100,000 per commercial property;

(3) $ 500,000 per site for utility-scale energy storage systems; provided that the system is co-sited and electrically connected to an eligible community-based renewable energy project.

(d) This section shall apply to eligible energy storage systems that are installed and first placed in service after June 30, 2017.

(e) The energy storage system rebate program established by this section shall be a three-year pilot program that shall operate from July 1, 2017, to June 30, 2020. The authority shall submit an annual report detailing the pilot program's progress and activities, including details of all rebates distributed in accordance with the pilot program, to the legislature no later than twenty days prior to the convening of each regular session.

(f) Nothing in this section shall alter taxes due on the original purchase price of an eligible energy storage system prior to the application of this rebate. Any rebate received pursuant to the energy storage system rebate program shall not be considered income for the purposes of state or county taxes."

SECTION 3. Section 196-61, Hawaii Revised Statutes, is amended by adding four new definitions to be appropriately inserted and to read as follows:

"Eligible Applicant" is either (a) an energy storage system owner who provides third-party financing to an energy storage system user who pays the public benefit fee established in HRS 269-121; or (b) an energy storage system owner who purchases and then installs for use in this State an eligible energy storage system and who pays the public benefit fee.

""Eligible energy storage system" means any identifiable facility, equipment, or apparatus that:

(1) Stores electricity within a chemical battery or mechanical battery, such as flywheel energy storage, and delivers the electricity back at a later time to the energy storage system user, an electric utility, or the Hawaii electric system;

(2) Is fixed to a residential or commercial property and electrically connected to an energy storage system user's load or generation, or in the case of a utility-scale energy storage system, is fixed to a property and electrically connected to an eligible community-based renewable energy project;

(3) Has a deployable capacity of at least 2.5 kilowatts of continuous battery charge and discharge power and at least five kilowatt-hours of stored energy at time of purchase for residential and commercial energy storage systems;

(4) Has a minimum deployable capacity of 2.5 megawatt-hours of continuous battery charge and at least five megawatt-hours of stored energy at time of purchase for utility-scale energy storage systems;

(5) Is protected by a manufacturer's warranty of at least ten years or a minimum of three thousand cycles for residential and commercial energy storage systems;

(6) Is protected by a manufacturer's warranty of at least twenty years with a degradation not to exceed 1.5 per cent per year and controls sufficient to provide real power and reactive power dispatch for utility-scale energy storage systems;

(7) Is not owned by an electric utility; and

(8) Is connected to an electric utility grid

"Energy storage system property owner" means the person, individual, partnership, corporation, association, or public or private organization other than an agency that holds legal title to the energy storage system. An energy storage system property owner shall include the owner of third-party financed energy storage systems.

"Energy storage system user" means the energy storage system property owner, or the energy storage property owner's lessees or tenants, who use the energy discharged by the eligible energy storage system on the real property

where the eligible energy storage system is located or on contiguous real property owned or leased by the energy storage system property owner without regard to interruptions in contiguity caused by easements, public thoroughfares, transportation rights-of-way, and utility rights-of-way.

"First placed in service" has the same meaning as title 26 Code of Federal Regulations section 1.167(a)-11(e)(1), as amended."

SECTION 4. Section 196-61, Hawaii Revised Statutes, is amended as follows:

1. By amending the definition of "loan program" and "green infrastructure loans" to read:

""Loan program" and "green infrastructure loans" means the program established by this part and loans made to finance the purchase or installation of green infrastructure equipment for clean energy technology, demand response technology, and energy use reduction and demand side management infrastructure, programs, and services [~~as authorized by the public utilities commission~~] using the proceeds of bonds or other proceeds."

2. By deleting the definition of "green infrastructure loan program order".

["~~"Green infrastructure loan program order" means the same as defined in section 269-161.~~"]

SECTION 5. Section 196-64, Hawaii Revised Statutes, is amended by amending subsection (a) to read as follows:

"(a) In the performance of, and with respect to the functions, powers, and duties vested in the authority by this part, the authority, as directed by the director [~~and in accordance with a green infrastructure loan program order or orders under section 269-171 or an annual plan submitted by the authority pursuant to this section, as approved by the public utilities commission~~], may:

(1) Make loans and expend funds to finance the purchase or installation of green infrastructure equipment for clean energy technology, demand response technology, and energy use reduction and demand side management infrastructure, programs, and services;

(2) Hold and invest moneys in the green infrastructure special fund in investments as permitted by law [~~and in accordance with approved investment guidelines established in one or more orders issued by the public utilities commission pursuant to section 269-171~~];

(3) Hire employees necessary to perform its duties, including an executive director. The executive director shall be appointed by the authority, and the employees' positions, including the executive director's position, shall be exempt from chapter 76;

(4) Enter into contracts for the service of consultants for rendering professional and technical assistance and advice, and any other contracts that are necessary and proper for the implementation of the loan program;

(5) Enter into contracts for the administration of the loan program, without the necessity of complying with chapter 103D;

(6) Establish loan program guidelines [~~to be approved in one or more orders issued by the public utilities commission pursuant to section 269-171~~] to carry out the purposes of this part;

(7) Be audited at least annually by a firm of independent certified public accountants selected by the authority, and provide the results of this audit to the department and the public utilities commission; and

(8) Perform all functions necessary to effectuate the purposes of this part."

SECTION 6. Section 196-65, Hawaii Revised Statutes, is amended to read as follows:

"**[~~§~~]§196-65[~~§~~] Hawaii green infrastructure special fund.** (a) There is established the Hawaii green infrastructure special fund into which shall be deposited:

(1) The proceeds of bonds net of issuance costs and reserves or overcollateralization amounts;

(2) Green infrastructure charges received for the use and services of the loan program, including the repayment of loans made under the loan program;

(3) All other funds received by the department or the authority and legally available for the purposes of the green infrastructure special fund;

(4) Interest earnings on all amounts in the green infrastructure special fund; and

(5) [~~Such other~~] Other moneys as shall be permitted by an order of the [~~public utilities commission.~~] authority.

The Hawaii green infrastructure special fund shall not be subject to section 37-53. Any amounts received from green infrastructure charges or any other net proceeds earned from the allocation, use, expenditure, or other disposition of amounts [~~approved by the public utilities commission~~] and deposited or held in the Hawaii green infrastructure special fund in excess of amounts necessary for the purposes of subsection (b) shall be credited to electric utility customers [~~as provided in a green infrastructure loan program order or orders~~]. Funds that are transferred back to the electric utility in order to credit electric utility customers under this subsection shall not

be considered revenue of the electric utility and shall not be subject to state or county taxes.

(b) Moneys in the Hawaii green infrastructure special fund may be used[~~, subject to the approval of the public utilities commission,~~] for the purposes of:

(1) Making green infrastructure loans;

(2) Paying administrative costs of the Hawaii green infrastructure loan program;

(3) Paying any other costs related to the Hawaii green infrastructure loan program; or

(4) Paying financing costs, as defined in section 269-161, to the extent permitted by the public utilities commission in a financing order issued pursuant to section 269-163.

(c) The authority may invest funds held in the Hawaii green infrastructure special fund in investments as permitted by law[~~, and in accordance with approved investment guidelines established in one or more orders issued by the public utilities commission pursuant to section 269-171~~]. All amounts in the Hawaii green infrastructure special fund shall be exempt from all taxes and surcharges imposed by the State or the counties."

SECTION 7. Section 196-66, Hawaii Revised Statutes, is amended to read as follows:

"[~~§~~]§196-66[~~:~~] Use of Hawaii green infrastructure special fund[~~; application~~]. [~~(a) The authority shall apply to the public utilities commission for one or more orders to effectuate the Hawaii green infrastructure loan program, pursuant to section 269-170.~~

~~Nothing herein shall preclude the department from applying for a financing order, pursuant to section 269-162, prior to the issuance of an order or orders to effectuate the Hawaii green infrastructure loan program under section 269-171, nor from requesting consolidation of the proceeding for a financing order with such a loan program implementation order.~~

~~(b) An application shall be submitted by the authority to the public utilities commission in accordance with section 269-170.~~

~~(c) In accordance with an approved green infrastructure loan program order or orders, the~~] (a) The authority shall utilize the proceeds of bonds and other amounts deposited in the Hawaii green infrastructure special fund pursuant to [~~§~~]section[~~§~~] 196-65, or to the extent permitted by a financing order, to pay financing costs, as defined in section 269-161.

[~~(d) Within the order or orders issued by the public utilities commission under section 269-171, the~~] (b) The authority shall obtain approval from the public utilities commission requiring the electric utilities to serve as agents to bill and collect the green infrastructure charge imposed to repay green infrastructure costs and transfer all green infrastructure charges collected to the authority on behalf of the department. Notwithstanding anything to the contrary, electric utilities shall not be obligated to bill, collect, or remit green infrastructure charges from nonutility customers."

SECTION 8. Section 269-161, Hawaii Revised Statutes, is amended by deleting the definition of "green infrastructure loan program order".

["~~"Green infrastructure loan program order" means an order issued by the public utilities commission under section 269-171 that establishes the use or other disposition of amounts deposited and held in the Hawaii green infrastructure special fund pursuant to section 196-65.~~"]

SECTION 9. Section 269-170, Hawaii Revised Statutes, is repealed.

["~~**[§269-170] Green infrastructure loan program order; application.** (a) The authority shall submit an application to the public utilities commission for the use or other disposition of amounts deposited or held in the green infrastructure special fund pursuant to section 196-65 prior to the allocation, use, expenditure, or other disposition of any such amounts; provided that this subsection shall not apply to the expenditure of amounts deposited or held in the green infrastructure special fund that have been reviewed and approved by the public utilities commission for operational or administrative expenses of the authority pursuant to section 196-64.~~

~~(b) An application submitted by the authority to the public utilities commission under this section shall include the following:~~

~~(1) A description of each project, program, financing agreement, or other arrangement for which the authority seeks to allocate, use, expend, or otherwise dispose of amounts deposited or held in the green infrastructure special fund, including:~~

~~(A) The clean energy technology, demand response technology, and energy use reduction and demand side management infrastructure, programs, and services to be financed;~~

~~(B) A description of the parties, both direct and incidental, intended to benefit from any financing made in connection with the green infrastructure special fund amounts requested by the authority in an application submitted to the public utilities commission under this section;~~

~~(C) A description of the loan programs or other arrangements designed, established, identified, agreed to, agreed to in principle, continued, carried over, or otherwise intended to be effectuated for the use of the green infrastructure special fund amounts requested by the authority in an application submitted to the public utilities commission under this section; and~~

~~(D) Any and all funding or credit sources identified, pledged, dedicated, or otherwise provided to supplement the green infrastructure special fund amounts requested by the authority in an application submitted to the public utilities commission under this section;~~

~~(2) Minimum lending, crediting, or investing criteria in relation to each project, program, financing agreement, or other arrangement described in an application submitted to the public utilities commission under this section;~~

~~(3) A description of the repayment processes, mechanisms, and applicable calculations for each project, program, financing agreement, or other arrangement described in an application submitted to the public utilities commission under this section;~~

~~(4) An explanation of the anticipated impacts and benefits to electric utility ratepayers of any project, program, financing agreement, or other arrangement described under an application submitted by the authority to the public utilities commission under this section; and~~

~~(5) Any other additional information determined to be necessary by the public utilities commission upon the review of an application submitted or resubmitted by the authority under this section.~~"]

SECTION 10. Section 269-171, Hawaii Revised Statutes, is repealed.

["~~[§269-171] Green infrastructure loan program order; issuance.~~ ~~(a) The public utilities commission may issue a program order authorizing the allocation, use, expenditure, or other disposition of any amounts deposited or held in~~

~~the green infrastructure special fund upon the submission by the authority to the commission of a completed application, as described in this section. A green infrastructure loan program order issued by the public utilities commission shall include the following, where determined necessary and applicable by the commission:~~

~~(1) An identification and description of each project, program, financing agreement, or other arrangement approved by the public utilities commission for which amounts deposited or held in the green infrastructure special fund may be allocated, used, expended, or otherwise disposed of;~~

~~(2) Minimum criteria for the lending, crediting, or investing of amounts deposited or held in the green infrastructure special fund;~~

~~(3) A description of the repayment processes, mechanisms, and applicable calculations for each project, program, financing agreement, or other arrangement approved by the public utilities commission for which amounts deposited or held in the green infrastructure special fund may be allocated, used, expended, or otherwise disposed of;~~

~~(4) A review of the anticipated impacts and benefits to electric utility ratepayers of any project, program, financing agreement, or other arrangement approved under a green infrastructure loan program order; and~~

~~(5) Any other provision or information determined to be necessary by the public utilities commission.~~

~~(b) The public utilities commission shall issue an order under this section as expeditiously as possible upon the receipt from the authority of a completed application submitted pursuant to section 269-170.~~

~~(c) The order shall specify the following, including:~~

~~(1) The procedures to be followed by the electric utilities in the event of nonpayment or partial payment of the green infrastructure charge by the electric utilities' customers, which procedures shall be consistent with the public utilities commission's approved procedures for nonpayment and partial payment of rates, charges, and fees under the electric utilities' tariffs; and~~

~~(2) The distribution of the total amounts collected by the electric utilities for amounts billed to customers for the electric utilities' rates, fees, and charges, for the green infrastructure charge, for other fees and charges approved by the public utilities commission, and for associated taxes, in the event of partial payments of the billed amounts.~~

~~The electric utilities serving as billing and collecting agents shall be parties to the proceedings in which the order or orders are issued.~~"]

SECTION 11. (a) The legislature finds and declares that the benefits of the clean energy savings jump start program, which may include but not be limited to the is-

suance of rebates, energy education, energy demonstration projects for affordable multi-family rental projects, and credit enhancements under this Act is in the public interest and for the public health, safety, and welfare.

(b) The department of business, economic development, and tourism, and the green infrastructure authority embedded within the department, shall use the moneys appropriated pursuant to section 12 of this Act for the purposes of section 196-A, Hawaii Revised Statutes.

(c) To the extent there is any conflict between this Act and part III of chapter 39, Hawaii Revised Statutes, this Act shall prevail.

SECTION 12. There is appropriated out of the Hawaii green infrastructure special fund established pursuant to section 196-65, Hawaii Revised Statutes, or any other eligible funds procured by the Hawaii green infrastructure authority, the sum of $40,000,000 or so much thereof as may be necessary for fiscal year 2018 to be deposited into the clean energy savings jump start fund established pursuant to section 196-A, Hawaii Revised Statutes.

SECTION 13. There is appropriated out of the clean energy savings jump start program fund, the sum of $30,000,000 or so much thereof as may be necessary for fiscal year 2018 for the energy storage system rebate program.

The sum appropriated shall be expended by the Hawaii green infrastructure authority for the purposes of this Act.

SECTION 14. In codifying the new sections added by section 2 of this Act, the revisor of statutes shall substitute appropriate section numbers for the letters used in designating the new sections in this Act.

SECTION 15. If any provision of this Act, or the application thereof to any person or circumstance, is held invalid, the invalidity does not affect other provisions or applications of the Act that can be given effect without the invalid provision or application, and to this end the provisions of this Act are severable.

SECTION 16. Statutory material to be repealed is bracketed and stricken. New statutory material is underscored.

SECTION 17. This Act shall take effect on January 28, 2081.

Report Title:
Green Infrastructure Authority; PUC; Loan Program; Clean Energy Savings; Energy Storage System Rebate Pilot Program; Appropriation

Description:
Establishes the Clean Energy Savings Jump Start Program and Clean Energy Savings Jump Start Fund. Establishes the Energy Storage System Rebate Program as a three-year pilot program and requires the Green Infrastructure Authority to submit annual reports to the legislature on the program's progress and activities. Deletes the Public Utilities Commission's approval authority relative to the Green Infrastructure Loan Program. Appropriates funds. Effective 1/28/2081. (SD1)

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

From: mailinglist@capitol.hawaii.gov
Sent: Saturday, April 1, 2017 2:52 PM
To: WAM Testimony
Cc: mendezj@hawaii.edu
Subject: *Submitted testimony for HB1593 on Apr 4, 2017 09:35AM*

HB1593
Submitted on: 4/1/2017
Testimony for WAM on Apr 4, 2017 09:35AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Javier Mendez-Alvarez	Environmental Caucus	Support	No

Comments:

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From: mailinglist@capitol.hawaii.gov
Sent: Sunday, April 2, 2017 4:31 AM
To: WAM Testimony
Cc: georgecattermole1@gmail.com
Subject: Submitted testimony for HB1593 on Apr 4, 2017 09:35AM

HB1593
Submitted on: 4/2/2017
Testimony for WAM on Apr 4, 2017 09:35AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
George Cattermole	Individual	Support	No

Comments: I strongly support the Energy Storage System Rebate Program contained in HB 1593 which provides an incentive for customers to store electricity. All forms of storing power by as many people as possible should be encouraged as storage is an essential if we are to reach our 100% renewable energy goal. The rebates should be taken from the Public Benefits Fee rather than the Green Energy Market Securitization (GEMS) fund as this would not change the intended purpose of the latter and be consistent with the former.

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From: mailinglist@capitol.hawaii.gov
Sent: Friday, March 31, 2017 5:39 PM
To: WAM Testimony
Cc: launahele@yahoo.com
Subject: *Submitted testimony for HB1593 on Apr 4, 2017 09:35AM*

HB1593
Submitted on: 3/31/2017
Testimony for WAM on Apr 4, 2017 09:35AM in Conference Room 211

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

Comments:

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From: mailinglist@capitol.hawaii.gov
Sent: Sunday, April 2, 2017 12:10 PM
To: WAM Testimony
Cc: dtewabeach@gmail.com
Subject: Submitted testimony for HB1593 on Apr 4, 2017 09:35AM

HB1593
Submitted on: 4/2/2017
Testimony for WAM on Apr 4, 2017 09:35AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
David Thompson	Individual	Support	No

Comments: There should ABSOLUTELY be a rebate given for Storage systems. This bill makes a lot of sense.

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Testimony

In SUPPORT OF THE INTENT of HB 1593
RELATING TO GREEN INFRASTRUCTURE

Before the
SENATE WAYS AND MEANS COMMITTEE

Tuesday, April 4, 2017 9:35 a.m.

Aloha Chair Tokuda, Vice-Chair Dela Cruz and members of the Committee.

I, Chris Reyher, **support** the **intent** of the Energy Storage System Rebate Program contained in **HB 1593** to incentivize Hawaii power customers' investments in energy storage and new renewable generation, and to bring back hundreds of renewable energy jobs lost during the last 2 years.

I invite the Committee to consider **amending HB 1593** to provide that:

- the Energy Storage System Rebate Program be a rebate program administered by the public benefits fee administrator pursuant to HRS section 269-122, and

- the Energy Storage System Rebate Program be funded through the public benefits fee pursuant to HRS section 269-121.

Amending HB 1593 to provide an energy storage rebate paid out of the Public Benefits Fee (PBF), instead of the Green Energy Market Securitization (GEMS) fund, would be consistent with the purpose of the PBF, and would not alter the legislature's intended purpose of the GEMS fund.

Thank you for allowing me to testify in **support** of the **intent** of **HB 1593** and to offer comments for **amending HB 1593**.

IN REGARD TO HB 1593 HD1 SD1, RELATING TO GREEN INFRASTRUCTURE
BEFORE THE
SENATE COMMITTEE ON WAYS AND MEANS
ON
TUESDAY, APRIL 4, 2017

Chair Tokuda and members of the joint committee, my name is Roy Skaggs and I **support** HB 1593 HD1 SD1.

This measure seeks to broaden the scope of the Green Energy Market Securitization (GEMS) program by allowing the GEMS authority to accelerate the energy storage market by strategically deploying funds to the "clean energy savings jump start" program.

As Hawaii transitions away from traditional grid-tied PV systems without energy storage to a market that requires the use of energy storage, the need to maintain a sustainable and low cost market for all residents of the state has never been more imperative.

Currently, there are no state incentives for battery storage systems. Customers who want to lower their bill as well as assist the state's goals to a 100% Renewable Portfolio Standard are now met with a higher cost to do so. Although energy storage costs continue and are projected to decline at an exponential rate, Hawai'i's energy policy is ahead of the curve. The PUC's October 2015 decision to end the Net Energy program, combined with the Customer Grid Supply cap being met in late 2016, means that only one viable program (Customer Self Supply) exists for residential customers to connect to the grid. Although the PUC, utility, and several key stakeholders are negotiating a longer-term strategy for residential PV, this will most likely require energy storage in some form.

The legislature has stated several times that its goal is to help make PV available to all people in the state, especially those at the middle and lower income levels. It has also implemented programs such as Community Based Renewable Energy to meet this goals. Unfortunately, requiring an additional expensive component to residential PV systems as a means to interconnect to the grid without providing an appropriate incentive will only result in two things: those fortunate enough to afford it who do not already have a system may grid defect due to cost, or low to middle income people who cannot afford it will opt out and continue paying high energy bills.

This trend is already evident in data regarding the solar industry in Hawai'i. Since the beginning of the CSS tariff a total of 653 projects have been proposed or approved. For reference, over 3,000 CGS systems were proposed or approved in half that time. As the market slows down, local people and local business, not huge national companies or wealthy snow birds, will suffer. It is absolutely imperative that the state provide an incentive to customers if it hopes to have a market that will benefit all people, regardless of income.

I urge the committee to pass HB 1593 HD1 SD1.

Thank you for the opportunity to testify.

From: mailinglist@capitol.hawaii.gov
Sent: Monday, April 3, 2017 10:42 AM
To: WAM Testimony
Cc: rossk@alternateenergyhawaii.com
Subject: Submitted testimony for HB1593 on Apr 4, 2017 09:35AM

HB1593
Submitted on: 4/3/2017
Testimony for WAM on Apr 4, 2017 09:35AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Ross Kutsunai	Individual	Support	No

Comments: TESTIMONY OF ALTERNATE ENERGY, INC. IN REGARD TO HB 1593 HD1 SD1, RELATING TO GREEN INFRASTRUCTURE BEFORE THE SENATE COMMITTEE ON WAYS AND MEANS ON TUESDAY, APRIL 4, 2017 Chair Tokuda and members of the joint committee, my name is Ross Kutsunai and I and the Director of Sales representing Alternate Energy, Inc. Alternate Energy, Inc. supports HB 1593 HD1 SD1. This measure seeks to broaden the scope of the Green Energy Market Securitization (GEMS) program by allowing the GEMS authority to accelerate the energy storage market by strategically deploying funds to the “clean energy savings jump start” program. As Hawaii transitions away from traditional grid-tied PV systems without energy storage to a market that requires the use of energy storage, the need to maintain a sustainable and low cost market for all residents of the state has never been more imperative. Currently, there are no state incentives for battery storage systems. Customers who want to lower their bill as well as assist the state’s goals to a 100% Renewable Portfolio Standard are now met with a higher cost to do so. Although energy storage costs continue and are projected to decline at an exponential rate, Hawai’i’s energy policy is ahead of the curve. The PUC’s October 2015 decision to end the Net Energy program, combined with the Customer Grid Supply cap being met in late 2016, means that only one viable program (Customer Self Supply) exists for residential customers to connect to the grid. Although the PUC, utility, and several key stakeholders are negotiating a longer-term strategy for residential PV, this will most likely require energy storage in some form. The legislature has stated several times that its goal is to help make PV available to all people in the state, especially those at the middle and lower income levels. It has also implemented programs such as Community Based Renewable Energy to meet this goals. Unfortunately, requiring an additional expensive component to residential PV systems as a means to interconnect to the grid without providing an appropriate incentive will only result in two things: those fortunate enough to afford it who do not already have a system may grid defect due to cost, or low to middle income people who cannot afford it will opt out and continue paying high energy bills. This trend is already evident in data regarding the solar industry in Hawai’i. Since the beginning of the CSS tariff a total of 653 projects have been proposed or approved. For reference, over 3,000 CGS systems were proposed or approved in half

that time. As the market slows down, local people and local businesses like us at Alternate Energy, Inc., not huge national companies will suffer. It is absolutely imperative that the state provide an incentive to customers if it hopes to have a market that will benefit all people, regardless of income. We urge the committee to pass HB 1593 HD1 SD1. Thank you for the opportunity to testify. Ross M Kutsunai Director of Sales Alternate Energy, Inc. 803 Ahua Street Honolulu, HI 96819

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From: mailinglist@capitol.hawaii.gov
Sent: Monday, April 3, 2017 3:28 PM
To: WAM Testimony
Cc: katharyn.morgan@gmail.com
Subject: *Submitted testimony for HB1593 on Apr 4, 2017 09:35AM*

HB1593
Submitted on: 4/3/2017
Testimony for WAM on Apr 4, 2017 09:35AM in Conference Room 211

Submitted By	Organization	Testifier Position	Present at Hearing
Katharine Morgan	Individual	Support	No

Comments:

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