STATE OF HAWAII
OFFICE OF PLANNING
& SUSTAINABLE DEVELOPMENT

DAVID Y. IGE
GOVERNOR

MARY ALICE EVANS
DIRECTOR

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Statement of
MARY ALICE EVANS
Director, Office of Planning and Sustainable Development
before the
HOUSE COMMITTEE ON CONSUMER PROTECTION &COMMERCE
Tuesday, March 22, 2022
2:00 PM
State Capitol, Conference Room 211
in consideration of
SB 2510, SD2, HD1
RELATING TO RENEWABLE ENERGY.

Chair Johanson and Vice Chair Kitagawa, and Members of the House Committee on Consumer Protection & Commerce.

The Office of Planning and Sustainable Development (OPSD) offers **comments** on SB 2510, SD2, which amends the Hawaii State Planning Act to give consideration to reducing reliance on energy imports, ensuring that all new utility scale generation projects are renewable, balancing of grid resources, including firm renewable energy resources, reliable replacement of fossil fuel generation with balanced grid resources, prohibiting fossil fuel generation after 2045 except in except in an emergency, and expanding vocation training in renewable energy and related industries.

OPSD supports the inclusion of firm renewable energy, such as bio-fuels, geothermal, and dispatchable battery storage, as a required component of a diversified portfolio of renewable energy generation for each island to improve grid reliability in the State Planning Act. OPSD supports exceptions for fossil fuel use during emergencies. OPSD also supports balancing decisions on energy resource options with considerations of environmental, social, cultural, and public health costs and benefits that may offset least-cost options. Finding the right balance at any point in the journey to 2045 is the job of the Hawaii State Energy Office and the Public Utilities Commission.

OPSD appreciates the opportunity to support Legislative changes to Chapter 226-18, objectives and policies for facility systems – energy, by providing guidelines as required by Chapter 226-56 (b).

OPSD looks forward to working in close cooperation with the Legislature, DBEDT, HSEO, and experts in renewable energy which may include the Public Utilities Commission, the Hawaii Natural Energy Institute, Hawaii's four counties, the electric utilities, energy developers, and community stakeholders in an 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

235 South Beretania Street, 5th Floor, Honolulu, Hawaii 96813 Telephone: (808) 587-3807
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804 Web: energy.hawaii.gov

Testimony of
SCOTT J. GLENN, Chief Energy Officer

before the
HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE

Tuesday, March 22, 2022
2:00 PM
State Capitol, Conference Room 329 & Videoconference

SUPPORT
SB 2510, SD2, HD1
RELATING TO RENEWABLE ENERGY.

Chair Johanson, Vice Chair Kitagawa, and Members of the Committee, the Hawai‘i State Energy Office (HSEO) supports SB 2510, SD2, HD1, which amends the Hawaii State Planning Act to give consideration to reducing reliance on energy imports, ensuring that all new utility scale electricity generation projects are renewable, balancing of grid resources including firm renewable energy resources, reliable replacement of fossil fuel generation with balanced grid resources, prohibiting fossil fuel generation after 12/31/2045 except in certain circumstances, and expanding vocational training in renewable energy and related industries.

HSEO appreciates the amendments made in SB 2510, SD2, HD1. The current bill leaves in place the existing functional plan process and adds renewable energy to section 226-10, Hawaii Revised Statutes (HRS), “Objective and policies for the economy--potential growth and innovative activities;” revises HRS section 226-18 by modifying and adding several objectives to be considered when planning for Hawai‘i’s energy systems and adding definitions of “firm renewable energy,” “grid resources,” and “intermittent renewable generation;” revises HRS section 226-103, “Economic priority guidelines,” by adding “renewable energy and related industries” to a vocational training item and “incentives to encourage the development of grid resources” to priority guidelines for energy use and development.

HSEO agrees that energy topics have great potential to provide economic and energy security benefits to Hawai‘i, and their inclusion is appropriate in state planning efforts.

Thank you for the opportunity to testify.

DAVID Y. IGE
GOVERNOR

JOSH GREEN
LT. GOVERNOR

STATE OF HAWAII
OFFICE OF THE DIRECTOR
DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS
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CATHERINE P. AWAKUNI COLÓN
DIRECTOR

JO ANN M. UCHIDA TAKEUCHI
DEPUTY DIRECTOR

Testimony of the Department of Commerce and Consumer Affairs

Before the
House Committee on Consumer Protection & Commerce
Tuesday, March 22, 2022
2:00 PM
Conference Room 329 & Videoconference

On the following measure:
SB 2510, SD2, HD1, RELATING TO RENEWABLE ENERGY

Chair Johanson and Members of the Committee:

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

The purpose of this bill is to amend the Hawaii State Planning Act to give consideration to reducing reliance on energy imports, ensuring that all new utility scale electricity generation projects are renewable, balancing of grid resources including firm renewable energy resources, reliable replacement of fossil fuel generation with balanced grid resources, prohibiting fossil fuel generation after December 31, 2045 except in certain circumstances, and expanding vocational training in renewable energy and related industries. This HD1 version amends the bill by changing many prescriptive and quantitative provisions related to energy resources into flexible and qualitative provisions.

The Department appreciates the intent of ensuring that there is diversification of energy resources and the need to maintain a mixed portfolio of resources to maintain

reliability to avoid the risks that may be associated with having an over-reliance on a less diverse portfolio of resources. While the Department generally defers to the Office of Planning as it relates to the implementation of the proposed policy, the Department offers that there have been changes in technologies and resources that have affected long-term planning for electric generation and, with those changes, the ability to meet electric grid needs have significantly moved away from the starting point of 100% of all capacity and energy from firm, dispatchable generation. Thus, the Department appreciates how the HD1 version does not require a prescriptive approach that includes fixed minimum percentages of a particular type of resource and how HD1 establishes language that appears to be more consistent with the policy and planning expectations of this section of the Hawaii Revised Statutes.

Thank you for the opportunity to testify on this bill.

SB-2510-HD-1
Submitted on: 3/20/2022 9:12:05 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Dave Mulinix	Our Revolution Hawaii	Oppose	Written Testimony Only

Comments:

Aloha Committee,

My name is David Mulinix, I am the Cofounder & Statewide Organizer for Our Revolution Hawaii and on behalf of our 5,000 members and supporters statewide, we stand in STRONG OPPOSITION to SB2510 because BURNING TREES FOR ENERGY IS BAD FOR THE CLIMATE. We can't afford to keep pumping more CO2 into the atmosphere. Any further delay in reducing our emissions will miss a brief and rapidly closing window of opportunity to secure a liveable and sustainable future for all.

Please vote in opposition to SB2510.

Mahalo for your kinda attention,

David Mulinix, Cofounder & Statewide Community Oranizer

Our Revolution Hawaii

SB-2510-HD-1
Submitted on: 3/19/2022 4:43:51 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Robert Culbertson	Hawaii Forest Stewards	Comments	Written Testimony Only

Comments:

Aloha Senators!

Standing timber is nature's tool to mitigate further climate change.

While we applaud the efforts to support renewable energy as opposed to classic fossil fuels the term "renewable" still holds a lot of ambiguity. It is a political definition, not a scientific one, roundly regretted by scientists involved with the Kyoto Protocols, as it opens a loophole for burning biomass, which is a death sentence. We're out of time for burning carbonaceous materials and need to be on an expedited course of replacing every such energy source. We're out of time for "renewing" **biomass**, and need to be on an expedited course to plant, compost, and regenerate ***additional*** biomass into sequestering GHGs, not BURN it!

To quote the dean of 350.org, Mr. Bill mcKibben:

"the logic (of biomass burning) originally seemed sound: if you cut a tree, another grows in its place, and it will eventually soak up the carbon dioxide emitted from that burning the first tree. But, again, "eventually" is the problem. Burning wood is highly inefficient, and so it releases a huge pulse of carbon *right now*, when the world's climate system is most vulnerable. Trees that grow back in a few generations' time will come too late to save the ice caps."

You must begin to stipulate the importance of **"clean renewable energy", recognizing as we see here that 'firm renewable energy' is merely code for permission to burn the standing trees. Please be akamai!**

Our house is on fire now!

Mahalo!

R A Culbertson

Honokaa

Member Forest Tree Stewards,

Member Environmental Caucus of the Democratic Party

Email: communications@ulupono.com

HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE
Tuesday, March 22, 2022 — 2:00 p.m.

Ulupono Initiative offers comments with concerns on SB 2510 SD 2 HD 1, Relating to Renewable Energy.

Dear Chair Johanson and Members of the Committee:

My name is Micah Munekata, and I am the Director of Government Affairs at Ulupono Initiative. We are a Hawai'i-focused impact investment firm that strives to improve the quality of life throughout the islands by helping our communities become more resilient and self-sufficient through locally produced food; renewable energy and clean transportation; and better management of freshwater and waste.

Ulupono offers comments with concerns on SB 2510 SD 2 HD 1, which amends the Hawai'i State Planning Act to give additional consideration to reducing Hawai'i's reliance on energy imports, ensuring that Hawai'i's energy portfolio is a diversified and balanced mix of renewable energy generation, and prohibits fossil fuel generation after December 31, 2045, except in certain circumstances, as well as expands vocational training in renewable energy and related industries.

Ulupono appreciates the amendments made in House Draft 1, and supports removing the minimum percentages attached to firm renewable energy generation. Ulupono believes the State will meet its clean energy goals through renewable energy technologies. Ongoing efforts led by the Hawai'i Public Utilities Commission, Hawaiian Electric, and interested stakeholders are underway to determine the State's energy resource portfolio, including the Integrated Grid Planning (IGP) docket. As an engaged stakeholder in the IGP docket, Ulupono is confident that this energy planning process will result in an optimal, cost-effective integrated energy portfolio composed of firm, renewable, and storage resources. To the extent SB 2510 SD 2 HD 1 imposes any constraints to the utility's current IGP process, it is likely that these constraints may be harmful to Hawai'i's overall energy transition and ratepayers. As such, we ask that this committee hold this measure and allow ongoing energy planning efforts to continue through the IGP process.

Thank you for the opportunity to testify.

Respectfully,

Micah Munekata
Director of Government Affairs

SB-2510-HD-1
Submitted on: 3/20/2022 10:45:13 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Ted Bohlen	Climate Protectors Hawai‘i	Oppose	Written Testimony Only

Comments:

To: The Honorable Aaron Ling Johanson, Chair, The Honorable Lisa Kitagawa, Vice Chair, and Members of the House Committee on Consumer Protection and Commerce

From: Climate Protectors Hawai‘i (by Ted Bohlen)

Re: Hearing SB2510 SD2 HD1 RELATING TO RENEWABLE ENERGY.

Tuesday March 22, 2022, 2:00 p.m., CR 329 and by videoconference

Aloha Chair Johanson, Vice Chair Kitagawa, and Members of the House Committee on Consumer Protection and Commerce!

The Climate Protectors Hawai‘i is a group focused on reversing the climate crisis and encouraging Hawai‘i to lead the world towards a safe and sustainable climate and future. **The Climate Protectors Hawai‘i notes that this HD1 version is much better than the SD2, but still respectfully OPPOSES it.**

The concern with the bill is in how it defines "firm renewable energy;" it "means renewable energy that is available on the demand of the energy system operator consistent with the terms of an approved power purchase agreement." This could include wood-burning biomass as defined in HRS Sec. 269-91. In setting energy policy, this bill needs to avoid exacerbating the climate emergency by including wood-burning biomass.

Not all renewables are better for the climate than fossil fuels. In order to mitigate the impending harms of the climate emergency that Hawai‘i has recognized, Hawai‘i needs to develop renewable fuels that emit few if any greenhouse gases on a life cycle basis. **Burning wood would be a "double whammy" on the climate** because it eliminates sequestration of atmospheric carbon dioxide by the trees and emits carbon into the atmosphere when burned. Even if replacement trees are planted, that will not replace the lost sequestration for decades, if ever.

While "renewable energy" is generally better than using fossil fuels, the term "renewable" still holds a lot of ambiguity. It is a political definition, not a scientific one, roundly regretted by scientists involved with the Kyoto Protocols, as it opens a loophole for burning biomass. We're out of time for burning carbon and need to be on an expedited course of replacing every such

energy source. We're out of time for burning biomass, and need to be on an expedited course to plant, compost, and regenerate *additional* biomass into sequestering GHGs, not BURN it!

To quote the founder of 350.org, Mr. Bill McKibben:

"The logic (of biomass burning) originally seemed sound: if you cut a tree, another grows in its place, and it will eventually soak up the carbon dioxide emitted from that burning the first tree. But, again, "eventually" is the problem. Burning wood is highly inefficient, and so it releases a huge pulse of carbon *right now*, when the world's climate system is most vulnerable. Trees that grow back in a few generations' time will come too late to save the ice caps."

Please defer this bill!

Mahalo for the opportunity to testify!

Climate Protectors Hawai‘i

Sustainable Energy Hawai'i

1143 Kukuau St., Hilo, HI 96720

March 21, 2022

SUPPORT (w/AMENDMENTS) FOR SB2510 SD2 HD1 RELATING TO RENEWABLE ENERGY

Dear Chair Johanson, Vice-Chair Kitagawa, and members of the Consumer Protection and Commerce Committee,

I am Richard Ha, Chair of Sustainable Energy Hawai'i, a coalition of concerned citizens dedicated to improving the quality of life of Hawaii residents through affordable renewable energy.

Sustainable Energy Hawaii is supportive of the intent of SB2510 SD2 HD1 as it will incentivize renewable energy sources. However, we recommend:

- That we include a complete lifecycle carbon emission assessment threshold equal to or less than 50g CO2/kWh using methodology approved or adopted by the National Renewable Energy Laboratory as a part of the definition of "firm renewable energy".
- The exclusion tree-based biomass feedstock for firm energy production.

Aloha, and thank you for this opportunity to testify.

Richard Ha
Chair
Sustainable Energy Hawai'i
www.sustainableenergyhawaii.org

Sustainable Energy Hawaii is an all-volunteer, 501(c)3 dedicated to furthering energy self-sufficiency for Hawaii Island. For more information, visit sustainableenergyhawaii.org.

SB-2510-HD-1
Submitted on: 3/21/2022 10:29:55 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
brandon wolff	ILWU Hawaii Longshore Division, Local-142, Local-100	Support	Remotely Via Zoom

Comments:

ILWU L-142 , ILWU L-100 and ILWU- HAWAII LONGSHORE Division, STRONGLY SUPPORTS SB2510, SD2.
Establishing a Firm renewable energy generation policy in the state of Hawaii will ENSURE the PEOPLE and FAMILIES of HAWAll have a ECONOMICALLY
FEASIBLE and ATTAINABLE , ON DEMAND RELIABLE ELECTRICITY SUPPLY.
Mahalo for Hearing the people and providing us with a platform to share our thoughts.

Aloha

- Brandon Wolff

Environmental Caucus of The Democratic Party of Hawai‘i

Energy & Climate Action Committee

Tuesday, March 22, 2022, 2:00 pm

House Committee on Consumer Protection and Commerce

SENATE BILL 2510 – RELATING TO RENEWABLE ENERGY

Position: Support with amendments

Me ke Aloha, Chair Kitagawa, Vice-Chair Johanson, and Members of the Committee on Consumer Protection and Commerce:

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 ("renewable" only 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 therefore recommend some amendments to remove suggestive solutions that are not compatible with our urgent need to decarbonize the energy sector.

The term "firm" for a power source should not be a means to exclude intermittent sources such as solar or wind, as this is no longer a meaningful concept when sufficient solar and wind power provide excess capacity with ample battery storage. "Renewable" is a faulty definition devised for the 1997 Kyoto Protocols, now admittedly a political, unscientific definition that allows for burning biomass. At the time, the full extent of greenhouse gas (GHG) emissions' contributions to global warming was not understood; now we have experienced terrible storms and floods and devastating megafires, all attributed to the continuing and still-increasing GHG emissions, accelerating global warming. Scientists are warning, in the starkest possible terms, of the need to stop emitting GHG, rendering the new installations of GHG-emitting technologies a survival no-no.

Therefore, our committee recommends deleting any references to "firm" or "renewable" energy sources. Similarly, "low GHG emissions" are no longer acceptable, except perhaps as transitional reductions to current fossil fuel sources.

Moreover, we have an abiding concern over the life-cycle emissions of GHG in the production of new technologies. Obviously, solar and wind technologies do involve use of fossil fuel-based manufacturing, and we accept that this is necessary in transition. Production of hydrogen fuels, on the other hand, permanently require the use fossil fuels, and are therefore unacceptable.

A further word to explain the problem with transitional initiatives such as burning biomass, which are completely unacceptable. Many do not realize that not all trees act like forests, nor are all forest made equal. We have seen that monocrop wheat, soy, and corn are depleting the soil. What is "depleting the soil"? It's destroying the organisms that make soil productive and that decarbonize the atmosphere. You've seen Kiss the Ground, and the fenceline between a prosperous regenerative field and one wasted

by pesticides and fertilizers - yes, wasted by fertilizers. Understand that regenerated soil is a far more deeply ecological robust environment.
A plantation forest will never sequester atmospheric carbon - it won't have time to mature sufficiently for that supposedly redeeming feature. But understand also that the way a tree plantation (not a "forest"!) is managed is to maximize the standing crop volume, NOT to replenish the soil. Instead the process of monocropping strips the soil of its sequestering capacities. So again, tree plantations will never sequester atmospheric GHG.

There have been good studies identifying regrowth from clearcuts. Understand that these have lingering rich soils that suffer effects of clear-cutting but will recover, in 20 years, and begin sequestering after about 20 years, meaning a net sequestering - NOT major sequestering. THAT only happens after another 20 years or so, and the real sequestering advantage is gained from old growth forest - 50-100 years. Tree plantations (NOT forest!) suffer perpetual siphoning off nutrients and killing soil organisms - it's the industrial model of tree harvesting, NOT forestry.

The planet's climate scientists have issued a Code Red for us to get our act together by the end of this decade - not 20 years from now. We need a different approach, to modify our lifestyles, reduce waste, get onto a "war footing" for ramping up non-emitting energy sources ASAP. Mahalo for your earnest leadership. ***We must pledge our collaboration to sort out the difficulties, get off the soapbox and into the trenches*****.**

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

Testimony to the Committee on Consumer Protection & Commerce
Tuesday, March 22, 2022, 2:00 PM
VIA Video Conference / Conference Room 329, Hawaii State Capitol
SB 2510 SD2 HD1

Chair Johanson, Vice Chair Kitagawa, and members of the committee,

Hawaii Clean Power Alliance (HCPA) **supports the intent of** SB 2510 SD2 HD1, 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. We offer these **comments.**

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.

Please consider amending the bill to require that the state energy functional plan (published 31 years ago, in 1991) be updated. The remainder of the bill to update policy to align with the current change is critically important to create a framework of *how* the state will achieve its goal of 100% renewable electric energy by 2045. The state's energy functional plan must be updated to reflect current goals and factors if the policy goal of the state can be met in an expeditious and thoughtful manner, ensuring 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 that affect the sector, and the industry partners to provide a clear view of what will be required in 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.

We also ask this committee to consider amending the definition of "firm renewable energy."

The definition of firm renewable energy was revised to delete "always" available, and to include "consistent with the PPA agreement". This would result in the unintended consequence that will define intermittent renewable energy as firm renewable energy.

"Firm renewable energy" means renewable energy that is always available to produce energy at its designed capacity on the demand of the energy system operator ~~consistent with the terms of an approved power purchase agreement~~.

For example, if an intermittent facility has a four-hour battery in the PPA agreement, that would qualify as "firm renewable energy," even though the energy may not always be available nor always providing firm baseload energy that can replace fossil fuels.

Additionally, HD1 has amended the bill to delete the 45% maximum of one technology and the minimum of 55% firm renewable energy, although the recent proposal by Hawaiian Electric calls for 50% firm renewable energy for Oahu. Taking out these percentages leaves Hawaii policy as status quo and endangers the achievement of a reliable transition to 100% renewable generation. We ask the committee to reinsert these percentages.

The last committee recognized the importance of firm renewable (baseload) vs intermittent renewable energy. Both are required to achieve a reliable and resilient energy grid. The functional plan and the policy will ensure that the state and each island has diversified resources that can truly remove our dependence on fossil fuel in a safe and reliable manner.

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 it's 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 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 or non-firm energy). The facilities' output may vary according to the conditions of the resource of the energy. These variables are 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 to react to the output of other resources on the grid. For instance, a solar farm can be rated at a 10-megawatt capacity available for 6-hours, but if the sun isn't shining for ½ of those hours, then the energy available for that day is only 5 megawatts.

REAL WORLD EXAMPLE: CAPACITY SHORTFALL IN NEW ENGLAND
The recent events in the winter of 2017/2018 led to New England's system being challenged due to not enough capacity available when customers needed it. It was believed that 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 so that one is not overly dominan, 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 committee to amend the definition of firm renewable energy, include a minimum percentage of firm renewable energy and a maximum percentage of any one technology and pass the bill.

Thank you for the opportunity to testify.

PACIFIC BIODIESEL
TECHNOLOGIES

40 Hobron Avenue
Kahului, Hawaii 96732
(808) 877-3144
www.biodiesel.com

March 21, 2022

TESTIMONY ON SB 2510, RELATING TO RENEWABLE ENERGY

SUPPORT

Rep. Aaron Ling Johanson, Chair
Rep. Lisa Kitagawa, Vice Chair
Committee on Consumer Protection & Commerce
Hearing: Tuesday, March 22, 2022 at 2PM, Conf Room 329 and via Videoconference

Aloha Chair Johanson, Vice Chair Kitagawa 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,

Robert O. King

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

TESTIMONY BEFORE THE HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE

SB 2510 SD2 HD1

Relating to Renewable Energy

Tuesday, March 22, 2022
2:00 pm, Agenda Item #22
State Capitol, Conference Room 329 & Videoconference

Marc Asano
Director, Integrated Grid Planning
Hawaiian Electric

Chair Johanson, Vice Chair Kitagawa, 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 SD2 HD1 and expressing concerns to Section 2,** Relating to Renewable Energy.

SB 2510 SD2 HD1 amends Hawaii Revised Statutes, Section 226-18 to reduce reliance on energy imports, ensure that all new utility scale electricity generation projects are renewable, balance of grid resources including firm renewable energy resources, reliably replace fossil fuel generation with balanced grid resources, and prohibit fossil fuel generation after 12/31/2045 except in certain circumstances.

Hawaiian Electric appreciates the intent of this bill and supports the requirement to modify H.R.S. §226-18 to emphasize the importance of a balanced renewable energy portfolio comprised of both firm and intermittent renewable energy to ensure grid reliability while still achieving the state's RPS and net negative carbon emissions goals. Hawaiian Electric also agrees that the electric power system of tomorrow must ensure customers receive reliable, affordable, equitable, resilient, low carbon electricity. And that reliable replacement of fossil fuel generation is key to meeting those objectives.

However, Hawaiian Electric expresses concerns that Section 2 may limit the State's ability to achieve 100 percent renewable energy in a reliable and cost-effective manner.

Hawaiian Electric believes that modifications to Section 2, paragraph (a)(4) and (b) are not necessary as it is already covered by the RPS mandate in H.R.S. §269-92, including HB2089 SD1. Therefore, Hawaiian Electric offers the following amendments (suggested amendments are underlined and bolded):

- On page 5, lines 12-16: (4) Reduction, avoidance, or sequestration of greenhouse gas emissions from energy supply and use[~~; and~~], **~~including but not limited to ensuring that all new utility scale electricity generation projects shall be renewable~~**;
- On page 7, lines 1-6: (b) To achieve the energy objectives, it shall be the policy of [~~this~~] the State to ensure the short- and long-term provision of adequate, reasonably priced, reliable, equitable, and dependable energy services to accommodate demand[~~.~~] and reduce reliance on **fossil fuel** imports**~~, and that electrical energy services shall be renewable~~**.

Hawaiian Electric notes that not all firm renewable generation is subject to a power purchase agreement and offers the following suggested amendments to recognize the benefits and attributes that firm power provides:

- On page 10, lines 13-15: "Firm renewable energy" means renewable energy and **capacity** that is available on the demand of the energy system operator **for as long as needed, not dependent on weather and is not energy limited, subject to routine maintenance and emergency repairs.** **~~consistent with the terms of an approved power purchase agreement.~~**

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

SB-2510-HD-1
Submitted on: 3/21/2022 1:54:56 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Christopher Dean	Recycle Hawaii and Clean the Pacific	Oppose	Written Testimony Only

Comments:

I really want to support this, but it needs to be amended so that Biomass is not considered as a renewable resource. Biomass is not a renewable resource. After clear cutting trees, the soil becomes a net emitter of CO2 for 10-20 years, and then it slowly begins to uptake CO2 and store it. But land is expensive and property owners who are willing to put their land into biomass, want a return on their investment, so they will always pressure the biomass operators to cut as frequently as possible. Most biomass operations put tree plantations (not forests) into a ten year rotation. This means that biomass plants will never recapture any of the CO2 they release and worse yet, they will be extracting existing CO2 from the soil and releasing that. Biomass plants release 150% more CO2 than Coal. Then there's the pelleting operation and the trucks and the heavy equipment and the injection wells and so forth. Then, on top of all that, continual extraction of carbon from the soil leaves it depleted and nutrient deprived to great depths. Of course, after the biomass operation has completely destroyed the top soil, so nothing will ever grow there except weeds, they'll pack up and leave town, just like mining companies do, thank you very much, good bye and good luck, you'll need it. Don't be conned by this. The myth of biomass as a renewable source of energy has been totally debunked by objective scientists who don't get paid by corporations.

You know what is firm, always on, 100% reliable, clean, predictable, lasts forever and is the cheapest source of energy in the world today? Solar/storage; bring back net metering and you'll see a rapid transition to non polluting energy. Better be quick about it though, because the permafrost is already in a self sustaining feedback loop of melting and releasing methane.

To: The House Committee on Consumer Protection and Commerce
From: Sherry Pollack, 350Hawaii.org
Date: Tuesday, March 22, 2022, 2pm

In opposition to SB2510 SD2 HD1

Aloha Chair Johanson, Vice Chair Kitagawa, and Consumer Protection and Commerce Committee members,

I am Co-Founder of the Hawaii chapter of 350.org, the largest international organization dedicated to fighting climate change. 350Hawaii.org **opposes SB2510 SD2 HD1** that would establish a firm renewable energy generation policy in the Hawaii State Planning Act.

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. We also appreciate significant improvements to this measure with the HD1 amendment. However, serious concerns remain regarding how SB2510 SD2 HD1 defines "firm renewable energy."

In this measure, firm renewable energy "means renewable energy that is available on the demand of the energy system operator consistent with the terms of an approved power purchase agreement." As currently defined, this could include wood-burning biomass as defined in HRS Sec. 269-91. To be clear, 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.

Not all renewable energy sources are necessarily good for the environment or sustainable. Besides being more expensive than utility-scale wind and solar, 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. **According to the latest United Nations' Intergovernmental Panel on Climate Change (IPCC) report, any further delay in reducing our emissions will miss a brief and rapidly closing window of opportunity to secure a liveable and sustainable future for all.**

In short, establishing a firm renewable energy generation policy and thereby incentivizing burning wood products as an energy source will worsen the climate, negatively impact our economy, and undermine our resiliency efforts. Unless this bill is amended to specify that burning trees and other wood products shall not be considered an acceptable generation source for either firm or intermittent renewable power, we urge you to not pass this bill.

Mahalo for the opportunity to testify.

Sherry Pollack
Co-Founder, 350Hawaii.org

SB-2510-HD-1
Submitted on: 3/18/2022 9:09:53 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Koohan Paik	Individual	Oppose	Written Testimony Only

Comments:

STRONGLY OPPOSE

SB-2510-HD-1
Submitted on: 3/19/2022 5:24:01 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Douglas Perrine	Individual	Support	Written Testimony Only

Comments:

We must prioritize a move to locally generated renewable energy.

SB-2510-HD-1
Submitted on: 3/19/2022 6:50:51 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Alice Kim	Individual	Support	Written Testimony Only

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-HD-1
Submitted on: 3/19/2022 7:58:29 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Ryan Christopher	Individual	Oppose	Written Testimony Only

Comments:

While I fully support renewable energy burning trees is not renewable, green, or clean. This bill or any other bill that pushes tree buring as renewable is unacceptable. The people of Hawaii want actual renewable energy in the form of wind, hydro, solar, and geothermal.

SB-2510-HD-1
Submitted on: 3/19/2022 8:24:26 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
jeanne wheeler	Individual	Oppose	Written Testimony Only

Comments:

Aloha: please do NOT pass this bill...! Mahalo, JW

SB-2510-HD-1
Submitted on: 3/19/2022 10:52:35 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Elizabeth Hansen	Individual	Comments	Written Testimony Only

Comments:

Aloha Senators:

This bill needs to assure that the term renewable energy does NOT include burning trees. This burning mode is NOT acceptable and is not appropriate for our critical climate change issues. Unless this bill is amended to specify that burning trees and other wood products shall not be considered an acceptable generation source for either firm or intermittent renewable power, they must be OPPOSED.

Mahalo
Elizabeth Hansen
registered voter
Hakalau HI 96710

SB-2510-HD-1
Submitted on: 3/19/2022 10:57:47 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Rodger Hansen	Individual	Comments	Written Testimony Only

Comments:

Aloha Senators:

This bill needs to assure that the term renewable energy does NOT include burning trees. This burning mode is NOT acceptable and is not appropriate for our critical climate change issues. Unless this bill is amended to specify that burning trees and other wood products shall not be considered an acceptable generation source for either firm or intermittent renewable power, it must be OPPOSED.

Mahalo
Rodger Hansen
registered voter
Hakalau HI 96710

SB-2510-HD-1
Submitted on: 3/20/2022 8:19:22 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
JON WHITE	Individual	Support	Remotely Via Zoom

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 9:28:05 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Suterra Soares	Individual	Support	Written Testimony Only

Comments:

I support this bill.

SB-2510-HD-1
Submitted on: 3/20/2022 9:12:16 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Ashley D.K McGuire	Individual	Support	Written Testimony Only

Comments:

I support it

SB-2510-HD-1
Submitted on: 3/20/2022 9:31:14 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Rob Duyao	Individual	Support	Written Testimony Only

Comments:

I support bill SB 2510 relating to renewable energy.

SB-2510-HD-1
Submitted on: 3/20/2022 9:39:51 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
aulii fernandez	Individual	Support	Written Testimony Only

Comments:

Support.

SB-2510-HD-1
Submitted on: 3/20/2022 9:38:35 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Alika Maikui	Individual	Support	Written Testimony Only

Comments:

Support. Thank you.

SB-2510-HD-1
Submitted on: 3/20/2022 9:42:21 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Georgette Nacis	Individual	Support	Written Testimony Only

Comments:

Support.

SB-2510-HD-1
Submitted on: 3/20/2022 9:44:25 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
aulani hood	Individual	Support	Written Testimony Only

Comments:

Please support.

SB-2510-HD-1
Submitted on: 3/20/2022 9:46:06 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
micah hood	Individual	Support	Written Testimony Only

Comments:

Support.

SB-2510-HD-1
Submitted on: 3/20/2022 10:06:41 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Keith Neal	Individual	Oppose	Written Testimony Only

Comments:

Strongly oppose SB2510

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

With food prices high, and as much as 90% of food currently imported, it is critical state 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

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-HD-1
Submitted on: 3/20/2022 10:12:01 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Patricia Blair	Individual	Oppose	Written Testimony Only

Comments:

Don't burn trees.

SB-2510-HD-1
Submitted on: 3/20/2022 10:14:57 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
anthony padilla	Individual	Support	Remotely Via Zoom

Comments:

In strong support

SB-2510-HD-1
Submitted on: 3/20/2022 10:12:57 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
joshua demello	Individual	Support	Written Testimony Only

Comments:

I strongly support this bill.

SB-2510-HD-1
Submitted on: 3/20/2022 10:15:20 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Edward J Klaneski	Individual	Support	Written Testimony Only

Comments:

I am in strong support of this Bill.

SB-2510-HD-1
Submitted on: 3/20/2022 10:15:45 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Chauncey Dunhour	Individual	Support	Written Testimony Only

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 10:16:53 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Chaz Bajet	Individual	Support	Written Testimony Only

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 10:16:57 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Hubert Pruett	Individual	Support	Written Testimony Only

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 10:17:38 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Ray Tanonaka	Individual	Support	Written Testimony Only

Comments:

I stand in support with this bill.

SB-2510-HD-1
Submitted on: 3/20/2022 10:17:40 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Dane Kaluhiwa	Individual	Support	Written Testimony Only

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 10:19:18 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Dave Teriirere	Individual	Support	Written Testimony Only

Comments:

I strongly support

SB-2510-HD-1
Submitted on: 3/20/2022 10:20:38 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Chad Amasiu	Individual	Support	Written Testimony Only

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 10:21:33 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
chad Failma	Individual	Support	Written Testimony Only

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 10:21:58 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Jonovan Tuinei	Individual	Support	Written Testimony Only

Comments:

I am in strong support of SB2510.

SB-2510-HD-1
Submitted on: 3/20/2022 10:22:07 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Keenan Luke	Individual	Support	Written Testimony Only

Comments:

I am in strong support.

SB-2510-HD-1
Submitted on: 3/20/2022 10:22:02 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
John Rabanal	Individual	Support	Written Testimony Only

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 10:22:45 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Travis rabellizsa	Individual	Support	Written Testimony Only

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 10:23:12 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Cisco Valeho	Individual	Support	Written Testimony Only

Comments:

I strongly support SB2510

SB-2510-HD-1
Submitted on: 3/20/2022 10:22:55 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Clinton Blackman	Individual	Support	Written Testimony Only

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 10:23:54 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Brennon Pias	Individual	Support	Written Testimony Only

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 10:26:36 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Kekoa Bruhn	Individual	Support	Written Testimony Only

Comments:

I am in strong support.

SB-2510-HD-1
Submitted on: 3/20/2022 10:25:56 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Blair Nahale	Individual	Support	Remotely Via Zoom

Comments:

I am in strong support of sb2510

SB-2510-HD-1
Submitted on: 3/20/2022 10:27:59 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Louis Mansanas jr	Individual	Support	Remotely Via Zoom

Comments:

I am in strong support this bill

SB-2510-HD-1
Submitted on: 3/20/2022 10:29:02 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
kodey saizon	Individual	Support	Written Testimony Only

Comments:

Iam in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 10:28:30 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Robert Enriquez	Individual	Support	Written Testimony Only

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 10:31:23 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Ted Scott	Individual	Support	Written Testimony Only

Comments:

I am in Strong support of this bill

SB-2510-HD-1
Submitted on: 3/20/2022 10:29:53 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Jacob Ramos	Individual	Support	Written Testimony Only

Comments:

I strongly support Bill SB2510.

SB-2510-HD-1
Submitted on: 3/20/2022 10:34:32 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Kahekili Fuchs	Individual	Support	Written Testimony Only

Comments:

I am in strong support of this bill.

SB-2510-HD-1
Submitted on: 3/20/2022 10:33:44 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
eddie Horner	Individual	Support	Written Testimony Only

Comments:

I strongly support this bill

SB-2510-HD-1
Submitted on: 3/20/2022 10:35:08 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Darlene Scancella	Individual	Oppose	Written Testimony Only

Comments:

I do not support HB2510 HD2 as written because it DEFERS the hike to $15 until 2025, and not reaching $18 until 2028! We can not wait to increase the minimum wage. The Bill should be amended to state: The minimum wage increase to $15 should begin January First 2023, and increase AT LEAST $1 per/year thereafter.

SB-2510-HD-1
Submitted on: 3/20/2022 10:36:09 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Tyler Yuu	Individual	Support	Written Testimony Only

Comments:

In strong support

SB-2510-HD-1
Submitted on: 3/20/2022 10:35:53 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Beatrice Cabral	Individual	Support	Written Testimony Only

Comments:

Support

SB-2510-HD-1
Submitted on: 3/20/2022 10:36:32 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
richard gideon	Individual	Support	Written Testimony Only

Comments:

I am in strong support.

SB-2510-HD-1
Submitted on: 3/20/2022 10:38:11 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Kekoa Masutani	Individual	Support	Remotely Via Zoom

Comments:

My name is Kekoa Masutani and I support SB2510.

SB-2510-HD-1
Submitted on: 3/20/2022 10:39:43 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Pomai Kalama	Individual	Support	Written Testimony Only

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 10:40:14 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Trey Ah Yuen	Individual	Support	Written Testimony Only

Comments:

I am in strong support of this bill.

SB-2510-HD-1
Submitted on: 3/20/2022 10:40:28 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Noah Campbell	Individual	Support	Written Testimony Only

Comments:

I'am in strong support for SB2510

SB-2510-HD-1
Submitted on: 3/20/2022 10:43:20 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
seth ilae	Individual	Support	Remotely Via Zoom

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 10:44:50 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Keoni Mendiola	Individual	Support	Written Testimony Only

Comments:

I am in strong Support of SB 2510.

SB-2510-HD-1
Submitted on: 3/20/2022 10:48:35 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Montgomery Meyer	Individual	Support	Written Testimony Only

Comments:

I am in strong support on SB2510

SB-2510-HD-1
Submitted on: 3/20/2022 10:49:12 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Gavin Concepcion	Individual	Support	Written Testimony Only

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 10:52:41 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Jay Amina III	Individual	Support	Written Testimony Only

Comments:

I strongly support Sb2510

SB-2510-HD-1
Submitted on: 3/20/2022 10:59:45 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Jason Yoshimura	Individual	Support	Written Testimony Only

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 10:59:47 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Seth Holck	Individual	Support	Written Testimony Only

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 11:12:45 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Douglas Hiu	Individual	Support	Written Testimony Only

Comments:

I strongly support this bill

SB-2510-HD-1
Submitted on: 3/20/2022 10:59:53 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Adrian Kaleo Nakashima	Individual	Support	Written Testimony Only

Comments:

I am in strong support.

SB-2510-HD-1
Submitted on: 3/20/2022 11:20:02 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Walter Walker	Individual	Support	Written Testimony Only

Comments:

I strongly support

SB-2510-HD-1
Submitted on: 3/20/2022 11:29:11 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Charles	Individual	Support	Written Testimony Only

Comments:

I Support the SB2510 SD2 HD1

SB-2510-HD-1
Submitted on: 3/20/2022 11:22:38 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
richard gideon	Individual	Support	Remotely Via Zoom

Comments:

In strong support of this bill.

SB-2510-HD-1
Submitted on: 3/20/2022 11:30:12 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Wade Terlep	Individual	Support	Written Testimony Only

Comments:

I am in strong support on SB 2510

SB-2510-HD-1
Submitted on: 3/20/2022 11:39:34 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Ka'ena Paikai	Individual	Support	Written Testimony Only

Comments:

I am in strong support of this bill

SB-2510-HD-1
Submitted on: 3/20/2022 11:40:10 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Rick DuVoisin	Individual	Support	Written Testimony Only

Comments:

Hawaii needs renewable energy

SB-2510-HD-1
Submitted on: 3/20/2022 11:42:38 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Chris Tanaka	Individual	Support	Remotely Via Zoom

Comments:

I am in strong support of SB2510.

SB-2510-HD-1
Submitted on: 3/20/2022 11:44:06 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
kainalu paikai	Individual	Support	Written Testimony Only

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 12:05:33 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Paquito KHD Capillan	Individual	Support	Written Testimony Only

Comments:

I strongly support sb2150

SB-2510-HD-1
Submitted on: 3/20/2022 11:51:12 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Kyle Miyahana	Individual	Support	Written Testimony Only

Comments:

I am in strong support of SB2510

SB-2510-HD-1
Submitted on: 3/20/2022 12:11:40 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
zachary matsunaga	Individual	Support	Written Testimony Only

Comments:

I strongly support!

SB-2510-HD-1
Submitted on: 3/20/2022 12:48:29 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Maki Morinoue	Individual	Oppose	Written Testimony Only

Comments:

Aloha

My name is Maki Morinoue and I oppose SB2510.
It deserves a significant pause to listen and understand fully to the following organizations that have become public in opposition to Hawaii's first proposed Bioenergy (green tree burning) facility, Hu Honua. In stated opposition are Sierra Club (Hawaii Chapter), Sierra Club (Moku Loa Group), Surfrider Foundation, Olohana Foundation, Partnership for Policy Integrity, Pepeekeo Fisherman's Association, North Hawaii Action Network, Na Kupuna O Moku O Keawe, Life of the Land, 350Hawaii, Hawaii Island Citizen's Climate Lobby, Hui Aloha Aina, Hawaii Alliance for Progressive Action, Hawaiian Cultural Center of Hamakua, Environmental Caucus (Democratic Party of Hawaii), Climate Reality Project, Department of Commerce and Consumer Affairs, Division of Consumer Advocacy ('Consumer Advocate'), the Democratic Party of Hawaii and more. In May, 2018 the State Democratic Party overwhelmingly passed Resolution ENV: 2018-08: "Resolved, That The Democratic Party of Hawai'i urges the Public Utilities Commission, all
elected and appointed officials of the State of Hawai'i and its various counties to withdraw support for Hu Honua Bioenergy, and any successors, which will have irreversible and deleterious consequences for the state's coastal waters and the planet's atmosphere;"

Please listen to your local residents who have thoughtfully and deeply researched the impact of SB2510 and have publically raised and exposed much of its environmental impact.

Mahalo
Maki Morinoue
Holualoa
96725

SB-2510-HD-1
Submitted on: 3/20/2022 12:50:18 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
William Campbell	Individual	Support	Written Testimony Only

Comments:

I support SB2510 mahalo

SB-2510-HD-1
Submitted on: 3/20/2022 1:07:34 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Zorich Palimoo	Individual	Support	Remotely Via Zoom

Comments:

I am in strong support for SB2510

SB-2510-HD-1
Submitted on: 3/20/2022 1:38:35 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
David Chew	Individual	Support	Written Testimony Only

Comments:

I support firm renewable energy. The price of oil has doubled in 1 year. Firm Renewables and Biomass in particular, can give us a stable cost of energy.

SB-2510-HD-1
Submitted on: 3/20/2022 1:43:07 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Gabriel	Individual	Support	Written Testimony Only

Comments:

I am in strong support of SB 2510

SB-2510-HD-1
Submitted on: 3/20/2022 1:54:59 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
logan freitas	Individual	Support	Written Testimony Only

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 1:55:18 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Sherri Thal	Individual	Oppose	Written Testimony Only

Comments:

Aloha,

I am all for reducing reliance on Fossil Fuels. However, SB2510 SD2 HD1 would give a green light and monetary support to the entity, Hu Honua/Honua Ola, a FALSE RENEWABLE Biomass energy plant that is not yet permitted nor operational. It is time to recognize that Biomass energy, or the burning of trees to create energy is NEITHER RENEWABLE NOR CLEAN ENERGY.

The time is NOW to recognize the wolf in sheep's clothing and to stop creating bills that would foster and support wood burning for fuel, an industry that is proven to be more polluting than coal, and instead, to SUPPORT SOLAR and WIND technologies. These are the TRUE CLEAN ENERGY SOURCES, and the Big Island is full of both!

Mahalo,

Sherri Thal, Kea'au, HI. 96749

SB-2510-HD-1
Submitted on: 3/20/2022 12:26:51 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
nepo leutu jr	Individual	Support	Written Testimony Only

Comments:

I am in strong support

SB-2510-HD-1
Submitted on: 3/20/2022 1:58:46 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Kelsey Beck	Individual	Support	Written Testimony Only

Comments:

Support

SB-2510-HD-1
Submitted on: 3/20/2022 2:54:39 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Tawn Keeney	Individual	Oppose	Written Testimony Only

Comments:

House Committee on Consumer Protection and Commerce,

Chair Johanson & Vice Chair Kitagawa,

My modest apology: I am sending this informational letter to you as individual representative and member of the House CPC committee because I had written it in response to SB2510 SD2 which I saw assigned to CPC. SD2 was superseded by HD1 on 3/18, withdrawing the most onerous elements of SD2 into a somewhat innocuous bill, which still should be rejected. However, as conference consideration likely lies ahead, I feel that your CPC committee should thoroughly understand what SB2510 was attempting, and why it is so important that it be rejected.

SB2510 SD2 seeks to require that a given percentage of Hawaii's renewable electricity generation arise from 'firm renewable' sources.

1. 'Firm renewable' sources currently means 'bioenergy' (from burning chipped/pelletized green trees for power with sometimes minor input from 'wastewood') or Geothermal energy. Other sources are experimental. Geothermal is currently limited to Hawaii County.

2. The Bill specifies: "Firm renewable generation shall be a minimum of fifty-five per cent of renewable energy generation for each island." At a later time the Office of Planning and Sustainable Development and Hawaii Natural Energy Institute may propose to legislature this percentage be reduced. This high figure seems tailored to the Big Island's proposed bioenergy facility Hu Honua as there are currently 60MW of Solar with storage planned and the Geothermal facility is expanding to 46MW generation. So this bill would require addition of Hu Honua to add its proposed 21MW in order for 'firm-renewable' to reach 56% of renewable generation, complying with the 55% requirement of this proposal. 55% would be unthinkable for the other islands so later on the agencies and legislature would be expected to reduce this.

3. The State Office of Energy has stated that until the large oil fired facilities are retired late this decade or early 2030s the need for firm power on all islands is sufficiently satisfied.

4. The immediate intent of this bill thus blatantly relates to the Big Island Hu Honua bioenergy facility, though certainly geothermal could realistically provide all of the Big Island's firm renewable needs indefinitely.

5. The following are excerpts from 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 this entire letter and the impressive credentials of the signatories, which includes a former chair of the UN Intergovernmental Panel on Climate Change, 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."

https://www.documentcloud.org/documents/20482842-scientist-leter-to-biden-van-der-leyden-michel-suga-moon-february-11-2021

6. Bioenergy is not 'clean'. Hu Honua's Clean Air Permit from the State Department of Health designates that the facility will emit 293,000 tons of Greenhouse Gas per year. This is approaching 1000 tons GHG per day.

7. It is well known that burning chipped or pelletized green trees as fuel for generating electricity releases 1.5x more greenhouse gas than burning **coal** per KWh of electricity produced. The IPCC Greenhouse Gas Inventory (2006) identifies 1.25x greater GHG 'in the smokestack' for burning wood than coal. The 'efficiency' of burning wood is 26% and the efficiency of coal is 33% in generating electricity, thus calculating the 1.5x factor.

8. Burning wood for electricity releases 1.5x more Greenhouse Gas than burning Coal, 2.2x more GHG than burning Oil, and 3x more GHG than burning natural gas, per kilowatt hour of

electricity generated. The GHG Analysis presented to the PUC by Hu Honua in 2019 calculates their GHG emissions to be 1.95 tons CO2(e) per KWh electricity generated, compared with 0.91 tons for the replaced fossil fueled stations, or more that twice that of the replaced fossil fuel
stations. https://drive.google.com/file/d/1tLYoCgzly5y7e_TrYpxqtC6cAnrJ8Y80/view

9. The Consumer Advocate for the DCCA testified to the PUC in September 2021 "From Hawaii Electric Light production simulation results (including Puako Solar), we estimate that approximately 42% of Hu Honua's energy generated would offset fossil fueled generation and 58% of Hu Honua's energy generated would offset renewable energy generation during the thirty-year analysis." http://www.ililani.media/2021/12/new-puc-filings-re-hawi-wind-farm-and.html

10. The Consumer Advocate concluded that, "approval of the (Hu Honua) A&R PPA (Power Purchase Agreement) does not seem reasonable or in the public interest at this time; and without additional justification, there are GHG emissions, environmental, health, and customer impact concerns that do not support a favorable ruling by the Commission".

http://www.ililani.media/2021/09/helco-hu-honua-proceeding-heats-up.html

11. Hu Honua has designated that it will sell electricity to Hawaiian Electric at $0.22 per KWh increasing gradually to above $0.30 per KWh. Hawaii Island's planned and already begun large solar (with storage) installations will sell their power to Hawaiian Electric at $0.08 per KWh, approximately one third of what Hu Honua will charge. As a result of Hu Honua, the Hawaii Island ratepayer will pay more for their electricity for the 30 year life of the project.

12. It is understood that to reach 'Carbon Neutrality' from regrowth of trees after harvest demands restoration of forest mass plus GHG used in harvest and transport of trees, a process taking multiple decades to over a century. The Government of Canada's website

< Bioenergy Greenhouse Gas Calculator > is the only internet site found which calculates the accumulated greenhouse gas over time from burning green trees for electricity in relation to burning coal, oil and natural gas. It factors into its results the re-sequestration of CO2 from regrowth of harvested trees or planting new trees. Factoring also 'fast growing trees' and 50 kilometers (30 miles) average transport from the harvested forests, this Calculator shows that, for Hu Honua, the accumulated GHG from burning trees for power (including the sequestration from regrowth of trees) will be greater than burning Coal for at least 70 years (best case scenario). Please access this Canadian government website at:

< https://apps-scf-cfs.rncan.gc.ca/calc/en/bioenergy-calculator >. Inserting parameters for Hu Honua calculates the following graph. Note: the 0 point represents parity with coal, not carbon neutrality.

https://drive.google.com/file/d/1ZpCAgXXYgynL1OhUfXPzeP3vEZCTYp7W/view?usp=sharing

13. Kamehameha Schools, Hu Honua's largest source of trees, has publicly stated that they will not regrow trees after the initial harvest, the first of 7 year harvest cycles for the 30 year contract. No public commitment has been made to regrowth from Parker Ranch, the other large source. No other large scale Hawaiian Islands source has been identified. Hu Honua's wood will come as pellets from the Americas or Asia. The much larger AES on Oahu bioenergy conversion proposal would certainly fire with **imported** wood pellets. 'Bioenergy' will not contribute to Hawaii's 'energy self-sufficiency'. A forestry industry will not emerge. DLNR has stated they will plant or 'protect' 100 million trees by 2030 for carbon sequestration or environmental restoration. They will not allow harvest here.

https://drive.google.com/file/d/1bEWHGJdXGtqwDSBuytlZzbSapBW1brKP/view?usp=sharing

14. The current drift in biomass policy and media discussions suggests, because of the reasons pointed out by the 500 scientists above, that within the next several years all subsidies and RPS considerations of biomass as carbon neutral will be withdrawn. From National Geographic, November, 2021, we find the following statement (referencing the UK, Europe's largest bioenergy user) under the Tagline: "As world leaders pledge more action on climate change, one so-called solution—burning trees for electricity—could undermine progress." That statement: "In the European Union's "Fit for 55" framework for reducing emissions by 55 percent by 2030, biomass energy is still labeled as carbon neutral. But in a report published in 2018, the U.K.'s Committee on Climate Change said biomass energy should be limited. The country has contracts extending subsidies through 2027, but when they end, the committee discouraged further use."

The unfolding realities of the climate crisis will overtake the convenient economic considerations of bioenergy as Greenhouse Gas neutral. Subsidies will be withdrawn. This will lead to closure of most, if not all, bioenergy stations.

15. It is thus that the following organizations have become public in opposition to Hawaii's first proposed Bioenergy (green tree burning) facility, Hu Honua. In stated opposition are Sierra Club (Hawaii Chapter), Sierra Club (Moku Loa Group), Surfrider Foundation, 350Hawaii, Hawaii Island Citizen's Climate Lobby, Hui Aloha Aina, Olohana Foundation, Climate Reality Project, Environmental Caucus (Democratic Party of Hawaii), Partnership for Policy Integrity, Pepeekeo Fisherman's Association, North Hawaii Action Network, Na Kupuna O Moku O Keawe, Life of the Land, Hawaii Alliance for Progressive Action, Hawaiian Cultural Center of Hamakua, Department of Commerce and Consumer Affairs, Division of Consumer Advocacy ('Consumer Advocate'), the Democratic Party of Hawaii and more. In May, 2018 the State Democratic Party overwhelmingly passed Resolution ENV: 2018-08:
"Resolved, That The Democratic Party of Hawai'i urges the Public Utilities Commission, all elected and appointed officials of the State of Hawai'i and its various counties to withdraw support for Hu Honua Bioenergy, and any successors, which will have irreversible and deleterious consequences for the state's coastal waters and the planet's atmosphere;"

Mahalo for your consideration

Tawn Keeney MD

SB-2510-HD-1
Submitted on: 3/21/2022 8:51:04 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Felicia Graham	Individual	Support	Written Testimony Only

Comments:

As a full time resident, I support this bill.

SB-2510-HD-1
Submitted on: 3/21/2022 9:43:52 AM
Testimony for CPC on 3/22/2022 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
Jessie Chambers	Individual	Support	Written Testimony Only

Comments:

I support this bill.

SB-2510-HD-1
Submitted on: 3/21/2022 7:50:39 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

LATE

Submitted By	Organization	Testifier Position	Testify
David Hunt	Individual	Oppose	Written Testimony Only

Comments:

DO NOT PASS SB2510 HD1 OR SB2511..!!

THESE CORRUPT BILLS SB2510 and SB2511 may have been amended slightly, but they are STILL a blatant good-ol-boy, backroom GIFT to the off-island, trillion-dollar, Franklin-Templeton investment group seeking to burn our trees (the earth's lungs), and literally "cut and run" leaving us with the waste, the pollution, the clear chainsaws, logging trucks, the CLEARCUTS and TRIPPLE-PRICED ELECTRICITY (at the mandated exclusion of truly CLEAN, sustainable solar energy!!!

As my friend Dr. Keeny states so succinctly:

SB2510 seeks to require that a given percentage of Hawaii's electricity generation arise from 'firm renewable' sources.
1. 'Firm renewable' sources currently means 'bioenergy' (from burning chipped/pelletized green trees for power with minor input from 'wastewood') or Geothermal energy. Other sources are experimental. Geothermal is currently limited to Hawaii County.

2. The Bill specifies: "Firm renewable generation shall be a minimum of fifty-five per cent of renewable energy generation for each island." At a later time the Office of Planning and Sustainable Development and Hawaii Natural Energy Institute may propose to legislature this percentage be reduced. This high figure seems tailored to the Big Island's proposed bioenergy facility Hu Honua as there are currently 60MW of Solar with storage planned and the Geothermal facility is expanding to 46MW generation. So this bill would require addition of Hu Honua to add its proposed 21MW in order for 'firm-renewable' to reach 56% of renewable generation, over the 55% requirement of this proposal. 55% would be unthinkable for the other islands so later on the agencies and legislature would be expected to reduce this.

3. The State Office of Energy has stated that until the large oil fired facilities are retired late this decade or early 2030s the need for firm power on all islands is sufficiently satisfied.

4. The immediate intent of this bill thus blatantly relates to the Big Island Hu Honua bioenergy facility, though certainly geothermal could provide all of the Big Island's realistic firm renewable needs indefinitely.

5. The following are excerpts from 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 this entire letter and the impressive credentials of the signatories, which includes a former chair of the UN Intergovernmental Panel on Climate Change, 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."
https://www.documentcloud.org/documents/20482842-scientist-leter-to-biden-van-der- leyden-michel-suga-moon-february-11-2021

6. Bioenergy is not 'clean'. Hu Honua's Clean Air Permit from the State Department of Health designates that the facility will emit 293,000 tons of Greenhouse Gas per year. This is approaching 1000 tons GHG per day.

7. It is well known that burning chipped or pelletized green trees as fuel for generating electricity releases 1.5x more greenhouse gas than burning coal per KWh of electricity produced. The IPCC Greenhouse Gas Inventory (2006) identifies 1.25x greater GHG 'in the smokestack' for burning wood than coal. The 'efficiency' of burning wood is 26% and the efficiency of coal is 33% in generating electricity, thus calculating the 1.5x factor.

8. Burning wood for electricity releases 1.5x more Greenhouse Gas than burning Coal, 2.2x more GHG than burning Oil, and 3x more GHG than burning natural gas, per kilowatt hour of electricity generated. The GHG Analysis presented to the PUC by Hu Honua in 2019 calculates their GHG emissions to be 1.95 tons CO2(e) per KWh electricity generated, compared with 0.91 tons for the replaced fossil fueled stations, or more that twice that of the replaced fossil fuel stations.
9. The Consumer Advocate for the DCCA testified to the PUC in September 2021 that over the 30

year life of the Hu Honua project, 58% of the electricity generation at Hu Honua would replace zero-emission renewable sources (wind, solar or geothermal) and 42% would be fossil fuels.

10. The Consumer Advocate concluded that, “approval of the (Hu Honua) A&R PPA (Power Purchase Agreement) does not seem reasonable or in the public interest at this time; and without additional justification, there are GHG emissions, environmental, health, and customer impact concerns that do not support a favorable ruling by the Commission”.

11. Hu Honua has designated that it will sell electricity to Hawaiian Electric at $0.22 per KWh increasing gradually to above $0.30 per KWh. Hawaii Island’s planned and already begun large solar (with storage) installations will sell their power to Hawaiian Electric at $0.08 per KWh, approximately one third of what Hu Honua will charge. As a result of Hu Honua, the Hawaii Island ratepayer will pay more for their electricity for the 30 year life of the project.

12. It is understood that to reach ‘Carbon Neutrality’ from regrowth after harvest of trees for bioenergy demands restoration of forest mass plus GHG used in cutting and transport of trees, a process taking multiple decades to over a century. The Government of Canada’s website < Bioenergy Greenhouse Gas Calculator > is the only internet site found which calculates the accumulated greenhouse gas over time from burning green trees for power in relation to burning coal, oil and natural gas. It factors into its results the re-sequestration of CO2 from regrowth of harvested trees or planting new trees. This website allows designation of speed of growth of the trees and the distance of transport of harvested trees to the power generating facility. Factoring ‘fast growing trees’ and 50 kilometers (30 miles) average transport from the harvested forests, this Calculator shows that, for Hu Honua, the accumulated GHG from burning trees for power (including the sequestration from regrowth of trees) will be greater than burning Coal for at least 70 years (best case scenario). Please access this Canadian government website at: < https://apps-scf-cfs.rncan.gc.ca/calc/en/bioenergy-calculator >

13. Kamehameha Schools, Hu Honua’s largest source of trees, has publicly stated that they will not regrow trees after the initial harvest, the first of 7 year harvest cycles for 30 years. No public commitment to regrowth from Parker Ranch, the other large source, has been made. No other large scale Hawaiian Islands source has been identified. Hu Honua’s wood will come as pellets from the Americas or Asia. The much larger AES on Oahu bioenergy conversion proposal will certainly fire with imported wood pellets. ‘Bioenergy’ will not contribute to Hawaii’s ‘energy self-sufficiency’. A forestry industry will not emerge. DLNR has stated they will plant or ‘protect’ 100 million trees by 2030 for carbon sequestration or environmental restoration. They will not allow harvest here.

14. The current drift in biomass policy and media discussions suggests, because of the reasons pointed out by the 500 scientists above, that within the next several years all subsidies and RPS considerations of biomass as carbon neutral will be withdrawn. From National Geographic, November, 2021, we find the following statement (referencing the UK, Europe’s largest bioenergy producer) under the Tagline: “As world leaders pledge more action on climate change, one so-called solution—burning trees for electricity—could undermine progress.” That statement: “In the European Union's “Fit for 55” framework for reducing emissions by 55 percent by 2030, biomass energy is still labeled as carbon neutral. But in a report published in

2018, the U.K.'s Committee on Climate Change said biomass energy should be limited. The country has contracts extending subsidies through 2027, but when they end, the committee discouraged further use."
The unfolding realities of the climate crisis will overtake the convenient economic considerations of bioenergy as Greenhouse Gas neutral. Subsidies will be withdrawn. This will lead to closure of most, if not all, bioenergy stations.

15. It is thus that the following organizations have become public in opposition to Hawaii's first proposed Bioenergy (green tree burning) facility, Hu Honua. In stated opposition are Sierra Club (Hawaii Chapter), Sierra Club (Moku Loa Group), Surfrider Foundation, Olohana Foundation, Partnership for Policy Integrity, Pepeekeo Fisherman's Association, North Hawaii Action Network, Na Kupuna O Moku O Keawe, Life of the Land, 350Hawaii, Hawaii Island Citizen's Climate Lobby, Hui Aloha Aina, Hawaii Alliance for Progressive Action, Hawaiian Cultural Center of Hamakua, Environmental Caucus (Democratic Party of Hawaii), Climate Reality Project, Department of Commerce and Consumer Affairs, Division of Consumer Advocacy ('Consumer Advocate'), the Democratic Party of Hawaii and more. In May, 2018 the State Democratic Party overwhelmingly passed Resolution ENV: 2018-08:
"Resolved, That The Democratic Party of Hawai'i urges the Public Utilities Commission, all elected and appointed officials of the State of Hawai'i and its various counties to withdraw support for Hu Honua Bioenergy, and any successors, which will have irreversible and deleterious consequences for the state's coastal waters and the planet's atmosphere;"

Mahalo for your consideration Tawn Keeney MD

SB 2510 SD 2 HD 1 TESTIMONY

To: House Committee on Consumer Protection & Commerce
Hearing on March 22, 2022 at 2:00 p.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. Furthermore, 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 if Hawaii is to do its part to avert a global climate catastrophe.

This bill disregards the climate emergency by allowing "firm renewable energy" to generate electricity. Not all renewable energy is clean energy. For example, the burning of trees 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. Coal is considered to be a dirty source of energy, and burning trees is even dirtier.

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, the National Aeronautics and Space Administration. Many future generations will be harmed by the carbon dioxide that would be emitted by the dirty energy that this bill allows.

Hawaii should embrace a clean, renewable energy future. For the sake of our children and future generations, the committee should hold the bill.

SB-2510-HD-1
Submitted on: 3/21/2022 8:46:00 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

LATE

Submitted By	Organization	Testifier Position	Testify
Shannon Rudolph	Individual	Oppose	Written Testimony Only

Comments:

Oppose.
A lot of corruption is happening around green-washed energy projects, don't let that happen here.

Hu Honua/Ola is a boondoggle that will lock in Hawai`i Island rate payers to 30 years of costs 3 times the price of solar - that followed the rules & didn't need any 'special exemptions'.

SB-2510-HD-1
Submitted on: 3/21/2022 11:50:59 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

LATE

Submitted By	Organization	Testifier Position	Testify
Elizabeth Laliberte	Individual	Oppose	Written Testimony Only

Comments:

Aloha Representatives,

All the greenwashing in the world can't erase the damage done by clearcutting and burning entire forests. But this is what supporters of biomass energy propose, because according to this thinking, Hawaii Island needs "firm, renewable energy" right now. In this view it is imperative that a mature tree, which can hold up to 48 pounds of CO2 per year, be cut and burned because it is "renewable". To claim the biomass industry is firm and renewable is like saying my 7 year old niece is employable because at some future time she might get a college degree. Look online to see what "renewable" forests harvested by the biomass industry in North Carolina look like.

To call the biomass industry firm and renewable means requires accounting methods on a time scale that is a fantasy, because we don't have 25 to 30 more years to wait for a tree to grow and mature. At our current rate, the devastation caused by the climate crisis will be in full swing by 2050, which is the minimum amount of time needed for a tree to regrow and store an equal amount of carbon. The biomass industry will not save us from an environmental apocalypse. It will only hasten its arrival. **In fact, scientists have learned that burning trees produces more CO2 than coal.** Biomass energy is like the one and two cent coin - it takes more energy to produce than its actually worth.

As if this wasn't bad enough, we're hearing increased demands for "firm, renewable" energy being used as a cudgel to chip away at a critically important regulatory body - the Public Utilities Commission. Political leaders are pretending to be concerned about resident's pocketbooks, while cynically exploiting the energy crisis to ram through destructive projects the community has made clear it does not want.

Let's be honest about the real intent of this bill. Behind the concern-trolling facade about rising energy costs and the need for energy security lies a hasty and poorly-executed investment scheme - to greenwash the act of burning trees by using fancy words like "firm, renewable energy". Please put this bad bill to rest. Instead of signing bad legislation please support real energy security - through actual clean, renewable energy - solar energy generated locally and securely stored in batteries for use during peak hours. Solar: It's reliable, renewable and it's clean.

Sincerely,

Liz Laliberte, Hilo

SB-2510-HD-1
Submitted on: 3/22/2022 1:24:14 PM
Testimony for CPC on 3/22/2022 2:00:00 PM

LATE

Submitted By	Organization	Testifier Position	Testify
Phaethon Keeney	Individual	Oppose	Written Testimony Only

Comments:

Aloha Esteemed Legislators! Please vote NO on SB 2510 SD2 HD1. I wrote a long testimony which got erased by the system by timing/logging out, yikes, so sorry! I pointed out the cost to consumers of Woody Biomass in significantly higher prices, damage to environment/land/healthy soils, diversified economy, health, self reliance and subsistence on these fragile islands and elsewhere, but for now in the interest of time I echo my father Tawn Keeney's testimony (please refer to that) as he's got solid points to consider.

Additionally is this article on statements/leanings of the US EPA head Michael Reagan on this matter, in considering vesting 55% of Hawaii's future energy mix in anything other than clean renewables.

https://news.mongabay.com/2021/02/will-new-us-epa-head-continue-his-opposition-to-burning-forests-for-energy/?fbclid=IwAR0Tw6goW3OHSj4U-KCnW8oI_z6myZCIvoXkon37rBrytjn0Lj0IiiJVaws

And this is a recent Yale lecture on Forest Biomass Energy costs and impacts by Professor William Moomaw, as part of a larger series on the Forest Bioenergy debate.

https://vimeo.com/680602697

And this humourous short video about Carbon Capture which also addresses the trend to try save fossil fuel investments by providing loopholes/tax support/consumer costs for ridiculous half measures that do nothing for anyone other than those most responsible. It's a broad subject, but it applies to Woody Biomass, just substitute that phrase for 'Carbon Capture' in the video as it's another pipe dream kick the can down the road accounting scheme, especially if forests are not regrown, and simply prolongs the old burning economy paradigm, let's avoid that if can, thanks.

https://www.youtube.com/watch?app=desktop&v=MSZgoFyuHC8&fbclid=IwAR2lJqfOPQr2RX6dDTjfr-MtBevaXk_i0We2ZM7cysAvx0ENLMv8VELYvlc

Pardon the video's language, but makes some good points. ;)

Mahalo for your time.

Phaethon Keeney

Honokaa Hawaii 96727