

**TESTIMONY OF
THE DEPARTMENT OF THE ATTORNEY GENERAL
THIRTY-FIRST LEGISLATURE, 2022**

ON THE FOLLOWING MEASURE:

S.B. NO. 2510, RELATING TO RENEWABLE ENERGY.

BEFORE THE:

SENATE COMMITTEES ON WATER AND LAND AND ON ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM

DATE: Friday, February 11, 2022 **TIME:** 3:10 p.m.

LOCATION: State Capitol, Room 224, Via Videoconference

TESTIFIER(S): Holly T. Shikada, Attorney General, or
Bryan C. Yee, Deputy Attorney General

Chairs Inouye and Wakai and Members of the Committees:

The Department of the Attorney General makes the following comments.

The purposes of this bill are to diversify the State's renewable energy profile and reduce the State's reliance on fossil fuels. Among other things, the bill requires that the Office of Planning and Sustainable Development (OPSD) receive an unspecified amount of money every five years to update the State's functional plan for energy. See page 20, lines 12-15.

As this provision requires a future legislature to appropriate funds for the program, we have concerns about its constitutionality. A statute attempting to restrict the constitutional authority of a future legislature would violate article III, section 1, of the Hawaii State Constitution. See *State ex. rel. Stenberg v. Moore*, 544 N.W.2d 344, 349 (Neb. 1996) (analyzing case law from several states upholding the general rule that a legislature cannot bind or restrict a succeeding legislature, and holding that a statute attempting to do so violates the state constitution).

Because the provision in this bill requiring an appropriation of a specific (currently unspecified) sum to OPSD every five years could violate article III, section 1, of the Hawaii State Constitution, we recommend that the provision on page 20, lines 12-15 be deleted.

Thank you for this opportunity to provide comments.



UNIVERSITY OF HAWAII SYSTEM

Legislative Testimony

Testimony Presented Before the
Senate Committee on Water and Land and
Senate Committee on Energy, Economic Development, and Tourism
Friday, February 11, 2022 at 3:10 p.m.

By
Richard Rocheleau, Director
Hawai'i Natural Energy Institute
And
Michael Bruno, PhD
Provost
University of Hawai'i at Mānoa

SB 2510 – RELATING TO RENEWABLE ENERGY

Chairs Inouye and Wakai, Vice Chairs Keith-Agaran and Misalucha, and members of the committees:

SB 2510 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 further directs that future expansion of the energy system consider not only least-cost energy supply, but also long-term, direct and indirect economic, environmental, social, cultural, and public health costs and benefits that may offset monetary costs. SB 2510 also appropriates funding 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.

While HNEI **supports the intent** of this bill, we are concerned that a legally-binding fixed minimum percentage of renewable energy from firm generation may be overly prescriptive, not yield optimal solutions, and likely slow Hawaii's clean energy transition. Various analyses conducted by HNEI indicates that there may be significant cost benefits to maximizing energy production from lower-cost variable (intermittent) resources while also improving reliability.

While there may be cost benefits to maximizing the energy production from the lower-cost variable resources, HNEI analysis to date shows that significant amounts of firm capacity will be required to reach our 100% goals. For example, analysis on O'ahu

including electrification of transportation suggests that up to 800 MW of firm **capacity** will be required to meet our 100% goal and maintain reliability, even in scenarios with a high penetration of solar and wind with battery energy storage. Please keep in mind, however, that most of these firm resources will operate infrequently, largely filling in gaps that arise due to low wind and solar events. HNEI further acknowledges that diversity of resources should be evaluated in regard to ensuring reliability, stability, and resilience of our integrated electrical/transportation systems, but believes that it is premature to set a maximum for any specific generation technology.

Consistent with our statutory role, HNEI collaborates with and provides analysis and technical assistance to key energy stakeholders including the Hawaii Public Utilities Commission, the Hawai'i State Energy Office, and the Hawaiian Electric Company (HECO) to help address these issues. HNEI would enthusiastically work in collaboration with these and other stakeholders, if so directed, to develop a suite of energy options that addresses issues beyond just least-cost, which could then inform future policies and regulations on options available to promote system reliability and facilitate oil plant retirements. HNEI has sufficient funds from its Barrel Tax allocation to conduct this study and does not need a separate appropriation at this time.

Accordingly, HNEI respectfully recommends the following amendments to the current draft, consistent with the intent of the SB 2510 to promote resource diversity and reliability, but without specifying a minimum firm renewable generation requirement.

Section 1 (3) Amend to state "Establish a state energy policy that requires sufficient renewable energy to be generated by firm renewable energy to achieve 100% renewable energy goals, while maintaining grid reliability.

Section 1 (5) Amend to state "Amend other statutory provisions to achieve 100% renewable on each island while maintaining grid reliability and stability.

Section 2 (a) 7: Amend to state "Reliable replacement of all fossil fuel generation with a portfolio of variable and firm renewable generation, storage, and end-user technologies that will ensure equal or improved grid reliability"

Section 2 (a) 8: Amend to state "Use the results of the study by the Hawai'i Natural Energy Institute, as described in section 7 of Act _____, Session Laws of Hawaii 2022 to propose guidance for the relative amounts of firm generation – along with a diverse set of renewable resources and technologies - to be integrated into the various island electrical grids."

Section 2 (a) 9: Amend to state "Explicitly consider the impact of diversification of the generation portfolio on cost, reliability, and resilience of the island grids."

Section 2 (a) 10: Amend to state “Fossil fuel generation shall be prohibited after December 31, 2045, except in the cases of emergencies, natural disaster, or a situation where unavailability of renewable fuels would require limited use of fossil fuels to maintain grid reliability.”

Section 2 (c) 13: Amend to state “Ensure that the development or expansion of energy systems recognizes and emphasizes the need to include enough firm generation to ensure system reliability equal to or better than current levels.”

Section 2(c) 14: Amend to state “Explicitly consider the impact of diversification of the generation portfolio on cost, reliability, and resilience of each of the island grids.”

Section 3(b) 8: Amend to state “Accelerate research and development of new energy related industries for variable and firm renewable energy sources including, but not limited to, wind, solar, ocean, underground resources, bioenergy, and solid waste. Also accelerate research and development of energy related industries based on enabling technologies including, but not limited to, energy storage, demand response, electrification of transportation, grid modernization, and end-use energy efficient systems.”

Section 7: Amend to 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.

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

DAVID Y. IGE
GOVERNOR



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 COMMITTEES ON ENERGY, ECONOMIC DEVELOPMENT, AND
TOURISM AND WATER AND LAND
ON
SENATE BILL NO. 2510

February 11, 2022
3:10 p.m.
Room 224 and Videoconference

RELATING TO RENEWABLE ENERGY

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

Senate Bill (S.B) No. 2510 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 facilitate and encourage fuel-producing crops and energy-producing crops and bioenergy and standards for achieving renewable portfolio standards; 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; provides OPSD an unspecified recurring appropriation once every five years to update the Energy State Functional Plan (ESFP); and appropriates an unspecified amount of general funds for FY 23 for the HNEI to conduct the study.

B&F has concerns regarding the unspecified proposed recurring appropriation to OPSD once every five years as described in subsection (e) under Section 6 of S.B. No. 2510. While B&F defers to the Department of the Attorney General on any issues with codifying a recurring appropriation into statute, B&F believes that the budgeting process is the appropriate means to provide funds to OPSD as needed to update the ESFP. Further, S.B. No. 2510 commissions HNEI to conduct the study, noting that the study may be updated every five years, and identifies the University of Hawai'i as the expending agency. Therefore, it is unclear whether the regularly recurring updates to the ESFP are the responsibility of OPSD or HNEI.

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.

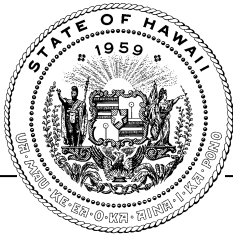
Further, the federal American Rescue Plan (ARP) Act requires that states receiving ARP ESSER funds must maintain state support for:

- 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.



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

DAVID Y. IGE
GOVERNOR

MARY ALICE EVANS
DIRECTOR

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2846
Fax: (808) 587-2824
Web: <https://planning.hawaii.gov/>

Statement of
MARY ALICE EVANS
Director, Office of Planning and Sustainable Development
before the
**SENATE COMMITTEES ON WATER AND LAND AND
ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM**
Friday, February 11, 2022
3:10 PM
State Capitol, Conference Room 224

in consideration of
SB 2510
RELATING TO RENEWABLE ENERGY.

Chairs Inouye and Wakai, Vice Chairs Misalucha and Keith-Agaran, and Members of the Senate Committees:

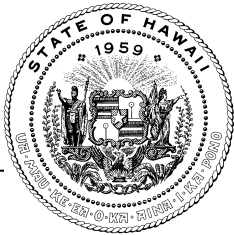
The Office of Planning and Sustainable Development (OPSD) **offers comments on** SB 2510, which establishes a firm renewable energy generation policy in the Hawai'i State Planning Act to ensure the reliable one hundred per cent replacement of fossil fuel electricity generation to increase the sustainability 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.

The Office of Planning and Sustainable Development (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 Office of Planning and Sustainable Development agrees and appreciates the opportunity to update the Energy Functional Plan, and looks forward to collaborating with multiple jurisdictions including the State Energy Office, 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.

The Office of Planning and Sustainable Development recommends an amendment for the Energy Functional Plan to be finalized by 2024 and would appreciate two appropriations of \$400,000 for services on a fee for the comprehensive stakeholder engagement, planning, and printing of the Energy Functional Plan, and \$140,000 for 2 FTE Project Specialists to perform this important update.

Thank you for the opportunity to testify on this measure.



HAWAII STATE ENERGY OFFICE STATE OF HAWAII

DAVID Y. IGE
GOVERNOR

SCOTT J. GLENN
CHIEF ENERGY OFFICER

235 South Beretania Street, 5th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone:
Web:

(808) 587-3807
energy.hawaii.gov

Testimony of
SCOTT J. GLENN, Chief Energy Officer

before the
**SENATE COMMITTEES ON
ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM, and
WATER AND LAND**

Friday, February 11, 2022
3:10 PM
State Capitol, Conference Room 224 & Videoconference

**COMMENTS
SB 2510
RELATING TO RENEWABLE ENERGY.**

Chairs Wakai and Inouye, Vice Chairs Misalucha and Keith-Agaran, and Members of the Committees, the Hawai'i State Energy Office (HSEO) offers comments on SB 2510, which establishes firm renewable energy generation policy in the Hawaii State Planning Act to ensure the reliable one hundred per cent 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. SB 2510 includes policy of incentives to facilitate and encourage fuel-producing crops and energy-producing crops and bioenergy and standards for achieving renewable portfolio standards.

HSEO's testimony is guided by its mission to promote energy efficiency, renewable energy, and clean transportation to help achieve a resilient, clean energy, decarbonized economy.

Regarding SECTION 2 of the bill, HSEO is concerned that as written, establishing such constraints in statute 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.

HSEO supports the addition of renewable energy to SECTION 3 of the bill relating to Section 226-10, Hawaii Revised Statutes (HRS), "Objective and policies for the economy-- potential growth and innovative activities", SECTION 4 of the bill relating to HRS section 226-103, "Economic priority guidelines", and SECTION 5 of the bill relating to HRS section 226-103(f), "Priority guidelines for energy use and development," and HSEO recommends removing the term "firm" to read:

(5) Provide incentives to encourage the development of renewable energy to replace fossil fuel generation.

HSEO agrees that energy research, technologies, and innovation have great potential for development, application, economic diversification, and energy security for Hawai'i.

Regarding SECTION 6 of the bill, 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.

As noted in the existing language of HRS Section 226-55(a), "The state agency 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. HSEO is willing to lead the update to the state energy functional plan in close coordination with the Office of Planning and Sustainable Development 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.

HSEO observes the language in the proposed new paragraph (f), beginning on page 20, line 16, significantly changes the role of the office of planning and sustainable development.

HSEO recommends that this item be removed:

[(f) 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 SECTION 7 of the bill, HSEO looks forward to working with HNEI on studies planned or conducted as part of this measure.

Thank you for the opportunity to testify.

From: [Island Cold Storage](#)
To: [Brad Knowlton](#)
Subject: SB 2510 Support
Date: Thursday, February 10, 2022 4:40:11 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Feb. 10, 2022

Aloha,

I Support SB 2510. Please pass this bill.

Best regards,
Kevin Kurata
Owner
ISLAND COLD STORAGE, LLC.

From: [Tom Asano](#)
To: [Brad Knowlton](#)
Subject: SB 2510
Date: Thursday, February 10, 2022 5:48:40 AM

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I support SB2510
Please pass this bill.

--

Tom Asano
Kulana Foods, Ltd.

590 W. Kawaihani #J

Hilo, Hawaii 96720

Office: 808-959-9144

Fax: 808-959-8484

Cell: 808-640-8317

SB-2510

Submitted on: 2/10/2022 8:25:59 AM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|--------------|---|--------------------|----------------------------|
| Joy Galatro | Testifying for Pacific Biodiesel Technologies | Support | No |

Comments:

Pacific Biodiesel strongly supports sustainable agriculture for food and biofuel crops – a model for the circular economy – to help diversify Hawaii's economy, enhance food security, and expand local feedstock availability for additional local renewable fuel production to help strengthen energy security in our island state.



To: The Senate Committee on Water and Land (WTL)
and
The Senate Committee on Energy, Economic Development and Tourism (EET)
From: Sherry Pollack, Co-Founder, 350Hawaii.org
Date: Friday, February 11, 2022, 3:10pm

In strong opposition to SB2510

Aloha Chairs Inouye and Wakai, Vice Chairs Keith-Agaran and Misalucha, and members of the WTL and EET committees,

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** 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 ill-advised bill.

Mahalo for the opportunity to testify.

Sherry Pollack
Co-Founder, 350Hawaii.org

From: [Mark Oishi](#)
To: [Brad Knowlton](#)
Subject: SB 2510
Date: Thursday, February 10, 2022 9:27:24 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I Support SB 2510. Please pass this bill.

Thank You,

Mark Oishi

Director of Sales & Purchasing

Suisan Company, Ltd.
333 Kilauea Ave. Ste. 202
Hilo, Hi. 96720
W: (808) 969-6349
F: (808) 935-2737





**Hawaiian
Electric**

**TESTIMONY BEFORE THE SENATE COMMITTEES ON
WATER AND LAND
AND ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM**

S.B. 2510

Relating to Renewable Energy

Friday, February 11, 2022

03:10 pm, Agenda Item #5

State Capitol, Conference Room 224 & Videoconference

Marc Asano

Director, Integrated Grid Planning

Hawaiian Electric

Chairs Inouye and Wakai, Vice Chairs Keith-Agaran and Misalucha, and Members of the Committees:

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

S.B. 2510 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 and prohibits fossil fuel generation after December 31, 2045.

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 amendments:

- 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 language 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.~~

- In Section 2 of the bill, starting on page 4, subsection (10) proposes to ban the use of fossil fuel generation after December 31, 2045. Subsection (10) should be further amended to align with HRS Section 269-92(d) and provide for circumstances where the State may need to rely upon fossil fuel generation during extraordinary circumstances. Therefore, the following language should be added:

Events or circumstances that are outside of an electric utility company's reasonable control may include, to the extent the event or circumstance could not be reasonably foreseen and ameliorated: weather-related damage to generation assets; natural disasters; inability to acquire sufficient renewable sources to power firm generation; mechanical or resource failure; in the interest of national security; failure of renewable electrical energy producers to meet contractual obligations to the electric utility company; actions of governmental authorities that adversely affect the generation, transmission, or distribution of renewable electrical energy under contract to an electric utility company; inability to acquire sufficient renewable electrical energy to meet the renewable portfolio standard goals beyond 2030 in a manner that is beneficial to Hawaii's economy in relation to comparable fossil fuel resources; substantial limitations, restrictions, or prohibitions on utility renewable electrical energy projects; or, other events and circumstances of a similar nature.

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

February 10, 2022

The Honorable Thirty-First Legislature 2022
Senate, State of Hawaii,
State Capitol, Room 224
Honolulu, Hawaii 96813

Dear Honorable Senators

My name is Aliko Watts, I was born in raised in Hawaii and I am in full support of SB2510, Relating to Renewable Energy. This bill is on track, along with several other bills introduced this year related to the importance of recovering large volumes of vented carbon dioxide emissions from Hawaii industries and Renewable Energy Production.

I support SB2510 dedicated focus on Hawaii's responsibility to reduce its negative contribution to climate changes and at the same time make a positive spin through sequestering carbon into the soil to produce nutrient dense soils and replenish Hawaii's soil that has been depleted from harmful pesticides and other past bad outdated farming practices

This Bill provides the foundational layout plan, guidance, and government support for local companies to pursue renewable energy production in Hawaii. There is so many opportunities for Hawaii to be more independent on importing fossil fuels, but the guidance so far has been vague. It is not that we don't have the resources or advanced technology, small local companies need the specific details, and support from the State to immediately put renewable energy into motion.

Hawaii and other island communities will be the first to experience climate change thru rising sea levels. It is imperative to do our part to mitigate our carbon emissions by capturing carbon dioxide stream and making a positive spin to not only benefit the citizens of the state of Hawaii, but the world.

Eco4Life is a Hawaii based, native Hawaiian, Veteran owned, company dedicated to providing state of the art, successfully proven, next generation technological advancements, to maximize community resources by increasing self-sustainability and decreasing reliance on external imports.

Sincerely,

COL (Ret.) Aliko G. Watts
President
Eco4Life LLC
(808) 223-3268
aliko@eco4life.us

From: peter@sustainableenergyhawaii.org
To: [Brad Knowlton](#)
Subject: SUPPORT for SB2510
Date: Thursday, February 10, 2022 11:19:55 AM

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To whom it may concern,

I would like to record my support for SB2510. While I don't believe the legislature has a realistic idea of how to achieve "... at least sixty per cent of renewable energy to be generated by firm renewable energy and for renewable energy to replace fossil fuel energy...", I think this is an important first step.

Even if this bill passes, the existing regulatory environment surrounding the research, development permitting processes, makes that goal virtually impossible within the timeframe needed.

This issue is important.

I believe our leaders must look at the entire regulatory environment from the state to the county level. The process is too cumbersome to attract the kind of private investment needed to scale firm power production to the level being sought.

Bottom line – this is good to understand that firm power is needed. The next thing is to realistically determine how that can be accomplished.

Respectfully

Peter Sternlicht

Member, Board of Directors



www.sustainableenergyhawaii.org



Environmental Caucus of The Democratic Party of Hawai'i

Energy & Climate Action Committee

Monday, January 31, 2022, 3:10 pm

Senate Committees on Water and Land and Energy, Economic Development, Tourism, and Technology

SENATE BILL 2510 – RELATING TO RENEWABLE ENERGY

Position: Oppose

Me ke Aloha, Chairs Inouye and Wakai, Vice-Chairs Agaran and Misalucha, and Members of the Committees on Water and Land and Energy, Economic Development, Tourism, and Technology :

SB2510 prioritizes 100% replacement of fossil fuels, a proposition worthy of our strong support. Unfortunately, this is likely to be accomplished by depending on the far dirtier burning of wood chips (not fossils, but “renewable” by discredited definition). It will deliver a large increase in greenhouse gas emissions right when the international order of the day is to reduce them by half by 2030. With a bad definition, the bill celebrates advancing State energy goals. In actuality, this bill helps accelerate global warming.

We are impressed with the well-meaning nature of this bill and by the strong effort it makes to extend the belief that it is beneficial. Sadly, the misuse of an existing definition that has been fully discredited must be rejected. Citations are too numerous to include here, well-known, and provided in earlier testimony and separately to the Chairs. This is a bad bill; there's no other way to say it. We commend the authors for an earnest effort but feel obliged to provide the hard truth.

Mahalo for the opportunity to address this matter.

/s/ Charley Ice & Ted Bohlen, Co-Chairs, Energy and Climate Action Committee
Environmental Caucus of the Democratic Party

SB-2510

Submitted on: 2/10/2022 1:28:12 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|--------------|--|--------------------|----------------------------|
| Richard Ha | Testifying for Sustainable Energy Hawaii | Support | No |

Comments:

Aloha Senators,

Sustainable Energy Hawaii, supports SB 2510.

Hawaii is at the end of the supply chain, the Canary in the coal mine.

we are especially supportive of geothermal energy. Hawaii Island will be over the "hot spot" for 1-2 million years. The heat and steam to spin a turbine is free for 1-2 million years.

That free steam and heat is available to us 24/7. It's like a giant battery that never needs to be charged.

Mahalo

Richard Ha

President

Sustainable Energy Hawaii.



TESTIMONY OF TAWHIRI POWER LLC
ON SB 2510 BEFORE THE SENATE COMMITTEES ON
ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM
AND WATER AND LAND
FRIDAY, FEBRUARY 11, 2022 AT 3:10 p.m.

TO THE HONORABLE CHAIRS WAKAI and INOUE, VICE CHAIRS MISALUCHA and
KEITH-AGARAN, and MEMBERS OF THE COMMITTEES:

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

p. 1, lines 7-9: “Establish a state energy policy that requires at least sixty 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 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.
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

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.

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. That is why all 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.

Thank you for the opportunity to testify.

Hawaii Bioeconomy Trade Organization

THE SENATE
THE THIRTY-FIRST LEGISLATURE
REGULAR SESSION OF 2022

COMMITTEE ON ENERGY, ECONOMIC DEVELOPMENT, AND TOURISM

And

COMMITTEE ON TRANSPORTATION

TESTIMONY ON SENATE BILL NO. SB 2510: RELATING TO RENEWABLE ENERGY

Position: **Support with Comments**

To the Honorable Senator Glenn Wakai, Chair and Senator Bennette E. Misalucha, Vice Chair; and the Honorable Senator Chris Lee, Chair; Senator Lorraine R. Inouye, Vice Chair; and Members of the Committees:

- The state planning effort should also factor in low-greenhouse gas **lifecycle** options, not just point source and tailpipe emissions.
- The clause in the bill requiring 55% firm renewable electricity generation on each island is a bit arbitrary and may limit operational considerations and optimization too much.

To provide an example for a bus operating in Honolulu:

At the HEPF greenhouse gas lifecycle methodology workshop held Oct 2019, participants found that a bus converted to biodiesel emitted 80% less greenhouse gas emissions across the lifecycle and the same emissions as diesel at the tail pipe, while a bus converted to electricity and charged from Oahu's electrical grid mix emitted 2.5 times more greenhouse gases across the lifecycle, but zero emissions at the tailpipe.

[Thank you for your consideration of this testimony.](#)

Regards,

Carl Campagna
Executive Director
carl@hawaiiioeconomy.org

From: [Brandon Bartolome](#)
To: [Brad Knowlton](#)
Subject: SB 2510.
Date: Thursday, February 10, 2022 2:49:45 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I Support SB 2510. Please pass this bill.

Thank you & God bless

Brandon Bartolome

President

Hilo Products Inc.

41 Maka'ala St.

Hilo HI 96720

(808) 960-1379 cell

(808)935-1106 ext. 2 order desk

(808) 935-5669 fax

Brandon@hiloproductsinc.com

www.hiloproductsinc.com



**Testimony to the Committees on Energy, Economic Development, and Tourism
and Committee on Water and Land**

**Friday, February 11, 2022
3:10 PM
VIA Video Conference
Conference Room 224, Hawaii State Capitol
SB 2510**

Chair Wakai, Chair Inouye, Vice Chair Misalucha, Vice Chair Keith-Agaran, and members of the committees,

Hawaii Clean Power Alliance (HCPA) **supports** SB 2510, 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 which was published 31 years ago (1991) is needed to modernize the state's policy to align it 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 energy.

Historically, it has been left to electric utilities to discern the plans and actions required 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 follow and provide a clear view of what will be required in terms of technology needs and at what 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 by 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 it can and does produce power all the time.

The electric system needs a minimum amount of capacity (power that can meet demand) to be available all the time (baseload, firm generation) to keep the grid running 24x7 in a reliable way.

Nationally, the Federal Energy Regulatory Commission (FERC) mandates reliability standards. Hawaii is not subject to FERC and has not implemented reliability standards in a manner similar to other jurisdictions leaving the grid without independent third-party oversight. Such oversight was also a cornerstone of the Hawaii Electric Reliability Administrator that is yet to be established.

WHY A DIVERSIFIED PORTFOLIO IS IMPORTANT (CAPACITY AND ENERGY)

Energy, or electricity generation is another consideration in the equation. Energy is the amount of electricity 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 energy). A facility's output may vary according to the conditions of the source of the energy. That is why it is important for the system to have a variety of resource types, including those that can start up or dial back quickly in response to sudden changes in consumer demand or the output of other resources on the grid. For instance, a solar farm be rated at a 10-megawatt nameplate capacity, but if the sun isn't shining at any time, then firm capacity is required to fill in that gap. A healthy mix is critical to being able to cost-effectively integrate intermittent resources with firm resources.

REAL WORLD EXAMPLE: CAPACITY SHORTFALL

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 a reserve of requirements.

However, an unprecedented cold winter storm forced many generators offline or reduced their energy output because the input of resources were not available. While sufficient nameplate capacity seemed to be available, the power available to meet demand was perilously short.

Another example is the winter storm of 2021 in Texas that left customers without power due to an over-reliance on intermittent generation where a healthy mix of firm generation, capacity could have prevented this situation.

HAWAII EXPERIENCE OF CAPACITY SHORTFALL

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

Testifiers may want to insert into language into this bill which 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 HRS§ Chapter 269 which have carefully been considered by the legislature and defines renewable energy by source and provides other decision making criteria such as considering 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.

Thank you for the opportunity to testify.

SB-2510

Submitted on: 2/8/2022 2:42:01 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|----------------|--------------|--------------------|----------------------------|
| Michael Carion | Individual | Support | No |

Comments:

I applaud the State of Hawaii for mandating that energy production be 100% renewable by 2045. I feel the State should maintain a diversified renewable energy portfolio that includes firm energy like geothermal and biomass, and intermittent such as solar and wind. Having several types of energy will ensure reliability and prevent blackouts or scheduled power disruptions. I support SB 2510.

SB-2510

Submitted on: 2/8/2022 3:37:44 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|---------------------|---------------------|---------------------------|-----------------------------------|
| Lydia Hoepfner | Individual | Support | No |

Comments:

If Covid19 taught us anything it's we need to take care of ourselves. Anything having to do with renewable energy and state sustainability should always be in the plans and pressing forward annually.

It's for the greater good of the state and the future footprint!

Let the State of Hawaii show the world it can be done!

SB-2510

Submitted on: 2/8/2022 9:10:43 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

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

Comments:

I am grateful the State of Hawaii has set a mandate for replacing fossil fuels with renewable energy by 2045. I think our renewable energy should be comprised of several types of energy: wind, solar, biomass, geothermal and hydro. It is important we balance these different sources so we have energy available all the time—not just when it is windy and sunny. I support SB2510.

SB-2510

Submitted on: 2/8/2022 9:35:42 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|--------------|--------------|--------------------|----------------------------|
| Keith Neal | Individual | Support | No |

Comments:

Strongly oppose SB2510

With food prices high, and as much as 90% currently imported from out of state, it is critical arable land must be designated for growing food. Hawaii, with limited land space needs to grow food crops, not plants bound for the furnace. Furthermore, a commissioned study by Massachusetts Department of Energy Resources concluded that burning trees to make electricity is worse for the climate than burning coal¹.

Wood is much less energy dense than coal, so you have to burn a lot more of it to produce the same amount of electricity. As a result, burning wood produces higher emissions than coal (about 40 percent higher) for every unit of energy you generate;

Trees take a long time to grow back. Even with immediate replanting, it can take many decades or even centuries before a forest can remove the emissions created from burning it in the first place;

Cutting forests eliminates an important carbon “sink” that would otherwise continue capturing carbon from the atmosphere. Our forests currently absorb 15 percent of our carbon emissions each year. ²

The age of combustion is over, to continue, we do so at our collective peril.

So called ‘Bio-energy’ crops are a bad idea.

In Hawaii nei, where the trade winds blow and the sun strong, energy must come from clean, renewable sources paired with energy storage.

Respectfully submitted,

Keith Neal

1 “New study: burning trees for power worse for climate than burning coal” Nathanael Greene, June 11 2010 .

<https://www.nrdc.org/experts/nathanael-greene/new-study-burning-trees-power-worse-climate-burning-coal>

2 “Burning Trees for Electricity Is Actually Dirtier Than Coal” Feb 20, 2015

<https://www.ecowatch.com/burning-trees-for-electricity-is-actually-dirtier-than-coal-1882012730.html>

SB-2510

Submitted on: 2/9/2022 2:53:47 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|--------------|--------------|--------------------|----------------------------|
| John Gavelek | Individual | Support | No |

Comments:

As a retired Hawaiian Electric lineman, I know the importance of having reliable energy. I also feel it is time to stop our dependence on foreign fossil fuel. I support SB2510 which will institute a statewide energy policy to provide Hawaii with the right mix of renewable energy sources to keep the lights on. Firm renewable energies, including biomass, geothermal and hydro, should be the lion's share of our energies, augmented by intermittent solar and wind.

SB-2510

Submitted on: 2/9/2022 3:14:04 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|---------------|--------------|--------------------|----------------------------|
| Debra Gavelek | Individual | Support | No |

Comments:

As an Island state, Hawaii is one of the first places to experience the affects of climate change. I am proud Hawaii has a mandate to use only renewable energy by 2045 and I think a statewide energy policy needs to be implemented. The policy should require Hawaii to rely on a diverse portfolio of both firm and intermittent energies to prevent rolling blackouts. All energy options and their latest technologies should be utilized: biomass, geothermal, solar and wind. Mahalo for the opportunity to give testimony, I support SB2510.

SB 2510 TESTIMONY

To: Senate Committee on Water and Land
Senate Committee on Energy, Economic Development, and Tourism
Hearing on Feb. 11, 2022 at 3:10 p.m.

From: John Kawamoto

Position: Oppose

The State Legislature has established clean, renewable energy goals. HRS 225P-5 sets a statewide target of net zero emissions by 2045. HRS 269-92 requires the net electricity sales of electric utility companies to be 100% renewable by 2045.

Both of those goals were commendable when they were adopted. However, new data on climate change is continually becoming available because of the extensive research being done on it. Most climate scientists now say that we are doing far too little to mitigate climate change. Drastic action must be taken to avert a global climate catastrophe. State goals and objectives should be moved up accordingly.

This bill encourages renewable sources to be used to generate electricity. But not all renewable energy is clean energy. For example, the burning of trees and tree products is renewable in the long term, but it is not clean.

The burning of trees emits more than twice as much greenhouse gases than burning fossil fuel to produce an equivalent amount of electricity. Coal is considered to be a dirty source of energy, but the burning of trees is even dirtier than burning coal.

This bill does not reflect that urgency of SCR 44, which the Legislature adopted last year, to declare a climate emergency. Instead, the bill takes a less serious attitude, as it tries to maintain uninterrupted electrical generation so that people won't have to go through the discomforts of electrical shortages.

The bill does that by encouraging dirty energy to be used to generate electricity. It makes the decision that people will be comfortable in the near future at the expense of future generations. Carbon dioxide stays in the atmosphere for 300 to 1,000 years, according to NASA. So it's future generations who will be harmed by the greenhouse gases that will be emitted by the dirty energy into the atmosphere.

Hawaii is a leader in mitigating climate change. This bill does not meet the high standards that Hawaii should aspire to.

For the foregoing reasons I oppose the bill.

SB-2510

Submitted on: 2/9/2022 7:16:25 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|---------------|--------------|--------------------|----------------------------|
| tlaloc tokuda | Individual | Oppose | No |

Comments:

Aloha WTL/EET Committees,

I Strongly oppose SB2510. During the 70s, 80s, and all the way into 2000s environmentalist were saying that the burning of biomass (trees) was using a renewable energy. However for the past 20 years studies have shown that the burning of biomass, to create electricity, was a very BAD IDEA! Living trees sequest carbon but if you cut them down stops this capture of CO2.

Biomass to electricity burning projects also have a detrimental effects wear and tear of roads and impact the local communities (traffic jams and poor air quality.

Mahalo,

Tlaloc Tokuda

Kailua Kona HI 96740

SB-2510

Submitted on: 2/9/2022 8:38:42 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|----------------------|--------------|--------------------|----------------------------|
| Sophia Cabral-Maikui | Individual | Support | No |

Comments:

I support SB2510. Please pass this bill.

SB-2510

Submitted on: 2/9/2022 8:42:18 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|---------------------|---------------------|---------------------------|---------------------------------------|
| Alika Maikui | Individual | Support | No |

Comments:

Improve the grid with energy.

SB-2510

Submitted on: 2/9/2022 8:48:13 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|---------------------|---------------------|---------------------------|---------------------------------------|
| aulani hood | Individual | Support | No |

Comments:

Cost of oil is rising. Need to get off of oil and become energy self sufficient.

SB-2510

Submitted on: 2/9/2022 8:50:43 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|---------------------|---------------------|---------------------------|---------------------------------------|
| micah hood | Individual | Support | No |

Comments:

I strongly support SB2510.

SB-2510

Submitted on: 2/10/2022 1:03:37 AM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|---------------------|---------------------|---------------------------|---------------------------------------|
| Stephen Ueda | Individual | Support | No |

Comments:

I Support SB 2510. Please pass this bill.

From: [Bill Kaono](#)
To: [Brad Knowlton](#)
Subject: Bill SB2510
Date: Thursday, February 10, 2022 7:18:13 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I support Bill SB2510. Please pass this bill.

February 10, 2022

VIA EMAIL & ONLINE SUBMISSION

Re: Support for SB 2510

I am in support for SB 2510 as it seeks to diversify our power grid in order to ensure reliability through the use of clean renewable energy, such as geothermal, wind, biomass and solar, and will assist us with eliminating our need for fossil fuel energy generation.

For these reasons, I ask that you please pass this bill.

Mahalo,

A handwritten signature in black ink, appearing to read "Jon Miyata", is written over a printed name label.

Jon Miyata

SB-2510

Submitted on: 2/10/2022 7:59:57 AM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|------------------|--------------|--------------------|----------------------------|
| Rhea R. Lee-Moku | Individual | Support | No |

Comments:

Aloha...I support SB2510. We need to have firm renewable energy that is reliable and will stabilize our energy costs in hawaii. The current energy environment subjects us to price fluctuations based on the price of fossil fuel. As a retired individual on a fixed income this impacts me significantly. We also need to ensure that we do not place all our energy "eggs" in one basket. We need a diverse energy portfolio that is reliable. Thank you for supporting this bill.

SB-2510

Submitted on: 2/10/2022 8:09:17 AM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|--------------|--------------|--------------------|----------------------------|
| Wayne Moku | Individual | Support | No |

Comments:

I support this bill. I am retired and it is important to me that we have firm renewable energy that gets us off fossil fuel. We need renewable energy that we can depend on 24/7. We also need diversity in the kind of energy that is used. Please pass this bill.

SB-2510

Submitted on: 2/10/2022 8:38:13 AM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|---------------------|---------------------|---------------------------|---------------------------------------|
| Glen Kagamida | Individual | Support | No |

Comments:

In SUPPORT of SB2510. It is simply the RIGHT THING TO DO! Mahalo, Glen

From: [Randy Yoneishi](#)
To: [Brad Knowlton](#)
Subject: SB2510
Date: Thursday, February 10, 2022 8:41:14 AM

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I Support SB 2510. Please pass this bill.

SB-2510

Submitted on: 2/10/2022 8:46:20 AM

Testimony for WTL on 2/11/2022 3:10:00 PM

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

Comments:

I support SB2510, please pass the bill. Furthermore I agree with the state that all renewable options should be utilized solar, biomas, wind, geothermal etc. While some sources are "as available" like wind and solar other sources like geothermal and biomass are " base load". All of these sources should be used in conjunction to create a stable and sustainable power grid. By doing so Hawaii can achieve its goal of being 100% renewable in the electrical generation sector.

Mahalo for your consideration

William Wiebe

SB-2510

Submitted on: 2/10/2022 9:17:51 AM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|---------------------|---------------------|---------------------------|---------------------------------------|
| Ashley D.K McGuire | Individual | Support | No |

Comments:

I support

From: [alyn suefujj](#)
To: [Brad Knowlton](#)
Subject: SB 2510
Date: Thursday, February 10, 2022 9:24:52 AM

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I Support SB 2510. Please pass this bill.

Sent from my iPhone

SB-2510

Submitted on: 2/10/2022 9:29:55 AM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|---------------------|---------------------|---------------------------|---------------------------------------|
| Sara DuVoisin | Individual | Support | No |

Comments:

Hawaii must move more towards renewable energy alternatives! I support this bill.

SB-2510

Submitted on: 2/10/2022 9:30:02 AM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|---------------------|---------------------|---------------------------|---------------------------------------|
| Rick DuVoisin | Individual | Support | No |

Comments:

We need to stop burning dead dinosaurs for energy!

From: [Richard Skidmore](#)
To: [Brad Knowlton](#)
Cc: [Sen. Joy A. San Buenaventura](#)
Subject: Support SB 2510 - Renewable Energy
Date: Thursday, February 10, 2022 10:26:20 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Aloha Hawaii Senate,

I strongly support SB 2510 to encourage the use of renewable energy sources for the State of Hawaii and to lessen our dependence on fossil fuels. All types of renewable energy sources should be considered and included - wind, solar, biomass, geothermal, etc.

I encourage your support in the passage of this bill.

Mahalo,
John Richard Skidmore
13-979 Kahukai Street
Pahoa, HI 96778

From: [Jerry Chang](#)
To: [Sen. Lorraine R. Inouye](#); [Brad Knowlton](#)
Subject: In support of SB 2510
Date: Thursday, February 10, 2022 10:33:04 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Aloha Sen. Inouye,
I am in full support of SB 2510 to help
Hawaii rid us of the use fossil fuel.
Thank you for your consideration.
Jerry Chang
808 286-0461

Sent from my iPhone

From: [Jeff Ikeda](#)
To: [Brad Knowlton](#)
Subject: SB2510
Date: Thursday, February 10, 2022 10:38:12 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I support BS2510 please pass this bill

Jeff Ikeda

From: [Hugh Ono](#)
To: [Brad Knowlton](#)
Cc: hono@hawaii.rr.com
Subject: SB 2510
Date: Thursday, February 10, 2022 10:39:59 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Please support passage of this Bill. We absolutely need a more reliable energy source, Also, a continued path toward our self-sustainability goals.

Sincerely submitted:

Hugh Y Ono
Hono@hawaii.rr.com
808-989-3819

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[SSFM Receives Three APA, Hawai'i Chapter Awards](#)

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From: [Nathan Lee](#)
To: [Brad Knowlton](#)
Subject: IN SUPPORT OF SB2510 SUPPORT SB2510
Date: Thursday, February 10, 2022 11:24:17 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Aloha Senator Chair Loraine Inouye,

I SUPPORT SB2510.

We need Senate Bill 2510 to ensure that our renewable energy goals are met with solar, biomass, wind, hydro and other new technologies that will lesson our oil dependence.

We cannot ignore the world issues of Global warming and unstable countries when living here in Hawaii. We must diversify, be openminded and more importantly... ACT! We must always leave our place in a better situation then when we had it. Its our responsibility as human beings for our family, friends and the community that we love.

We must be smart and use Earth responsibly and that includes using, re-using, recycling, and replenishing the cycle. Japan is very innovative when using and replenishing the land using very old and new technology and techniques.

We can all learn from each other minus egos and greed and really just PASS SB2510 because it's the right thing to do for our people.

Mahalo,
N. Lee

Sent from [Mail](#) for Windows

SB-2510

Submitted on: 2/10/2022 11:33:04 AM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|---------------------|---------------------|---------------------------|---------------------------------------|
| Raymond Grillot | Individual | Support | No |

Comments:

I whole heartedly support passing SB 2510. Hawaii needs to get off imported fossil fuel. Hawaii has the highest electricity rates in the country, although studies show that Hawaii residents use LESS per household! We need SB2510 passes and passed NOW!!

From: pdi56@hawaiiintel.net
To: [Brad Knowlton](#)
Subject: SB2510
Date: Thursday, February 10, 2022 11:41:14 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

We are in support of SB2510. Our "Baby Boomer" generation have far too long been dependent upon "fossil fuels" as our primary source of energy, especially here in Hawaii.

We believe we need to establish a sorely needed policy to address these concerns, not only for our present concerns regarding energy costs & climate change, but also because the impact it will have upon our future generations:

Phillip & Susan Iranon

From: [Suterra Soares](#)
To: [Brad Knowlton](#)
Subject: Support for SB2510
Date: Thursday, February 10, 2022 11:42:19 AM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Aloha,

I am in support of SB2510.

Hawai'i needs to commit towards its renewable energy goals.

Mahalo,

Suterra Soares

From: [barett_otani](#)
To: [Brad Knowlton](#)
Subject: I Support SB 2510.
Date: Thursday, February 10, 2022 12:02:14 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

I Support SB 2510. Please pass this bill.

Mahalo,
Barett Otani
Sent from my Galaxy

SB2510

Feb. 10, 2022

Aloha all I am writing to show “support” of SB2510 and the need for Hawaii to have a broad portfolio of renewable energies that can all work together. Here in Hawaii, we have one of the lowest consumptions of electricity, but yet we have the highest rates in the country, and the need to free ourselves from the use of fossil fuels is a goal we all should share.

SB-2510

Submitted on: 2/10/2022 12:15:22 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|---------------------|---------------------|---------------------------|---------------------------------------|
| Lowen Moses | Individual | Support | No |

Comments:

I support SB2510. Please pass this bill. Thanks

SB-2510

Submitted on: 2/10/2022 12:21:53 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|---------------|--------------|--------------------|----------------------------|
| Nicole Carion | Individual | Support | No |

Comments:

I support SB 2510. I think we should have ample power to fuel our island needs and growth, but it should be clean energy. Our state's energy policy should consider all types of renewable energy: geothermal, biomass, hydro and solar. We need to stop our dependence on fossil fuels and meet the state's goal of renewable energy production by 2045.

SB-2510

Submitted on: 2/10/2022 1:08:31 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|---------------|--------------|--------------------|----------------------------|
| peter simmons | Individual | Support | No |

Comments:

Aloha Esteemed Legislators,

My name is Peter Simmons and I am in support of SB 2510. This is the type of legislative leadership that will help us reach our State goals for green renewable energy.

Thank you,

Peter Simmons

SB-2510

Submitted on: 2/10/2022 1:09:18 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|--------------|--------------|--------------------|----------------------------|
| Keoni ford | Individual | Support | No |

Comments:

Aloha Kakou

Chairperson (s) vice Chairperson(s) and committee members of WTL & ETT.

Mahalo for the opportunity to provide testimony in support of SB2510 as it relates to renewable energy.

This bills puts powerful language together in such a way that charters necessary action steps in Hawaii's efforts to achieve goals in clean energy and the carbon mitigation and the offsets from the use of imports of fuels and food.

Dibshawaii is in full support of the committees actions to create a viable platform that insure the success and implementation of Renewable energy and alternatives that will lead the State of Hawaii to a position of thriving.

Mahalo senators for championing this bill and drafting great language that will set the tone for next steps as we move closer to cleaner alternatives that pivot our communities to a Net Abundance carbon negative future for our next generation of up coming leaders.

Mahalo nui

Keoni Ford

808 554 9247

Kford@dibshawaii.com

www.dibshawaii.com

SB-2510

Submitted on: 2/10/2022 1:22:30 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|-----------------|--------------|--------------------|----------------------------|
| aulii fernandez | Individual | Support | No |

Comments:

State of Hawaii needs to commit towards its renewable energy goals.

SB-2510

Submitted on: 2/10/2022 1:53:32 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|--------------|--------------|--------------------|----------------------------|
| Gary Kam | Individual | Support | No |

Comments:

Renewable energy initiatives are important to a comprehensive energy plan. I like that the bill addresses various forms of renewable energy: wind, water, solar, geothermal. I especially like that the bill supports fuel and energy producing crops. Eucalyptus trees, planted along the Hamakua coast of the Big Island, were planted for bioenergy and can help achieve the goals of this bill. I support SB2510.

SB-2510

Submitted on: 2/10/2022 2:00:49 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|----------------|--------------|--------------------|----------------------------|
| Felicia Graham | Individual | Support | No |

Comments:

Aloha-

I am writing in support of SB2510 and Hawaii's Renewable Energy. Due to our physical isolation and the planet's environmental crisis with climate change and global warming, this bill just makes sense.

We need a thorough plan in place that addresses "dependable, efficient, and economical statewide energy systems capable of supporting the needs of the people." We need to reduce the need and usage of fossil fuels while providing greater diversity in firm renewable energy generation.

SB2510 outlines in detail short and long term provisions the state should follow to achieve these goals. Again, it just makes sense. I love this state and I hope this legislature passes SB2510 for the good of Hawaii and our Ohana.

Mahalo,

Felicia Graham

SB-2510

Submitted on: 2/10/2022 2:21:54 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|--------------|--------------|--------------------|----------------------------|
| Tawn Keeney | Individual | Oppose | No |

Comments:

Comments on SB2510:

It is clear that this bill, SB2510, has been crafted with intent of supporting bioenergy, because of its 'firm' character. This is relevant most immediately to the likely rejection of the Hu Honua PPA which is before the PUC. A possible conversion of the AES Coal facility on Oahu to burn coal is also supported. However the State Energy Office has indicated that the AES Conversion to wood will not be a consideration until late in this decade or early next decade as more oil burning stations are taken off line. So this is mostly about Hu Honua. I propose that if firm energy is needed which is not able to be supplied by battery storage, then it is far more desirable in every respect to continuing burning oil, rather than converting to burning wood.

Let me encapsulate my concerns, first about Hu Honua and then more generally:

Hu Honua will emit 2.2x more Greenhouse Gas per KWh electricity produced than the Big Island's largest power plant, Hamakua Energy Partners, which burns kerosene. We know that burning wood chips as fuel releases 1.5x more GHG emissions than burning Coal, 2.2x more GHG than oil and 3x more than Natural Gas.

Solar Plus Storage facilities on the Big Island will charge Hawaiian Electric \$0.08 per KWh of electricity produced. Hu Honua proposes charging initially \$0.22 per KWh increasing above \$.30 per KWh, approximately 3x the charges of the Solar Plus Storage projects.

Hu Honua discloses in their 2019 GHG Analysis submitted to the PUC that it will emit approximately 2.1x more GHG per KWh electricity produced than the fossil fuel facilities which it replaces:

https://drive.google.com/file/d/1tLYoCgzly5y7e_TrYpxqtC6cAnrJ8Y80/view?usp=sharing

The Consumer Advocate at the PUC has submitted testimony that, over the 30 years of the project 58% of the electricity generation which Hu Honua would replace would be other renewable sources (zero emitting wind, solar or geothermal) whereas 42% would be fossil fuels.

I have heard it said that we need bioenergy to become energy independent in Hawaii and for jobs. Most of those jobs would be in forestry and trucking but Kamehameha Schools has stated publicly that they will not regrow the trees after initial harvest. There is no commitment from

Parker Ranch to regrow trees for reharvest. Regarding energy independence we will just substitute importing wood pellets from Oceania or the American continents for oil from Indonesia.

The Consumer Advocate submitted testimony to the PUC on September 17, 2021 stating "... approval of the (Hu Honua) A&R PPA (Power Purchase Agreement) does not seem reasonable or in the public interest at this time." "Without additional justification, there are GHG emissions, environmental, health, and customer impact concerns that do not support a favorable ruling by the Commission." Ililani Media Sept. 17 2021

In expanding my comment to include bioenergy generally I would like to cite a letter signed by 500 Expert Scientists in Feb. 2021 to leaders of the US, EU, Japan and Korea regarding Bioenergy. (Please access the below link to see the impressive credentials of the signatories, which includes a former chair of the UN Intergovernmental Panel on Climate Change, a US National Medal of Science winner, President of the European Academies of Science, etc.)

"The undersigned scientists and economists commend each of you for the ambitious goals you have announced for the United States, the European Union, Japan and South Korea to achieve carbon neutrality by 2050. Forest preservation and restoration should be key tools for achieving this goal and simultaneously helping to address our global biodiversity crisis. We urge you not to undermine both climate goals and the world's biodiversity by shifting from burning fossil fuels to burning trees to generate energy."

"In recent years, there has been a misguided move to cut down whole trees or to divert large portions of stem wood for bioenergy, releasing carbon that would otherwise stay locked up in forests."

"The result of this additional wood harvest is a large initial increase in carbon emissions As numerous studies have shown, this burning of wood will increase warming for decades to centuries. That is true even when the wood replaces coal, oil or natural gas."

"Overall, for each kilowatt hour of heat or electricity produced, using wood initially is likely to add two to three times as much carbon to the air as using fossil fuels."

"Government subsidies for burning wood create a double climate problem because this false solution is replacing real carbon reductions. Companies are shifting fossil energy use to wood, which increases warming, as a substitute for shifting to solar and wind, which would truly decrease warming."

"To avoid these harms, governments must end subsidies and other incentives that today exist for the burning of wood whether from their forests or others. The European Union needs to stop treating the burning of biomass as carbon neutral in its renewable energy standards and in its emissions trading system. Japan needs to stop subsidizing power plants to burn wood. And the United States needs to avoid treating biomass as carbon neutral or low carbon as the new administration crafts climate rules and creates incentives to reduce global warming."

Access the full text and list of the 500 signatories here:
<https://www.documentcloud.org/documents/20482842-scientist-letter-to-biden-van-der-leyden-michel-suga-moon-february-11-2021>

It is clear that if firm renewable power means 'bioenergy' then we must reject this notion and continue burning oil on a limited basis as it is far less harmful to the environment than burning wood. By the time that firm renewable power would be necessary after closure of AES and then multiple oil facilities in the end of this decade or the next, the great strides that are being made in battery storage will have eliminated the need to burn anything.

Mahalo for your consideration

Tawn Keeney MD

From: [Derek P](#)
To: [Brad Knowlton](#)
Subject: Testimony
Date: Thursday, February 10, 2022 2:25:56 PM

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Aloha,

I grew up here in Hawaii, surfed all through my childhood, and have always enjoyed the beauty of the Islands. I am writing as a staunch supporter of renewable energy. Especially FIRM renewable energy. Carbon recapture has been a growing technology and I know there are a few individuals/ entities here on island that are pursuing this endeavor. Whether it be by pulling Co2 from the air or by utilizing biomass this can only help Hawaii achieve firm renewable energy to make up for the inconsistencies of solar and wind. I am not against solar and wind, however, I know for a fact that the need for firm energy production is a must to provide 24/7 reliable power to residents.

Thank you,
D.P.

Sent from my T-Mobile 5G Device
Get [Outlook for Android](#)

SB-2510

Submitted on: 2/10/2022 2:49:28 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|---------------|--------------|--------------------|----------------------------|
| Matthew Geyer | Individual | Comments | Yes |

Comments:

While we appreciate the efforts of the legislature to lead us forward into a greener more sustainable future, we cannot greenwash the burning of forests for energy.

The wording of this legislation lends one to believe that the intended purpose of this bill is to benefit the companies that want to burn wood for electricity which has been shown to be worse for the environment and worse for the electric rate-payers.

Please amend this legislation to strictly forbid wood burning as a source of electric power generation, and allow for "solar with battery" to be considered a firm source of renewable power.

Mahalo.

SB-2510

Submitted on: 2/10/2022 5:40:00 PM

Testimony for WTL on 2/11/2022 3:10:00 PM

| Submitted By | Organization | Testifier Position | Remote Testimony Requested |
|---------------------|--------------|--------------------|----------------------------|
| Catherine Mikkelsen | Individual | Support | No |

Comments:

I support SB2510 because I feel Hawaii needs to eliminate the needs for fossil fuels and create its own renewable energy. This bill helps Hawaii commit towards its renewable energy goals while utilizing several options: solar, hydro, biomass, geothermal and wind. Power generation must absolutely include any and all firm renewable options so we are ensured of power 24/7.