TESTIMONY OF
JAMES P. GRIFFIN, Ph.D.
CHAIR, PUBLIC UTILITIES COMMISSION
STATE OF HAWAII

TO THE
SENATE COMMITTEES ON
ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM
AND
COMMERCE, CONSUMER PROTECTION, AND HEALTH
AND
WAYS AND MEANS

April 2, 2019
9:50 a.m.

Chairs Wakai, Baker, Dela Cruz, and Members of the Committees:

MEASURE: H.B. No. 307 Proposed SD1
TITLE: RELATING TO RENEWABLE ENERGY.

DESCRIPTION: Broadens the definition of "renewable energy" as used in the public utilities commission law to include other self-replenishing non-fossil fuel, non-nuclear resources. Amends the renewable energy technologies income tax credit by including commercial seawater air conditioning systems. (Proposed SD1)

POSITION:

The Public Utilities Commission offers the following comments for consideration.

COMMENTS:

The Public Utilities Commission ("Commission") offers comments on Part II of the proposed SD1 of this measure. With respect to Part II, the Commission does not oppose modifying the definition of "renewable energy" to include emerging technologies that may not explicitly fall within the existing definition as set forth in Hawaii Revised Statutes § 269-91.

However, the Commission is concerned that this measure may introduce unnecessary ambiguity to the existing definition of "renewable energy". The language proposed by this measure appears to expand the current definition of "renewable energy" by introducing a

broad new “catch-all” to the list of technologies that are eligible to be counted as part of the Renewable Portfolio Standard (“RPS”).

In addition, the proposed language is subject to interpretation which may cause difficulty with respect to the State’s ability to hold electric utilities accountable for driving towards the State’s RPS and clean energy goals. To avoid such unintended consequences, the Commission recommends that any amendments to expand the definition should specifically name the contemplated emerging renewable energy technologies to allow for a more certain impact to utility planning.

Thank you for the opportunity to testify on this measure.

DAVID Y. IGE
GOVERNOR

JOSH GREEN M.D.
LIEUTENANT GOVERNOR

LINDA CHU TAKAYAMA
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To: The Honorable Glenn Wakai, Chair
and Members of the Senate Committee on Energy, Economic Development, and Tourism

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

The Honorable Donovan M. Dela Cruz, Chair
and Members of the Senate Committee on Ways and Means

Date: Tuesday, April 2, 2019
Time: 9:50 A.M.
Place: Conference Room 211, State Capitol

From: Linda Chu Takayama, Director
Department of Taxation

Re: H.B. 307, Proposed S.D. 1, Relating to Renewable Energy

The Department of Taxation (Department) appreciates the intent of H.B. 307, Proposed S.D. 1, but has concerns about its ability to administer the provisions of this bill and offers the following comments for the Committee's consideration.

H.B. 307, Proposed S.D. 1, makes significant amendments to section 235-12.5, Hawaii Revised Statutes (HRS), which governs the Renewable Energy Technologies Income Tax Credit (RETITC). A summary of key provisions are as follows:

- Adds commercial seawater air conditioning systems to the renewable energy technology systems covered by the tax credit;
- Further divides solar energy systems into systems used exclusively to heat water and systems that are used primarily to generate electricity;
- Changes the RETITC percentages (up to respective applicable cap amounts) as follows:
    - For each solar energy system used exclusively to heat water and first placed into service in the State by a taxpayer during the taxable year, 35% of the basis up to the following applicable cap amounts:
        - $2,000 per system for single-family residential property;
        - $700 per unit per system for multi-family residential property; and
        - $225,000 per system for commercial property.

- For each grid-connected solar energy system used primarily to generate electricity:
  - 35% of the basis for systems first placed in service after December 31, 2019, and before January 1, 2021;
  - 30% of the basis for systems first placed in service after December 31, 2020, and before January 1, 2022;
  - 25% of the basis for systems first placed in service after December 31, 2021, and before January 1, 2023;
  - 20% of the basis for systems first placed in service after December 31, 2022, and before January 1, 2024;
  - 15% of the basis for systems first placed in service after December 31, 2023, and before January 1, 2025;
  - 10% of the basis for systems first placed in service after December 31, 2024, and before January 1, 2026; and
  - 5% of the basis for systems first placed in service after December 31, 2025, and before January 1, 2027;
- Up to the following cap amounts:
  - For systems claiming credits for taxable years 2019 or 2020:
    - $5,000 per system for single-family residential property; provided that if all or a portion of the system is used to fulfill the substitute renewable energy technology requirement pursuant to section 196-6.5(a)(3), the credit shall be reduced by twenty-five per cent of the basis or $2,250, whichever is less;
    - $700 per unit per system for multi-family residential property; and
    - $500,000 per system for commercial property;
  - For systems claiming credits for taxable years 2021 through 2026:
    - $2,500 per system for single-family residential property; provided that if all or a portion of the system is used to fulfill the substitute renewable energy technology requirement pursuant to section 196-6.5(a)(3), the credit shall be reduced by twenty-five per cent of the basis or $1,875, whichever is less;
    - $700 per unit per system for multi-family residential property; and
    - $250,000 per system for commercial property;
  - Provided that a grid-connected solar energy system with either (i) an executed customer service contract dated prior to June 30, 2018, that is installed and first placed in service before December 31, 2019; or with (ii) a power purchase agreement dated prior to December 31, 2019, that is first placed in service before December 31, 2024, shall receive thirty-five per cent of the basis for the grid-connected solar energy system, up to the cap amount of $500,000 per solar energy system.
  - Provided that a grid-connected solar energy system with either (i) an executed customer service contract dated prior to June 30, 2018, that is installed and first placed in service before December 31, 2019; or with (ii) a power purchase agreement dated prior to December 31, 2019, that is first placed in service before December 31, 2024, shall receive thirty-five per cent of the basis for the grid-connected solar energy system, up to the cap amount of $500,000 per solar energy system.

    - For each grid-connected wind energy system, 20% of the basis up to the applicable cap amounts:
        - $1,500 per system for single-family residential property; provided that if all or a portion of the system is used to fulfill the substitute renewable energy technology requirement pursuant to section 196-6.5(a)(3), the credit shall be reduced by 20% of the basis or $1,500, whichever is less;
        - $700 per unit per system for multi-family residential property; and
        - $500,000 per system for commercial property;
        - Provided that for a system which has an executed customer service contract dated prior to June 30, 2018 that is installed and first placed into service before December 31, 2019, or for a system which has a power purchase agreement dated prior to December 31, 2019 that is first placed into service before December 31, 2024, the percentage received shall be 30% of the basis for the wind energy system, up to the cap of $500,000.
    - For each commercial seawater air conditioning system, 20% of the basis of connecting the commercial seawater air conditioning system to the seawater district cooling system, up to a cap amount of $100,000
- Provides that multiple owners of a single system shall be entitled to a single tax credit, apportioned between the owners in proportion to their contributions to the cost;
- For partnerships, S corporations, estates, and trusts, allows the credit for every eligible system that is installed and placed in service in the State by the entity, with costs determined at the entity level and the distribution and share of credit determined pursuant to section 704(b) of the Internal Revenue Code (IRC);
- Defines “basis” as costs related to the solar energy, wind energy, or commercial seawater air conditioning system, including accessories, energy storage, installation, cost of construction to connect to a seawater air conditioning district cooling system, costs incurred for the physical support of the system, such as racking and mounting equipment, and costs incurred to seal or otherwise return a roof to its pre-installation condition; but not including the cost of unrelated consumer incentive premiums, costs for which another tax credit is claimed, or ancillary repair or construction costs incurred in conjunction with installing the system, such as re-roofing a property;
- States that the use of “basis” in the statute shall be consistent with use of “basis” in section 25D or section 48 of the IRC;
- Defines "commercial seawater air conditioning system" as a building air conditioning system for commercial, office, or residential buildings connected to a seawater air conditioning district cooling system;
- Defines “grid-connected” as meaning that the individual or corporate taxpayer has obtained an approved interconnection agreement from an electric utility for the solar or wind energy system and the system is connected and normally operated in parallel with the electric grid;
- Defines “seawater air conditioning district cooling system” as an identifiable facility, equipment, apparatus, or the like that utilizes naturally occurring cold, deep seawater as its primary source of cooling for production of chilled water for distribution to multiple commercial air conditioning systems;

- States that "first placed in service" has the same meaning as in 26 C.F.R. § 1.167(a)-11(e)(1);
- Adds language to the definition of "solar or wind energy system" to require that the construction, reconstruction, or erection of the system be completed by the taxpayer, or that the system is "acquired" by the taxpayer if the original use of the system commences with the taxpayer;
- Sets the total output capacity requirements of solar and wind energy systems as such:
    - For a single-family residential property, at least five kilowatt hours per system;
    - For a multi-family residential property, at least 0.360 kilowatts per unit per system;
    - For a commercial property, at least one thousand kilowatts per system;
    - For a utility solar energy system, at least one thousand kilowatts per system; and
    - For a wind energy system for commercial property, at least one thousand kilowatts per system.
- Allows a taxpayer to reduce by 30% the eligible credit amount for solar energy systems and make the credit refundable if the reduced amount exceeds the amount of income tax payment due from the taxpayer, if taxpayer elects to do so on the taxpayer's return for the taxable year during which the system was installed and placed into service;
- Allows the credit to be refundable for any solar energy, wind energy, or commercial seawater air conditioning system, without discount, if all of the taxpayer's income is from pensions and exempt from taxation under sections 235-7(a)(2) or (3), HRS, or if the taxpayer's adjusted gross income is $20,000 or less (or $40,000 or less if married filing jointly);
- Allows a separate election or non-election of refundability for each separate solar energy, wind energy, or commercial seawater air conditioning system that generates a credit;
- Disallows the credit for the portion of the renewable energy technology system required by section 196-6.5 that is installed and first placed into service on any newly constructed single-family residential property authorized a building permit issued on or after January 1, 2010;
- States that the credit shall be construed in accordance with federal regulations and judicial interpretations of similar provisions in sections 25D, 45, and 48 of the IRC;
- Allows for planned community associations, condominium associations, and cooperative housing corporations to claim the credit in its own name for systems placed into service and located on common areas;
- Prohibits the credit from being allowed to any government agency or instrumentality;
- Terminates authorization of the credit for taxable years ending after December 31, 2026;
- Amends section 241-4.6, HRS, to reflect addition of commercial seawater air conditioning systems to covered technologies under the credit;
- Amends section 269-91, HRS, which governs the Public Utilities Commission (PUC) to add “other self-replenishing non-fossil fuel, non-nuclear resources” to the statute’s definition of “renewable energy”;
- Amends section 23-92, HRS, which governs the State Auditor’s review of certain tax credits, to refer to the multiple technologies covered by the credit; and
- Has a defective effective date of July 1, 2050, with applicability to taxable years beginning after December 31, 2019.

First, the Department notes that the term "system," which is not defined in Hawaii income tax law, has caused much confusion and uncertainty for taxpayers and industry participants and has resulted in a much larger than anticipated number of RETITC claims and revenue lost. The ambiguity in the statute was ultimately addressed by the Department's enactment of administrative rules pertaining to the RETITC in November of 2012. (See sections 18-235-12.5-01 through 18-235-12.5-06, Hawaii Administrative Rules).

The Department notes that the addition of the new category of "commercial seawater air conditioning systems," without a more detailed definition or guidelines for required energy capacity or output, may create new uncertainty for taxpayers and industry. The Department strongly suggests that the measure be amended to include definitions and provisions that will provide sufficient guidance to administer the RETITC without the need for administrative rules. Without sufficient clarity, this tax credit could result in larger than expected revenue losses, as seen previously with the RETITC.

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

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

Third, the Department notes that a government agency is only deemed to be a taxpayer for employment tax (wage withholding) purposes. As such, section 4, subsection (l), which prohibits a government from claiming the credit, is not necessary.

Finally, as long as the measure is made applicable to taxable years beginning after December 31, 2019, the Department will have sufficient time to make the necessary form, instruction, and computer system changes.

Thank you for the opportunity to provide comments.

DAVID Y. IGE
GOVERNOR

JOSH GREEN
LT. GOVERNOR

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Testimony of the Department of Commerce and Consumer Affairs

Before the
Senate Committee on Energy, Economic Development, and Tourism
and
Senate Committee on Commerce, Consumer Protection, and Health
and
Senate Committee on Ways and Means
Tuesday, April 2, 2019
9:50 a.m.
State Capitol, Conference Room 211

On the following measure:
H.B. 307, RELATING TO RENEWABLE ENERGY

Chairs Wakai, Baker, and Dela Cruz and Members of the Committees:

My name is Dean Nishina, and I am the Executive Director of the Department of Commerce and Consumer Affairs' (Department) Division of Consumer Advocacy. The Department offers comments on this bill.

The purpose of this bill is to broaden the definition of "renewable energy" to include other self-replenishing non-fossil fuel resources. The Department will limit its comments to the proposed amendment to the definition of renewable energy.

The pace of technological change and advancement is accelerating in the field of energy generation, and so the Department understands the attempt to anticipate new technologies that could fit into the current statutory list of sources of "renewable energy" for the purposes of Hawaii Revised Statutes (HRS) chapter 269, Part V (Renewable

Portfolio Standards). The proposed change could obviate the need for repeated legislative amendments in the future as new generation technologies emerge. Further, the Department appreciates the clarification that the proposed amendment will not allow nuclear energy to fit within the definition of renewable energy. However, consistent with comments submitted by the Public Utilities Commission (Commission) on the earlier version of this measure, the Department is concerned that the proposed expanded definition for sources of "renewable energy" could create uncertainty in utility planning to meet the State's Renewable Energy Portfolio Standards (RPS). If passed, interested stakeholders would be uncertain of whether the Commission would agree that a given emerging energy generation technology will fit the proposed definition and count towards the RPS. As noted in the testimony from the Department of Business, Economic Development, and Tourism, it is unclear what acceptable and commercially viable form of renewable energy technology does not already fit within the existing definition. Furthermore, the Commission faces uncertainty whenever a given emerging energy generation technology is put before it, because the extra process of evaluating that technology against the proposed definition could open any Commission ruling to legal challenges by any party with an interest for or against that emerging technology. Thus, rather than facilitating a more expeditious transition, the proposed language might cause unintended delays in the State's energy transition.

Thank you for the opportunity to testify on this bill.

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Testimony on
H.B. 307, S.D. 1 Proposed
RELATING TO RENEWABLE ENERGY TAX CREDITS
Before the
State Senate
COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION, AND TOURISM
And
COMMITTEE ON COMMERCE, CONSUMER PROTECTION, AND HEALTH
And
COMMITTEE ON WAYS AND MEANS
Tuesday, March 12, 2019
By
Eric Masutomi, CEO and President
Honolulu Seawater Air Conditioning, LLC

Chairs Wakai, Baker, Dela Cruz, and Members of the Committees:

Honolulu Seawater Air Conditioning (HSWAC) strongly supports this measure which, among other changes, would provide for a renewable energy income tax credit for building owners connecting to a seawater air conditioning district cooling system.

The significance of seawater as a renewable energy resource cannot be overstated. HSWAC's Downtown Honolulu District Cooling System, alone, is the largest energy efficiency project to be undertaken in the State. When it begins operation, HSWAC's district cooling system will eliminate the need for 178,000 barrels of oil per year, saving enough electricity to power more than 10,000 homes annually.

The system is uniquely suited to our island environment. It draws on the natural coldness of our abundant deep ocean waters - rather than imported fossil fuels - to cool Honolulu's business and civic center. Our surrounding deep ocean waters: a sustainable, renewable, natural cooling resource.

Deepwater district cooling systems have been successfully implemented in numerous localities throughout the U.S., Canada and Europe. Despite this proven record of success, our experience has shown that when district energy systems such as that being developed by HSWAC are introduced in a community, potential customers are frequently wary about the costs of converting to the new system, the risk of higher costs in the initial years of operation and the uncertainties of adapting to a new system. As in the case of solar and wind technology, the availability of such credits has proven effective in not only ameliorating such concerns, but in accelerating the State's transition to a renewable energy future.

Such credits will assist potential customers of seawater air conditioning district cooling systems in making the critical decision to eliminate existing inefficient cooling systems (currently responsible for more than forty percent of a building's electricity consumption) in favor of utilizing a district cooling system that takes advantage Hawaii's surrounding ocean waters. With the potential to reduce electricity consumption used for air conditioning by up to 75%, this technology promises to significantly contribute to the State's sustainability objectives and reduce our dependence on imported fossil fuels.

Discounting the substantial energy and environmental benefits associated with seawater cooling, from a cost-benefit standpoint, the seawater cooling system credits that might be allowed are modest when weighed against the projected economic benefits, including: a) over $300 million in construction spending, b) 1,348 construction-related jobs, and c) over $55 million in net increase in State revenues over 25 years from GET and income taxes.[i] In addition, it would create long-term employment opportunities and establish the State as a leading authority on the development and installation of seawater air conditioning systems throughout the Asia-Pacific region. Other local economic benefits would accrue from money that stays in Hawaii and is not exported outside the State to purchase oil.

The State Legislature should be applauded for its foresight in the establishing these renewable energy tax credits to promote Hawaii's transition to a clean energy future. Expanding the eligibility of the credits to users of seawater cooling technology, as provided in this measure, will bring us measurably closer to achieving this objective.

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[i] Source: Analysis of Honolulu Seawater Air Conditioning Economic Benefits, John M. Knox and Associates Inc., February 15, 2017.

COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM
Senator Wakai, Chair
Senator Brian T. Taniguchi, Vice Chair

COMMITTEE ON COMMERCE, CONSUMER PROTECTION, AND HEALTH
Senator Rosalyn H. Baker, Chair
Senator Stanley Chang, Vice Chair

COMMITTEE ON WAYS AND MEANS
Senator Donovan M. Dela Cruz, Chair
Senator Gilbert S.C. Keith-Agaran, Vice Chair

DATE: Tuesday, April 2, 2019
TIME: 9:50 AM
PLACE: Conference Room 211

HB307 RELATING TO RENEWABLE ENERGY

Chair Wakai, Chair Baker, Chair Dela Cruz, Vice Chair Taniguchi, Vice Chair Chang, Vice Chair Keith-Agaran and Members of the Committees:

We **support** HB307 HD1 SD1 and want to offer **comments in the area of multi-family residential properties**.

Adon Renewables is a local renewable energy development firm supported by **Tokyo Electric Power (TEPCO)**, one of the largest power utilities in the world and **Adon Construction Inc**., a company that has been doing business in Hawaii for 40 years.

One of the areas we specialize in is providing renewable energy to multi-family dwelling units, especially for affordable housing and senior housing. We have provided renewable energy for over 2,000 mullti-family dwelling units over the last 10 years.

Hawai‘i has some of the highest housing costs in the country. Multi-family properties have provided a source of affordable housing for low-income and senior residents in our state. Energy costs are also a burden to these income-challenged families.

Thank you for the recognition of this underserved population and the importance of providing them consideration to equitably participate in renewable energy tax credits as compared to single family resident dwellings. Any savings due to state tax credits, directly benefit this socioeconomic demographic because the tax credits are passed on in the form of rate savings to these consumers.

We urge you to pass the $700 per unit cap amount for multi-family residential properties effective upon approval, so the benefits of these solar energy systems can be passed on to these communities immediately and provide urgently needed rate savings to this segment of the populaton.

Thank you for the opportunity to testify.

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COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM
Senator Glenn Wakai, Chair
Senator Brian T. Taniguchi, Vice Chair

COMMITTEE ON COMMERCE, CONSUMER PROTECTION, AND HEALTH
Senator Rosalyn H. Baker, Chair
Senator Stanley Chang, Vice Chair

COMMITTEE ON WAYS AND MEANS
Senator Donovan M. Dela Cruz, Chair
Senator Gilbert S.C. Keith-Agaran, Vice Chair

DATE: Tuesday, April 2, 2019
TIME: 9:50 am
PLACE: Conference Room 211

HB 307 Proposed SD1 re: Renewable Energy **STRONG SUPPORT, PROPOSED AMENDMENT**

Aloha Chairs Wakai, Baker and Dela Cruz, and Senators,

Life of the Land is Hawai`i's own energy, environmental and community action group advocating for the people and `aina for 49 years. Our mission is to preserve and protect the life of the land through sound energy and land use policies and to promote open government through research, education, advocacy and, when necessary, litigation.

House Bill 307 maintains the tax credit for solar water heaters, generally phases out the tax credit for solar photovoltaic systems which have seen dramatic prices drops in recent years, ends the insanity of offering tax credits for destroying carbon sinks, and offers tax credits for interconnecting to a Sea Water Air Conditioning (SWAC) system.

Life of the Land supports all aspects of the bill, although we would prefer a slower phaseout of the tax credit for grid-connected solar PV systems, and we believe that those who chose to get off the fossil fuel intensive electric grid in favor of low GHG emitting stand-alone units should get some form of tax credit.

HB 307 SD1 would end the tax credit for clearcutting forests (carbon sinks) and burning them for electricity.

PROPOSED AMENDMENT: For consistency with the proposed modification to HRS §269-91, "Renewable energy" means (7) Biomass ...but not including mono-cultured wood crops, we suggest also modifying HRS §235-110.31 Renewable fuels production tax credit. "Renewable feedstocks" means ... (5) Other agricultural crops but not including mono-cultured wood crops.

The Downtown SWAC Environmental Impact Statement and Cultural Impact Statement should serve as a model for how to conduct thorough reviews of potential impacts. The minimal land use is helpful in meeting all of O`ahu`s energy needs.

Life of the Land provided expert testimony on Sea Water Air Conditioning (SWAC), Ocean Therman Energy Converion (OTEC), Wave Energy Conversion (WEC) Systems, Biofuels and Climate Change in the Public Utilities Commission Docket 2005-0145.

David Rezachek and Reb Bellinger testified on Sea Water Air Conditioning system.

Dr. David Rezachek, received his Ph.D. in Ocean Engineering from the University of Hawaii at Manoa in 1991, was the Project leader for first high school solar car to complete the 1990 World Solar Challenge (a 1,900-mile solar car race from Darwin to Adelaide, Australia), and oversaw the DBEDT Energy web site for many years.

''We've identified perhaps hundred thousand tons of seawater air conditioning potential on Oahu. ... We initially started with downtown Honolulu because of the high density of the cooling load and the close proximity to the coldwater source. We've also identified Waikiki as a very good area and perhaps better than downtown with respect to the utilization of the pipe. There are other areas such as the airport, Hickam, and Pearl Harbor that could be developed into a system. And as the other areas within Honolulu, say Kakaako and Ko'olina, develop further and have a greater density need – or cooling need, they -- they would be available or potential candidates for air – seawater air conditioning.''

Mr. Reb Bellinger was a former State Representative and Vice President of Makai Ocean Engineering.

''We were involved with the Cornell project. We did all the engineering and design for that pipeline. And there is a real paranoid community. I mean, they are fussy about everything. And so, their environmental requirements and reviews were intense. And even today they were re -- initially required to maintain a regular monitoring system for potential impacts in -- in that lake.

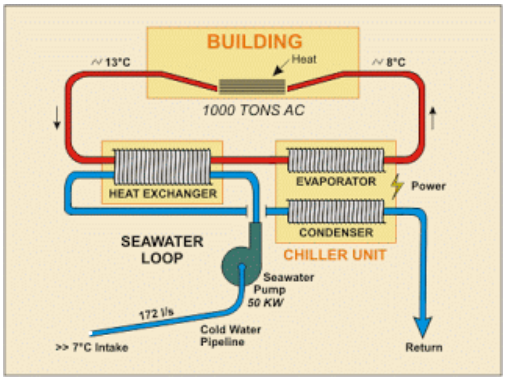
And their system has been operating about six or seven years. And those monitoring systems are still in place, and they have found no adverse impacts at all.''

The Cornell Lake Water Air Conditioning system tapped into Cayuga Lake, the longest of central New York's glacial Finger Lakes. It is just under 40 miles long, has an average width of 1.7 miles (2.7 km), reaches a depth of 435 feet and contains 2.5 trillion gallons of water. The lake's surface heats up during the summer but water at a depth of 250 feet is always about 39 degrees Fahrenheit. Seven thousand gallons enter the system every minute, travelling two miles to Cornell University, and then returning to the lake.

A Sea Water Air Conditioning (SWAC) system uses cold ocean water to **replace** the need for electricity. HB 307 would add energy displacement as an eligible technology for meeting the RPS requirements.

Nearly half of the energy load for Waikiki is heating water. Many commercial buildings use electricity to chill water on-site to send through pipes throughout the building to cool down the building. Sea Water Air Conditioning (SWAC) systems allow the chiller to be removed freeing up space.

Rather than importing electricity into large buildings to power chillers to cool the building, a system involving three sets of pipes are used in seawater air conditioning systems (SWAC), with heat transfer units located where the pipes meet.



These pipes consist of the building's internal pipes, an inter-building loop, and an ocean loop. Cold salt water is brought up from the ocean's depths, meets the inter-building pipe loop and pulls heat from it, and then returns the ocean water to a warmer section of the ocean. The chilly water in the inter-building loop travels from building to building, where it absorbs heat from each building's internal loop.

Mahalo

Henry Curtis
Executive Director

HB-307
Submitted on: 3/31/2019 12:16:27 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Hanalei Fergerstrom	Testifying for Na Kupuna Moku O Keawe	Support	No

Comments:

Na Kupuna Moku O Keawe fully supports HB 307.

Hanalei Fergerstrom, spokesperson

N a Kupuna moku O keawe

HB-307
Submitted on: 3/31/2019 8:28:31 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Sylvia Dolena	Testifying for Pele Lani Farm LLC	Support	No

Comments:

Mahalo by responding to add language to this bill so that it now excludes wood-burning electrical power plants from qualifying for renewable tax credits! LET'S GET THIS BILL PASSED AND INTO LAW! **SUPPORT HB307! WOOD-BURNING IS NOT "RENEWABLE"!**

Sylvia Dolena

Pele Lani Farm LLC

TESTIMONY OF
REB BELLINGER
DEEP OCEAN VENTURES

TO THE

SENATE COMMTTEES ON
ENERGY, ECONOMIC DEVELOPMENT AND TOURISM,
COMMERCE, CONSUMER PROTECTION AND HEALTH
WAYS AND MEANS

Chairs Wakai, Baker and Dela Cruz,

Measure: H.B. 307
Title: Relating to Renewable Energy

Description: Broadens the definition of renewable energy to include other self-replenishing no=fossil fuel resources and economic incentives for the use of renewable energy.

Position: Deep Ocean Ventures offers the following comments for consideration.

We support the addition of "seawater air conditioning" to the definition "renewable energy". Basically, a seawater air conditioning system uses deep cold ocean water as a source for cooling that eliminates the use of fossil fuels consumed in traditional air conditioning. It's a clean, renewable and environmentally sensitive source of energy from the deep ocean that is abundant in Hawaii's offshore waters.

Hawaii has led the way in developing sweater air conditioning during the 1980's using the deep ocean pipeline infrastructure at NELHA on the Big Island. That facility has successfully used a seawater air system for their buildings for more than 30 years.

Many parts of Hawaii are blessed with access to deep cold seawater near areas that are large users of air conditioning. Examples include downtown Honolulu, Waikiki and Koolina.

The most advanced project is the Honolulu Seawater Air Conditioning project to cool downtown Honolulu and is expected to begin construction in 2020.

Examples of the environmental benefits annually include:

- 84,000 tons of CO2 avoided
- 178,000 barrels of oil avoided
- 77 million kWh avoided

- 260 million gallons of potable water not used in cooling towers
- 84 million gallons of sewage not discharged from cooling towers

It just makes good sense to recognize seawater air conditioning as a source for renewable.

We note that the proposed amendment to section 235-12.5 offers a 20% tax credit of the basis of connecting a commercial building to a seawater district cooling system but not to exceed $100,000.

In other parts of the bill, there is a $500,000 credit for wind and solar that are connected to the grid. These renewable energy sources produce energy that goes directly in the utilities power grid. This in turn, reduces the amount of power generation from the utility that uses fossil fuel for their power generation.

Seawater is a bit different in that it reduces the amount of electrical energy that is used for air conditioning. The net effect is that whether renewable energy is added to the conventional power grid or whether a renewable energy decreases the demand for conventional energy using fossil fuel, there is a positive reduction in negative environmental impacts that currently exist in standard utility electrical production.

Although a district cooling seawater air conditioning does not produce energy and is not directly connected to the conventional power grid, there is different type of energy connecting grid. That grid is in the integrated cold water supply system to each commercial building that enables the reduction of electrical consumption associated with air conditioning.

We would recommend that the maximum amount of credit for seawater air conditioning be the same as for wind and solar and be increased to $500,000.

One further note. These incentives have a limited financial impact for the State because they cannot be used unless seawater district systems are actually built, it's a onetime credit, and the number of entities being able to benefit from the credit are relatively few in number. What is does accomplish is that it encourages the use of renewable energy for commercial users, is beneficial to the environment and is consistent with the State's long term goal of energy independence by 2045.

Thank you for the opportunity to testify.

Reb Bellinger
President, Deep Ocean Ventures

O`ahu County Democrats Legislative Priorities Committee

COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM
Senator Glenn Wakai, Chair
Senator Brian T. Taniguchi, Vice Chair

COMMITTEE ON COMMERCE, CONSUMER PROTECTION, AND HEALTH
Senator Rosalyn H. Baker, Chair
Senator Stanley Chang, Vice Chair

COMMITTEE ON WAYS AND MEANS
Senator Donovan M. Dela Cruz, Chair
Senator Gilbert S.C. Keith-Agaran, Vice Chair

DATE: Tuesday, April 2, 2019
TIME: 9:50 a.m.
PLACE: Conference Room 211 State Capitol

RE: Testimony in Support of HD 307, SD 1, Relating to Renewable Energy

To the Honorable Glenn Wakai, Chair; Senator Brian T. Taniguchi, Vice Chair; and members of the Committee on Energy, Economic Development, and Tourism;

To the Honorable Rosalyn H. Baker, Chair; Senator Stanley Chang, Vice Chair; and members of the Committee on Commerce, Consumer Protection, and Health; and

To the Honorable Donovan M. Dela Cruz, Chair; Senator Gilbert S.C. Keith-Agaran, Vice Chair; and members of the Committee on Ways and Means:

My name is Melodie Aduja and I serve as Chair of the O`ahu County Democrats Legislative Priorities Committee of the Democratic Party of Hawai`i ("DPH"). Mahalo for this opportunity to submit testimony on HD 307, SD 1. The O`ahu County Democrats Legislative Priorities Committee ("OCDLPC") hereby submits its testimony in **SUPPORT of** HD 307, SD 1, Relating **to Renewable Energy.**

HB 307, SD 1, broadens the definition of "renewable energy" as used in the public utilities commission law to include other self-replenishing non-fossil fuel, non-nuclear resources. HB 307, SD 1, also amends the renewable energy technologies income tax credit by including commercial seawater air conditioning systems.

DPH supports energy independence, self-sufficiency, affordability and reliability for Hawai'i through the development of renewable alternative energy sources. Specifically, DPH supports policies that foster the development of energy production methods that de-emphasize carbon-based fuels and promote renewable sources such as wind, solar, wave, geothermal and Ocean Thermal Energy Conversion (OTEC). Democratic Party of Hawai`i Platform (2018), p. 18, ln. 1-4.

DPH Legislators should seek to achieve energy sustainability based on renewable energy sources.. . . DPH Legislators should urgently develop the use of a variety of cost-effective energy providing systems, encourage transit-oriented development, and support tax incentives that encourage renewable energy initiatives.

Electricity rates in Hawai'i are among the highest in the Nation even though we enjoy an abundance of sunshine year-round. Electric utility companies and cooperatives must open the grid to alternative power sources including solar panels and geothermal energy. DPH supports the effort of our government officials to require utilities to provide for the maximum, comprehensive, integrated use of renewable energy and associated technologies such as storage and smart grid technologies.

DPH is committed to getting 100 percent of our electricity from clean energy sources within a decade. DPH needs to cut energy waste in homes, schools, hospitals, and offices through energy efficient improvements; modernize our electric grid; and make manufacturing the cleanest and most efficient in the world. These efforts will create hundreds of new jobs and save families and businesses money on their monthly energy bills. The tax code must reflect DPH's commitment to a clean energy future by preserving and extending tax incentives for energy efficiency and clean energy.

DPH believes that carbon dioxide, methane, and other greenhouse gases should be priced to reflect their negative externalities, and to accelerate the transition to a clean energy economy and help meet our climate goals. Democrats are committed to defending, implementing and extending smart pollution and efficiency standards and fuel economy standards for automobiles and heavy-duty vehicles, building codes and appliance standards. DPH is also committed to expanding clean energy research and development.

DPH will work to expand access to cost-saving renewable energy by low-income households, create good-paying jobs in communities that struggled with energy poverty, and oppose efforts by utilities to limit consumer choice or slow clean energy deployment. DPH encourages the State to streamline permitting to accelerate the construction of new transmission

lines to get low-cost renewable energy to market, and incentivize wind, solar, and other renewable energy. *Democratic Party of Hawai`i Platform (2018), pp. 17, ln. 43-48, p.18, ln. 1-34.*

For the foregoing reasons, to wit, DPH supports policies that foster the development of energy production methods that de-emphasize carbon-based fuels and promote renewable sources such as wind, solar, wave, geothermal and Ocean Thermal Energy Conversion (OTEC), OCDLPC supports HD 307, SD 1, and urges that it passes out of the Committees on Energy, Economic Development, and Tourism; Commerce, Consumer Protection, and Health; and Ways and Means.

Mahalo nui loa
Me ka `oia`i`o

/s/ *Melodie Aduja*

Melodie Aduja
Chair, O`ahu County Democrats Legislative Priorities Committee
Ph. (808) 258-8889
Email: legislativepriorities@gmail.com

HB-307
Submitted on: 3/30/2019 6:02:07 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Gilles Lebbe	Testifying for Green Energy Team, LLC	Comments	Yes

Comments:

I'm writing this testimony in opposition to the amendment of the definition of "biomass" in HB307.

A proposed amendment to the definition of "renewable energy" is to redefine "biomass", which would be as follows: "renewable energy" would include "Biomass, including biomass crops, agricultural and animal residues and wastes, and municipal solid waste and other solid waste, BUT NOT INCLUDING MONO-CULTURED WOOD CROPS;…

The purpose of excluding mono-cultured wood crops from the definition of biomass doesn't make sense in my opinion. It's environmentally better to use plantation wood (which is almost exclusively coming from monocultures) than harvesting native forests. A tree plantation is part of making "wood" an environmentally responsible raw material as it will reduce or eliminate the harvest of trees in native ecosystems.

Our company, Green Energy Team operates a 7.5MW biomass to energy facility and grows all of its own trees that it then uses as fuel for the facility. GET's feedstock would fall under "biomass crops" but it may also be deemed to fall under "mono-cultural wood crops", and this could be a problem. The term biomass is not only used in the tax credit regulations relating to the use of biomass, but this definition of "renewable energy" is used in various Hawaii statutes relating to renewable energy, including excise tax, permitting and other purposes.

Green Energy Team produces truly renewable energy: environmentally (CO_2 neutral and permanently renewable because of the in-house tree plantations), socially (we employ 43 people who really make their living off the land, no other renewable energy company employs that many people per MW) and financially (we are a profitable company and pay taxes). It would be a pity if the State would put 43 jobs, years of hard work from all of us and a $100M investment in jeopardy.

Thank you for allowing us to share our mana'o.

Respectfully,

Gilles Lebbe, General Manager for Green Energy Team LLC

To: The Senate Committee on Energy, Economic Development, and Tourism

The Senate Committee on Commerce, Consumer Protection, and Health
and
The Senate Committee on Ways and Means

From: Sherry Pollack, 350Hawaii.org

Date: Tuesday, 4/2/19

Comments on HB307 SD1

Aloha Chairs Wakai, Baker, and Dela Cruz, Vice Chairs Taniguchi, Chang and Keith-Agaran, and members of the EET, CPH, and WAM committees,

I am Co-Founder of the Hawaii chapter of 350.org, the largest international organization dedicated to fighting climate change. On behalf of our 6,000 members and supporters, 350Hawaii.org offers the following comments on this bill.

We appreciate the efforts to improve HB307 by specifying that mono-cultured wood crops and nuclear energy are not included as renewable energy. However, we have serious concerns and are in **strong opposition** to the language added to this bill that would disincentivize solar energy adoption.

In the proposed version of this bill (HB307 SD1), language has been added that seeks to amend tax credits for solar energy systems used to generate electricity, so that the 35% tax credit currently afforded would see a reduction every two years dropping to 5% by 2027. It is shocking that when the UN IPCC report says we have less than a dozen years to make drastic reductions in our greenhouse gas emissions, that a bill would be put forward entertaining cutting solar energy tax credits which have helped consumers move towards clean energy and reduce greenhouse gas emissions.

This is the wrong time to entertain a plan to wean tax payers off a solar energy tax credit, a program that has been helping Hawaii achieve our renewable energy goals. Our values and priorities must be kept focused on decisions we make now that will drastically reduce greenhouse gas emissions to ensure a safe climate and a livable future for our children.

We strongly urge that any language that reduces tax credits for solar energy be removed from this bill.

Thank you for the opportunity to testify.
Sherry Pollack
Co-Founder, 350Hawaii.org

LEGISLATIVE TAX BILL SERVICE

TAX FOUNDATION OF HAWAII

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

SUBJECT: INCOME, FRANCHISE, Renewable Energy Technologies Credit

BILL NUMBER: HB 307, Proposed SD-1

INTRODUCED BY: Senate Committees on Energy, Economic Development, and Tourism, and Commerce, Consumer Protection & Health.

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

SYNOPSIS: Amends HRS section 235-12.5, to be retitled the solar energy, wind energy, and commercial seawater air conditioning system income tax credit, to allow credits for each energy system, as follows:

For each solar energy system used exclusively to heat water and is installed and first placed in service in the State by a taxpayer during the taxable year: 35% of the basis up to the applicable cap amount, which is determined as follows: (A) $2,000 per solar energy system for single-family residential property; (B) $700 per unit per solar energy system for multi-family residential property; and (C) $225,000 per solar energy system for commercial property.

For each grid-connected solar energy system used primarily to generate electricity, the credit is a certain percentage of the basis up to the applicable cap amount, which is determined as follows: (A1) $5,000 per solar energy system for single-family residential property in 2019 or 2020, except that if all or a portion of the property is used to fulfill the substitute renewable energy technology requirement in section 196 6.5(a)(3), HRS, the credit will be reduced by 25% of basis or $2,250, whichever is less; (B) $2,500 per solar energy system for single-family residential property in 2021 or later, except that if all or a portion of the property is used to fulfill the substitute renewable energy technology requirement in section 196 6.5(a)(3), HRS, the credit will be reduced by 25% of basis or $1,875, whichever is less; (C) $700 per unit per solar energy system for multi-family residential property; (D) $500,000 per solar energy system for commercial property in 2019 or 2020; and (E) $250,000 per solar energy system for commercial property in 2021 or later. The credit rate is 35% for calendar year 2020, 30% for calendar year 2021, 25% for calendar year 2022, 20% for calendar year 2023, 15% for calendar year 2024, 10% for calendar year 2025, and 5% for calendar year 2026. Special grandfather rules are provided where a system has an executed customer service contract dated prior to June 30, 2018 and is installed and first placed in service before Dec. 31, 2019; or a power purchase agreement dated prior to December 31, 2019 and first placed in service before Dec. 31, 2024.

A grid-connected wind energy system is also creditable, and the credit rate is 20% of basis up to the applicable cap amount, which is determined as follows: (A) $1,500 per wind energy system for single-family residential property, except that if all or a portion of the property is used to fulfill the substitute renewable energy technology requirement in section 196 6.5(a)(3), HRS, the credit will be reduced by 20% of basis or $1,500, whichever is less; (B) $700 per unit per wind energy system for multi-family residential property; and (C) $500,000 per wind energy system for commercial property. Grandfather rules similar to those for photovoltaic systems also apply.

For each commercial seawater air conditioning system, as defined in this section, twenty percent of the basis of connecting the commercial seawater air conditioning system to the seawater district cooling system up to the applicable cap amount of $100,000.

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

Defines "commercial seawater air conditioning system" as a building air conditioning system for commercial, office or residential buildings connected to a seawater air conditioning district cooling system.

Defines "first placed in service" the same as in Treas. Reg. section 1.167(a)-11(e)(1).

Defines "grid-connected" as where the individual or corporate taxpayer has obtained an approved interconnection agreement from an electric utility for the solar energy system or whose facility does not have an existing tie to the electric grid.

Defines "seawater air conditioning district cooling system" as an identifiable facility, equipment, apparatus, or the like that utilizes naturally occurring cold, deep seawater as its primary source of cooling for production of chilled water for distribution to multiple commercial air conditioning systems.

Defines "solar or wind energy system" as any identifiable facility, equipment, apparatus, or the like that converts solar or wind energy to useful thermal or electrical energy for heating, cooling,

or reducing the use of other types of energy that are dependent upon fossil fuel for their generation, if (1) the total output capacity of the solar or wind energy system is:

(A) For a single-family residential property, at least five kilowatt hours per system;

(B) For a multi-family residential property, at least 0.360 kilowatts per unit per system;

(C) For a commercial property, at least one thousand kilowatts per system; and

(D) For a wind energy system for commercial property, at least one thousand kilowatts per system.

In addition, one of the following must apply: (A) the construction, reconstruction, or erection of the solar or wind energy system is completed by the taxpayer; or (B) the solar or wind energy system is acquired by the taxpayer if the original use of the solar or wind energy system commences with the taxpayer.

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

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

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

States that no credit shall be authorized for taxable years ending after December 31, 2026.

Makes technical and conforming changes.

Amends section 241-4.6, HRS, to apply the revised version of the credit to the Franchise Tax Law.

EFFECTIVE DATE: July 1, 2050; applies to taxable years beginning after December 31, 2019. Sections 235-12.5(a)(1)(B), 235-12.5(a)(2)(A), 235-12.5(a)(3)(B), 235-12.5(a)(3)(C), and 235-12.5(b)(2), Hawaii Revised Statutes, shall take effect on July 1, 2050.

STAFF COMMENTS: Lawmakers need to keep in mind two things. First, the tax system is the device that raises the money that they, lawmakers, like to spend. Using the tax system to shape social policy merely throws the revenue raising system out of whack, making the system less than reliable as there is no way to determine how many taxpayers will avail themselves of the credit and in what amount. The second point to remember about tax credits is that they are nothing more than the expenditure of public dollars, but out the back door. If, in fact, these

dollars were subject to the appropriation process, would taxpayers be as generous about the expenditure of these funds when our kids are roasting in the public school classrooms, there isn't enough money for social service programs, or our state hospitals are on the verge of collapse?

If lawmakers want to subsidize the purchase of this type of technology, then a direct appropriation would be more accountable and transparent. The credit as currently drafted is complex.

Furthermore, the additional credit would require changes to tax forms and instructions, reprogramming, staff training, and other costs that could be massive in amount. A direct appropriation, or adding on to an existing program such as Hawaii Energy, may be a far less costly method to accomplish the same thing.

As the bill now reads, it is questionable as to whether any credit would be allowed unless a system meets the total output capacity requirement, which for example is 5 kWh per system for single-family residential property. The current administrative rules allow a system to qualify for credit even if it does not meet the total output capacity requirement, but deny credit for a second or subsequent system on the same tax map key unless the total output capacity requirements are met for the previous systems. For example, a photovoltaic system with total output capacity of 13 KWh could qualify as three systems. The rules for aggregation of systems also need to have a geographical scope; for example, it makes no sense to aggregate a system in Honolulu with one on Kauai. The current rule using tax map key is acceptable most of the time, but there are some tax map keys with thousands of dwelling units, such as those on former military reservations and on the island of Lanai.

.Digested 4/1/2019

Hawaii Solar Energy Association
Serving Hawaii Since 1977

TESTIMONY OF THE HAWAII SOLAR ENERGY ASSOCIATION IN REGARD TO HB307 PROPOSED SD1, RELATING TO RENEWABLE ENERGY
BEFORE THE
SENATE COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM
AND THE
SENATE COMMITTEE ON CONSUMER PROTECTION
AND
WAYS AND MEANS
ON
TUESDAY, APRIL 2, 2019

Chair Wakai, Chair Baker, Chair Dela Cruz, and members of the joint committees, my name is Will Giese, and I am the Executive Director of the Hawaii Solar Energy Association, Inc. (HSEA).

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

HSEA **OPPOSES HB307 PROPOSED SD1**. This measure boadens the definition of "renewable energy" as used in the public utilities commission law to include other self-replenishing non-fossil fuel, non-nuclear resources. Amends the renewable energy technologies income tax credit by including commercial seawater air conditioning systems. (Proposed SD1)

The HSEA has generally been in favor of tax credits for energy storage and renewable energy systems as a way for the state to direct customer behavior towards it's renewable energy goals. This has been successful, and Hawaii enjoys one of the highest amounts of renewable energy installed per capita than any other state.

This particular measure, however, has been deliberated and debated for almost ten years in some form or another. There appears to be no broad consensus on what exactly an energy storage tax credit might look like by either this legislative body, the state agencies responsible for administering it, or the industry and consumers who will benefit from it directly. To date, the HSEA has not seen any significant change in these varying perspectives that suggest a different outcome this legislative session.

This ongoing debate has noticeable impacts on the industry. There was a drop in installed and permitted systems in the months during the back and forth about a similar tax credit measure in prior years. Solar developers sometimes are forced to return to the negotiating

table on projects that have a longer development cycle than the legislative session as it is often unclear what changes will occur that alter the financing of projects. This has the unintended effect of slowing Hawaii's progress towards 100% renewable by 2045.

Additionally, the federal solar investment tax credit will be step down for residential and commercial projects at the end of 2019. This step down is already creating some uncertainty in the market. Further complicating this by introducing this particular step-down structure which will in all likelihood not be passed in its current form, if at all, by the end of the 2019 session would likely further stress a market that craves stability.

The recent amendments in the Proposed SD1 draft of this bill further detract from its purpose. Tax credits are a tool, and under the current language this bill would slow state's progress towards 100% renewable. By cutting the single housing tax credit in half, the legislature has effectively gutted any ability that this bill might have to serve low and middle income communities.

Current interconnected DER systems in almost all cases require a storage system, thus the overall cost of a system is higher in Hawaii than in other states. Furthermore, over half of the installed systems in this state are done so through leasing and PPA models, thus the DoTax data on claimed tax credits (which is two years lagging) does not reflect the market penetration into LMI areas and the legislature, which assumes that this credit serves only higher income folks, is incorrect.

If the legislature wishes to serve more LMI communities by restructuring this measure to skew greater benefit towards these communities, than we welcome those future amendments and would be happy to offer any assistance in the matter. The current language as drafted, however, does not accomplish this.

Additionally, in reference to the RPS definition portion of the bill we offer the following comments:

Establishing a sound definition for renewable energy is important in order to realize Hawaii's mandated I 00% renewable portfolio standard. In addition, containing language including cutting-edge or untapped sources of renewable energy adds flexibility to the statutes.

However, it should be noted that the language as written may be too ambiguous or non-specific. HSEA understands and acknowledges that this is a forward looking bill. Its intention is to include new renewable energy sources that may not currently exist or that may not exist now as a scalable technology. With that in mind, caution should be extended as to what types of energy may be included within this definition in the future. For instance, there is significant debate as to whether nuclear breeder reactors or nuclear fission reactors would indeed constitute a renewable source of energy. In fact, the

Arizona State Legislature has attempted to pass several bills defining certain types of nuclear energy as renewable.

This is not to imply that HSEA is necessarily for or against nuclear energy, only that the current draft of HB 307 could be interpreted as such. Careful consideration should be given to the wording of this bill if its intent is to cover future fuel sources. Alternatively, a bill could be drafted allowing an open-ended "evaluation" of potential non-fossil fuel renewable resources as those resources are developed.

The HSEA **OPPOSES HB307 PROPOSED SD1**, and we ask the legislature to defer this measure unless one of the above actions are taken.

Thank you for the opportunity to testify.

TESTIMONY OPPOSING HB 307, proposed SD1

being heard by the Senate Committees on Energy, Economic Development, And Tourism; Commerce, Consumer Protection, and Health; and Ways and Means
on April 2, 2019 at 9:50 AM
Conference Room 211

Aloha Chairs Wakai, Baker, Dela Cruz and Committee Members:

Tesla appreciates the opportunity to submit this testimony in opposition to HB 307, proposed SD1. By dramatically reducing the value of and ultimately eliminating the tax credit for solar, the bill threatens to disrupt an industry that employs thousands of people in meaningful work advancing key policy goals, including the State's 100% renewable energy goal, and nascent efforts to improve the state's resiliency through the deployment of microgrids, as codified in Act 200.

Tesla's mission is to accelerate the world's transition to sustainable energy through the widespread adoption of electric vehicles and the deployment of sustainable energy solutions like storage and solar. Tesla believes that solar energy, particularly when coupled with storage, represents a fundamental building block to transforming the energy system and mitigating the risks that imported fossil fuels engender in terms of climate change impacts and energy security. Importantly, solar and storage can not only reduce the role of the electricity system in climate change by producing and harnessing emissions-free energy, these technologies can also improve the energy system's resiliency by providing a robust back-up solution in the face of adverse events, such as hurricanes, that render the broader grid inoperable.

Fundamentally, this measure seeks to reduce, and ultimately eliminate, the renewable energy income tax credit. Doing this will cause the effective cost of solar to increase and will harm the solar industry in Hawaii, an industry that has yet to fully recover from the decision to eliminate net energy metering in 2015. In addition to ramping down the tax credit rate such that it drops to zero by 2027, the measure would also halve the per-system cap that solar systems are eligible to receive starting in 2021. For residential solar systems, the cap would be reduced from $5000 per system to $2500. For a typical residential solar project, sized at 7.5 kilowatts, this change is the equivalent of increasing the costs of a solar project by approximately $3500.[1] To the degree there are concerns that clean energy technologies

[1] As implemented by the Department of Taxation, a 7.5 kW system would receive two tax credits. The first tax credit, associated with the first 5 kW of the project, considered one full system by the DoTax, would be the lesser of $5000 or 35% of the cost basis. Assuming $4/watt the cost basis would be $20,000 ($4/watt * 5000 watts), the cap would be binding. The first 5 kW would therefore receive $5000 in tax credit value. The second tax credit, associated with the remaining 2.5 kW of the project, considered a partial system, would receive $3500 (35% * $4/watt * 2500 watts). In the case of the second partial system, the cap is not binding and the project would receive the full 35% of the cost basis. Thus, the project as a whole would receive $8500 in tax credit value, equal to

are only accessible to the wealthiest members of society, this proposal will only to serve to exacerbate this issue.

The measure also includes a number of additional amendments that will further limit access to the solar tax credit. By conditioning eligibility on systems being grid-connected, the bill marginalizes those living in remote locations or other circumstances where connection to the grid may be cost-prohibitive or impractical. This policy change would appear to drive more customers toward other forms of generation to meet their needs, including diesel or other types of fossil-fuel based generation resources. This presumably unintended consequence is directly contrary to the State's efforts to dramatically reduce its reliance on imported fossil fuels and improve energy security.

Furthermore, by requiring that projects meet a certain capacity threshold in order to qualify for the credit, the bill arbitrarily discriminates against customers whose energy needs do not fit squarely within the prescriptive requirements of the bill. For example, the bill would require a commercial system to be at least 1000 kW in size to qualify for the credit. Many commercial entities may not have a need for a system of that scale and yet, on this basis alone, they would be ineligible to receive the tax credit. Alternatively, some customers might develop larger systems than they actually need, simply to meet the statutory threshold to get the tax credit. This discriminatory treatment has no discernible policy rationale and arbitrarily places the legislature's thumbs on the scale in favor of larger energy users and projects.

For the many foregoing reasons, Tesla is strongly opposed to HB 307, proposed SD1 and asks the Committees to defer this measure. At a minimum, such dramatic changes to a key state clean energy program should not be pursued in the absence of a comprehensive evaluation of the implications on solar development, jobs and the State's energy goals.

Thank you for the opportunity to submit this testimony.

28% of the total project cost of $30,000. If the caps are halved as proposed, the cap would be binding for both the full and partial system and yield a credit value of $5000, or 17% of the project cost.

SENATE COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM
SENATE COMMITTEE ON COMMERCE, CONSUMER PROTECTION, AND HEALTH
SENATE COMMITTEE ON WAYS AND MEANS

April 2, 2019, 9:50 A.M.
(Testimony is 3 pages long)

TESTIMONY IN OPPOSITION TO HB 307 PROPOSED SD1

Aloha Chairs Wakai, Baker, Dela Cruz, and Members of the Committees:

The Alliance for Solar Choice (TASC) strongly opposes the proposed SD1 of HB 307. This bill would cut caps to the existing renewable energy tax credit in half starting in 2021, causing a major disruption to an industry already dealing with turmoil.[1] Furthermore, this measure requires eligible recipients to purchase electricity from one of the major electric utilities, thus reducing pressure on electric utilities to reduce or lower the cost of electricity in Hawaii.

A key driver in Hawaii's transformation to 100% clean energy is the availability of financing. Hawaii's renewable energy income tax credit is an important factor in the ability of residents to achieve their goals to produce clean, renewable energy through the installation of a rooftop solar and storage system, and, at the same time, to benefit financially by reducing their electric bills for dirty, fossil-fuel generated energy.

Rooftop solar benefits all Hawaii residents. Over the past several years, the availability of financing has allowed low to moderate income residents to install rooftop solar from Aiea to Wahiawa. This is no longer a transition just benefitting a small number of people: ***over one in three homes in Hawaii now has rooftop solar.*** It has become ubiquitous. Further, rooftop solar helped Hawaii save billions of dollars by reducing the amount of dirty fossil-fuels imported into the state, money which can be reinvested in Hawaii's local economy.

While the renewable energy tax credit could be weaned down over time, such a reduction must be coordinated with Hawaii's clean energy goals and be fair to the

[1] This would compound the 22% reduction in Hawaii solar jobs that occurred in 2017 and a similar reduction that occurred in 2016, due to the elimination of net energy metering in Hawaii.

remaining residents who haven't had a chance yet to adopt rooftop solar. The goals of the renewable energy tax credit haven't really changed:

> Hawaii's dependence on petroleum for about ninety per cent of its energy needs is more than any other state in the nation. This makes the State extremely vulnerable to any oil embargo, supply disruption, international market dysfunction, and many other factors beyond the control of the State. Furthermore, the continued consumption of conventional petroleum fuel negatively impacts the environment. At the same time, Hawaii has among the most abundant renewable energy resources in the world, in the form of solar, geothermal, wind, biomass, and ocean energy assets.

Act 240 (2006). Further "increased . . . use of renewable energy resources would increase Hawaii's energy self-sufficiency, achieving broad societal benefits, including increased energy security, resistance to increases in oil prices, environmental sustainability, economic development, and job creation." *Id.*

Hawaii residents strongly support more rooftop solar. A 2015 SMS poll demonstrated that 77% of Hawaii residents "strongly support" and 20% "somewhat support" more rooftop solar in Hawaii. Only 1 per cent "somewhat oppose" rand no one polled "strongly opposed" more rooftop solar. Few issues have ever resulted in such an unanimous concurrence among Hawaii residents.

Sudden changes and general uncertainty about the the renewable energy tax credit has a direct and adverse impact on the solar industry. To the extent installations take at least 4-6 months, and sometimes several years,[2] changes that occur within six months can have an immediate and adverse impact on the solar industry and residents ability to choose cleaner energy. Here, slashing the primary restraint — the existing cap on the renewable energy income tax credit — in half, will have an immediate impact the ability of residents to choose cleaner energy and the price of such systems.

This bill reduces federal assistance towards Hawaii's clean energy goals. The federal income tax credit is scheduled to step down at the end of this year,[3] thus meaning (1) there will already be a significant reduction in the incentive to solar adoption and (2) the instant bill would reduce the amount of federal money flowing into Hawaii by simultaneously reducing state assistance (the total net incentive is significantly lower). Any action that slows clean energy adoption — such as an unreasonable slashing of the the cap — is averse to Hawaii residents. Assuming we will

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[2] Electrical service upgrades, that is when the utility must improve the electrical connection to a person's house or business, can average 5-6 months to complete. Permitting of solar installations on townhomes can take over a year, which particularly impacts low to moderate income residents.

[3] *See, e.g.,* https://www.energy.gov/savings/residential-renewable-energy-tax-credit

achieve our 100% clean energy goals, this bill means it will be solely borne by Hawaii residents and not supported as much with federal money.

TASC welcomes a discussion about the future of Hawaii's solar tax credit. Nonetheless, in light of the federal income tax credit step down, this is not an ideal year for that discussion. We suggest deferring this matter until next year.

Mahalo for the opportunity to testify.

HB-307
Submitted on: 4/1/2019 3:46:03 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Isidro Villaflor	Testifying for PV Tech	Oppose	No

Comments:

Aloha Chair Wakai, Chair Baker, Chair Dela Cruz, and members of the committee,

I STRONGLY OPPOSE HB 307 PROPOSED SD1 and ask that you **defer this measure**. This measure's proposed SD1 replaces the current renewable energy technology systems tax credit with tax credits for solar energy, wind energy, or commercial seawater air conditioning systems and sunsets the credit after 12/31/2026.

Hawaii needs renewable energy now more than ever. Slashing the tax credit in half **limits access to renewable, slows the state's progress towards 100% renewable energy, and makes us all vulnerable to the effects of climate change**.

We need to be doing MORE, not less, to democratizing energy and putting choice back into the hands of consumers. Hawaii needs to be a leader in clean energy job creation and building a clean energy economy of the future, not a follower.

It is an indisputable fact that solar energy is leading the charge in the fight against climate change, with Hawaii being one of the top states in installed solar-per-capita. A study from 2017 about the benefits of solar in Hawaii found the following:

- The average annual savings for a SHW system to the consumer is $1,018/year. The average savings for a PV system per kW of installed capacity is $554/year. Multiplied over 20 years, this represents $40,000-$60,000 in savings to the consumer over the life of the system.
- The state realizes fiscal benefits of solar system installs, rather than deficits. For every $1 spent on solar tax credits by the state, Hawaii receives $1.97-$2.67 in additional tax revenue because the money people save on energy costs is reinvested in the state economy.

- Every 5kW of solar installed in the state creates 3 jobs over the system's 20 year life through initial installation and ongoing operations and maintenance.

Another report from last year by the Rhodium Group found that its ***actually cheaper*** for Hawaii to accelerate deployment of renewables like rooftop solar, rather than maintaining our current course.

Hawaii still gets over 80% of its energy from dirty fossil fuels, and consumers are paying the price through high energy bills and carbon emissions. In the last 20 years, the price of solar energy has dropped to all-time lows and it gets more affordable every single day. A large part of this affordability is allowing consumers, especially those at low and middle incomes, to realize even greater savings through market appropriate tax incentives.

This bill does the opposite by **cutting the tax credit** in half and **eliminating consumer choice**. While smart, innovative changes to the existing tax credit should always be considered, the current language in this bill is regressive and will harm our progress towards our clean energy goals, the industry, and the consumer.

Thank you for supporting clean solar energy and giving me the opportunity to testify.

Sid Villaflor

Nicole Chatterson
Director, Zero Waste O‘ahu
oahu.zerowaste@gmail.com
808.561.7730

April 1, 2019

Re: opposition with comments for HB 207 proposed SD1 edits, Hearing April 2, 2019 at 9:50 am in EET/CPH/WAM

Aloha Chair Wakai, Chair Baker, Chair Dela Cruz and EET/CPH/WAM Committee Members:

My name is Nicole Chatterson. I am Mānoa resident and Director of Zero Waste O‘ahu—a coalition of six local community organizations working on the topic of waste reduction in Hawai‘i. On behalft of our constitutents, I am writing in **strong opposition t0 HB 307 with the proposed SD1 edits.** While we support renewable energy and moving towards carbon neutralit, **we do not support measures that offer the renewable label to technologies that result in more pollution and risk than benefit to our community.**

Nuclear technology, especially in an era of sea-level rise and an unstable climate, is an unfit option for an island. We saw (and are still experiencing) the impacts of the Fukushima nuclear plant destruction during the 2011 tsunami that hit Japan. Hawai‘i, like Japan, is surrounded by water and vulnerable to the impacts of natural disasters like tsunamis and hurricanes. Nuclear technology is not safe for our island.

Further, we also contest that municipal solid waste (MSW) as a form of biomass as currently delineated in the statute. Somewhere between 20-35% of our MSW is plastic (which is made of fossil fuels)—and this most definitely cannot be considered biomass. Further, H-POWER (the waste-to-energy plant used to incinerate MSW for so-called renewable energy in Honolulu) is currently producing **2-3 times more greenhouse gas emissions than Kahe—O’ahu’s largest oil-based energy plant.**[1] Further, **H-POWER requires 800,000 tons of waste annually** to maintain operations and profit margins. This means that waste production is incentivized, driving more upstream impacts through the extraction, production, and transportation of products-turned-trash. According to the U.S. EPA, **about 42% of the U.S. greenhouse gas footprint results from this production-disposal chain[2]. MSW then is not a viable alternative to oil or coal and is unfit as a contender for renewable energy tax credits and status.**

We offer the following edit (indicated in red below) to the definition of renewable energy:

"Renewable energy" means energy generated or produced using [~~the following sources~~]:

[1] https://ghgdata.epa.gov/ghgp/main.do
[2] https://www.epa.gov/smm/epa-sustainable-materials-management-program-strategic-plan-fiscal-years-2017-2022

(1) Wind;

(2) The sun;

(3) Falling water;

(4) Biogas, including landfill and sewage-based digester gas;

(5) Geothermal;

(6) Ocean water, currents, and waves, including ocean thermal energy conversion;

(7) Biomass, including biomass crops, agricultural and animal residues and wastes, ~~and municipal solid waste and other solid waste~~[~~;~~], but not including mono-cultured wood crops;

(8) Biofuels; [~~and~~]

(9) Hydrogen produced from renewable energy sources[~~.~~]; and

~~(10) Other self-replenishing non-fossil fuel, non-nuclear resources."~~

Mahalo for your time and consideration.

Nicole Chatterson, Directorof Zero Waste O‘ahu

LiUNA Local 368
1617 Palama Street
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Phone: (808) 841-5877
Fax: (808) 847-7829
www.local368.org

LiUNA!

TESTIMONY OF RYAN K. KOBAYASHI
GOVERNMENT AND COMMUNITY RELATIONS DIRECTOR
HAWAII LABORERS UNION LOCAL 368

COMMITTEES ON

ENERGY, ECONOMINC DEVELOPMENT AND TOURISM
CONSUMER PROTECTION AND HEALTH
WAYS AND MEANS

NOTICE OF HEARING

DATE: Tuesday, April 2, 2019
TIME: 9:50 a.m.
PLACE: Room 211

TESTIMONY IN OPPOSITION TO SB301 SD1 HD1 RELATING TO THE TAXATION OF REAL ESTATE INVESTMENT TRUSTS

ALOHA COMMITTEE CHAIRS WAKAI, BAKER, AND DELA CRUZ; VICE-CHAIRS TANIGUCHI, CHANG, AND KEITH-AGARAN

My name is Ryan K. Kobayashi, Government and Community Relations Director for the Hawaii Laborers Union, Local 368. The Hawaii Laborers Union is made up of over 5000 working and retired members across the State of Hawaii. We are **OPPOSED** to the proposed language in HB307 SD1 (Proposed SD1)

The specific language we oppose is contained in section 7 reads as follows:

> (7) Biomass, including biomass crops, agricultural and animal residues and wastes, and municipal solid waste and other solid waste, **but not including mono-cultured wood crops;**

This amendment to exclude mono-cultured wood crops would not only have far-reaching negative consequences for existing and new biomass projects, but would also affect other statutes such as the state's renewable portfolio standard (RPS), as well as raising permitting and tax issues.

This amendment would also disallow a critically important renewable firm fuel source, which is vital to achieving the 100% RPS by 2045.

This amendment is not supported by any reputable scientific study nor the findings and policies of federal and state oversight agencies. It rests solely on misinformation of opponents of biomass projects.

Feel the Power

Among other problems, there is no definition of "mono-cultured" provided in the proposed bill, without a clear meaning of the term, the resulting unintended consequences could include the risk of costly litigation.

The purpose of the HB307 is to broaden the definition of "renewable energy," but by adding a catch-all clause, the language in question actually narrows the definition of renewable energy.

No justification is given for excluding mono-cultured biomass from the acceptable forms of renewable feedstock. Mono-culturing simply means planting a single crop. Hawaii has a forestry industry that provides a number of benefits including jobs, economic growth and sustainable energy independence. Proponents of this language have provided no evidence that mono-cultured wood is less "renewable" or "replenishing." Nor have they given reason why mono-cultured crops should not be allowed. Growing a single crop for a particular market is a standard **cost efficient** agricultural practice and should not be any different in forestry than it is in other types of agriculture, such as food production or other energy production.

Without mono-cultured biomass, replacing fossil fuel firm power would be difficult to achieve. Feedstock could only be imported, and the price of alternative fuel sources would rise. There is no good reason to impede our state's ability to grow its own renewable energy resources.

Mono-cultured wood crops in fact, are cost efficient, sustainable and reliable, contributing to low utility rates for consumers and add to our energy security. By growing our own fuel Hawaii can become energy independent and avoid being held captive to outside fuel sources.

KIUC currently utilizes this renewable technology to generate clean, non-fossil fuel firm power to its ratepayers.

HELCO, whose ratepayers are suffering from the high cost of fossil fuel generation due to the loss of PGV.

If this amendment is removed, a firm MW biomass facility to replace almost 22 MW of firm fossil fuel generation for HELCO at a low cost, would be affected.

Furthermore, the federal government recognizes this technology as renewable in the IRS tax code.

The federal EPA recognizes renewable biomass generation as one of the most beneficial technologies in reducing greenhouse gas emissions, along with solar, wind, hydropower, biogas and geothermal.

Please consider deleting the phrase "but not including mono-cultured wood crops" from this amendment. Otherwise, the achievement of the state's RPS will be negatively impacted, along with the jobs of union workers in the construction trades.

Thank you for the opportunity to testify on this measure.

HB-307
Submitted on: 4/1/2019 3:56:25 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Allie Detrio	Testifying for ENGIE	Oppose	No

Comments:

Aloha Chair Wakai, Chair Baker, Chair Dela Cruz, and members of the committee,

ENGIE respectfully submits this testimony and asks that you defer this measure. This measure's proposed SD1 replaces the current renewable energy technology systems tax credit with tax credits for solar energy, wind energy, or commercial seawater air conditioning systems and sunsets the credit after 12/31/2026.

Hawaii needs renewable energy now more than ever. Slashing the tax credit in half **limits access to renewable, slows the state's progress towards 100% renewable energy, and makes us all vulnerable to the effects of climate change**.

We need to be doing MORE, not less, to democratizing energy and putting choice back into the hands of consumers. Hawaii needs to be a leader in clean energy job creation and building a clean energy economy of the future, not a follower.

It is an indisputable fact that solar energy is leading the charge in the fight against climate change, with Hawaii being one of the top states in installed solar-per-capita. A study from 2017 about the benefits of solar in Hawaii found the following:

- The average annual savings for a SHW system to the consumer is $1,018/year. The average savings for a PV system per kW of installed capacity is $554/year. Multiplied over 20 years, this represents $40,000-$60,000 in savings to the consumer over the life of the system.
- The state realizes fiscal benefits of solar system installs, rather than deficits. For every $1 spent on solar tax credits by the state, Hawaii receives $1.97-$2.67 in additional tax revenue because the money people save on energy costs is reinvested in the state economy.
- Every 5kW of solar installed in the state creates 3 jobs over the system's 20 year life through initial installation and ongoing operations and maintenance.

Another report from last year by the Rhodium Group found that its ***actually cheaper*** for Hawaii to accelerate deployment of renewables like rooftop solar, rather than maintaining our current course.

In the last 20 years, the price of solar energy has dropped to all-time lows and it gets more affordable every single day. A large part of this affordability is allowing consumers, especially those at low and middle incomes, to realize even greater savings through market appropriate tax incentives.

This bill does the opposite by **cutting the tax credit** in half and **eliminating consumer choice**. While smart, innovative changes to the existing tax credit should always be considered, the current language in this bill is regressive and will harm our progress towards our clean energy goals, the industry, and the consumer.

ENGIE respectfully asks that you defer this measure. Thank you for supporting clean solar energy.

Hawai‘i
Construction
Alliance

P.O. Box 179441
Honolulu, HI 96817
(808) 220-8892

April 2, 2019

The Honorable Glenn Wakai, Chair
Senate Committee on Economic Development and Tourism

The Honorable Rosalyn Baker, Chair
Senate Committee on Consumer Protection and Health

The Honorable Donovan Dela Cruz,
Senate Committee on Ways and Means
415 South Beretania Street
Honolulu, Hawai‘i 96813

RE: OPPOSTION for HB307 Proposed SD1, RELATING TO RENEWABLE ENERGY

Dear Chair Wakai, Chair Baker, Chair Dela Cruz, and members:

The Hawai‘i Construction Alliance is comprised of the Hawai‘i Regional Council of Carpenters; the Laborers’ International Union of North America, Local 368; the Operative Plasterers’ and Cement Masons’ Union, Local 630; International Union of Bricklayers & Allied Craftworkers, Local 1; and the Operating Engineers, Local Union No. 3. Together, the member unions of the Hawai‘i Construction Alliance represent 15,000 working men and women in the basic crafts of Hawai‘i’s construction industry.

The Hawaii Construction Alliance stands in opposition to the inclusion of certain language in the proposed SD 1 for HB307, which we otherwise support.

The language we oppose in section 7 reads as follows:
(7) Biomass, including biomass crops, agricultural and animal residues and wastes, and municipal solid waste and other solid waste, but not including mono-cultured wood crops;

This amendment to exclude mono-cultured wood crops would not only have far-reaching negative consequences for existing and new biomass projects, but would also affect other statutes such as the state’s renewable portfolio standard (RPS), as well as raising permitting and tax issues.

This amendment would also disallow a critically important renewable firm fuel source, which is vital to achieving the 100% RPS by 2045.

Among other problems, there is no definition of “mono-cultured” provided in the proposed bill, without a clear meaning of the term, the resulting unintended consequences could include the risk of costly litigation.

The purpose of the bill is to broaden the definition of “renewable energy,” but by adding a catch-all clause, the language in question actually narrows the definition of renewable energy. No justification is given for excluding mono-cultured biomass from the acceptable forms of renewable feedstock. Mono-culturing simply means planting a single crop. Hawaii has a forestry industry that provides a number of benefits including jobs, economic growth and sustainable energy independence. Proponents of this language have provided no evidence that mono-cultured wood is less “renewable” or “replenishing.” Nor have they given reason why mono-cultured crops not be allowed. Growing a single crop for a particular market is a standard cost efficient agricultural practice and should not be any different in forestry than it is in other types of agriculture, such as food production or other energy production.

Therefore, we strongly ask for your committee’s favorable action on HB307 Proposed SD1.

Mahalo,

Nathaniel Kinney
Executive Director
Hawai‘i Construction Alliance
execdir@hawaiiconstructionalliance.org

ELEMENTAL EXCELERATOR

LATE

Written Statement of Elemental Excelerator
before the Senate Committees on Energy, Economic Development, and Tourism and Commerce, Consumer Protection & Health, and Ways & Means
Tuesday, April 2, 2019

In consideration of HB 307 Proposed SD 1
RELATING TO RENEWABLE ENERGY

Aloha Chair Wakai, Chair Baker, Chair Dela Cruz, and Senate Committees on Energy, Economic Development, and Tourism and Commerce, Consumer Protection & Health, and Ways & Means:

Elemental Excelerator respectfully **submits opposition with comments on HB 307 Proposed SD 1,** which:

1. Broadens the definition of "renewable energy" to include other self-replenishing non-fossil fuel, non-nuclear resources.
2. Amends the renewable energy technologies income tax credit.

Elemental Excelerator is a Honolulu-based growth accelerator program founded and operating in Hawai‘i. We have awarded over $30 million to 82 companies resulting in 56 demonstration projects in Hawai‘i & Asia Pacific. Each year, we evaluate over 500 companies and look for innovative entrepreneurs from around the world to come to Hawai‘i and find transformative solutions to help us achieve our 100% clean energy goals and solve our most pressing environmental problems. We select 15-20 companies annually that best fit our mission and fund each company up to $1 million.

In April 2018, Elemental Excelerator commissioned a study entitled *Transcending Oil: Hawai‘i's Path to a Clean Energy Economy.* The study found that in Hawai'i, transitioning to renewable energy is cheaper than sticking with oil.

We respectfully oppose HB 307 Proposed SD 1 with the following comments:

- The term “self-replenishing non fossil fuel, non-nuclear resource” is imprecise. At Elemental Excelerator, we evaluate over 500 cleantech startups each year and have not seen this term used to describe any of these new technologies. We recommend a precise definition of this term if this legislation becomes law.
- The expanded category is not necessary. Based on the existing renewable energy definition, there are multiple studies, including *Transcending Oil: Hawai'i's to a Clean Energy Economy* and the *Hawaiian Electric Companies Power Supply Improvement Plan*, which identify pathways to 100% renewable energy and meet the requirements of Act 97 under the current definition of renewable energy.
- We recommend correcting information included in the proposed bill:

    - It states that *"33 percent of electricity in the state is generated from rooftop solar."* The Hawai'i State Energy Office cites that in 2017, 8 percent of total energy sales was from distributed photovoltaics (rooftop solar). [1]
    - It states that there are "sixty utility-scale renewable energy projects feeding into the state's powergrid". The *State of Hawaii Public Utilities Commission Report to the 2019 Legislature on Hawaii's Renewable Portfolio Standards* identifies 25 Hawaiian Electric Company projects and 13 Kauai Island Utility Cooperative projects, for a total of 38 projects.[2]
- This measure replaces the current renewable energy technology systems tax credit with tax credits for solar energy, wind energy, or commercial seawater air conditioning systems and sunsets the credit after December 31, 2026. We recommend removing the sunset date until we have a clearer understanding of how it may impact Hawai'i's renewable energy transition. A key policy recommendation in Transcending Oil's report is to"*follow through and enforce current clean energy policies. Our projections assume current statutory energy efficiency mandates, as well as building codes and standards, are fully funded and implemented. Delayed implementation, exemptions, and funding reductions will make it harder to accelerate the clean energy transition. The cost will be higher, and the full benefits of the transition will not be realized."*[3]

Mahalo for the opportunity to provide testimony on this legislation.

Sincerely,

Aki Marceau
Managing Director, Policy & Community-Hawai'i

[1] Hawaii State Energy Office 2018 Energy Facts & Figures https://energy.hawaii.gov/wp-content/uploads/2018/06/HSEO_2018_EnergyFactsFigures.pdf. Retrieved March 25, 2019.
[2] State of Hawaii Public Utilities Commission, Report to the 2019 Legislature on Hawaii's Renewable Portfolio Standards, p 15-18. https://puc.hawaii.gov/wp-content/uploads/2018/12/RPS-2018-Legislative-Report_FINAL.pdf. Retrieved March 25, 2019.
[3] Larsen, J., Mohan, S., Herndon, W., Marsters, P., & Pitt, H. (2018, May 01). Transcending Oil: Hawaii's Path to a Clean Energy Economy, p. 37, Retrieved from https://rhg.com/research/transcending-oil-hawaiis-path-to-a-clean-energy-economy/

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LATE

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

In STRONG OPPOSITION of HB 307 RELATING TO ROOFTOP SOLAR INSTALLATION

Before the

COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM
Senator Glenn Wakai, Chair
Senator Brian T. Taniguchi, Vice Chair

COMMITTEE ON COMMERCE, CONSUMER PROTECTION, AND HEALTH
Senator Rosalyn H. Baker, Chair
Senator Stanley Chang, Vice Chair

COMMITTEE ON WAYS AND MEANS
Senator Donovan M. Dela Cruz, Chair
Senator Gilbert S.C. Keith-Agaran, Vice Chair

Tuesday, April 2, 2019; 9:50 AM
Conference Room 211 State Capitol 415 South Beretania Street

Aloha Chair Lowen, Vice-Chair Wildberger, and Members of the Committee,

My name is Alan Lennard. I am the Managing director of Green Power Projects LLC. Green Power Projects LLC is a Solar project facilitation company working towards 100% Renewable Energy capacity in Hawaii. Our vision is a Hawaiian energy economy based 100% on renewable sources indigenous to Hawaii.

I STRONGLY OPPOSE HB 307 and ask that you **defer this measure**. This measure's proposed SD1 replaces the current renewable energy technology systems tax credit with tax credits for solar energy, wind energy, or commercial seawater air conditioning systems and sunsets the credit after 12/31/2026.

Hawaii needs renewable energy now more than ever. Slashing the tax credit in half limits access to renewable, slows the state's progress towards 100% renewable energy, and makes us all vulnerable to the effects of climate change.

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Every 5kW of solar installed in the state creates 3 jobs over the system's 20 year life through initial installation and ongoing operations and maintenance.

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This bill does the opposite by cutting the tax credit in half and eliminating consumer choice. While smart, innovative changes to the existing tax credit should always be considered, the current language in this bill is regressive and will harm our progress towards our clean energy goals, the industry, and the consumer.

Thank you for supporting clean solar energy and giving me the opportunity to testify.

Alan Lennard –dig signature

Alan Lennard
Managing Director
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John Grandinetti
www.grandsolarinc.com

LATE

Testimony of John Grandinetti

President of
Grand Solar Inc.
e-mail: grandsolar808@gmail.com

In STRONG OPPOSITION of HB 307 RELATING TO ROOFTOP SOLAR INSTALLATION

Before the

COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM
Senator Glenn Wakai, Chair
Senator Brian T. Taniguchi, Vice Chair

COMMITTEE ON COMMERCE, CONSUMER PROTECTION, AND HEALTH
Senator Rosalyn H. Baker, Chair
Senator Stanley Chang, Vice Chair

COMMITTEE ON WAYS AND MEANS
Senator Donovan M. Dela Cruz, Chair
Senator Gilbert S.C. Keith-Agaran, Vice Chair

Tuesday, April 2, 2019; 9:50 AM
Conference Room 211 State Capitol 415 South Beretania Street

Aloha Chair Lowen, Vice-Chair Wildberger, and Members of the Committee,

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

I STRONGLY OPPOSE HB 307 and ask that you **defer this measure**. This measure's proposed SD1 replaces the current renewable energy technology systems tax credit with tax credits for solar energy, wind energy, or commercial seawater air conditioning systems and sunsets the credit after 12/31/2026.

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This bill does the opposite by cutting the tax credit in half and eliminating consumer choice. While smart, innovative changes to the existing tax credit should always be considered, the current language in this bill is regressive and will harm our progress towards our clean energy goals, the industry, and the consumer.

Thank you for supporting clean solar energy and giving me the opportunity to testify.

John Grandinetti – dig signature

John Grandinetti
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(808) 721-3585

LATE

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

In STRONG OPPOSITION of HB 307 RELATING TO ROOFTOP SOLAR INSTALLATION

Before the

COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM
Senator Glenn Wakai, Chair
Senator Brian T. Taniguchi, Vice Chair

COMMITTEE ON COMMERCE, CONSUMER PROTECTION, AND HEALTH
Senator Rosalyn H. Baker, Chair
Senator Stanley Chang, Vice Chair

COMMITTEE ON WAYS AND MEANS
Senator Donovan M. Dela Cruz, Chair
Senator Gilbert S.C. Keith-Agaran, Vice Chair

Tuesday, April 2, 2019; 9:50 AM
Conference Room 211 State Capitol 415 South Beretania Street

Aloha Chair Lowen, Vice-Chair Wildberger, and Members of the Committee,

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

I STRONGLY OPPOSE HB 307 and ask that you **defer this measure**. This measure's proposed SD1 replaces the current renewable energy technology systems tax credit with tax credits for solar energy, wind energy, or commercial seawater air conditioning systems and sunsets the credit after 12/31/2026.

Hawaii needs renewable energy now more than ever. Slashing the tax credit in half limits access to renewable, slows the state's progress towards 100% renewable energy, and makes us all vulnerable to the effects of climate change.

We need to be doing MORE, not less, to democratizing energy and putting choice back into the hands of consumers. Hawaii needs to be a leader in clean energy job creation and building a clean energy economy of the future, not a follower.

It is an indisputable fact that solar energy is leading the charge in the fight against climate change, with Hawaii being one of the top states in installed solar-per-capita. A study from 2017 about the benefits of solar in Hawaii found the following:

The average annual savings for a SHW system to the consumer is $1,018/year. The average savings for a PV system per kW of installed capacity is $554/year. Multiplied over 20 years, this represents $40,000-$60,000 in savings to the consumer over the life of the system.

The state realizes fiscal benefits of solar system installs, rather than deficits. For every $1 spent on solar tax credits by the state, Hawaii receives $1.97-$2.67 in additional tax revenue because the money people save on energy costs is reinvested in the state economy.

Every 5kW of solar installed in the state creates 3 jobs over the system's 20 year life through initial installation and ongoing operations and maintenance.

Another report from last year by the Rhodium Group found that its actually cheaper for Hawaii to accelerate deployment of renewables like rooftop solar, rather than maintaining our current course.

Hawaii still gets over 80% of its energy from dirty fossil fuels, and consumers are paying the price through high energy bills and carbon emissions. In the last 20 years, the price of solar energy has dropped to all-time lows and it gets more affordable every single day. A large part of this affordability is allowing consumers, especially those at low and middle incomes, to realize even greater savings through market appropriate tax incentives.

This bill does the opposite by cutting the tax credit in half and eliminating consumer choice. While smart, innovative changes to the existing tax credit should always be considered, the current language in this bill is regressive and will harm our progress towards our clean energy goals, the industry, and the consumer.

Thank you for supporting clean solar energy and giving me the opportunity to testify.

Laurence Ponce – dig signature

Laurence Ponce
Solar Services Hawaii LLP
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(808) 721-3585
solar.services.hi.testimony@gmail.com

HAWAII PACIFIC SOLAR

LATE

Testimony Opposing HB 307 S.D.1

Honorable Chair Wakai, Chair Baker, Chair Dela Cruz, and members of the committee:

Hawaii Pacific Solar opposes this measure which reduces the tax credit for renewable energy systems.

In its preamble, the bill states that "Despite great progress, the State continues to depend heavily upon imported petroleum for its energy needs, and it still falls far short of its ambitious renewable energy goals." The bill goes on to state that "(t)he legislature further finds that the State must continue to support established renewable energy sources and those emerging from new technological innovations to meet its expansive renewable energy goals". Given the legislatures findings that the State must continue to support renewable energy, it is extremely counterproductive to reduce the tax credits.

Hawaii Pacific Solar is an installer of solar photovoltaic systems across the State; including many on Hawaii's schools through the State Department of Education. These systems have not only provided users with clean energy in support of the State's goals, but have done so at lower energy costs. Federal and State tax credits have been instrumental in allowing these systems to provide energy at much lower costs than from fossil based fuels. As you know, the federal investment tax credit for solar photovoltaic systems will fall from 30% in 2019 to 26% in 2020; 22% in 2021 and 10% thereafter (10% is the floor for commercial and utility pv systems; residential systems fall to 0%). We anticipate there will be some impact from the federal tax credit reductions; the reduction to the State tax credit proposed in HB 307 will accentuate those impacts since they both will come at the same time. For this reason, we recommend that HB 307 be deferred and reconsidered after 2022 when the federal tax credit step-down is complete and that impact can be assessed.

Mahalo for considering our testimony.

Patricia Rohlfing
Vice President – Finance

(808) 661-1166 • Fax (808) 661-1921
2010 Honoapiilani Hwy, Suite C1, Lahaina, HI 96761
hawaiipacificsolar.com

ORGANIZING for ACTION

LATE

To: The Senate Committees on Energy, Economic Development, And Tourism; Commerce, Consumer Protection, And Health; and Ways and Means
From: Brodie Lockard, Hawaii State Climate Lead, Organizing for Action
Date: Tuesday, April 2, 2019, 9:50 am

In opposition to HB 307 SD1, with comments

Dear Chairs Wakai, Baker, and Dela Cruz and Committee Members—

Organizing for Action opposes HB 307, Proposed SD1.

This bill claims that the State's definition of "renewable energy" is too narrow to account for "some technological innovations that produce renewable energy resources." It broadens the definition of "renewable energy" to include "additional self-replenishing non-fossil fuel, non-nuclear resources."

The only such innovation mentioned in the bill is seawater air conditioning. SWAC is a very worthwhile technology perfectly suited to parts of Hawaii, and should be supported.

Unfortunately, besides being unacceptably vague, "self-replenishing non-fossil fuel, non-nuclear resources" allows, indeed endorses, one outrageous resource: trees, as exemplified by Hu Honua's disastrous power plant on the Hamakua coast of the Big Island.

This entire issue could be obviated be using the term "zero emissions" when discussing "renewable energy" projects.

Hu Honua plans to

* Cut 5 acres of eucalyptus trees per day in Kaʻū, Hilo, and Hāmākua, adding up to thousands of acres of trees across the island and losing the carbon sequestration they currently perform;

* Drive 5-6 logging trucks per hour (on “light” days) to the power plant in Pepe'ekeo (the County struggles to maintain these roads and bridges with current traffic as is);

* Burn these trees, releasing about 300,000 tons per year of carbon dioxide, as well as additional pollutants affecting air quality along the coast;

* Draw 21.6 million gallons of water per day from the Hakalau aquifer to cool the turbines (the entire district of North Kona consumes only half that);

* Add over 2 dozen hazardous chemicals to the heated water;

* Inject the hot contaminated water back into the aquifer via 3 injection wells that are less than 100 feet from the edge of geologically unstable cliffs;

* Allow the hot, contaminated water to rise up in the ocean seabed to directly impact coral reefs and critically endangered Hawksbill turtles;

* And finally, overcharge for electricity—double the current cost of solar power, which is dropping exponentially worldwide.

Disasters like Hu Honua must be prevented, not encouraged. If "self-replenishing non-fossil fuel, non-nuclear resources" other than SWAC are contemplated, the bill should mention them.

Thank you for the opportunity to testify.

Brodie Lockard
Hawaii State Climate Lead, Organizing for Action

HB-307
Submitted on: 4/1/2019 9:47:46 PM
Testimony for EET on 4/2/2019 9:50:00 AM

LATE

Submitted By	Organization	Testifier Position	Present at Hearing
David Mulinix	Testifying for Our Revolution Hawaii	Oppose	No

Comments:

HAWAIʻI FOREST INDUSTRY ASSOCIATION (HFIA)
P. O. Box 66 ❖ ʻOʻōkala, HI 96774
Phone: 808-933-9411
Email: hfia@hawaiiforest.org
Website: www.hawaiiforest.org

LATE

April 01, 2019

TESTIMONY

COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM
Senator Glenn Wakai, Chair
Senator Brian T. Taniguchi, Vice Chair

COMMITTEE ON COMMERCE, CONSUMER PROTECTION, AND HEALTH
Senator Rosalyn H. Baker, Chair
Senator Stanley Chang, Vice Chair

COMMITTEE ON WAYS AND MEANS
Senator Donovan M. Dela Cruz, Chair
Senator Gilbert S.C. Keith-Agaran, Vice Chair

Oppose HB 307 – Relating to renewable energy

Aloha Senators Wakai, Baker, Dela Cruz and members of the Committees:

The Hawaiʻi Forest Industry Association (HFIA) is a statewide nonprofit corporation established in Hawaiʻi in 1989 to promote healthy and productive forests and a sustainable forest industry through forest management, education, planning, information exchange, and advocacy. HFIA has over 300 members, including professional foresters, millers, harvesters, growers, educators, retailers, manufacturers, wholesalers, governments, nonprofits, horticulturists, and others interested in HFIA's mission of healthy and productive forests.

The HFIA strongly opposes HB 307 SD 1 relating to renewable energy that removes trees from consideration as a renewable fuel.

As anyone who has warmed themselves around a campfire can attest to, trees and wood are one of the oldest sources of renewable energy humanity has used. Tree biomass, by any reputable Lifecycle Analysis, store more carbon than they produce, by accumulating leaf litter and organic carbon deep in the soil profile. Biomass crops, on the other hand, which are specifically included in the bill result in the annual or semi-annual tilling of the soil, harming the environment and resulting in higher greenhouse gas emissions.

The HFIA favors all sources of renewable fuels, and particularly trees precisely because of the benefits that forests and planted trees bring in the form of water and soil replenishment, carbon storage and renewable energy.

I urge you to oppose bill in the interest of a balance to the renewable energy portfolio.

Mahalo,

Nicholas Koch, HFIA President

LATE

Testimony of
Christopher Delaunay, Government Relations Manager
Pacific Resource Partnership

Senate Committee on Energy, Economic Development, And Tourism
The Honorable Glen Wakai, Chair
The Honorable Brian T. Taniguchi, Vice Chair

Senate Committee on Commerce, Consumer Protection, And Health
The Honorable Rosalyn H. Baker, Chair
The Honorable Stanley Chang, Vice Chair

Senate Committee on Ways And Means
The Honorable Donovan M. Dela Cruz, Chair
The Honorable Gilbert S.C. Keith-Agaran, Vice Chair

HB 307, Proposed SD1 – Relating to Renewable Energy

Tuesday, April 2, 2019
9:50 A.M.
State Capitol – Room 211

Aloha Chairs Wakai, Baker, and Dela Cruz and Vice Chairs Taniguchi, Chang and Keith-Agaran, and Members of the Committees:

Pacific Resource Partnership (PRP) **strongly opposes** the following amendment under item (7) of the Renewable energy definition:

"(7) Biomass, including biomass crops, agricultural and animal residues and wastes, and municipal solid waste and other solid waste[~~;~~], but not including mono-cultured wood crops;"

The purpose of this bill is to broaden the definition of "renewable energy," however, the language excluding mono-cultured biomass only narrows the definition without any justification.

We are concerned that biomass facilities will be negatively impacted by this amendment. These facilities provide a reliable source of sustainable and renewable energy that uses natural feedstock as its fuel source. This reliable source of renewable energy is especially important since volcanic activity along Kilauea Volcano's lower East Rift Zone has forced the Puna Geothermal Venture plant offline. The

(Continued From Page 1)

completion of these types of projects are vital to converting our fossil fuel generation to achieve the 100% clean energy by 2045.

Moreover, biomass projects provide important employment opportunities for locals, including a significant amount of construction work for Hawaii's residents. These jobs will stimulate the local economy, since construction workers and facility employees are likely to buy goods and services from surrounding businesses.

Please consider deleting the phrase " but not including mono-cultured wood crops" from this amendment.

Thank you for the opportunity to testify on this measure.

HB-307
Submitted on: 4/2/2019 5:39:27 AM
Testimony for EET on 4/2/2019 9:50:00 AM

LATE

Submitted By	Organization	Testifier Position	Present at Hearing
Erica Dahl	Testifying for Vivint Solar	Oppose	No

Comments:
Aloha Chair Wakai, Chair Baker, Chair Dela Cruz, and members of the committee,

Vivint Solar opposes HB 307 proposed SD1 and we ask that you **defer this measure**. This measure's proposed SD1 replaces the current renewable energy technology systems tax credit with tax credits for solar energy, wind energy, or commercial seawater air conditioning systems and sunsets the credit after 12/31/2026. Hawaii needs renewable energy now more than ever. Slashing the tax credit in half **limits access to renewable, slows the state's progress towards 100% renewable energy and impacts our ability to create jobs in the renewable sector.**

Hawaii still gets over 80% of its energy from dirty fossil fuels, and consumers are paying the price through high energy bills and carbon emissions. In the last 20 years, the price of solar energy has dropped to all-time lows and it gets more affordable every single day. A large part of this affordability is allowing consumers, especially those at low and middle incomes, to realize even greater savings through market appropriate tax incentives.

This bill does the opposite by **cutting the tax credit** in half and **eliminating consumer choice**. While smart, innovative changes to the existing tax credit should always be considered, the current language in this bill is regressive and will harm our progress towards our clean energy goals, the industry, and the consumer.

Thank you for supporting clean solar energy and for the opportunity to testify.

Sincerely,

Erica Dahl

VP, Government Affairs

Vivint Solar

801-884-7634

erica.dahl@vivintsolar.com

ReplyReply allForward

HB-307
Submitted on: 4/2/2019 7:53:19 AM
Testimony for EET on 4/2/2019 9:50:00 AM

LATE

Submitted By	Organization	Testifier Position	Present at Hearing
Radford Nakamura	Individual	Oppose	No

Comments:

Aloha Chair Wakai, Chair Baker, Chair Dela Cruz, and members of the committee,

I STRONGLY OPPOSE HB 307 PROPOSED SD1 and ask that you **defer this measure**. This measure's proposed SD1 replaces the current renewable energy technology systems tax credit with tax credits for solar energy, wind energy, or commercial seawater air conditioning systems and sunsets the credit after 12/31/2026.

Hawaii needs renewable energy now more than ever. Slashing the tax credit in half **limits access to renewable, slows the state's progress towards 100% renewable energy, and makes us all vulnerable to the effects of climate change**.

We need to be doing MORE, not less, to democratizing energy and putting choice back into the hands of consumers. Hawaii needs to be a leader in clean energy job creation and building a clean energy economy of the future, not a follower.

It is an indisputable fact that solar energy is leading the charge in the fight against climate change, with Hawaii being one of the top states in installed solar-per-capita. A study from 2017 about the benefits of solar in Hawaii found the following:

- The average annual savings for a SHW system to the consumer is $1,018/year. The average savings for a PV system per kW of installed capacity is $554/year. Multiplied over 20 years, this represents $40,000-$60,000 in savings to the consumer over the life of the system.
- The state realizes fiscal benefits of solar system installs, rather than deficits. For every $1 spent on solar tax credits by the state, Hawaii receives $1.97-$2.67 in additional tax revenue because the money people save on energy costs is reinvested in the state economy.
- Every 5kW of solar installed in the state creates 3 jobs over the system's 20 year life through initial installation and ongoing operations and maintenance.

Another report from last year by the Rhodium Group found that its **actually cheaper** for Hawaii to accelerate deployment of renewables like rooftop solar, rather than maintaining our current course.
Hawaii still gets over 80% of its energy from dirty fossil fuels, and consumers are paying

the price through high energy bills and carbon emissions. In the last 20 years, the price of solar energy has dropped to all-time lows and it gets more affordable every single day. A large part of this affordability is allowing consumers, especially those at low and middle incomes, to realize even greater savings through market appropriate tax incentives.

This bill does the opposite by **cutting the tax credit** in half and **eliminating consumer choice**. While smart, innovative changes to the existing tax credit should always be considered, the current language in this bill is regressive and will harm our progress towards our clean energy goals, the industry, and the consumer.

Mahalo for supporting clean solar energy and giving me the opportunity to testify.

Radford Nakamura

HB-307
Submitted on: 3/29/2019 10:22:21 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Allix Hessick	Individual	Support	No

Comments:

HB-307
Submitted on: 3/31/2019 8:44:57 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Koohan Paik	Individual	Support	No

Comments:

HB-307
Submitted on: 3/31/2019 8:52:48 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Tawn Keeney	Individual	Support	No

Comments:

I wish to submit testimony in favor of HB307 in its amended form HB307 SD1 SMA. Among other things HB 307 SD1 SMA amends HRS 269-91 to delete monocultured wood crops from the definition of 'biomass'. In addition, it needs to delete monocultured wood crops from the definition of 'biofuels' to be consistent with HRS 235-110.31.

One year ago the State Legislature erred by amending HRS 235-110.31 which defines 'renewable fuels' and 'renewable feedstocks' so as to include the burning of biomass (mostly live trees reduced to chips). This amendment was purported to advance the goals of the State of Hawaii toward 'Clean Energy'. Burning wood for power should not be considered 'clean energy'. This will be shown by the following letter which was sent to all legislators in Dec. 2018, requesting that the 2018 amendments to HRS 235-110.31 be rescinded. The 2018 amendments were drafted specifically for the proposed wood burning power plant on the Big Island, Hu Honua, to access tax incentives. It therefore is through this example that the following letter demonstrates that burning green trees for power should not be considered 'clean energy'.

I wish to draw your attention to an important issue which has direct bearing on statewide greenhouse gas emissions and governmental policy. This reference is to Act 143 (18) signed into law on July 5, 2018. This enacts amendments to SB3077 SD2 HD1 CD1 RELATING TO BIOFUELS.

Act 143 (18) states in section1, “Act 202, Session Laws of Hawaii 2016, created a nonrefundable tax credit for the production of renewable fuels, including biodiesel, to be implemented through 2021” for … (among others) the purpose of fighting climate change. “The purpose of this Act is to expand the availability of the renewable fuels production tax credit by lowering the production threshold and expanding the types of renewable fuel eligible for the credit.”

Section 2 Section 235-110.31, Hawaii Revised Statutes, is amended as follows: (strikethrough represents deletions and **Bold** represents insertions)

1. By amending subsection (a) to read:

“(a) As used in this section

“Credit period” means a maximum period of five consecutive years, beginning from the first taxable year in which a taxpayer begins renewable fuels production at a level of at least [~~fifteen~~] **two billion five-hundred million** British Thermal Units

of renewable fuels per calendar year.

"Renewable feedstocks" means:

(1) Biomass crops [.] **and other renewable organic material, including but not limited to logs, wood chips, wood pellets and wood bark;**

(2) Agricultural residues

(3) Oil crops, including but not limited to algae, canola, jatropha, palm, soybean, and sunflower;

(4) Sugar and starch crops, including but not limited to sugar cane and cassava;

(5) Other agricultural crops;

(6) Grease and waste cooking oil

(7) Food Wastes

(8) Municipal solid wastes and industrial wastes;

(9) Water; and

(10) Animal residues and wastes,

that can be used to generate energy.

"Renewable fuels" means fuels produced from renewable feedstocks, provided that the fuel:

(1) Is sold as a fuel in Hawaii; and

(2) Meets the relevant ASTM International specifications or other industry specifications for the particular fuel, including but not limited to:

(A) Methanol, ethanol, or other alcohols;

(B) Hydrogen

(C) Biodiesel or renewable diesel;

(D) Biogas

(E) Other biofuels; [~~or~~]

(F) Renewable jet fuel or renewable gasoline [.]; **or**

(G) Logs, wood chips, wood pellets, or wood bark."

Condensed, what has occurred in this amendment is the addition of burning a new fuel, FOREST WOOD, for inclusion in qualification for Biofuels Tax Credits, for the purpose stated as, "Biofuels could significantly advance the State's clean energy goals." The tax credit is $3 million per year for 5 years maximum. I will show in this letter that burning forest wood for producing electricity should not be considered 'clean energy'.

The other element of this amendment is the reduction of the qualifying BTU production from 15 billion BTUs per year to 2.5 billion BTUs per year. Notably, the Eucalyptus plantation wood burning power plant, Hu Honua, scheduled to open late 2018 or early 2019 at Pepeekeo on the Big Island is permitted to produce 2.8 billion BTUs per year. Hu Honua's stated intention is to harvest and burn more than 20 thousand acres of plantation Eucalyptus forest with regrowth or replanting that forest and repeat harvesting in 8 year cycles. Clearly this amendment has been tailored to offer this Tax Credit to Hu Honua.

However, this Act introduces itself by announcing, "Section 1. The legislature finds that the State of Hawaii has set a goal of achieving one hundred percent clean energy by the year 2045." So what are the facts regarding burning forest wood for electricity as it relates to it's designation as 'clean energy'.

1) BURNING WOOD EMITS 1.5X MORE GREENHOUSE GASES THAN BURNING COAL FOR PRODUCTION OF EQUIVALENT ENERGY. (Intergovernmental Panel on Climate Change Taskforce on Greenhouse Gas Inventories (2006), Laganiere et al (2017). (see attachment: Laganiere) Notably, this source also demonstrates that burning wood releases 3x more greenhouse gas than burning Natural Gas. The largest energy source on the Big Island is Hamakua Energy Partners producing 60 megawatts. It burns Naptha which is similar to jet fuel and would emit greenhouse gasses in a range that would be approximately half that of burning wood.

2) HU HONUA, producing 25 megawatts electricity, WILL EMIT 300,000 TONS GREENHOUSE GASSES PER YEAR. This is almost 1000 (one thousand) tons greenhouse gasses per day. (Hu Honua Clean Air Permit Application - Greenhouse Gas Addendum 2016) (see attachment: Hu Honua GHG emissions)

How can Hu Honua, as it often does, portray itself as 'clean energy'. In the guise of 'clean energy' how was Hu Honua able to convince legislators to qualify it for a Tax Credit which was intended to mitigate the effects of climate change by reducing greenhouse gas production, rather than by increasing GHG production, as burning wood for power will do.

The answer is as follows:

The EPA has designated 'bioenergy' as greenhouse gas neutral. This is not merely a designation by the Trump administration but goes back approximately 10 years. Under influence from heavily forested states, these administrations developed the policy that burning waste wood for power, factoring in re-sequestration of carbon from the regrowth of trees, carbon neutrality could be approached. This however over the years has been inappropriately extrapolated to include the harvesting of green trees exclusively for burning for electricity. And accounting has has been designated to factor the entire life cycle of the tree at arbitrarily 100 years, even though it is now apparent that a time frame of 100 years to judge climate impact has lost all relevance. Because of the re-sequestration by regrowth after harvest, the EPA has assigned the burning of trees a GHG emission factor of 0. In spite of widespread recognition of it's accounting error, and an 'a priori' understanding that burning trees for power is not greenhouse gas neutral, EPA however has maintained this position of carbon neutrality. (1)

On two occasions, once in 2014 and again in 2018, the EPA has requested endorsement of this position from it's Scientific Advisory Board. On both occasions the SAB sent the position statement back to the EPA without endorsement, stating that the time frame and the feedstock (green trees vs. waste wood) must be specified and these are policy decisions. This reflects the position that burning Green Trees in the short term (decades rather than centuries) cannot be considered greenhouse gas neutral. (3) (4) (5) Essentially, the designation of Bioenergy as GHG neutral, justifying tax incentives to burn whole forests for fuel, which is decimating the natural landscape of the American Southeast, is a policy decision not based on science fact. This policy has increased greenhouse gas emissions and is contributing inexorably to climate change. It is slowing the transition to clean energy in the form of Solar and Wind.

If we discard the audacious notion that harvesting and burning trees for electricity is GHG neutral, when we know that burning wood emits 1.5x more GHG than burning coal, then how should we factor in the sequestration from regrowth of the trees? And

what of the peripheral factors to be computed such as emissions from the harvesting and hauling process?

The Government of Canada has developed a computational tool to factor together the basic elements of this seemingly complicated problem. This tool is accessible at the Canadian Government website, < Bioenergy Greenhouse Gas Calculator > < https://apps-scf-cfs.rncan.gc.ca/calc/en/bioenergy-calculator >. The complicated science behind this simple tool can be found and studied in the article, “Range and Uncertainties in Estimating Delays in Greenhouse Gas Mitigation Potential of Forest Bioenergy in Canadian Forests”, Laganiere et al. (2017) < https://onlinelibrary.wiley.com/doi/pdf/10.1111/gcbb.12327 >. In the three attachments I have applied this tool to approximation of Hu Honua’s operation. I have conservatively modeled the efficiency of both the Hu Honua incinerator and an arbitrary coal incinerator as maximally efficient. The average distance from harvest site to incinerator has been approximated. This graph of accumulated GHG emissions over time (up to 100 years) compares burning trees to burning coal as the '0' baseline, with a best and worst case scenario. This shows that accumulated GHG emissions from burning green trees, factoring in sequestration of carbon from regrowth of trees, in the best case scenario could reach parity with coal after 50 years. Until 50 years the net GHG balance from burning trees will be worse than burning coal. And this is best case scenario - more likely never to achieve parity with coal.

It is of interest that a huge solar farm with battery storage has been announced outside Kamuela, to be completed in 2022, that will sell electricity to HELCO at 11c per kWh with transition to 9c per kWh whereas Hu Honua will send electricity to HELCO at a cost of 21c per kWh with transition upward.

Just as Hawaii is developing strategies toward energy and food independence, it should also realize the importance of building materials independence. Given a scenario of shipping disruption, with appropriate silviculture and another decade or two of growth, these 20+ thousand acres of now 20 year old trees might be the only realistic source of building materials in the islands. Should we be burning these forests now?

On September 10, 2018 the Secretary General of the United Nations addressed the assembled leaders of more than 100 nations. He stated: “Climate change is the defining issue of our time - and we are at a defining moment. We face a direct existential threat. Let there be no doubt about the urgency of the crisis. If we do not change course by 2020, we risk missing the point where we can avoid runaway climate change, with disastrous consequences for people and the natural systems that sustain us.” Secretary-General Guterres

I ask the following:

1. Please discuss this with other agencies and individuals whose mandates are to develop strategies for reducing the impact of Hawaii’s greenhouse gas emissions on climate change. Included in resistance to Hu Honua are Sierra Club, 350.Org, Life of the Land, Malama Hamakua & The Democratic Party of Hawaii (which in 2018 overwhelmingly passed Resolution ENV 2018-08 stating "Resolved, That The Democratic Party of Hawai’i urges the Public Utilities Commission, all elected and appointed officials of the State of Hawai’i and its various counties to withdraw support

for Hu Honua Bioenergy, and any successors, which will have irreversible and deleterious consequences for the state's coastal waters and the planet's atmosphere;"

2. Please watch the 30 minute film "Burned: Are Trees the Next Coal" here: https://vimeo.com/286550378 Password: Burned30minute4u2

3. Contact Hu Honua, Representative Nakashima or Senator Inouye, sponsors of Hu Honua, or others to ask for further information or to ask for comment on this letter.

4. Listen to Oral Arguments before the Hawaii Supreme Court contesting Hu Honua's failure to address the legislative mandated Greenhouse Gas Emissions in their filing before the PUC for Power Purchase Agreement here: http://www.courts.state.hi.us/oral-argument-before-the-hawaii-supreme-court-scot-17-0000630

5. Presumably, the Hu Honua Power Purchase Agreement will be remanded by an upcoming Supreme Court decision to the Public Utilities Commission for reconsideration with inclusion of the effects of its GHG emissions on Hawaii's public and the global public. Please submit testimony to that docket expressing your opinion on the propriety of allowing a 'worse than coal' power plant to begin operation in Hawaii when much cleaner energy is available at a much lower price. Even with the loss of Puna Geothermal Ventures there is no 'energy emergency' on the Big Island.

6. Contact the Governor to request intervention on the opening of this facility.

7. Contact the appropriate national representatives and senators to encourage introduction of federal legislation to discourage the harvest of forests for bioenergy.

8. Most importantly, encourage and contribute to the introduction of a bill into the upcoming legislature to rescind the amendments made last year to S.B. NO. 3077 and deny a clean energy tax credit to facilities such as Hu Honua whose greenhouse gas footprint will be worse than burning coal. Legislature begins in mid January and bill preparation is being done now. Send a letter reflecting your judgement of this issue to all legislators, with emphasis on those on the environmental and energy committees.

9. Stop using the word 'Renewable' as synonymous with 'Clean' and 'Sustainable'. It contributes to the masquerade of 'Bioenergy' as being environmentally friendly rather than environmentally abhorrent.

References:

(1) EPA's Treatment of Biogenic Carbon Dioxide Emissions from Stationary Sources that Use Forest Biomass for Energy Production https://www.google.com/search?client=safari&rls=en&q=biomass_policy_statement_2018_04_23&ie=UTF-8&oe=UTF-8

(2) Why Burning Trees for Energy is Bad for Climate

https://www.wri.org/blog/2017/12/insider-why-burning-trees-energy-harms-climate
(3) EPA Scientific Advisory Board Rejects Flawed Biomass Proposal
https://www.nrdc.org/experts/sami-yassa/full-scientific-advisory-board-rejects-flawed-biomass-proposal
(4) Science Advisory Board
(2018) https://yosemite.epa.gov/sab/sabproduct.nsf/WebBOARD/521CDCBF9B028BCE852582F80065B320/$File/Biogenic_Carbon_+Qual_Rev-8-29-18.pdf
National Academy of Sciences: Trajectories of Earth Systems in the Anthropocene
http://www.pnas.org/content/115/33/8252
IPCC 2018 Press Release
https://www.ipcc.ch/pdf/session48/pr_181008_P48_spm_en.pdf
IPCC 2018 Summary for Policy Makers
http://www.ipcc.ch/pdf/special-reports/sr15/sr15_spm_final.pdf
UN report on global warming carries life-or-death warning
http://www.hawaiinewsnow.com/2018/10/08/un-report-global-warming-carries-life-or-death-warning-2/
New IPCC Report Too Cautious, Some Scientists Say - Scientific American
https://www.scientificamerican.com/article/new-climate-report-was-too-cautious-some-scientists-say/

Tawn I. Keeney MD
36 years General Practice, Honokaa

cc: All State of Hawaii Legislators, Governor Ige, Mayor Harry Kim

HB-307
Submitted on: 3/31/2019 8:56:03 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Matt Binder	Individual	Support	No

Comments:

Aloha Senators,

I support the amended version of this bill that does not include wood-burning plants as "renewable."

Thank you, Matt Binder, Waimea

HB-307
Submitted on: 3/31/2019 9:34:30 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Barbara Hershey	Individual	Support	No

Comments:

HB-307
Submitted on: 3/31/2019 9:37:54 AM
Testimony for EET on 4/2/2019 9:50:00 AM

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

Comments:

HB-307
Submitted on: 3/31/2019 10:51:52 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Anne Farrell	Individual	Support	No

Comments:

HB-307
Submitted on: 3/31/2019 1:17:54 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Emily Garland	Individual	Support	No

Comments:

HB-307
Submitted on: 4/1/2019 7:33:17 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Chezlani Casar	Individual	Support	No

Comments:

HB-307
Submitted on: 4/1/2019 9:27:09 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Brent Magstadt	Individual	Support	No

Comments:

Do the right thing - SUPPORT HB307:

Exclude wood-burning electrical power plants from qualifying for renewable tax credit, and while you're changing the world into a better place this will also disqualify small-scale nuclear power from qualifying for renewable tax credits!
Hooray! Thank you for thinking sustainably, your aina (and children) appreciate it!

Regards,

-- Brent Magstadt

Puna District, Hawai'i Island

HB-307
Submitted on: 3/31/2019 7:42:25 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Robert Culbertson	Individual	Support	No

Comments:

HB-307
Submitted on: 3/31/2019 6:43:43 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Caroline Kunitake	Individual	Comments	No

Comments:

Aloha,

I appreciate the efforts to improve HB307 by specifying that mono-cultured wood crops and nuclear energy are not included as renewable energy. However, I have serious concerns and am in strong opposition to the language added to this bill that would disincentivize solar energy adoption.

In the current version of HB307, language has been added that seeks to amend tax credits for solar energy systems used to generate electricity, so that the 35% tax credit currently afforded would see a reduction every two years dropping to 5% by 2025.

It is shocking that when the UN IPCC report says we have less than a dozen years to make drastic reductions in our greenhouse gas emissions that a bill would be put forward entertaining cutting solar energy tax credits which have helped consumers move towards clean energy and reduce greenhouse gas emissions. This is the wrong time to entertain a plan to wean tax payers off a solar energy tax credit, a program that has been helping Hawaii achieve our renewable energy goals. Our values and priorities must be kept focused on decisions we make now that will drastically reduce greenhouse gas emissions to ensure a safe climate and a livable future for our children.

I urge that any language that reduces tax credits for solar energy be removed from this bill.

Mahalo,

Caroline Kunitake

HB-307
Submitted on: 3/31/2019 7:39:15 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
donald erway	Individual	Comments	No

Comments:

I appreciate the efforts to improve HB307 by specifying that mono-cultured wood crops and nuclear energy are not included as renewable energy. However, I have serious concerns and am in strong opposition to the language added to this bill that would disincentivize solar energy adoption.

In the current version of HB307, language has been added that seeks to amend tax credits for solar energy systems used to generate electricity, so that the 35% tax credit currently afforded would see a reduction every two years dropping to 5% by 2025.

It is shocking that when the UN IPCC report says we have less than a dozen years to make drastic reductions in our greenhouse gas emissions that a bill would be put forward entertaining cutting solar energy tax credits which have helped consumers move towards clean energy and reduce greenhouse gas emissions. This is the wrong time to entertain a plan to wean tax payers off a solar energy tax credit, a program that has been helping Hawaii achieve our renewable energy goals. Our values and priorities must be kept focused on decisions we make now that will drastically reduce greenhouse gas emissions to ensure a safe climate and a livable future for our children.

I urge that any language that reduces tax credits for solar energy be removed from this bill.

HB-307
Submitted on: 3/30/2019 10:06:25 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Eric Micha'el Leventhal	Individual	Comments	No

Comments:

Aloha and greetings,

I appreciate the efforts to improve HB307 by specifying that mono-cultured wood crops and nuclear energy are not included as renewable energy. However, I have serious concerns and am in strong opposition to the language added to this bill that would disincentivize solar energy adoption.

In the current version of HB307, language has been added that seeks to amend tax credits for solar energy systems used to generate electricity, so that the 35% tax credit currently afforded would see a reduction every two years dropping to 5% by 2025.

It is shocking that when the UN IPCC report says we have less than a dozen years to make drastic reductions in our greenhouse gas emissions that a bill would be put forward entertaining cutting solar energy tax credits which have helped consumers move towards clean energy and reduce greenhouse gas emissions. This is the wrong time to entertain a plan to wean tax payers off a solar energy tax credit, a program that has been helping Hawaii achieve our renewable energy goals. Our values and priorities must be kept focused on decisions we make now that will drastically reduce greenhouse gas emissions to ensure a safe climate and a livable future for our children.

I urge that any language that reduces tax credits for solar energy be removed from this bill.

Thank you for doing the right thing to protect our community's future!

HB-307
Submitted on: 3/31/2019 5:57:49 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
christine trecker	Individual	Comments	No

Comments:

HB307 SD1 is a good bill except for the provision to gradually reduce the 35% tax credit for solar energy system adoption to 5% by 2025. It is imperative that we take bold steps to incentivize the transition to renewable energy not undermine it. Please strike the bill's language concerning tax credit reductions.

Thank you.

HB-307
Submitted on: 3/31/2019 10:55:17 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Janet Graham	Individual	Comments	No

Comments:

I appreciate the efforts to improve HB307 by specifying that mono-cultured wood crops and nuclear energy are not included as renewable energy. However, I have serious concerns and am in strong opposition to the language added to this bill that would disincentivize solar energy adoption.

In the current version of HB307, language has been added that seeks to amend tax credits for solar energy systems used to generate electricity, so that the 35% tax credit currently afforded would see a reduction every two years dropping to 5% by 2025.

It is shocking that when the UN IPCC report says we have less than a dozen years to make drastic reductions in our greenhouse gas emissions that a bill would be put forward entertaining cutting solar energy tax credits which have helped consumers move towards clean energy and reduce greenhouse gas emissions. This is the wrong time to entertain a plan to wean tax payers off a solar energy tax credit, a program that has been helping Hawaii achieve our renewable energy goals. Our values and priorities must be kept focused on decisions we make now that will drastically reduce greenhouse gas emissions to ensure a safe climate and a livable future for our children.

I urge that any language that reduces tax credits for solar energy be removed from this bill.

HB-307
Submitted on: 3/31/2019 5:15:11 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Jonathan Boyne	Individual	Oppose	No

Comments:

I appreciate the efforts to improve HB307 by specifying that mono-cultured wood crops and nuclear energy are not included as renewable energy. However, I have serious concerns and am in strong opposition to the language added to this bill that would disincentivize solar energy adoption.

In the current version of HB307, language has been added that seeks to amend tax credits for solar energy systems used to generate electricity, so that the 35% tax credit currently afforded would see a reduction every two years dropping to 5% by 2025.

It is shocking that when the UN IPCC report says we have less than a dozen years to make drastic reductions in our greenhouse gas emissions that a bill would be put forward entertaining cutting solar energy tax credits which have helped consumers move towards clean energy and reduce greenhouse gas emissions. This is the wrong time to entertain a plan to wean tax payers off a solar energy tax credit, a program that has been helping Hawaii achieve our renewable energy goals. Our values and priorities must be kept focused on decisions we make now that will drastically reduce greenhouse gas emissions to ensure a safe climate and a livable future for our children.

I urge that any language that reduces tax credits for solar energy be removed from this bill.

HB-307
Submitted on: 3/31/2019 7:44:54 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Barbara Barry	Individual	Oppose	No

Comments:

Simply put, NO Nuclear power plants in Hawaii.

We do not need this type of power no matter how " renewable" they try to explain it is.

Short and long term impact of this kind of energy are devastating for the ‘Ä€ina.

There are much better options with other forms of truly renewable energy without the long term toxic pollution of spent nuclear waste.

Mahalo,

HB-307
Submitted on: 3/31/2019 9:18:27 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Ted Bohlen	Individual	Oppose	No

Comments:

Oppose cuts to the solar tax credits portion of the bill.

HB-307
Submitted on: 4/1/2019 7:21:46 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Noel Morin	Individual	Oppose	No

Comments:

Dear Representatives,

Thank you for the opportunity to provide testimony on this bill. First - I appreciate that the language has been clarified to specifically exclude "nuclear" and "mono-cultured wood crops" from the list of 'renewable' sources. This change addresses some of the concerns raised by the initial proposal.

However, the inclusion of section 3 (the phase out schedul of credits for renewable energy projects) is very concerning. Core to the issue is timing - we have a renewable energy goal that is aggressive and only a couple of decades away. Importantly, the goal may not be aggressive enough - the IPCC report suggests that we should double down on our efforts to combat climate change or a risk catastrophic climate crisis. Hence, a premature phase-out of incentives designed to increase the adoption of renewables without a plan to replace with something that allows for a more aggressive drawdown on fossil fuel dependency is counterproductive and puts our renewable energy goal at risk.

We owe it to our people, particularly our children and theirs, to take steps now to preserve our environment. Please help us do the right thing and increase incentives on activities that increase our use of renewables and institute measures to disincentivize fossil fuel use. Please oppose the premature phase out of renewable energy tax credits that is proposed in HB307.

Sincerely,

Noel Morin

HB-307
Submitted on: 4/1/2019 8:19:52 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Greg Puppione	Individual	Oppose	No

Comments:

We don't need nuclear energy in a part of the world likely to experience hurricanes, tsunamis, and earthquakes. See Fukushima for reasons why this is a VERY bad idea. Please vote against this bill. Mahalo!

HB-307
Submitted on: 4/1/2019 8:26:18 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
alex beers	Individual	Oppose	No

Comments:

To whom it may concern,

I strongly appose this bill. To give a way for nuclear energy to even be thought of is beyond ignorant. Nuclear is catastrophic when it goes wrong and should be banned world wide. Please vote no on this bill.

Mahalo,

Alex Beers

20 Kaikai st.

Wailuku, HI

96793

HB-307
Submitted on: 4/1/2019 9:31:16 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Barbara L. George	Individual	Oppose	No

Comments:

OPPOSE IN THE STRONGEST TERMS POSSIBLE!!!!!!

HB-307
Submitted on: 4/1/2019 9:44:17 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Deborah Umiamaka	Individual	Oppose	No

Comments:

No, we don't want Nuclear energy in Hawai‘i. This bill's language is too broad and could have terrible repercussions on our renewable energy future in the islands.

HB-307
Submitted on: 4/1/2019 9:53:22 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Brant Page	Individual	Oppose	No

Comments:

We don't want Nuclear energy in Hawai‘i. This bill's language is too broad and could have terrible repercussions on our renewable energy future in the islands.

HB-307
Submitted on: 4/1/2019 10:04:49 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Mr Gary Passon	Individual	Oppose	No

Comments:

Bad laws are written without good definetions. I oppose this.

HB-307
Submitted on: 4/1/2019 10:10:11 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Wendy Gibson	Individual	Oppose	No

Comments:

Aloha Committee Chairs, Vice Chairs and Committee Members,

I am opposed to nuclear energy on Hawaiian islands. My father was a nuclear scientist at a nuclear power plant, so while I believe that nuclear energy can be a safe source of power, I am opposed to building a nuclear power plant on volcanic islands.

Thank you.

Wendy Gibson R.N.

HB-307
Submitted on: 4/1/2019 10:12:05 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Patricia Cadiz	Individual	Oppose	No

Comments:

While I strongly support renewable energy I oppose this measure because I feel the language is too broad and may include nuclear energy in the broad definition of renewables. I do not support any sort of nuclear energy in Hawaii because the consequences of a mishap are too great.

Please amend this measure so that it can be fully supportted by those of us that do support other forms of renewables.

mahalos

HB-307
Submitted on: 4/1/2019 10:31:46 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Susan Stayton	Individual	Oppose	No

Comments:

Dear Legislators,

I STRONGLY urge you to oppose HB307. Nuclear energy is not Renewable energy. Nuclear energy should be banned completely. Humans have not yet discovered how to safely deal with nuclear waste and it would be a disaster for HI to have to try. We cannot just send our toxic waste to some other place to deal with.

HI needs clean renewable energy, not dirty nuclear energy.

Thanks for your consideration,

Susan

HB-307
Submitted on: 4/1/2019 11:21:21 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Dave Kisor	Individual	Oppose	No

Comments:

There are bad ideas and there are hideous ideas. Nuclear energy in Hawai'i is even worse than that. Have you even considered a waste disposal plan, or would that be resolved by a series of amendments, the next being worst than the ones before it. They can't even do geothermal here in Puna Makai without injuring residents, but since the corporation takes out full page ads telling how great grand and wonderful they are, the papers don't print anything negative about their benefactors. You want renewable, but is the energy source clean and green? You probably won't want to hear this, but clean does not produce toxic gases like hydrogen sulfide, like geothermal has been known to release. I'm finally recovering from our blast when Iselle took down hundreds if not thousands of trees more than the two needeed to debilitate the facility, whih failed where they weren't expecting. Green does not require a prtroleum procuct as part of the process. Clean and green does not produce radioactive waste. We have active rift zones along with active volcanism here in Puna Makai, so you wouldn't want to place a nuclear facility here. While it may not be erupting at the prsent, geologic time has absolutely no correlation to human time scale. A better idea is not to build the blasted thing here at all. If you must, put it on Planet Honolulu.

HB-307
Submitted on: 4/1/2019 11:35:15 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Barbara Best	Individual	Oppose	No

Comments:

HB-307
Submitted on: 4/1/2019 11:40:45 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Helena Orris	Individual	Oppose	No

Comments:

I, Helena Orris, am in strong opposition of HB307, which broadens the definition of "renewable energy" to include other self-replenishing non-fossil fuel resources. The language of this bill is too broad and could have terrible repercussions on our renewable energy future in the islands.

HB-307
Submitted on: 4/1/2019 12:15:00 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Angie Hofmann	Individual	Oppose	No

Comments:

No nuclear power in Hawaii ever!

It is not safe for our cutizens!

HB-307
Submitted on: 4/1/2019 1:34:12 PM
Testimony for EET on 4/2/2019 9:50:00 AM

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

Comments:

HB-307
Submitted on: 4/1/2019 1:37:47 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Nanea Lo	Individual	Oppose	No

Comments:

Hello,

I appreciate the efforts to improve HB307 by specifying that mono-cultured wood crops and nuclear energy are not included as renewable energy. However, I have serious concerns and am in strong opposition to the language added to this bill that would disincentivize solar energy adoption.

In the current version of HB307, language has been added that seeks to amend tax credits for solar energy systems used to generate electricity, so that the 35% tax credit currently afforded would see a reduction every two years dropping to 5% by 2025.

It is shocking that when the UN IPCC report says we have less than a dozen years to make drastic reductions in our greenhouse gas emissions that a bill would be put forward entertaining cutting solar energy tax credits which have helped consumers move towards clean energy and reduce greenhouse gas emissions. This is the wrong time to entertain a plan to wean tax payers off a solar energy tax credit, a program that has been helping Hawaii achieve our renewable energy goals. Our values and priorities must be kept focused on decisions we make now that will drastically reduce greenhouse gas emissions to ensure a safe climate and a livable future for our children.

I urge that any language that reduces tax credits for solar energy be removed from this bill.

me ke aloha ‘Ä• ina,

Nanea Lo

HB-307
Submitted on: 4/1/2019 4:03:57 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
P Kuromoto	Individual	Oppose	No

Comments:

Thank you for the opportunity to testify in OPPOSITION to HB307.

Hawaii has very lofty renewable energy goals, and these goals will simply not be reachable without state support. Adoption of renewable energy technologies is heavily dependent on the financial outlook of the projects, which in turn is heavily dependent on the tax advantages associated with them. This outlook, especially with regard to photovoltaic, has dropped off dramatically over the last few years as the related utility programs have become less and less remunerative.

Federal tax credits related to renewable energy are scheduled to drop starting next year as well. Reducing the state credit in the future would be a double hit to the financial outlook of renewable projects and would lower adoption. This would not serve the purpose of meeting the state's goals.

Reducing state incentives in general is misguided. Renewable energy systems support many local residents and companies, and provide financial benefits within the state as they are physical properties. Tax credits granted up front will return in additional local spending for many years afterward. These are smart investments for all parties involved.

HB-307
Submitted on: 4/1/2019 4:08:06 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Andrea Quinn	Individual	Support	No

Comments:

Dear Honorable Committee Members:

Please support HB307.

Thank you for the opportunity to present my testimony.

Andrea Quinn

Kihei

HB-307
Submitted on: 4/1/2019 4:56:16 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Bill Bugbee	Individual	Oppose	No

Comments:

In my opinion, **HB307 is a bad bill that does more harm than provide needed reform of the present RPS rules.**

Instead of providing a much needed reform of the state's RPS, HSB307 does nothing to address the current RPS rules which permit a mix of dirty and clean "acceptable" energy alternatives as replacements for the state's energy dependency on burning fossil fuels. Burning trash, trees and other organics to produce electricity are currently perfectly acceptable replacements for oil, coal, gas-fired power plants today: case in point, Hu Honua (Hawaii Island).

If it pollutes (as is the case of most bio-fuel replacement applications sanctioned by the state (mono-culture or otherwise), then this bill (HB307) simply trades one set of pollution (GHG) problems for another.

Solar, wind, in combination with battery storage are 24x7 energy sources that "today" will meet the state's electricity needs, and offer a lower cost for home grown energy options. Most importantly they are "emissions-free".

HB-307
Submitted on: 4/1/2019 5:51:16 PM
Testimony for EET on 4/2/2019 9:50:00 AM

LATE

Submitted By	Organization	Testifier Position	Present at Hearing
Severine Busquet	Individual	Oppose	No

Comments:

Hi:

I am writing in OPPOSITION to HB 1326 SD2 which would extend temporary water permits to corporations, allowing them to take excessive amounts of water from Hawaii's streams for another 3 years.

While I appreciate Sen. Kahele's effort to reduce the timeframe on this bill and establish some requirements for action, it is not sufficient to protect the public's trust. This bill provides NO mechanism for protecting streams from excessive diversion, no assurance that fair market value will be collected, and enforceable benchmarks to prevent this extension situation from reoccurring. This bill would allow DLNR to continue is mismanagement of public trust lands and waters.

Alexander & Baldwin received a three-year extension of their month-to-month permits in 2016 for the purpose of finishing the environmental impact statements required 15 years ago and completing the long term lease application. Instead of following through on that, A&B sold their private lands and pocketed the profits. It is absolutely unjust for these corporations to receive yet another extension.

This bill guarantees A&B holds on to the $62 million they made on water in that land sale, while failing to protect our native streams and the communities that rely on them.

Water rights are protected by the public trust doctrine in our constitution—to protect our communities and watersheds from corporate exploitation just like this. A&B should not be allowed to use its political influence to pass laws that benefit its corporate interests above the best interests of Hawaii's people. It is the responsibility of the legislature to put the people first.

Thanks for your attention

Severine Busquet

Honolulu, Hi 96825

LATE

HB-307
Submitted on: 4/1/2019 6:04:45 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Miles	Individual	Oppose	No

Comments:

Aloha Chair Wakai, Chair Baker, Chair Dela Cruz, and members of the committee,

I STRONGLY OPPOSE HB 307 PROPOSED SD1 and ask that you **defer this measure**. This measure's proposed SD1 replaces the current renewable energy technology systems tax credit with tax credits for solar energy, wind energy, or commercial seawater air conditioning systems and sunsets the credit after 12/31/2026.

Hawaii needs renewable energy now more than ever. Slashing the tax credit in half **limits access to renewable slows the state's progress towards 100% renewable energy, and makes us all vulnerable to the effects of climate change**.

We need to be doing MORE, not less, to democratizing energy and putting choice back into the hands of consumers. Hawaii needs to be a leader in clean energy job creation and building a clean energy economy of the future, not a follower.

It is an indisputable fact that solar energy is leading the charge in the fight against climate change, with Hawaii being one of the top states in installed solar-per-capita. A study from 2017 about the benefits of solar in Hawaii found the following:

- The average annual savings for a SHW system to the consumer is $1,018/year. The average savings for a PV system per kW of installed capacity is $554/year. Multiplied over 20 years, this represents $40,000-$60,000 in savings to the consumer over the life of the system.
- The state realizes fiscal benefits of solar system installs, rather than deficits. For every $1 spent on solar tax credits by the state, Hawaii receives $1.97-$2.67 in additional tax revenue because the money people save on energy costs is reinvested in the state economy.

- Every 5kW of solar installed in the state creates 3 jobs over the system's 20 year life through initial installation and ongoing operations and maintenance.

Another report from last year by the Rhodium Group found that its ***actually cheaper*** for Hawaii to accelerate deployment of renewables like rooftop solar, rather than maintaining our current course.

Hawaii still gets over 80% of its energy from dirty fossil fuels, and consumers are paying the price through high energy bills and carbon emissions. In the last 20 years, the price of solar energy has dropped to all-time lows and it gets more affordable every single day. A large part of this affordability is allowing consumers, especially those at low and middle incomes, to realize even greater savings through market appropriate tax incentives.

This bill does the opposite by **cutting the tax credit** in half and **eliminating consumer choice**. While smart, innovative changes to the existing tax credit should always be considered, the current language in this bill is regressive and will harm our progress towards our clean energy goals, the industry, and the consumer.

Thank you for supporting clean solar energy and for giving me the opportunity to testify.

Mahalo,

Miles Yoshimoto

Project Developer

HB-307
Submitted on: 4/1/2019 6:29:26 PM
Testimony for EET on 4/2/2019 9:50:00 AM

LATE

Submitted By	Organization	Testifier Position	Present at Hearing
Mary	Individual	Oppose	No

Comments:

I would support this bill ONLY if item #10 "other non-fossil fuel sources" were stricken from the bill.

1. We need to ensure that "nuclear" energy does not come to Hawaii

2. All the other listed items should satisfactorily cover all other forms of renewable energy that currently are available.

Please oppose this bill in its current form.

Mary Spadaro

LATE

HB-307
Submitted on: 4/1/2019 6:38:27 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Michele Nihipali	Individual	Comments	No

Comments:

I appreciate the efforts to improve HB307 by specifying that mono-cultured wood crops and nuclear energy are not included as renewable energy. However, I have serious concerns and am in strong opposition to the language added to this bill that would disincentivize solar energy adoption.

In the current version of HB307, language has been added that seeks to amend tax credits for solar energy systems used to generate electricity, so that the 35% tax credit currently afforded would see a reduction every two years dropping to 5% by 2025.

It is shocking that when the UN IPCC report says we have less than a dozen years to make drastic reductions in our greenhouse gas emissions that a bill would be put forward entertaining cutting solar energy tax credits which have helped consumers move towards clean energy and reduce greenhouse gas emissions. This is the wrong time to entertain a plan to wean tax payers off a solar energy tax credit, a program that has been helping Hawaii achieve our renewable energy goals. Our values and priorities must be kept focused on decisions we make now that will drastically reduce greenhouse gas emissions to ensure a safe climate and a livable future for our children.

I urge that any language that reduces tax credits for solar energy be removed from this bill.

Mahalo for your consideration in this,

Michele Nihipali

54-074 A Kam Hwy.

Hauula, HI 96717

HB-307
Submitted on: 4/1/2019 6:59:14 PM
Testimony for EET on 4/2/2019 9:50:00 AM

LATE

Submitted By	Organization	Testifier Position	Present at Hearing
Roy Skaggs	Individual	Oppose	No

Comments:

Aloha Chair Wakai, Chair Baker, Chair Dela Cruz, and members of the committee,

I STRONGLY OPPOSE HB 307 PROPOSED SD1 and ask that you **defer this measure**. This measure's proposed SD1 replaces the current renewable energy technology systems tax credit with tax credits for solar energy, wind energy, or commercial seawater air conditioning systems and sunsets the credit after 12/31/2026.

Hawaii needs renewable energy now more than ever. Slashing the tax credit in half **limits access to renewable, slows the state's progress towards 100% renewable energy, and makes us all vulnerable to the effects of climate change**.

We need to be doing MORE, not less, to democratizing energy and putting choice back into the hands of consumers. Hawaii needs to be a leader in clean energy job creation and building a clean energy economy of the future, not a follower.

It is an indisputable fact that solar energy is leading the charge in the fight against climate change, with Hawaii being one of the top states in installed solar-per-capita. A study from 2017 about the benefits of solar in Hawaii found the following:

- The average annual savings for a SHW system to the consumer is $1,018/year. The average savings for a PV system per kW of installed capacity is $554/year. Multiplied over 20 years, this represents $40,000-$60,000 in savings to the consumer over the life of the system.
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This bill does the opposite by **cutting the tax credit** in half and **eliminating consumer choice**. While smart, innovative changes to the existing tax credit should always be considered, the current language in this bill is regressive and will harm our progress towards our clean energy goals, the industry, and the consumer.

Thank you for supporting clean solar energy and giving me the opportunity to testify.

Mahalo!
Roy Skaggs

HB-307
Submitted on: 4/1/2019 8:16:48 PM
Testimony for EET on 4/2/2019 9:50:00 AM

LATE

Submitted By	Organization	Testifier Position	Present at Hearing
Sandra Fujita	Individual	Oppose	No

Comments:

I am opposed to HB307.

HB-307
Submitted on: 4/1/2019 8:25:15 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Jeff	Individual	Oppose	No

Comments:

Aloha Chair Wakai, Chair Baker, Chair Dela Cruz, and members of the committee,

I STRONGLY OPPOSE HB 307 PROPOSED SD1 and ask that you **defer this measure**. This measure's proposed SD1 replaces the current renewable energy technology systems tax credit with tax credits for solar energy, wind energy, or commercial seawater air conditioning systems and sunsets the credit after 12/31/2026.

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LATE

HB-307
Submitted on: 4/1/2019 9:31:54 PM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Jenn Miguel	Individual	Oppose	No

Comments:

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Thank you for supporting clean solar energy and giving me the opportunity to testify.

Sincerely,

Jenn Miguel,PV Designer

PV Tech

HB-307
Submitted on: 4/1/2019 10:03:41 PM
Testimony for EET on 4/2/2019 9:50:00 AM

LATE

Submitted By	Organization	Testifier Position	Present at Hearing
Dale Jensen	Individual	Comments	No

Comments:

Dear Committee Members,

I appreciate the efforts to improve HB307 by specifying that mono-cultured wood crops and nuclear energy are not included as renewable energy. However, I have serious concerns and am in strong opposition to the language added to this bill that would disincentivize solar energy adoption.

In the current version of HB307, language has been added that seeks to amend tax credits for solar energy systems used to generate electricity, so that the 35% tax credit currently afforded would see a reduction every two years dropping to 5% by 2025.

It is shocking that when the UN IPCC report says we have less than a dozen years to make drastic reductions in our greenhouse gas emissions that a bill would be put forward entertaining cutting solar energy tax credits which have helped consumers move towards clean energy and reduce greenhouse gas emissions. This is the wrong time to entertain a plan to wean tax payers off a solar energy tax credit, a program that has been helping Hawaii achieve our renewable energy goals. Our values and priorities must be kept focused on decisions we make now that will drastically reduce greenhouse gas emissions to ensure a safe climate and a livable future for our children.

I urge that any language that reduces tax credits for solar energy be removed from this bill.

Sincerely,

Dale Jensen, Professional Engineer, Kailua, Oahu.

INTER-ISLAND
SOLAR SUPPLY

Serving Hawaii and the Pacific Islands Since 1975

April 2, 2019

Aloha Chair Wakai, Chair Baker, Chair Dela Cruz, and members of the Committee,

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Thank you for supporting clean solar energy and giving me the opportunity to testify.

Brian Gold

President
Inter-Island Solar Supply

761 Ahua St	Honolulu, HI	96819	Oahu	(808) 523-0711	sales@solarsupply.com
73-5569 Kauhola St.	Kailua-Kona, HI	96740	West Hawai'i Island	(808) 329-7890	kona@solarsupply.com
16-206 Wiliama Pl.	Keaau, HI	96749	East Hawai'i Island	(808) 935-0948	hilo@solarsupply.com
215 S Wakea Ave. #103	Kahului, HI	96732	Maui	(808) 871-1030	maui@solarsupply.com
1764 Haleukana St.	Lihue, HI	96766	Kauai	(808) 378-4080	kauai@solarsupply.com

SIERRA CLUB OF HAWAIʻI

MĀLAMA I KA HONUA. *Cherish the Earth.*

SENATE COMMITTEE ON ENERGY AND ECONOMIC DEVELOPMENT

SENATE COMMITTEE ON CONSUMER PROTECTION AND HEALTH

SENATE COMMITTEE ON WAYS AND MEANS

April 2, 2019 9:50 AM Room 211

In OPPOSITION of HB 307 Proposed SD1: Relating to Renewable Energy

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Aloha Chair Wakai, Chair Baker, Chair Dela Cruz, and members of the committees,

On behalf of our 20,000 members and supporters, the Sierra Club of Hawaiʻi **opposes HB 307 proposed SD1,** which broadens the definition of "renewable energy" to include other self-replenishing non-fossil fuel resources and also reduces the state's solar tax credit.

We oppose Part 2 of the bill. The preamble of HB 307 does not mention any specific future technology that should be included in the definition of renewable energy and the bill lacks any definition of "other self-replenishing non-fossil fuel, non-nuclear resources." The current 9 separate renewable technologies outlined in HRS 269-91 represent a thorough list of actual renewable technologies currently in use. If the legislature wishes to expand this definition for future technologies, "self-replenishing non-fossil fuels, non-nuclear resources" needs to be clearly defined. Planning for some unknown future renewable resource by inserting vague and ambiguous language into statute does not improve this law. Statutes should be altered to fit the new proposed technology, not the other way around. Because it is unclear what type of energy this would be, it should not be assumed to meet our renewable portfolio standards.

We oppose Part 3 of the bill. This measure's proposed SD1 replaces the current renewable energy technology systems tax credit with tax credits for solar energy, wind energy, or commercial seawater air conditioning systems and sunsets the credit after 12/31/2026. This would slash Hawaiʻi's renewable energy tax credit by more than half, drastically slowing the growth of rooftop solar and home batteries. The Hawaiʻi Legislature's proposal would also happen at the same time as the federal income tax credit is stepping down, meaning a double whammy on customers wanting to do the right thing. While prudently reducing Hawaiʻi's

renewable energy tax credit over time may be reasonable, slashing the incentive by over half sends a signal that our legislature is not concerned about climate change or market stability--ironically at a time when climate scientists are telling us we need to accelerate the transition to clean energy.

Thank you for this opportunity to provide testimony in **opposition of HB 307 Proposed SD1.**

Mahalo,

Jodi Malinoski, Policy Advocate

HB-307
Submitted on: 4/2/2019 10:05:10 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Julia Villaflor	Individual	Oppose	Yes

Comments:

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ENERGY TOOLBASE™

770 Kapiolani Blvd
Honolulu, HI
www.energytoolbase.com
(866) 303-7786

April 2nd, 2019

Senate Committee's on Energy, Economic Development, and Tourism,
Commerce, Consumer Protection, and Health, & Ways and Means
State Capitol, Room 211

RE: Opposition to House Bill 307

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Energy Toolbase is an industry leading software platform for modeling and proposing the economics of solar and energy storage projects. Our SaaS product is used by hundreds of leading distributed energy organizations nationwide to accurately, objectively and transparently analyze their projects. Our customers rely heavily on solar tax credits and incentives to highlight cost savings for their solar projects and energy storage systems. This measure would make it MORE difficult for both residential and commercial customers to financially support the upfront costs of solar PV. We support measures to further the solar and renewable energy movement here in Hawaii and around the world, not measures as this that aim to knock the foundation as to where solar stands. Thank you for supporting clean solar energy and giving me the opportunity to testify.

Sincerely,

Energy Toolbase

Adam Gerza
COO
adam@energytoolbase.com

Marissa Kunsch
Utility Rates Analyst
Marissa.kunsch@energytoolbase.com

HB-307
Submitted on: 4/2/2019 10:11:32 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
reggie salvador	Individual	Oppose	No

Comments:

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HB-307
Submitted on: 4/2/2019 10:17:43 AM
Testimony for EET on 4/2/2019 9:50:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
John Lee	Individual	Oppose	Yes

Comments:

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