



**STATE OF HAWAII
OFFICE OF PLANNING
& SUSTAINABLE DEVELOPMENT**

DAVID Y. IGE
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MARY ALICE EVANS
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Statement of
MARY ALICE EVANS
Director, Office of Planning and Sustainable Development
before the
SENATE COMMITTEE ON WAYS AND MEANS
Thursday, February 24, 2022
10:00 AM
State Capitol, Conference Room 211
in consideration of
SB 2510, SD1
RELATING TO RENEWABLE ENERGY.

Chair Dela Cruz and Vice Chair Keith-Agaran, and Members of the Senate Committee on Ways and Means.

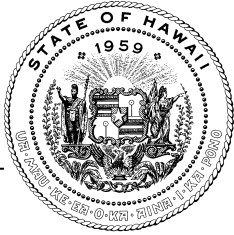
The Office of Planning and Sustainable Development (OPSD) offers **comments** on SB 2510, SD1, which establishes a firm renewable energy generation policy in the Hawai'i State Planning Act to ensure the reliable one hundred percent replacement of fossil fuel electricity generation to increase the sustainability and energy self-sufficiency of the State to improve the quality of life for residents and visitors.

The OPSD notes that the State's Energy Functional Plan was last updated in 1991, and Hawai'i's vision, policies, and laws for a clean and renewable, fossil-fuel free, and Zero Emissions Clean Economy have radically changed from this 31-year-old state planning document.

The OPSD supports the inclusion of firm renewable energy as a required component of a diversified portfolio of renewable energy generation for each island to improve grid reliability. OPSD also supports a state energy plan that includes exceptions for fossil fuel use during emergencies or an extension of the 2045 deadline by no more than three years. OPSD also supports flexibility in basing decisions on least-cost energy resource options with considerations of environmental, social, cultural, and public health costs and benefits that may offset monetary costs.

The OPSD appreciates the opportunity to provide guidelines, as required by Chapter 226-56 (b), based on the standards listed in this bill to the Department of Business, Economic Development and Tourism (DBEDT), the state agency head primarily responsible for energy policy, as specified by Chapter 226-55 (a), with updating the Energy Functional Plan. OPSD looks forward to working in close cooperation with the Legislature, DBEDT, and experts in renewable energy which may include the Public Utilities Commission, the Hawaii Natural Energy Institute, Hawai'i's four counties, the electric utilities, energy developers, and community stakeholders in the update of the Energy Functional Plan.

Thank you for the opportunity to offer comments on this measure.



HAWAII STATE ENERGY OFFICE STATE OF HAWAII

DAVID Y. IGE
GOVERNOR

SCOTT J. GLENN
CHIEF ENERGY OFFICER

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Testimony of
SCOTT J. GLENN, Chief Energy Officer

before the
SENATE COMMITTEE ON WAYS AND MEANS

Thursday, February 24, 2022
10:00 AM
State Capitol, Conference Room 211 & Videoconference

**OPPOSE
SB 2510, SD1
RELATING TO RENEWABLE ENERGY.**

Chair Dela Cruz, Vice Chair Keith-Agaran, and Members of the Committee, the Hawai'i State Energy Office (HSEO) opposes SB 2510, SD1, in which:

SECTION 2, starting on page 2 of the bill, adds four objectives to the list of items to be considered when planning for Hawai'i's energy systems:

- establishing an objective to differentiate between "intermittent" and "firm" renewable (electricity) generation;
- stating as an objective, the replacement of fossil fuel generation with "firm" renewable generation;
- establishing a fixed minimum percentage of "55% firm," with a legislative concurrent resolution required for any changes;
- establishing a fixed maximum percentage of "45%" for any one type of renewable generation, with a legislative concurrent resolution required for any changes; and
- prohibiting fossil fuel generation after December 31, 2045, with specific exemptions, with a legislative concurrent resolution required for extensions to the deadline.

The definitions of "firm renewable energy" and "intermittent renewable energy" are also in SECTION 2 of the bill, on page 8.

SECTION 3, starting on page 9 of the bill, adds renewable energy to Section 226-10, Hawaii Revised Statutes (HRS), “Objective and policies for the economy--potential growth and innovative activities.”

SECTION 4, starting on page 12 of the bill, adds renewable energy to HRS section 226-103, “Economic priority guidelines.”

SECTION 5, starting on page 17 of the bill, adds “incentives to encourage firm renewable energy” to HRS section 226-103(f), “Priority guidelines for energy use and development.”

SECTION 6, starting on page 18 of the bill, adds three new items to the section on preparation and update of State functional plans:

- requires state agencies to gain the approval of the Office of Planning and Sustainable Development (OPSD) for their plan;
- requires OPSD to file an annual report to the legislature “regarding the status of the plan and related policies;” and
- assigns to OPSD the responsibility to update the “energy state functional plan” to include “a diversified renewable energy portfolio and firm renewable energy...” for submission to the Legislature prior to the 2023 legislative session.

SECTION 7, starting on page 21 of the bill, directs the Hawai'i Natural Energy Institute (HNEI) to “update the minimum percentage of firm renewable generation for each island and the maximum proportion of any one renewable energy source on each island.”

SECTION 8, starting on page 21 of the bill, appropriates funds for HNEI, and SECTION 9, starting on page 22 of the bill, appropriates funds for OPSD.

HSEO opposes SECTION 2 and SECTION 6 of the bill.

Regarding SECTION 2 of the bill, HSEO is concerned that establishing rigid statutory constraints between “firm” and “intermittent” electricity generation may interfere with the development of an optimized system that balances energy security, grid reliability, and cost control based on available technologies, resources, and needs of Hawai'i's energy systems at the time. Also, adding a step of revising a statute or adopting a concurrent resolution after receiving bids and before approving contracts could result in significant delays and uncertainties in energy projects of all types, further raising the cost of the renewable energy transition.

Regarding SECTION 6 of the bill, HSEO opposes the assignment of HSEO's functions and responsibilities to another agency. No especial reason is presented for treating the energy functional plan differently in the State Planning Act from other functional plans or that OPSD should have a particular oversight authority regarding energy planning. HSEO recommends that the proposed new paragraph (d), beginning on page 20, be removed.

~~(d) The office of planning and sustainable development shall update the energy state functional plan to include a diversified renewable energy portfolio and firm renewable energy for electricity generation to enhance the State's energy security, resilience, and sustainability. The updated energy state functional plan shall be integrated into any future updated functional plans. The updated energy state functional plan shall be submitted to the legislature no later than twenty days prior to the convening of the 2023 legislative session. The office of planning and sustainable development shall submit an annual report to the legislature regarding progress to the energy state functional plan. The energy state functional plan may be updated every five years.~~

As noted in the existing language of HRS Section 226-55(a), "The state agency¹ head primarily responsible for a given functional area shall prepare and periodically update the functional plan for the area." In the case of energy, the state agency head is the Chief Energy Officer, a new position created in 2019 pursuant to Act 122 and assigned energy-related responsibilities from the Director of the Department of Business, Economic Development, and

¹ "State agency" means any department, office, board, or commission of the State, or the University of Hawaii. HRS §226-2.

Tourism, per Act 122². HSEO is willing to lead the update to the state energy functional plan in close coordination with OPSD, pursuant to existing statute, and requests that any funds or reporting requirements provided by this measure support HSEO in fulfilling its responsibility under the Hawai'i State Planning Act.

Regarding updating of the functional plan for energy, HSEO agrees that a coordinated approach to achieving Hawai'i's energy and decarbonization goals is appropriate. Previous comprehensive integrated planning efforts, including the [Energy Functional Plan](#) (1991), the [Hawaii Energy Strategy](#) (1992-1994), [Hawaii Energy Strategy Update](#) (2000), and the [Hawai'i Clean Energy Initiative](#) (2008-2010), are out of date. Current related planning efforts for specific parts of the energy sector (for example, power supply improvement plan, integrated grid planning, integrated resources planning effort of Hawai'i Gas, triennial plan of Hawai'i Energy) are in-depth efforts that need to be included in the overall strategy.

Also pertaining to SECTION 6 of the bill, HSEO observes the language in the proposed new paragraph (e), beginning on page 21, line 1, significantly changes the role of OPSD. HSEO recommends that this item be removed:

~~[(e) Any agency that does not comply with this plan shall gain approval by the office of planning and sustainable development. Any disputes shall be appealed to the governor.]~~

Regarding SECTIONS 3, 4, and 5 of the bill, HSEO agrees that energy research, technologies, and innovation have great potential for development, application, economic diversification, and energy security for Hawai'i.

Regarding SECTION 7 of the bill, HSEO looks forward to working with HNEI on studies planned or conducted as part of this measure should it move forward.

Thank you for the opportunity to testify.

² Per Act 122 (SLH 2019): "The legislature's intent is to establish in statute an energy agency with a clear mission, established guidance, transparent reporting, and accountable leadership that will assist both the public and private sectors in achieving the State's energy goals. More specifically, the purpose of this Act is to:

- (1) Establish the Hawaii state energy office as an attached agency to the department of business, economic development, and tourism and a chief energy officer position within the office;
- (2) Transfer the duties and responsibilities of the energy resources coordinator, which are currently assigned to the director of business, economic development, and tourism, along with the functions of the renewable energy facilitator, functions of the existing state energy office, and all employees of the state energy office to the Hawaii state energy office and chief energy officer;" (pp. 443-444).



UNIVERSITY OF HAWAII SYSTEM

Legislative Testimony

LATE

Testimony Presented Before the
Senate Committee on Ways and Means
Thursday, February 24, 2022 at 10:00 a.m.

By

Richard Rocheleau, Director
Hawai'i Natural Energy Institute

And

Michael Bruno, PhD
Provost

University of Hawai'i at Mānoa

SB 2510 SD1 – RELATING TO RENEWABLE ENERGY

Chair Dela Cruz, Vice Chair Keith-Agaran, and members of the committee:

SB 2510 SD1 proposes to establish specific mandates for the minimum percentages of annual firm renewable energy generation and maximum energy contribution of any individual technology on each of the island grids. Such mandates have the stated intention of achieving “greater diversification of renewable energy generation to include intermittent and firm renewable generation to improve reliability and achieve one hundred per cent renewable energy objectives.” These mandates also have the intention of providing “reliable replacement of fossil fuel generation with firm renewable generation.” SB 2510 also appropriates funds out of the energy systems development special fund for the Hawai'i Natural Energy Institute (HNEI) to conduct a study to update, on a regular basis, the minimum percentage of firm generation and the maximum proportion of any one renewable energy source on each island.

As stated in previous testimony, HNEI **supports the intent** of this bill, but we are concerned that a legally-binding fixed minimum percentage of renewable energy from firm generation is overly prescriptive at this time. While HNEI analysis to date shows that significant amounts of firm **capacity** will be required to reach our 100% goals and to ensure grid reliability, but the use of this capacity should be the most economic dispatch to ensure reliable grid operations and should not preclude the opportunity to integrate lower cost variable renewable energy.

Consistent with our statutory role, HNEI collaborates with and provides analysis and technical assistance to key energy stakeholders including the Hawai'i Public Utilities Commission, the Hawai'i State Energy Office, and the Hawaiian Electric Company (HECO) to help address these issues. If so directed, HNEI would enthusiastically work in collaboration with these and other stakeholders to develop a suite of energy options that addresses the issues identified in SB 2510 SD1.

In regard to timing and funding, HNEI also respectfully offers the following suggestions for consideration.

Section 7: Given the desire to include all islands and with the rapidly changing cost and availability of the various renewable energy sources we respectfully suggest amending Section 7 state “The Hawai’i Natural Energy Institute shall conduct an initial study followed by regular updates to identify the recommended percentages of firm renewable generation and diversity of the energy portfolio for each island necessary to ensure that the reliability of the electrical grid is equal to or better than that achieved during the 2021 calendar year. A preliminary report shall be submitted to the legislature twenty days prior to the convening of the regular session of 2023 with a final report to be submitted twenty days ahead of the 2024 legislature with updates to be submitted every two years after the 2024 submission.

Section 8: HNEI currently has sufficient funds from its Barrel Tax allocation to conduct this study and does not need a separate appropriation. We believe that a direct request for HNEI to utilize funds from its allocation of the barrel tax would be a more efficient process than a separate appropriation.

Thank you for the opportunity to provide this testimony on SB 2510 SD1.

DAVID Y. IGE
GOVERNOR



LATE

CRAIG K. HIRAI
DIRECTOR

GLORIA CHANG
DEPUTY DIRECTOR

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

STATE OF HAWAII
DEPARTMENT OF BUDGET AND FINANCE
P.O. BOX 150
HONOLULU, HAWAII 96810-0150

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

WRITTEN ONLY
TESTIMONY BY CRAIG K. HIRAI
DIRECTOR, DEPARTMENT OF BUDGET AND FINANCE
TO THE SENATE COMMITTEE ON WAYS AND MEANS
ON
SENATE BILL NO. 2510, S.D. 1

February 24, 2022
10:00 a.m.
Room 211 and Videoconference

RELATING TO RENEWABLE ENERGY

The Department of Budget and Finance (B&F) offers comments on this bill.

Senate Bill No. 2510, S.D. 1, requires the Office of Planning and Sustainable Development (OPSD) to update the State Energy Plan; establishes the firm renewable energy generation policy in the Hawai'i State Planning Act to ensure the reliable 100% replacement of fossil fuel electricity generation to increase the sustainability and energy self-sufficiency of the State to improve the quality of life for residents and visitors; includes incentives to encourage the development of firm renewable energy to replace fossil fuel generation; requires the Hawai'i Natural Energy Institute (HNEI) to conduct a study by December 31, 2022, to update the minimum percentage of firm renewable generation for each island and the maximum proportion of any one renewable energy source on each island; appropriates an unspecified amount of special funds from the Energy Systems Development Special Fund for FY 23 for the HNEI to conduct the study; and appropriates an unspecified amount of general funds for FY 23 for OPSD to update the Energy State Functional Plan. The measure also allows for certain exceptions for fossil fuel generation during emergency circumstances.

B&F notes that, with respect to the general fund appropriation in this bill, the federal Coronavirus Response and Relief Supplemental Appropriations Act requires that states receiving Elementary and Secondary School Emergency Relief (ESSER) II funds and Governor's Emergency Education Relief II funds must maintain state support for:

- Elementary and secondary education in FY 22 at least at the proportional level of the state's support for elementary and secondary education relative to the state's overall spending, averaged over FYs 17, 18 and 19; and
- Higher education in FY 22 at least at the proportional level of the state's support for higher education relative to the state's overall spending, averaged over FYs 17, 18 and 19.

Further, the federal American Rescue Plan (ARP) Act requires that states receiving ARP ESSER funds must maintain state support for:

- Elementary and secondary education in FY 22 and FY 23 at least at the proportional level of the state's support for elementary and secondary education relative to the state's overall spending, averaged over FYs 17, 18 and 19; and
- Higher education in FY 22 and FY 23 at least at the proportional level of the state's support for higher education relative to the state's overall spending, averaged over FYs 17, 18 and 19.

The U.S. Department of Education has issued rules governing how these maintenance of effort (MOE) requirements are to be administered. B&F will be working with the money committees of the Legislature to ensure that the State of Hawai'i complies with these ESSER MOE requirements.

Thank you for your consideration of our comments.

SB-2510-SD-1

Submitted on: 2/18/2022 7:54:34 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Ted Bohlen	Testifying for Climate Protectors Hawai'i	Oppose	No

Comments:

STRONG OPPOSITION!

All sources should be able to bid and PUC should have discretion to decide what is in the public interest, not dictated by statute.



TESTIMONY OF TAWHIRI POWER LLC
ON SB 2510, SD1 BEFORE THE SENATE COMMITTEE ON
WAYS AND MEANS
THURSDAY, FEBRUARY 24, 2022 AT 10 a.m.

TO THE HONORABLE CHAIR DELA CRUZ, VICE CHAIR KEITH-AGARAN, and
MEMBERS OF THE COMMITTEES:

Tawhiri Power LLC (“TPL”)¹ is in strong opposition to SB2510, SD1 which calls for, inter alia, the following:

p. 1, lines 7-9: “Establish a state energy policy that requires at least fifty-five per cent of renewable energy to be generated by firm renewable energy[.]”;

p. 1, lines 15-17: “Amend other statutory provisions to achieve at least fifty-five percent firm renewable energy generation for each island.”;

p. 3, lines 3-4: “Reliable replacement of fossil fuel generation with firm renewable generation[.]; and

p.3, lines 5-7: “Firm renewable generation shall be a minimum of fifty-five percent of renewable generation for each island.”

p. 3, lines 19-21: “Limit the percentage of any one type of renewable energy source to forty-five percent of all generation for each island.”

The above proposals in the Bill are based on three false premises. First, it assumes that firm renewable generation is superior to intermittent renewable generation.

¹ TPL is an Independent Power Producer (“IPP”) that owns and operates Pakini Nui Wind Farm located in the South Point Area on the Island of Hawaii.

Second, it assumes that fossil fuel generation can only be replaced by firm renewable generation. Third, it assumes that firm renewable generation will lead to the utilities retiring their fossil fuel units.

History has shown that all these assumptions are incorrect. Moreover, with rapidly changing technology, these assumptions may be even further from the truth in the future.

For the State to be 100% renewable it needs to keep all its options open and consider all renewable generation options. Request for Proposals for new generation need to be **ALL SOURCE** Requests and subject to the Hawaii Public Utilities' Commission Framework for Competitive Bidding. This allows all options to participate and compete, which results in the best option being selected for the people of Hawaii.

This bill instead attempts to limit the State's options and would be a step backwards for the State and a disservice to the people of Hawaii.

We urge you to please hold SB2510, SD1. Thank you for the opportunity to testify.



**Hawaiian
Electric**

**TESTIMONY BEFORE THE SENATE COMMITTEE ON
WAYS AND MEANS**

SB 2510 SD1

Relating to Renewable Energy

Thursday, February 24, 2022

10:00 am, Agenda Item #21

State Capitol, Conference Room 211 & Videoconference

Marc Asano

Director, Integrated Grid Planning

Hawaiian Electric

Chair Dela Cruz, Vice Chair Keith-Agaran, and Members of the Committee:

My name is Marc Asano and I am testifying on behalf of Hawaiian Electric Company **with comments regarding SB 2510 SD1 and expressing concerns to Section 2**, Relating to Renewable Energy.

SB 2510 SD1 amends Hawaii Revised Statutes, Section 226-18 (and other statutory provisions) to ensure grid reliability by diversifying the State's renewable energy portfolio. Among other provisions, it prescribes percentages of the types of renewable energy that should be included in the energy portfolio.

Hawaiian Electric appreciates the intent of this bill but has concerns with its prescriptive nature that would limit the State's flexibility in achieving 100 percent renewable energy in a reliable and cost-effective manner. Hawaiian Electric agrees that firm renewable generation is a critical component to decarbonizing the entire State economy, and that diversification of resources is a key element to ensuring a reliable, secure, and resilient electric system; however, achieving the State's clean energy and decarbonization goals will require maximum flexibility amidst the global transformation of the energy sector. Hawaiian Electric's on-going Integrated Grid Planning process,

overseen by the Public Utilities Commission seeks to answer some of the key questions raised by this bill such as, how much firm renewable energy is needed to achieve the state's renewable energy goals. Under the current Integrated Grid Planning schedule, Hawaiian Electric expects to have updated long-term resource portfolio plans later this year. They will help create a "living" plan that will continue to evolve over the next thirty years as new technologies emerge and market conditions change.

Additionally, consistent with the intent of this bill, Hawaiian Electric, subject to Public Utilities Commission approval, intends to conduct a competitive procurement for firm renewable generation within the next several months to ensure continued reliable electricity supply, facilitate the retirement of firm, fossil generating units, and add to renewable generation. The RFP and the proposals we receive, will determine the firm renewable energy options available today and assess the benefits and costs compared to the status quo. Hawaiian Electric will carefully weigh both qualitative and quantitative benefits against the potentially higher costs of firm renewable generation options.

To mitigate the concerns described herein, we offer the following comments:

- Section 2 of the bill amends H.R.S. §226-18(a) to add subsections (8), and (9) on page 3 starting on line 5. It also amends H.R.S. §226-18(c) to add subsections (13) and (14) starting on page 7. Hawaiian Electric recommends striking these four subsections, which prescribe percentages of types of generation in order to provide the required flexibility that is needed to determine the least cost yet reliable renewable energy portfolio. The intent of those objectives are clearly covered starting on page 2, subsections (6) and (7). The following should be stricken from Section 2.

~~(8) Firm renewable generation shall be a minimum of fifty five per cent of renewable energy generation for each island. Notwithstanding any law to the contrary, this percentage may be updated by the legislature pursuant to the following:~~

~~—— (A) By adoption of a concurrent resolution based on data from a study by the Hawaii natural energy institute, as described in section 7 of Act —, Session Laws of Hawaii 2022; and~~

~~— (B) The office of planning and sustainable development shall submit for introduction to the legislature a concurrent resolution for review of the proposed firm renewable energy generation minimum percentage;~~

~~— (9) Limit the percentage of any one type of renewable energy source to forty five per cent of all generation for each island. Notwithstanding any law to the contrary, this percentage may be updated pursuant to paragraph (a)(8) of this section; and~~

~~— (13) Ensure that the development or expansion of energy systems recognizes and emphasizes the need to increase the proportion of firm renewable energy generation to a minimum of fifty five per cent of renewable energy for each island, to reliably replace fossil fuel generation; and~~

~~— (14) Ensure that the development or expansion of energy systems recognizes and emphasizes the need to ensure grid reliability by limiting the proportion of any one type of renewable energy source as defined in section 269-91, to a maximum of forty five per cent of energy generation on each island.~~

Accordingly, Hawaiian Electric expresses its concerns to Section 2 of the measure and respectfully requests the amendments be incorporated. Thank you for this opportunity to testify.



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February 21, 2022

TESTIMONY ON SB 2510, RELATING TO RENEWABLE ENERGY

SUPPORT

Senator Donovan Dela Cruz, Chair
Senator Gilbert Keith-Agaran, Vice Chair
Committee on Ways and Means
Decision Making Meeting: 10AM, February 24, 2022, Conf Room 211 and via Videoconference

Aloha Honorable Chair Dela Cruz, Vice Chair Agaran and Members of the Committee,

Pacific Biodiesel **supports SB 2510**, which establishes a firm renewable energy generation policy to ensure the reliable one hundred per cent replacement of fossil fuel electricity generation to increase Hawaii's sustainability and energy self-sufficiency.

Today, Hawaii's locally produced biodiesel is supporting energy security in our island state and reducing reliance on imported fossil fuel.

Biodiesel is a 100% renewable fuel that provides a firm renewable source for power generation that is a reliable backup to intermittent renewables like solar and wind that fluctuate in availability. In Hawaii's electric utilities, fast-start diesel engines — increasingly fueled with clean biodiesel — are enabling higher penetration of intermittent PV and wind assets while maintaining grid stability.

This bill also requires support of "actions that reduce, avoid, or sequester Hawaii's greenhouse gas emissions through agriculture and forestry initiatives" and makes it a "policy of this State to facilitate investment and employment growth in economic activities that have the potential to expand and diversify Hawaii's economy, including but not limited to diversified agriculture."

Community-based agriculture for energy helps diversify the state's economy and is a powerful solution for climate change.

As part of our carbon negative regenerative farming operation, when we make biodiesel from virgin oils, like sunflower oil, we let the plants do the hard work of converting sunlight into liquid oil as they sequester CO2 from the atmosphere. We also make this biodegradable, non-toxic fuel out of used cooking oil recycled from Hawaii's restaurants, keeping that potentially hazardous waste out of the landfill. Pacific Biodiesel's "ag and energy" model today is demonstrating a "net carbon negative" renewable fuel system that's a beneficial circular economy model for Hawaii.

Biodiesel also allows for an immediate reduction of greenhouse gas emissions.

Biodiesel has one of lowest carbon footprints of any fuel. Biodiesel is a direct replacement for petroleum diesel fuel and can be used right now in any diesel engine without modification, helping to reduce greenhouse gas emissions by 86% compared to petroleum diesel. The diesel engine is NOT the problem. Petroleum diesel FUEL – fossil fuel – used in efficient diesel engines is the problem.

Unfortunately, Hawaii is rushing to support electrification while ignoring the many environmental and economic benefits of biofuels.

Last summer, a California Air Resources Board (CARB) report* shared findings that **total greenhouse gas (GHG) reductions from biomass-based diesel were 3x the total reductions from electric vehicles**. In Hawaii, where the carbon intensity of our electricity grid is significantly higher than the US average, the assumption would be an even greater GHG reduction with the use of 100% biodiesel compared to EVs charged by an electricity grid that's currently only 30% powered by renewables.

We can not and should not sit back and wait for a 100% zero emission future. The State must get serious, soon, about requiring a lifecycle GHG reduction analysis on its “zero emission” strategies before Hawaii spends millions on new EVs.

The further we move towards our goal of 100% renewable, the more critical these liquid biofuel sources produced from a sustainable ag/energy model will be. At our refinery on Hawaii Island, we produce 5.5 million gallons per year of premium distilled biodiesel – the equivalent of 220 MWh per DAY of 100% renewable energy for Hawaii. But building up the supply is a long process. We must encourage expanded use of high blend biofuels today and support additional local production now to meet the needs later.

Mahalo,

Bob King
Founder and President
Pacific Biodiesel

*Biobased Diesel Daily, 5/15/21: <https://www.biobased-diesel.com/post/biobased-diesel-outperforms-electric-vehicles-3-to-1-in-california-ghg-reductions>



To: The Senate Committee on Ways and Means
From: Sherry Pollack, Co-Founder, 350Hawaii.org
Date: Thursday, February 24, 2022, 10am

In strong opposition to SB2510 SD1

Aloha Chair Dela Cruz, Vice Chair Keith-Agaran, and members of the Committee on Ways and Means,

I am Co-Founder of the Hawaii chapter of 350.org, the largest international organization dedicated to fighting climate change. 350Hawaii.org **strongly opposes SB2510 SD1** that would establish a firm renewable energy generation policy in the Hawaii State Planning Act, and that includes a policy of incentives to facilitate and encourage fuel-producing and energy-producing crops.

350Hawaii appreciates the intent of this measure, and supports and encourages the efforts of the legislature to promote truly clean, non-climate harming renewable energy, increasing our sustainability and energy self-sufficiency. However, “firm” renewable energy as currently defined would include burning trees and wood products. Establishing a firm renewable energy policy that includes burning trees and wood products would result in unintended negative consequences to our environment and climate, and would take us in the opposite direction of our energy self-sufficiency goals.

Burning trees is more expensive than utility-scale wind and solar. Furthermore, burning wood for energy is disastrous for the climate. It destroys forests, and puts out more carbon dioxide into the air than coal. The period for regrowth and making up that carbon debt can take many decades or more, time which we no longer have the luxury of wasting. We are in a climate crisis and must make scientifically sound choices that will reduce greenhouse gas emissions as soon as possible if we are to stay below 1.5 degrees Celsius rise. Now is not the time to promote technologies that increase greenhouse gases simply because they are not derived from fossil fuels.

Furthermore, encouraging fuel-producing crops and energy-producing crops takes valuable land away from growing food crops that could help address our food security and resiliency issues. Currently we import 90% of our food from out of state. One lesson we should have learned from the pandemic is that we need to be more self-sufficient with our food supply. Our current lack of local food production puts us at extreme risk. We need policies that will encourage more local food production, not take away from what little we already have.

In short, establishing a firm renewable energy generation policy and incentives to facilitate and encourage fuel-producing and energy-producing crops and thereby incentivizing burning wood products as an energy source will worsen the climate, negatively impact our economy, and undermine our resiliency efforts. We urge you to not pass this bill.

Mahalo for the opportunity to testify.

Sherry Pollack
Co-Founder, 350Hawaii.org



Testimony to the Committee on Ways and Means
Thursday, February 24, 2022, 10:00 AM
VIA Video Conference / Conference Room 224, Hawaii State Capitol
SB 2510 SD1

Chair Dela Cruz, Vice Chair Keith-Agaran, and members of the committees,

Hawaii Clean Power Alliance (HCPA) **supports** SB 2510 SD1, which establishes firm renewable energy generation policy in the Hawaii State Planning Act to ensure the reliable one hundred percent replacement of fossil fuel electricity generation to increase the sustainability and energy self-sufficiency of the State to improve the quality of life for residents and visitors; includes policy of incentives to facilitate and encourage fuel-producing crops and energy-producing crops and bioenergy and standards for achieving renewable portfolio standards.

Hawaii Clean Power Alliance is a nonprofit alliance organized to advance and sustain the development of clean energy in Hawaii. Our goal is to support the state's policy goal of 100 percent renewable energy by 2045. We advocate for utility-scale renewable energy, which is critical to meeting the state's clean energy and carbon reduction goals.

Updating the state functional plan that was published 31 years ago (1991) and updating policy to align with the recent change in policy goal of the state to achieve 100% renewable electric energy by 2045 is critically important to create a framework of *how* the state will achieve the goal in an expeditious and thoughtful manner to ensure that the residents and businesses benefit from reliable, resilient, and affordable energy.

Historically, the electric utilities have driven the plans and actions to achieve the RPS goal. Their knowledge of the grid is extremely important in the process. However, the state's update to the plan and policy will help guide and direct an integrated approach to the utilities, state departments who affect the sector and the industry partners, to provide a clear view of what will be required in terms of technology needs and at different points in time. Additionally, once the plan is updated, the policy makers can choose to support the plan through additional policy such as incentives or regulations.

WHY FIRM GENERATION IS IMPORTANT (CAPACITY)

Importantly, one of the main purposes of this bill is to ensure grid reliability by requiring a minimum amount of capacity, which can be relied upon on the grid at any time. The U.S. Energy Information Administration (EIA) refers to capacity as the maximum output of electricity that a generator can produce. A facility with a capacity factor of 100% means its producing power all the time. The electric system needs a minimum amount of capacity power to be available all the time to keep the grid running 24x7 reliably, in other words, baseload or firm generation. Nationally, the Federal Energy Regulatory Commission (FERC) mandates reliability standards including reserve margins. Hawaii is not subject to FERC and has not implemented reliability standards in a manner similar to other jurisdictions, leaving the utility and the PUC not subject to independent third-party oversight.

Hawaiian Electric just issued a press release stating their intent to acquire 500-700 megawatts of firm renewable capacity on the Oahu grid to supplement the 1,794 MW of firm fossil fuel capacity. With the coal plant decommissioning on 9/1/2022 (180 MW), which delivered 16-20% of the electric grid's firm baseload capacity, and many of the forecasted solar/battery projects delayed (376 megawatts), time is of the essence to procure this renewable firm generation.

Today, the Oahu grid consists of 67% firm capacity. The additional firm renewable acquisition will move the percentage close to 75% firm generation.

WHY A DIVERSIFIED PORTFOLIO IS IMPORTANT (CAPACITY AND ENERGY)

Energy, or electricity generation is another consideration in the reliability equation. Energy is the amount of power a generator produces over a specific period of time. Many generators do not operate at their full capacity all the time such as solar or wind, (intermittent or non-firm "fuel"). The facility's output may vary according to the conditions of the resource. That is why it is important for the grid to have a variety of resource types, including those that can start up or dial back quickly in response to sudden changes in demand or to react to the output of other resources on the grid. For instance, a solar farm can have a nameplate capacity of 10-megawatt and be available for 6-hours during clear-sky conditions, but if the sun isn't shining for any of those hours, then the capacity needed to operate the grid isn't available in those moments and must be generated from firm units. An appropriate mix of generation is needed to cost-effectively and reliability transition the grid to 100% renewable.

REAL WORLD EXAMPLE: CAPACITY SHORTFALL IN NEW ENGLAND

The recent events in the winter of 2017/2018 for New England's system was challenged due to not enough capacity available when customers needed it. The system was designed with what appeared to be more than enough capacity to satisfy peak demand plus reserve requirements.

However, an unprecedented cold winter storm forced many generators offline or reduced their energy output because the input of resources was not available. So, while sufficient capacity seemed to be available, the energy coming out of those generators was perilously short to meet the demand.

HAWAII EXPERIENCE OF CAPACITY SHORTFALL

A similar experience happened on Oahu as recently as New Year's Eve 2021. The energy provided by generation facilities was compromised by numerous days of rain. That is why both firm and intermittent generation is necessary, and importantly a diversification of technologies, where one is not overly dominant, to mitigate the risk of the grid having blackouts due to an unprecedented weather event.

Testifiers may want to insert language into this bill that defines firm renewable technology, and which one is "better" or "renewable" or "cleaner" in terms of price or life-cycle analysis greenhouse gas emissions. Respectfully, this bill is not the vehicle to advocate for one technology over the other. When the regulators decide which project is approved or denied, the Public Utilities Commission is guided and mandated by Subsections in HRS§ 269, which have carefully been considered by the legislature and defines renewable energy by source, as well as their decision making criteria to consider the need to reduce the state's reliance on fossil fuels and explicitly consider factors such as price, export of moneys to import fuels, fuel supply availability and greenhouse gas emissions.

We urge the committees to pass the bill unamended.

Thank you for the opportunity to testify.

SB 2510 SD 1 TESTIMONY

To: Senate Committee on Ways and Means
Hearing on Feb. 24, 2022 at 10:00 a.m.

From: John Kawamoto

Position: Oppose

The State Legislature has conscientiously committed Hawaii to clean, renewable energy goals, as follows: (1) HRS 225P-5 sets a statewide target of net zero emissions by 2045; (2) HRS 269-92 requires the net electricity sales of electric utility companies to be 100% renewable by 2045.

These clean, renewable energy goals are commendable. Further, climate change is bearing down upon us faster than we had thought. Based on recent data, most climate scientists now say that we are doing far too little to mitigate climate change. That urgency is reflected in SCR 44, which the Legislature adopted last year, declaring a climate emergency. Drastic action must be taken, and we must be willing to make sacrifices to avert a global climate catastrophe.

This bill disregards the climate emergency by encouraging all renewable sources to be used to generate electricity. Not all renewable energy is clean energy. For example, the burning of trees and tree products is considered to be renewable, but it is not clean. The burning of trees emits 50% more carbon dioxide than burning fossil fuel to produce an equivalent amount of electricity. Burning trees is even dirtier than burning coal, and coal is considered to be a dirty source of energy.

Dirty energy should be avoided. Carbon dioxide, which is emitted when trees are burned, stays in the atmosphere for 300 to 1,000 years, according to NASA. Many future generations will be harmed by the carbon dioxide that would be emitted by the dirty energy that this bill allows.

Instead of embracing the urgency of SCR 44, this bill takes a much too casual attitude that is seemingly unfazed by the climate emergency. For example, the bill allows dirty energy to be used by requiring a minimum of 55% of renewable energy generation for each island to be firm renewable energy. Firm renewable energy includes the burning of trees. Hawaii should instead be making a greater effort to transition to clean, renewable energy.

This bill fails to meet the high standards that Hawaii should aspire to, and it detracts from Hawaii's leadership role in mitigating climate change.

For the foregoing reasons I oppose the bill.

SB-2510-SD-1

Submitted on: 2/21/2022 9:34:04 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
David S. Case	Individual	Comments	No

Comments:

Aloha Chair Dela Cruz and Vice Chair Keith-Agaran and Members of the Committee--

Decades ago Kamehameha Schools planted eucalyptus trees along the highway on the Hamakua side of Hawai'i Island for a timber economy that never materialized. Meanwhile the local sugar company was burning bagass in its power plant to generate electricity. The sugar company went out of business and the power plant sat abandoned. Beginning in 2008 Honua Ola Bioenergy ("HOB"), financed by Eastern capital, proposed to repurpose the bagass power plant to burn eucalyptus chips to produce power for the HELCO grid. HOB and HELCO entered into a power purchase agreement ("PPA") that the PUC unanimously approved in 2013, which was not appealed.

HOB went to work repurposing the bagass plant, suggesting somewhere along the line that when complete the project would employ some 200 people living along the Hamakua coast in well-paid, full-time jobs. A dispute arose between HOB and HELCO resulting in a renegotiated PPA in 2017, which the PUC again unanimously approved, this time with a waiver from competitive bidding. This decision was appealed eventually to the Hawaii Supreme Court, which in 2019 orderd the PUC to do a do over public hearing. More than a decade after it all began, HOB has sunk \$400 million building out the project, now nealy complete, and people along the Hamakua coast are still waiting for most of the 200 jobs to materialize.

In 2022, after delays in holding the PUC hearing, HOB once again went to the Hawaii Supreme Court and the PUC postponed the public hearing a few days before it was to begin. As orgianally written, SB 2510 seemed to put a thumb on the scale in favor of HOB burning the eucalyptus trees to produce "firm" renewable energy as a component of Hawaii's goal to convert to 100% renewable energy. Those opposing the project argue that burning eucalyptus trees will acutually generate more CO2 than burning petroleum. HOB argues that would be offset by planting more eucalyptus trees that would absorb as much or more CO2 than that produced by the power plant.

An argument could be made that the Legislature should stay away from the fray. On the other hand, HOB has put \$400million at risk, the repurposed power plant is all but complete, the eucalyptus trees remain unused and the 200 jobs and attendant economic activity have not materialized on the Hamakua coast. These may be just the sort of policy issues with which the Hawaii Legislature shold be concerned.

Mahalo nui loa,

David S Case

SB-2510-SD-1

Submitted on: 2/21/2022 11:36:58 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Alice Kim	Individual	Support	No

Comments:

An important firm renewable energy source, geothermal can provide baseload power and increase energy security. Baseload power is the minimum amount of power that a utility company must generate for its customers and ensures reliability of the electricity grid. Unlike solar and wind energy, geothermal energy does not depend on favorable weather conditions and produces electricity continuously--24 hours a day, 7 days a week. Because geothermal energy is stable and predictable, it enables accurate energy planning.

Geothermal offers a high capacity factor. The capacity factor is the ratio of actual energy output to possible energy output and indicates how fully and reliably a unit's capacity is used. Out of all renewable energy sources, geothermal provides the highest capacity factor. Modern geothermal power plants deliver a capacity factor upwards of ninety-to-ninety-five percent.

In addition to increasing Hawaii's energy security, geothermal can benefit the people of Hawaii through accomplishing the following:

- Lower the cost of electricity in the state with the highest electricity price in the nation
- Greatly reduce carbon emissions involved with creating energy
- Generate revenues for the betterment of the State
- Increase the self-sustainability of the Hawaiian islands and reduce the importation of oil
- Use the least amount of land out of all power sources
- Create local professional jobs

The Hawaiian Electric Co. (HECo) even credited a full year of geothermal production for HECo's increase in producing renewable energy for the year 2021 and plans to expand geothermal resources to cut carbon emissions.

Please support SB 2510 to ensure reliability of the State's electricity grid, reduce the use of fossil fuels and carbon emissions, develop a viable local industry, and make the State's goal of reaching 100 percent renewable energy by 2045 possible and more affordable.

SB-2510-SD-1

Submitted on: 2/22/2022 4:20:02 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Frank Latinis	Individual	Support	No

Comments:

I support SB2510

SB-2510-SD-1

Submitted on: 2/22/2022 4:55:25 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Lydia Hoepner	Individual	Support	No

Comments:

We need to think past today & past our lifetime. Investing in renewable energy is a must. That we don't already run 1/2 the state on solar is behind the times. Sunshine in a sunshine state is free energy falling from the sky. Any and all other processes of renewable energy to support the ever expanding population is needed! It will create jobs outside tourism and bringing new commerce. Hawaii could be a front runner in renewable energy if we start running now.

Please invest in SB2510 SD1

SB-2510-SD-1

Submitted on: 2/22/2022 7:04:07 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Louis Mansanas jr	Individual	Support	No

Comments:

I support this bill

SB-2510-SD-1

Submitted on: 2/22/2022 7:08:06 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Chauncey Dunhour	Individual	Support	No

Comments:

I am in support.

SB-2510-SD-1

Submitted on: 2/22/2022 7:08:30 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
kodey saizon	Individual	Support	No

Comments:

support

SB-2510-SD-1

Submitted on: 2/22/2022 7:09:44 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Jay Amina III	Individual	Support	No

Comments:

I support bill supporting SB 2510.

SB-2510-SD-1

Submitted on: 2/22/2022 7:09:52 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Clinton Blackman	Individual	Support	No

Comments:

I am in support

SB-2510-SD-1

Submitted on: 2/22/2022 7:09:54 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Brandon Parker	Individual	Support	No

Comments:

I am in support of this Renewable Energy Bill.

SB-2510-SD-1

Submitted on: 2/22/2022 7:10:07 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
noah kassebeer	Individual	Support	No

Comments:

i am in support

SB-2510-SD-1

Submitted on: 2/22/2022 7:10:07 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Gabriel Pieper	Individual	Support	No

Comments:

I support bill SB 2510

SB-2510-SD-1

Submitted on: 2/22/2022 7:10:20 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Sy Delizo	Individual	Support	No

Comments:

I support this movement

SB-2510-SD-1

Submitted on: 2/22/2022 7:11:34 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Burton Chun	Individual	Support	No

Comments:

I support.

SB-2510-SD-1

Submitted on: 2/22/2022 7:12:54 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
joshua demello	Individual	Support	No

Comments:

I support

SB-2510-SD-1

Submitted on: 2/22/2022 7:15:56 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Robert Enriquez	Individual	Support	No

Comments:

SB-2510-SD-1

Submitted on: 2/22/2022 7:16:42 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Alana Kaili	Individual	Support	No

Comments:

Support

SB-2510-SD-1

Submitted on: 2/22/2022 7:17:18 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Chaz Bajet	Individual	Support	No

Comments:

SB-2510-SD-1

Submitted on: 2/22/2022 7:17:48 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Kahekili Fuchs	Individual	Support	No

Comments:

I am in support of this bill for renewable energy efforts.

SB-2510-SD-1

Submitted on: 2/22/2022 7:18:05 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Edward Klaneski	Individual	Support	No

Comments:

I support the bill

SB-2510-SD-1

Submitted on: 2/22/2022 7:18:15 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Chris Tanaka	Individual	Support	No

Comments:

In support.

SB-2510-SD-1

Submitted on: 2/22/2022 7:18:16 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
anthony padilla	Individual	Support	No

Comments:

In support

SB-2510-SD-1

Submitted on: 2/22/2022 7:19:42 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Dave Teriirere	Individual	Support	No

Comments:

SB-2510-SD-1

Submitted on: 2/22/2022 7:20:33 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Cisco Valeho	Individual	Support	No

Comments:

As a 40 plus year resident of the state of Hawaii I have seen the rising cost of electric affect many local families. Depending on fossil fuels to produce electricity has made costs rise to unsustainable levels for many residents. I have seen my personal electricity bills go from \$100 to as much as \$700 during the hot summer days when electricity is needed to cool down temperatures in our home. Without a proper grid and a renewable source island residents will continue to feel the pinch of our already empty pocketbooks. I am in support of SB 2510 and I hope you all will be too.

SB-2510-SD-1

Submitted on: 2/22/2022 7:21:09 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Blair Nahale	Individual	Support	No

Comments:

I am in support of sb2510

SB-2510-SD-1

Submitted on: 2/22/2022 7:21:42 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Travis rabelliza	Individual	Support	No

Comments:

Done

SB-2510-SD-1

Submitted on: 2/22/2022 7:21:52 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Keoni Mendiola	Individual	Support	No

Comments:

I standby and support the following SB2510 SD1 Bill.

SB-2510-SD-1

Submitted on: 2/22/2022 7:22:07 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Kekoa Bruhn	Individual	Support	No

Comments:

Aloha,

I am in support of this bill. Renewable energy is important for our economy as well as our environment.

Mahalo,

Kekoa Bruhn

SB-2510-SD-1

Submitted on: 2/22/2022 7:22:29 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Christopher Finau	Individual	Support	No

Comments:

I am in support

SB-2510-SD-1

Submitted on: 2/22/2022 7:22:34 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Trey Ah Yuen	Individual	Support	No

Comments:

I support this bill

SB-2510-SD-1

Submitted on: 2/22/2022 7:27:07 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Ka'ena Paikai	Individual	Support	No

Comments:

SB-2510-SD-1

Submitted on: 2/22/2022 7:27:10 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Jonovan Tuinei	Individual	Support	No

Comments:

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SB-2510-SD-1

Submitted on: 2/22/2022 7:27:44 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
John Rabanal	Individual	Support	No

Comments:

SB-2510-SD-1

Submitted on: 2/22/2022 7:28:24 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
kainalu paikai	Individual	Support	No

Comments:

SB-2510-SD-1

Submitted on: 2/22/2022 7:28:41 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Hubert Pruett	Individual	Support	No

Comments:

We are in support

SB-2510-SD-1

Submitted on: 2/22/2022 7:30:31 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
zachary matsunaga	Individual	Support	No

Comments:

SB-2510-SD-1

Submitted on: 2/22/2022 7:30:32 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Noah Campbell	Individual	Support	No

Comments:

In SUPPORT for renewable energy

SB-2510-SD-1

Submitted on: 2/22/2022 7:30:41 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Jerome K H Kupukaa	Individual	Support	No

Comments:

Done

SB-2510-SD-1

Submitted on: 2/22/2022 7:36:09 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Conan K Donahue	Individual	Support	No

Comments:

I am in support.

SB-2510-SD-1

Submitted on: 2/22/2022 7:37:51 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
William Campbell	Individual	Support	No

Comments:

I support bill SB2510 mahalo

SB-2510-SD-1

Submitted on: 2/22/2022 7:42:21 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Kekoa Masutani	Individual	Support	No

Comments:

I am in support

SB-2510-SD-1

Submitted on: 2/22/2022 7:48:39 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Tyler Yuu	Individual	Support	No

Comments:

In support

SB-2510-SD-1

Submitted on: 2/22/2022 7:50:27 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Christine Haller	Individual	Support	No

Comments:

I support this measure.

SB-2510-SD-1

Submitted on: 2/22/2022 7:56:05 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
seth ilae	Individual	Support	No

Comments:

I support SB2510 because I believe it will benifet Hawaii and the next generation arising. We need to take advantage of renewable energy and keep Hawaii green!

SB-2510-SD-1

Submitted on: 2/22/2022 7:56:45 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Jacob Cobb-Adams	Individual	Support	No

Comments:

I'm in support.

SB-2510-SD-1

Submitted on: 2/22/2022 7:59:57 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Zorich Palimoo	Individual	Support	No

Comments:

I am in full support of Bill SP 2510 for Renewable Energy

SB-2510-SD-1

Submitted on: 2/22/2022 8:07:28 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Sesolo Cocker jr	Testifying for HSI	Support	No

Comments:

We are in SUPPORT

SB-2510-SD-1

Submitted on: 2/22/2022 7:59:58 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Levi Archuleta	Individual	Support	No

Comments:

I'm in support of this bill because I believe we we need to find alternative solutions to fossil fuel. And tap into all our resources we have for renewable energy. We need to protect the environment and not damage it. We need to diversify our energy supply and reduce dependence on imported fuels.

SB-2510-SD-1

Submitted on: 2/22/2022 8:36:59 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Douglas Hiu	Individual	Support	No

Comments:

I am in support of this bill.

SB-2510-SD-1

Submitted on: 2/22/2022 8:59:51 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Clayton Glass	Individual	Support	No

Comments:

We are in SUPPORT.

SB-2510-SD-1

Submitted on: 2/22/2022 9:20:11 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Paquito KHD Capillan	Individual	Support	No

Comments:

We are in support

SB-2510-SD-1

Submitted on: 2/22/2022 9:21:39 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Montgomery Meyer	Individual	Support	No

Comments:

I stand behind SB2510. I believe as a kanaka born and raised on Oahu and myself raising my family here that it is important to navigate towards methods of renewable energy. We cannot dictate the outcome around the world in regards to renewable energy, but here in the islands we can make our voices heard to initiate change insuring our island home can flourish for our keiki and future generations to come.

SB-2510-SD-1

Submitted on: 2/23/2022 8:01:27 AM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Seth Holck	Individual	Support	No

Comments:

I'm in support!

SB-2510-SD-1

Submitted on: 2/22/2022 11:53:51 PM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
ahtooanya jones	Individual	Support	No

Comments:

I am in support of SB2510 SD1.

Because we need to become more self sufficient and eco friendly to create a balanced co existence between the aina and ourselves

mahalo

mahalo

SB-2510-SD-1

Submitted on: 2/23/2022 8:05:12 AM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
richard gideon	Individual	Support	No

Comments:

We are in support.

SB-2510-SD-1

Submitted on: 2/23/2022 8:57:09 AM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
David Chew	Individual	Oppose	No

Comments:

I strongly oppose this bill. I believe that it will likely slow Hawaii's clean energy transition.
Thank you

SB-2510-SD-1

Submitted on: 2/23/2022 9:10:30 AM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Joyce Barbarich	Individual	Support	No

Comments:

I support SB2510.

SB-2510-SD-1

Submitted on: 2/23/2022 9:44:09 AM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
nepo leutu jr	Individual	Support	No

Comments:

I support sb2510

SB-2510-SD-1

Submitted on: 2/23/2022 9:50:35 AM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Douglas Perrine	Individual	Comments	No

Comments:

This bill seems well-intentioned, but is flawed by a failure to consider energy storage solutions, such as battery storage, pumped storage, etc. as alternatives to firm generation of energy.

SB-2510-SD-1

Submitted on: 2/23/2022 9:59:01 AM

Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
Hopena Pokipala	Individual	Support	No

Comments:

I am in support of SB2510

LATE

SB-2510-SD-1

Submitted on: 2/23/2022 10:36:05 AM
Testimony for WAM on 2/24/2022 10:00:00 AM

Submitted By	Organization	Testifier Position	Remote Testimony Requested
logan freitas	Individual	Support	No

Comments:

I support this bill