

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

TO THE
HOUSE COMMITTEE ON
ENERGY & ENVIRONMENTAL PROTECTION

January 29, 2019
8:30 a.m.

Chair Lowen and Members of the Committee:

MEASURE: H.B. No. 550

TITLE: RELATING TO RENEWABLE ENERGY.

DESCRIPTION: Amends the definition of "renewable portfolio standard" to more accurately reflect the percentage of renewable energy use in the State. Establishes renewable portfolio standards and targets for gas utility companies that are similar to those set for electric utility companies.

POSITION:

The Public Utilities Commission offers the following comments for consideration.

COMMENTS:

With respect to the electricity renewable portfolio standard ("RPS"), the Public Utilities Commission ("Commission") recently completed a report to the Legislature on the Renewable Portfolio Standard, which was submitted on December 27, 2018, and is available on the Commission's website (<https://puc.hawaii.gov/reports/legislature/>).

Overall, the State of Hawaii is on track to achieve the near-term RPS goals. However, there is greater uncertainty regarding longer-term goals, particularly regarding integration of future renewable energy projects and when and where such projects can be constructed and brought online. That said, should the Legislature increase interim RPS targets, the Commission will continue to work closely with the State's electric utilities and other stakeholders in order to implement the RPS policy.

With respect to the proposed gas utility renewable portfolio standard, the Commission is supportive of renewable gas, and has approved Hawaii Gas' proposed Honouliuli Wastewater Treatment Plant ("HWTP") biogas project with the City and County of Honolulu (see Docket No. 2016-0340). The Commission has also approved rate relief for the costs of processing HWTP biogas (see Docket No. 2017-0105).

If the Legislature establishes an RPS for gas utilities, the Commission respectfully recommends that the Legislature consider the early years of the electricity RPS in setting specific RPS goals. The electricity RPS started with relatively modest targets in the early years, which were increased over time as studies of the economic and technical feasibility of more aggressive targets were completed. This approach provided a strong incentive for the utilities to move forward while enabling all stakeholders to gain confidence and experience as the market for renewable technologies developed.

Thank you for the opportunity to testify on this measure.



DAVID Y. IGE
GOVERNOR
MIKE MCCARTNEY
DIRECTOR

DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

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Statement of
MIKE MCCARTNEY
Director
Department of Business, Economic Development, and Tourism
Before the
HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION
Tuesday, January 29, 2019
8:30 AM
State Capitol, Conference Room #325
In consideration of
HB 550
RELATING TO RENEWABLE ENERGY

Chair Lowen, Vice Chair Wildberger, and Members of the Committee.

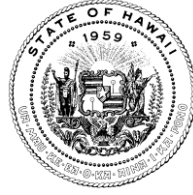
The Department of Business, Economic Development, and Tourism (DBEDT) **supports** HB 550 which modifies the definition of “renewable energy portfolio standard (RPS)” for electric utility companies to be based on “generation” instead of “sales” to more accurately reflect the percentage of renewable penetration in Hawaii. The bill amends the RPS interim goals for 2030 and 2040 to accelerate the adoption of renewable energy. The bill also establishes an RPS for gas utility companies of 100% by 2045, for all gas sold for grid-connected electrical generation.

DBEDT offers the following comments. The current method of calculating the RPS is flawed in a way which causes the RPS to be inflated. DBEDT supports the proposed amendments to the RPS for electric utilities on page 14, lines 4 -10.

DBEDT sees merit in the proposed acceleration of the RPS, however, we caution that there is greater uncertainty in the achievability of the 2040 and 2045 goals, due to concerns about the ability of utilities to accommodate increasing proportions of variable generation, development of new renewable sources and community acceptance.

DBEDT supports the establishment of an RPS for gas utility companies of 100% by 2045 with interim goals and recommends reconciling page 3, lines 20-21 with the definition of the RPS for gas utilities on page 5, lines 12 – 17, to clarify the RPS for gas utilities is limited to gas sold for grid-connected electrical generation.

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 Energy and Environmental Protection
Tuesday, January 29, 2019
8:30 a.m.
State Capitol, Conference Room 325**

**On the following measure:
H.B. 550, RELATING TO RENEWABLE ENERGY**

Chair Lowen and Members of the Committee:

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

The purposes of this bill are to: (1) amend the definition of "renewable portfolio standard" (RPS) to more accurately reflect the percentage of renewable energy use in the State; (2) amend the RPS 2030 and 2040 goals for electric utilities; and (3) establish RPSs and targets for gas utility companies that are similar to those set for electric utility companies.

The Consumer Advocate continues to support the State's goal of 100% renewable energy on its electric grids by 2045, and so the Consumer Advocate supports the effect of this bill, which changes the RPS calculation in Hawaii Revised Statutes (HRS) section 269-91 from "sales" to "generation." This proposed modification will eliminate the existing "loophole" that could allow the State to achieve a 100% RPS but still have a significant contribution from fossil-fueled generation sources, as well as possibly allow for more than 100% of generation to come from renewable energy. The Consumer Advocate also appreciates the bill's intent to create an RPS for gas utilities, which should align more relevant entities in the State's push toward 100% renewable energy across sectors.

The proposed RPS for regulated gas utilities does, however, raise concerns that if the proposed language establishing the RPS for gas utilities is adopted as-is, it could, among other things: (1) significantly increase the gas utilities' costs; (2) unintentionally create an incentive for the regulated utility to adopt a model that uses its non-regulated operations to serve customers' needs, as well as allow unregulated gas competitors to take advantage of the lack of regulation; and (3) cause regulated and unregulated gas customers to experience significant bill increases. Given that the technology to create renewable gas is less developed than the technology for renewable electricity (e.g., the Honouliuli biogas facility has only recently begun operations), and the renewable gas market does not enjoy the same support that renewable electricity enjoys (e.g., lack of significant tax credits for renewable gas technologies), adopting the language used for the RPS for the electric industry, including the interim goals, will likely result in significant increases in gas costs. In turn, these likely cost increases may create a favorable market for customers to rely on unregulated gas to meet their gas needs. The proposed RPS may also cause the regulated gas utility to incur significant costs, which ratepayers would ultimately bear.

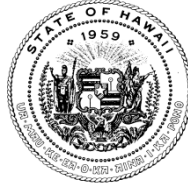
In addition, a disjoint may exist between the stated purpose of the measure (i.e., "This Act requires all gas sold for grid-connected electrical energy generation by regulated gas utility operations in the State to become more renewable over time.") and the measure imposing the renewable gas standard on all regulated utility gas

operations, rather than just gas sold to power grid-connected electrical energy generation. To be clear, the Consumer Advocate supports the notion that if renewable standards are imposed on the electric industry to reduce Hawaii's contribution to carbon production and greenhouse gases, efforts should likewise be made to reduce contributions from the gas industry; however, these efforts should not be limited to just gas used to power grid-connected generators. The Consumer Advocate respectfully suggests that the Legislature consider the best means to address the possibility of customers relying on unregulated gas sources, which would undermine efforts to impose renewable gas standards.

Finally, in HRS section 269-C(c), the proposed language would allow a regulated gas company to recover "any revenue requirement resulting from . . . the renewable portfolio's costs and expenses." This language might be interpreted to mean that any and all costs, even if some of the costs are not reasonable, would be recoverable. Therefore, the Consumer Advocate recommends language that makes clear that only reasonable costs can be recovered from customers.

Thank you for the opportunity to testify on this bill.

DAVID Y. IGE
GOVERNOR



TESTIMONY BY:

JADE T. BUTAY
DIRECTOR

Deputy Directors
LYNN A.S. ARAKI-REGAN
DEREK J. CHOW
ROSS M. HIGASHI
EDWIN H. SNIFFEN

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

January 29, 2019
8:30 a.m.
State Capitol, Room 325

H.B. 550
RELATING TO RENEWABLE ENERGY.

House Committee on Energy and Environmental Protection

The Department of Transportation **supports** the intent of H.B. 550 and hopes that all gas sold for grid-connected electrical energy generation by regulated gas utility operations in the State will become more renewable over time.

Thank you for the opportunity to provide testimony.



SIERRA CLUB OF HAWAII

MĀLAMA I KA HONUA. *Cherish the Earth.*

HOUSE COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION

Tuesday Jan 29, 2019 8:30 AM Room 325

In **SUPPORT of HB 550** Relating to renewable energy

Aloha Chair Lowen, Vice Chair Wildberger, and members of the committee,

On behalf of our 20,000 members and supporters, the Sierra Club of Hawai'i **strongly supports HB 550**, which seeks to rectify the overestimation of the amount of renewable energy serving Hawai'i's electric utility customers and also holds the gas utility to a higher standard that mirrors the electric utility's commitment to transition to clean energy.

Hawai'i Revised Statutes section 269-92 mandates a 100% renewable energy portfolio standard (RPS) by 2045. This means that *the State must transition away from imported fuels and intend toward renewable sources, preferably local, to provide a source of secure, local energy*. It is important that there is no overestimation in the delivery of this goal and that there are accurate measures in place to achieve it. HB 550 ensures this success.

The gas utility should not have a lower standard than the electric utility. The extraction of natural gas releases greenhouse gases such as methane, which is roughly 30 times more potent as a heat-trapping gas than carbon dioxide¹. If left untouched by the same renewable portfolio standard that applies to the electric utility, the original purpose of the 100% RPS remains misaligned. We know that the legislature intends to support a clean energy future, so the RPS should apply equitably to all sectors of power generation. **All utilities should be held to the same standards and commitments to effectively transition to 100% renewable energy by 2045.**

Thank you very much for this opportunity to provide testimony in **strong support of HB 550**.

Mahalo,

Jodi Malinoski, Policy Advocate

¹ <https://www.sciencedaily.com/releases/2014/03/140327111724.htm>

**TESTIMONY BEFORE THE HOUSE COMMITTEE ON
ENERGY & ENVIRONMENTAL PROTECTION**

H.B. No. 550

Relating to Renewable Energy

January 29, 2019

8:30am

State Capitol, Conference Room 325

Colton Ching

Senior Vice President, Planning & Technology
Hawaiian Electric Company, Inc.

Chair Lowen, Vice Chair Wildberger, and Members of the Committee:

My name is Colton Ching and I am testifying on behalf of Hawaiian Electric Company and its subsidiary utilities Maui Electric Company and Hawai'i Electric Light Company (collectively, the "Companies") in **opposition** to H.B. No. 550 in its current form.

H.B. No. 550 establishes a 100% renewable portfolio standard (RPS) by 2045 for the gas utilities to align with the State's policy to transition away from fossil fuels and toward renewable energy. The Companies support this part of the bill subject to certain amendments and offer the following comments for consideration:

- The Companies support the establishment of renewable portfolio standard in the supply and use of gas for either electricity production or for other end-uses. However, the gas utility RPS as written in the bill applies only to the regulated gas utilities while the unregulated gas market, which represents a majority of gas use in the state, could remain on fossil fuels and not transition to renewable energy. This would leave a major gap in the State's clean energy policy by allowing customers the option to



disconnect from the electric grid or regulated gas network and self-generate using fossil fuels without any oversight or accountability.

- We note that H.B. No. 1242 also seeks to impose an RPS for gas, and that measure does address both unregulated and regulated gas sales. The committee should consider amending this bill to be consistent with H.B. No. 1242.

In addition to creating a gas utility RPS, H.B. No. 550 includes changes to the definition of RPS for electric utilities and increases the interim RPS targets in 2030 and 2040. We oppose this portion of the bill. Our concerns lie with the timing of these proposed changes, and that the proposed definition of RPS for electric utilities applies to all grid-connected energy systems – including fossil fueled customer-owned generation over which we have no control – and therefore exposes us to non-compliance if customers choose to invest in their own fossil gas-fired cogeneration. Applying this new definition to our 2020 RPS requirement, less than two years away, unfairly increases the risk of us not achieving the RPS goal of 30% by 2020. Applying the change instead to our 2030 RPS and beyond would be a more reasonable timeframe to align the market realities with public policy. This would also mitigate our concern over customer-owned fossil fueled generation as the new renewable gas RPS takes effect.

Accordingly, the Hawaiian Electric Companies oppose H.B. No. 550 in its current form. Thank you for this opportunity to testify.

Testimony to the House Committee on Energy & Environmental Protection

Tuesday, January 29, 2019 8:30 a.m.
Conference Room 335, State Capitol
RE: House Bill 550 – Relating to Renewable Energy

Chair Lowen, Vice Chair Wildberger and Members of the Energy & Environmental Policy Committee

Hawaii Gas **opposes** HB 550 and provides the following **comments**:

HB550 proposes to require all gas sold for “grid-connected electrical energy generation” by the regulated gas utility operations in the state to become more renewable over time by mandating that a renewable energy portfolio standard of one hundred percent by December 31, 2045 be imposed with interim goals in 2024, 2029 and 2034.

HG plays a small, but important role in Hawaii as a clean, cost-efficient and resilient energy source. The fact is that deploying natural gas as a fuel source reduces Hawaii’s carbon footprint now and helps maintain a cleaner environment as compared to the diesel-fueled distributed generation it largely displaces. **According to the U.S. Energy Information Administration, Hawaii has the lowest total natural gas consumption in the nation.¹ Hawaii Gas (HG) represents less than 2% of the energy consumed in Hawaii and its facilities account for only 3/10^{ths} of 1% of the direct greenhouse gas emissions in Hawaii.²**

Hawaii Gas embraces and supports the transition away from fossil fuels and towards more renewable energy as evidenced by HG’s initiatives, including:

- Recent dedication of the state’s first renewable natural gas production facility at the City and County’s Honouliuli Wastewater Treatment Plant in Ewa Beach
- Dedication of Waihonu Solar Farm in Central Oahu in 2016, producing 6.5 MW of electricity to provide power to approximately 1,000 homes
- Production of hydrogen through the manufacturing of synthetic natural gas from naphtha and recycled wastewater from Honouliuli wastewater treatment plant

While Hawaii Gas is pursuing the procurement of locally produced renewable natural gas, there is no existing reliable source that can produce the scale necessary to entirely service the energy needs of our entire state.

We respectfully **oppose** this legislation. because there are a number of physical resource limitations, industry technical issues, lack of policy initiatives, competing state policy priorities and significant potential consequences to ratepayers that make this policy goal unachievable and impractical and need to be considered before imposing these mandates on a gas utility.

¹ <https://www.eia.gov/state/analysis.php?sid=HI>

² <https://www.eia.gov/environment/emissions/state/>

Physical Resources Limitations

- Lack of Local Supply – Very limited developable biogas resources currently exist in Hawaii and difficult to scale (from wastewater treatment plants and landfills). The vast majority of this gas resource is unavailable to HG. Other sources of biogas deployed in renewable gas projects globally (e.g., animal waste, crop waste, food waste diversion) – are inadequate or scarce in Hawaii³;
- Alternatively, producing local energy crops present issues with lack of land, water and farmers; Imported supplies of renewable natural gas are limited due to shipping costs and other logistical constraints

Policy Limitations and competing state initiatives

- Unlike other renewable energy technologies, renewable natural gas has limited federal and state incentives that would help offset capital cost projects and provide savings to customers
- We encourage policy makers to create a master plan to balance the use of resources such as land and water rights for state priorities such as renewable energy, affordable housing and local food production
- While this bill supports an RPS on a gas utility, other states, such as California realize that imposing an RPS on a gas utility is not prudent and instead have focused on creating financial incentives for biogas producers which supply renewable fuels to gas utilities (\$40 million allocated in 2018) and rate recovery regulations for distribution companies
- Less than one percent of RNG developed in the U.S. Mainland is used by utility customers because there are few federal or state resources available to encourage RNG production. Over 99 percent of RNG projects exist for non-utility, transportation use according to the Coalition For Renewable Natural Gas
- Electric and gas utilities are different in fundamental ways. While electric utilities have the flexibility to utilize different fuels for generation, gas utilities do not have the same flexibility to use existing infrastructure for gaseous fuels as easily
- Existing Policy mandates are redundant to this proposed legislation:
 - Senate Resolution 143, SD1 requesting DBEDT to report to the Legislature on How to Incorporate Renewable Fuels into the Hawaii Clean Energy Initiative
 - Act 15 (2018) – Mandates Hawaii to be carbon neutral by 2045 and establishes a Greenhouse Gas Sequestration Task Force – State Office of Planning - underway
 - Act 16 (2018) Creates a Framework for Carbon Offset Program that allows for carbon credits through global carbon sequestration protocols – State Office of Planning - underway
 - Businesses like HG are already mandated to develop pathways to meet carbon neutral deadline and now must do so in the most economical and sustainable way for our customers

³ https://www.americanbiogascouncil.org/State%20Profiles/ABCBiogasStateProfile_HI.pdf

Significant potential consequences to ratepayers if an RPS is imposed on the gas utility with no clear pathway to achieving the RPS

- Nearly 48% of Hawaii households are struggling to make ends meet⁴ or are living below the poverty level, an increase in utility costs will add financial burden for families;
- Renewable natural gas costs are high and are not readily available at scale with any assurance of reliability. We must balance all of these factors on behalf of our customers to keep rates affordable;
- Lack of financial incentives at the Federal and State levels portend continued high costs;
- Highly portable, disaster-resistant fuels such as natural gas and propane also play critical roles in shoring up homeowner resiliency and redundancies in the event of natural disasters. In 2018, HG assisted residents on Kauai's North Shore recover from historic floods, as well as supported the displaced residents from Hawaii Island with natural gas and propane for cooking and water heating needs;
- We can learn from Puerto Rico's Hurricane Maria recovery as they chart a pathway to integrate 100% renewable energy and build more resiliency into the island's grid system. Power generation plans incorporate a percentage natural gas to be integrated with solar, wind power and battery storage in various scenarios that permit the retirement of Puerto Rico's coal-fired units.

Thank you for the opportunity to testify.

Sincerely,

Jeannine A. Souki
Director, Government Affairs and Corporate Communications

⁴ <https://www.auw.org/sites/default/files/pictures/AUW-ALICE%20Fact%20Sheet%20FINAL.PDF>



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COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION

TUESDAY, 1/29/19, 8:30 am, Room 325
HB550, Relating To Renewable Energy

TESTIMONY

Beppie Shapiro, Legislative Committee, League of Women Voters of Hawaii

Chair Lowen, Vice-Chair Wildberger, and Committee Members:

The League of Women Voters of Hawaii **strongly supports HB550 that strengthens the definition of renewable energy and includes SYN (synthetic natural gas) in the renewable portfolio standard goals .**

The United Nations Intergovernmental Panel on Climate Change, a group of climate scientists in fall of 2018 describes a world of worsening food shortages, wildfires, inundated coastlines, intensifying droughts and poverty, and a mass die-off of coral reefs as soon as 2040 — a period well within the lifetime of many Hawaii residents. The panel warned there is only a dozen years for global warming to be kept to a maximum of 1.5C = 2.7F degrees to avoid truly catastrophic impacts.

HB550 makes an important contribution to improving Hawaii's goal of getting to "100%" renewable energy by 2045. This goal, which has garnered a lot of national attention, did not as written commit the state to actually generating 100% of its energy from renewable sources.

As noted by Life of the Land, and confirmed by the Deputy Attorney General and by Hawaiian Electric Company, the present definition allows the RPS metric of renewable energy penetration to exceed 100% while coal-based electricity is still used on the electric grid. HB550 would amend this definition to more accurately measure progress toward the renewable energy goal.

HB550 would also, and importantly, include SNG in the renewable portfolio standard. SNG is composed mainly of methane, an extremely potent greenhouse gas; and butane, another fossil fuel. (The process of creating SNG also consumes a lot of energy currently generated from non-renewable sources).

HB550 is a critical step forward in preventing the most severe and immediate consequences of climate change. Please move HB550 forward - our people, reefs, birds, insects and plants deserve it.

Thank you for the opportunity to submit testimony.



Chamber of Commerce HAWAII
The Voice of Business

**Testimony to the House Committee on Energy & Environmental Protection
Tuesday, January 29, 2019 at 8:30 A.M.
Conference Room 325, State Capitol**

RE: HOUSE BILL 550 RELATING TO RENEWABLE ENERGY

Chair Lowen, Vice Chair Wildberger, and Members of the Committee:

The Chamber of Commerce Hawaii ("The Chamber") **opposes** HB 550, which amends the definition of "renewable portfolio standard" to more accurately reflect the percentage of renewable energy use in the State. Establishes renewable portfolio standards and targets for gas utility companies that are similar to those set for electric utility companies.

The Chamber is Hawaii's leading statewide business advocacy organization, representing about 2,000+ businesses. Approximately 80% of our members are small businesses with less than 20 employees. As the "Voice of Business" in Hawaii, the organization works on behalf of members and the entire business community to improve the state's economic climate and to foster positive action on issues of common concern.

The Chamber appreciates the benefits of a more sustainable future; however, we see the potential for unintended consequences with the language contained in this legislation. The bill introduces a strict regulation of private industry in order to comply with another burdensome government mandate to the existing renewable standard portfolio timeline.

Thank you for the opportunity to testify.



To: The House Committee on Energy & Environmental Protection
From: Sherry Pollack, Co-Founder, 350Hawaii.org
Date: Tuesday, 1/29/19

In strong support of HB 550

Aloha Chair Lowen, Vice Chair Wildberger, and Committee members,

I am Co-Founder of the Hawaii chapter of 350.org, the largest international organization dedicated to fighting climate change. 350Hawaii.org strongly supports **HB550**. This bill would amend the renewable portfolio standard (RPS) to more accurately reflect the percentage of renewable energy penetration in the State. It also establishes a RPS and targets for gas utility companies that mirrors those set for electric utility companies, in addition to accelerating our adoption of renewable energy.

We need to fix the critical flaws in our RPS that would prevent us from ensuring a full and fair transition to clean energy. We must not undermine our own efforts to achieve our 100% renewable energy goal.

350Hawaii agrees that requiring electric utilities but not gas utilities to increase their reliance on renewable energy may unintentionally harm consumers by promoting suboptimal long-lived investments in fossil fuels. Establishing a RPS for the gas utility is the simplest, fairest, and most effective solution to this concern. A suggested amendment is to apply the gas utility RPS to include all regulated activities of the gas company, rather than just "electrical energy generation" as gas can be burned for other purposes, all of which need monitoring and regulation.

Further, I am recommending an additional critical amendment regarding the targets set to achieve 100% renewable energy. The recently released UN IPCC report makes clear we must limit warming to 1.5 degrees Celsius, and that to do this it requires a major and immediate transformation across all sectors to achieve the needed emissions reductions. That said, I emphatically recommend that we further accelerate our adoption of renewable energy with a target of 100% clean energy by 2030. The science tells us that 2045 is woefully too late, and that we all can and must do better, or suffer the extinction of thousands of species on this planet, including our own.

I am struck by a recent quote from Greta Thunberg, a 15-year-old climate activist, who called on world leaders at the UN Climate Change Conference to do more, stating "You say you love your children above all else and yet you are stealing their future in front of their very eyes. Until you start focusing on what needs to be done rather than what is politically possible, there is no hope."

Let Hawaii set an example for others around the globe and show what true climate leadership means. This is for our own sake, and for that of everything else on this planet.

Mahalo for the opportunity to testify in **strong support** of this very important bill with the recommended amendments stated.

Sherry Pollack
Co-Founder, 350Hawaii.org



HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

January 28, 2019, 8:30 a.m.
(Testimony is 1 page long)

TESTIMONY IN SUPPORT OF HB 550

Aloha Chair Lowen and Members of the Committee:

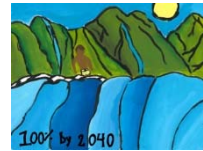
The Alliance for Solar Choice (TASC) supports HB 550, relating to strengthening the existing renewable portfolio standard and establishing a gas renewable portfolio standard.

Renewable energy is now cheaper than any other source of power in most parts of the United States. As the Rhodium Group recently concluded, accelerating clean energy adoption could save Hawaii residents up to \$7 billion dollars.¹ Thus, it makes economic and environmental sense to strengthen Hawaii's renewable goals to ensure we're truly focused on 100% renewable energy.

Further, this Committee should consider incentivizing or mandating electric utilities meet these goals even faster.

We respectfully request that this bill be passed out of the Committees. Mahalo for the opportunity to testify.

¹ <https://www.transcendingoil.com/>



HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

January 29, 2019, 8:30 A.M.

Room 325

(Testimony is 4 pages long)

TESTIMONY IN STRONG SUPPORT OF HB 550

Aloha Chair Lowen, Vice Chair Wildberger, and Committee members:

Blue Planet Foundation **strongly supports** HB 550, which makes important amendments to Hawai'i's historic 100% renewable energy standard. This bill does three things:

- (1) **Ensures “100%” means “100%”** by making a needed correction to the state's renewable portfolio standard (RPS) calculation;
- (2) **Expands Hawai'i's 100% renewable requirement to apply to gas**, ensuring that the state's gas utilities are also moving toward a fossil-fuel-free future; and
- (3) **Increases the interim renewable targets** (for 2030 and 2040) for electric utilities to accelerate the adoption of renewable energy.

This is a critical measure for **accelerating progress** and ensuring **transparency, consistency, fairness, and consumer confidence** in Hawai'i's 100% renewable energy target.

THE SUCCESS AND IMPORTANCE OF THE RPS LAW

Hawai'i's RPS law has been a resounding success. In 2015, the legislature set a vision for Hawai'i's energy security, economic viability, and environmental protection by setting a target of 100% renewable energy by 2045. The 100% RPS law has since impacted the energy system exactly as intended, and is driving energy progress in the state. It has strengthened collaborations and fostered alignment on a variety of regulatory issues. With strong Public Utilities Commission guidance and oversight, Hawai'i's 100% RPS is resulting in utility long-range plans that will achieve the mandate ahead of schedule, while simultaneously saving consumers billions of dollars compared to the fossil fuel status quo.

The 100% RPS has set market expectations. Hawai'i is now securing 100% renewable energy projects, able to provide energy at any time of day or night, for a stable cost that is substantially less than the cost of fossil fuel.

In fact, earlier this month, Hawaiian Electric announced contracts for seven large solar and battery projects at record low prices, proving it is possible to generate clean electricity far

cheaper than from fossil fuels.¹ The power from these projects will be as low as 8 cents per kilowatt-hour (kWh), with most coming in below 10 cents per kWh. Even the highest-priced project is substantially lower than the 15 cents per kWh average cost to produce electricity from fossil fuels.

By comparison, just a few years ago, Hawai'i was considering importing liquefied natural gas (LNG)—another fossil fuel—to generate electricity for 15 to 20 cents per kWh.

100% MEANS 100%

This bill ensures “100%” means “100%” by making a needed correction to the RPS calculation. Currently, the state’s RPS calculation can provide utilities with “double credit” for some distributed energy sources, such as rooftop solar. This leads to the outcome that the calculated RPS can be greater than the actual percentage of renewable energy on Hawai'i’s electric grids. House Bill 550 would revise the RPS accounting calculation to address this potential outcome.

To the credit of the Hawaiian Electric Companies, the most recent electric utility power supply plans appear to target a fully renewable system, even though a loophole in the RPS calculation improperly accounts for distributed energy generation. To illustrate, the forecasted Hawaiian Electric RPS for 2045 is as high as 183% (the maximum for a properly calculated renewable standard should be 100%). In short, this is because distributed energy resources, such as rooftop solar, impact the RPS calculation in a way that essentially provides a double credit.

While power supply planning to date has not been hampered by this faulty calculation, it nonetheless **creates uncertainty and lack of clarity for consumers**. This is a long-standing problematic feature of Hawai'i’s energy targets. As an example, the circa-2008 clean energy initiative goal of 70% renewable energy was actually a 40% renewable energy goal, with a supporting energy efficiency goal of 30%. Consumers were endlessly confused by the reference to “70%.”

Fixing the RPS calculation is intended to avoid repeating that mistake. **100% renewable energy should mean 100% renewable energy.**

100% RPS FOR GAS UTILITIES

House Bill 550 wisely establishes a renewable portfolio standard requiring that 100% of gas sold by gas utility companies in the state be renewable by 2045. Expanding Hawai'i’s 100% RPS to apply to gas utility companies is a necessary next step if we hope to achieve our ambitious clean energy and climate targets.

¹ See <https://www.hawaiielectric.com/new-solar-plus-storage-projects-set-low-price-benchmark-for-renewable-energy-in-hawaii>

Consumers sometimes confuse “natural gas” with renewable energy. As most commonly used, natural gas is “natural” in the same way that oil and coal are “natural.” **Natural gas is a fossil fuel.** It is not renewable, and it is inconsistent with a shift to 100% renewable energy.

In Hawai‘i, The Gas Company (dba Hawai‘i Gas) primarily uses natural gas in two forms. It creates synthetic natural gas (SNG), primarily from oil products. It also uses liquefied natural gas (LNG), which is gas drilled from a well and then liquefied for shipping. Both of types are fossil fuels.

The Gas Company also currently uses some gas that is derived from renewable sources—i.e. renewable natural gas (RNG). In December 2018, The Gas Company launched its operations at the first renewable natural gas facility in the islands, capturing and processing biogas created during the process of treating wastewater at the Honouliuli Wastewater Treatment Plant on O‘ahu.² The plant is expected to produce 800,000 therms energy per year, which is equivalent to about 15,000 barrels of oil. Previously, this gas was flared (i.e. burned) at the plant.

With this project, the City and County of Honolulu will now derive revenue by selling the gas, rather than wasting it, and bring RNG on O‘ahu to roughly 5% of the total gas supply. This is a remarkable win-win solution. Blue Planet Foundation strongly supports these efforts to transition to renewable gas.

Scaling this will require the development of additional renewable natural gas sources—particularly identifying new win-win solutions for local private and public entities, such as that developed with Honouliuli. These might include: wastewater treatment facilities, landfills, other waste sources, local crops, or renewable hydrogen. Suppliers in other locations may also become an option. In the continental U.S., Clean Energy Fuels Corp. is currently marketing a renewable natural gas product called “Redeem.” This is collected from various waste sources, such as landfills and farms, and then distributed across the country via a natural gas pipeline system. It is presently used to fuel thousands of vehicles each day.

ACCELERATING THE TRANSITION

The state is already on track to achieve the vision set by the legislature for renewable electricity, including both the near-term and long-term RPS requirements. But at least one recent study shows that accelerating the interim targets could be more cost-effective for Hawai‘i ratepayers than maintaining the trajectory for renewables under the current RPS law.³

² See <https://www.bizjournals.com/pacific/news/2018/12/20/hawaii-gas-completes-first-renewable-gas-facility.html>.

³ See Rhodium Group (commissioned by Elemental Excelerator), *Transcending Oil: Hawai‘i’s Pathway to a Clean Energy Economy* (2018), available at: <https://www.transcendingoil.com/>.

Accelerating the transition to 100% renewable energy—as proposed in House Bill 550—is not only beneficial to Hawai'i's economy, it could be crucial for our planet. As the most recent special report from the United Nations Intergovernmental Panel on Climate Change (IPCC) concluded, avoiding climatic catastrophe will require transformative action at a pace and scale never seen before. The special report found that “there is no documented historic precedent” for government action of the kind needed to achieve climate stability.⁴ As an island community, we feel this threat firsthand. We must continue to do our part to avoid the most devastating impacts of climate change.

As a state, we've committed to doing just that. Beyond the 100% RPS, the Hawai'i Legislature committed to achieving the objectives set out in the Paris Climate Agreement (Act 32 of 2017) and adopted the goal to be net carbon neutral by 2045 (Act 15 of 2018). Meeting these ambitious targets will require courageous leadership and smart policies—like House Bill 550—that quickly move us past the status quo.

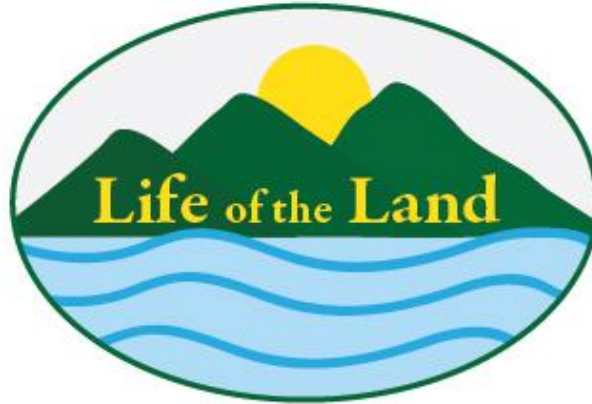
CONCLUSION

Blue Planet Foundation strongly supports HB 550 to help **accelerate Hawai'i's clean energy progress, increase fairness across the energy sectors, and spur innovation and development in new, locally produced, renewable fuels**. This is an important measure for ensuring transparency, consistency, fairness, and consumer confidence in Hawai'i's 100% renewable energy target.

We look forward to working with the legislature on this key policy.

Thank you for the opportunity to testify.

⁴ See IPCC, *Special Report on Global Warming on 1.5°C*, available at: <https://www.ipcc.ch/sr15/>



P.O. Box 37158, Honolulu, Hawai`i 96837-0158
Phone: 927-0709 henry.lifeoftheland@gmail.com

COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Rep. Nicole E. Lowen, Chair

Rep. Tina Wildberger, Vice Chair

DATE: Tuesday, January 29, 2019

TIME: 8:30 AM

PLACE: Conference Room 325

HB 550 RELATING TO RENEWABLE ENERGY.

SUPPORT, AMENDMENT

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

Life of the Land is Hawai`i's own energy, environmental and community action group advocating for the people and `aina for 47 years. Our mission is to preserve and protect the life of the land through sound energy and land use policies and to promote open government through research, education, advocacy and, when necessary, litigation.

Life of the Land has two active climate change appeals before the Hawai`i Supreme Court. The court heard oral arguments on the first one in October 2018. We also have a climate change complaint before the Public Utilities Commission.

THE BILL FIXES THE DEFINITION OF PERCENT

HB 550: "Total renewable electrical energy generated from grid-connected renewable energy systems divided by total electrical energy generated from grid-connected energy systems."

In the HECO-NextEra merger proceeding, Life of the Land filed an Information Request. “Does HECO believe that an RPS of 100 percent is the same thing as requiring all grid-based electricity to come from renewable energy resources?”

HECO responded to LOL-IR-234 on June 15, 2015.

“Suppose that sales are 100 GWh and that 35 GWh of those sales come from renewable energy and 65 GWh come from fossil fuels. Suppose further that behind the meter generation provides 80 GWh of energy directly to customers behind the meter and therefore is not recorded as sales. In this case

Total Renewable Electrical Energy = 35 GWh + 80 GWh = 115 GWh

Total Sales = 100 GWh

RPS percent = (115/100) X 100 = 115%”

THE BILL CORRECTLY INCLUDES THE GAS COMPANY

HB 550: “The legislature finds that the simplest, fairest, and most effective solution to this concern is to also implement renewable portfolio standard targets for gas utilities that are similar to those established for electric utilities.”

THE BILL USES THE CORRECT METRIC FOR THE GAS COMPANY

HB 550: “Total energy in therms from renewable gas sold divided by total heat energy in therms from gas sold.”

THE LOCAL FUEL MYTH

The preamble to Act 97 SLH 2015 (HB623 HD2 SD2 CD1) discussed strengthening the local economy, but neither the substance of Act 97 nor HRS 269-92 has any reference to local fuels.

HB 550: “The legislature finds that Act 97, Session Laws of Hawaii 2015, amended section 269-92, Hawaii Revised Statutes, to establish a one hundred per cent renewable portfolio standard by December 31, 2045, with the intent to transition the State away from imported fuels and toward renewable **LOCAL** resources that provide a secure source of affordable energy.”

RENEWABLE ENERGY = DECREASED CLIMATE CHANGE MYTH

The proposed bill appears to link renewable energy to climate change, something not found in the RPS statute. Burning forest-based biomass, especially rainforests, is “renewable” under Hawai`i state law but deadlier than coal in terms of particulant and greenhouse gas emissions.

HB 550: “The need to reduce carbon emissions globally to avoid the worst impacts of climate change has become increasingly urgent.”

RENEWABLE HYDROGEN, ANY KIND OF BIOFUEL FALLACY

The bill continues requiring renewable hydrogen, but allowing both renewable and unrenewable biofuels, and both sustainable and unsustainable biofuels.

HB 550: “Renewable gas” means gas generated or produced using ... (2) Biomass, biomass crops...(3) Biofuels; or (4) Hydrogen produced from **RENEWABLE** energy sources.”

Norway recognized that not all biofuel is green in December 2018: “Norway is to become the first country to stop its biofuel industry buying palm oil that is linked to catastrophic deforestation. The parliamentary decision, which is set to come into force from 2020, has been welcomed as a victory in the fight to save rainforests, prevent climate change and protect endangered orang-utans.”¹

H-POWER GENERATES 1/3 OF ITS “RENEWABLE ENERGY” FROM FOSSIL FUEL

H-POWER owner Covanta has publicly acknowledged that 32 percent of its energy is generated from fossil fuel byproducts like plastic, but it all counts towards the RPS.

¹ <https://www.independent.co.uk/environment/norway-palm-oil-fuels-deforestation-rainforests-orang-utans-biofuels-a8666646.html>

PROPOSED DEFINITION

Popular Mechanics: "Raw coal is dirty: It's a sulfur-filled, mercury laden, sooty, black rock...The big idea is to make coal into a liquid biofuel that could fill our cars."²

China has successfully brought onstream the world's first demonstration plant that converts coal to ethanol.³

Proposed Amendment: "Renewable gas" means gas generated or produced using: (a) (1) Biogas, including landfill and sewage-based digester gas; (2) Biomass, biomass crops, agricultural or animal residues and wastes, non-fossil fuel municipal solid waste, or other non-fossil fuel solid waste; (3) Agricultural Biofuels; or (4) Hydrogen produced from renewable energy sources. (b) Excludes any gas made from coal, petroleum, plastic, and living forests.

Mahalo

Henry Curtis
Executive Director

² <https://www.popularmechanics.com/science/energy/a1772/4218251/>

³ <https://www.chemengonline.com/debut-coal-ethanol-plant/>



ELEMENTAL EXCELERATOR

Written Statement of Elemental Excelsior
before the House Committee on Energy and Environmental Protection
In consideration of HB 550
Tuesday, January 29, 2019
8:30 AM

Aloha Chair Lowen, Vice Chair Wildberger, and Members of the House Committee on Energy and Environmental Protection:

Elemental Excelsior respectfully submits our support of HB 550, which 1) amends the renewable portfolio standard interim goals for 2030 and 2040 to accelerate the adoption of renewable energy; 2) amends the definition of renewable portfolio standard to more accurately reflect the percentage of renewable energy used in the State; and 3) establishes gas utility company renewable portfolio standards for electricity generation, ensuring that the State's market for gas embraces and supports the transition away from fossil fuels and toward renewable energy.

Elemental Excelsior is a Honolulu-based growth accelerator program founded and operating in Hawai'i. We have awarded over \$30 million to 82 companies resulting in 35 demonstration projects in Hawai'i & Asia Pacific. Each year, we select 15-20 companies that best fit our mission and fund each company up to \$1 million. We recruit innovative entrepreneurs from around the world to come to Hawai'i and find transformative solutions to help us achieve our 100% clean energy goals.

In April 2018, Elemental Excelsior commissioned a study entitled *Transcending Oil: Hawai'i's Path to a Clean Energy Economy*. The study found that in Hawai'i, transitioning to renewable energy is cheaper than sticking with oil. The faster we go, the cheaper it will be.

We support HB 550 because of the following:

- 1. It is more cost-effective:** Transcending Oil found that renewables are more cost effective and the most cost-effective path will lead us to up to 84% renewable energy by 2030 and up to 95% by 2040. Updating interim targets for the RPS from 40% to 65% by 2030 and from 70% to 85% by 2040 tails the projected cost-effective path and lies conservatively within Hawaiian Electric Companies' Power Supply Improvement Plan, which states that "*under multiple longer-term scenarios, our RPS can be at least 72 percent by 2030 and reach at least 100 percent by 2040, ahead of the 2045 deadline*" (Power Supply Improvement Plan Update Report: December 2016, ES-1).
- 2. It will enhance our economy:** Compared to meeting the current RPS of 40% renewable energy by 2030, Transcending Oil found that advancing targets to 84% by 2030 create up to 3,500 additional jobs per year that pay \$3-7 more per hour than Hawai'i's \$20 median wage, and drive nearly \$2.9 billion in additional investment by accelerating its clean energy transformation.

Mahalo for the opportunity to provide testimony on this legislation.

Sincerely,



Aki Marceau
Managing Director, Policy & Community



O`ahu County Committee on Legislative Priorities (OCCLP)

HOUSE OF REPRESENTATIVES
THE THIRTIETH LEGISLATURE
REGULAR SESSION OF 2019

COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Rep. Nicole E. Lowen, Chair
Rep. Tina Wildberger, Vice Chair

Rep. Sharon E. Har Rep. Ryan I. Yamane
Rep. David A. Tarnas Rep. Cynthia Thielen
Rep. Chris Todd

DATE: Tuesday, January 29, 2019
TIME: 8:30 AM
PLACE: Conference Room 325. State Capitol
 415 South Beretania Street

RE: HB 550 Relating to Renewable Energy

Aloha mai kakou Members of the House Committee on Environmental Protection:

The O`ahu County Committee on Legislative Priorities (OCCLP) of the Democratic Party of Hawai`i (DPH) hereby submits its testimony in **SUPPORT of HB 550 relating Renewable Energy**.

HB 550 amends the definition of “renewable portfolio standard” to more accurately reflect the percentage of renewable energy use in the State. It establishes renewable portfolio standards and targets for gas utility companies that are similar to those set for electric utility companies.

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

DPH Legislators should seek to achieve energy sustainability based on renewable energy sources. . . . DPH Legislators should urgently develop the use of a variety of cost-effective energy

providing systems, encourage transit-oriented development, and support tax incentives that encourage renewable energy initiatives.

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

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

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

DPH will work to expand access to cost-saving renewable energy by low-income households, create good-paying jobs in communities that struggled with energy poverty, and oppose efforts by utilities to limit consumer choice or slow clean energy deployment. DPH encourages the State to streamline permitting to accelerate the construction of new transmission lines to get low-cost renewable energy to market, and incentivize wind, solar, and other renewable energy. *Democratic Party of Hawai'i Platform (2018), pp. 17, ln. 43-48, p.18, ln. 1-34.*

For these reasons, the OCCLP supports and urges the passage of HB 550 out of committee on Environmental Protection.

Mahalo nui loa
Me ka `oia`i`o

/s/ Melodie Aduja

Melodie Aduja

Chair, O`ahu County Committee on Legislative Priorities of the Democratic Party of
Hawai`i

Ph. (808) 258-8889

Email: legislativepriorities@gmail.com

HB-550

Submitted on: 1/28/2019 8:29:41 AM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
David Mulinix	Our Revolution Hawaii	Support	No

Comments:

Aloha Chair Lowen, Vice Chair Wildberger, and Committee members,

am writing in strong support of **HB550**. This bill would amend the renewable portfolio standard (RPS) to more accurately reflect the percentage of renewable energy penetration in the State. It also establishes a RPS and targets for gas utility companies that mirrors those set for electric utility companies, in addition to accelerating our adoption of renewable energy.

We need to fix the critical flaws in our RPS that would prevent us from ensuring a full and fair transition to clean energy. We must not undermine our own efforts to achieve our 100% renewable energy goal.

A suggested amendment is to apply the gas utility RPS to include all regulated activities of the gas company, rather than just "electrical energy generation" as gas can be burned for other purposes, all of which need monitoring and regulation.

An additional critical amendment is regarding the targets set to achieve 100% renewable energy. The recently released UN IPCC report makes clear we must limit warming to 1.5 degrees Celsius and that to do this it requires a major and immediate transformation across all sectors to achieve the needed emissions reductions. That said, I emphatically recommend that we further accelerate our adoption of renewable energy with a target of 100% clean energy by 2030. The science tells us that 2045 is woefully too late, and that we all can and must do better or suffer the extinction of thousands of species on this planet, including our own.

Let Hawaii set an example for others around the globe and show what true climate leadership means. This is for our own sake, and for that of everything else on this planet.

Mahalo for the opportunity to testify in **strong support** of this very important bill with the recommended amendments stated.

Dave Mulinix
Our Revolution Hawaii



To: The House Committee on Energy & Environmental Protection
From: Brodie Lockard, Hawaii State Climate Lead, Organizing for Action
Date: Tuesday, January 29, 2019, 8:30 am

In strong support of HB 550

Dear EEP Chair Lowen, Vice Chair Wildberger and Committee Members—

Organizing for Action strongly supports HB 550, with an amendment that it applies to all regulated activities of the gas company, rather than just "grid connected electrical energy generation."

Whatever LNG is used for, it will eventually be burned, and it's the burning that needs monitoring and regulation. Grid connected electrical energy generation may be only a small part of its use. Hawaii Gas's website says it's used for heat, hot water, "manufacturing processes, drying, cooling," and "natural gas can also be used for ... electricity production, ground and marine transportation and various industrial applications."

LNG has no place in Hawaii's clean energy future and makes our dependence on imported, dirty fossil fuels worse, not better. Using less (or none) of it would also send a message to suppliers that it's high time they get out of that destructive business and focus on clean energy instead.

It's unfortunate that many other states aren't taking climate change seriously. We are, to a point, but we should be taking every possible action to combat it, to set an example, to save our own skins, and for the sake of everything else that lives on Earth. Now that we have a 100% clean energy goal, many Hawaii residents may think, "Well, we're good. Nothing else needs to be done." That's clearly not the case. There is plenty more we can do.

According to the newest IPCC report, governments **at all levels** around the world must take "rapid, far-reaching and unprecedented changes in all aspects of society" to avoid catastrophic levels of global warming. It says the planet will reach the crucial threshold of 1.5 degrees Celsius above pre-industrial levels as early as 2030, precipitating the risk of extreme drought, wildfires, floods and food shortages for hundreds of millions of people. We cannot wait 27 years to achieve our 100% renewable energy goal. We must act now with the urgency of war to fight climate change and accelerate our actions, setting a target of no later than 2030 for fully zero-emission energy. We're depending on you.

Thank you for the opportunity to testify.

Brodie Lockard
Hawaii State Climate Lead, Organizing for Action



Email: communications@ulupono.com

HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION
Tuesday, January 29, 2019 — 8:30 a.m. — Room 325

Ulupono Initiative Supports the Intent with Comments on HB 550, Relating to Renewable Energy

Dear Chair Lowen, Vice Chair Wildberger, and Members of the Committee:

My name is Murray Clay and I am Managing Partner of the Ulupono Initiative, a Hawai'i-based impact investment firm that strives to improve the quality of life for the people of Hawai'i by working toward solutions that create more locally produced food; increase affordable, clean, renewable energy; and better management of waste and fresh water. Ulupono believes that self-sufficiency is essential to our future prosperity and will help shape a future where economic progress and mission-focused impact can work hand in hand.

Ulupono supports the intent with comments on HB 550, which amends the definition of “renewable portfolio standard” to more accurately reflect the percentage of renewable energy use in the State, because it aligns with our goal of increasing the production of clean, renewable energy in Hawai'i.

Under the current definition, the double counting of renewable distributed energy resources by using “sales” instead of “generation” in the denominator results in the RPS that overstates our actual progress. For the 2020 goal of 30 percent, the actual renewable generation as a percentage of total generation is approximately 25 percent. Similarly, for the 2030 RPS goal of 40 percent, the actual renewable generation is 28 percent.

In addition, by requiring all grid connected electric utility generation to be 100% renewable by 2045, the Legislature is addressing grid connected cogeneration, which closes that loophole. Furthermore, the electric utilities can use this language in the justification for approving or denying interconnections to new generation units that use fossil fuel energy.

With regards to establishing a renewable portfolio standard for the gas utility, while Ulupono is supportive in concept of having the gas utility move towards renewable energy as well, it is important to note that the commercial availability and price competitiveness of renewable gas is significantly behind that of renewable electricity. Solar, wind, geothermal,

Investing in a Sustainable Hawai'i



and other sources of renewable electricity are generally more widely available and more cost competitive with fossil fuel based electricity. For example, much of the renewable electricity in Hawaii comes from customer sited (rooftop) PV. We are aware of no commercially available technologies for customers to generate their own renewable gas at home. Renewable natural gas technologies certainly exist but pushing the gas utility to go to renewable sources as quickly as the electric utility (100% by 2045) ignores current market and technological realities. Establishing an RPS for the gas utility should be done after careful study and that effort should not be used as a reason to delay fixing the electric utility RPS definition.

As Hawai'i's energy issues become more complex and challenging, we appreciate this committee's efforts to look at policies that support renewable energy production.

Thank you for this opportunity to testify.

Respectfully,

Murray Clay
Managing Partner

HB-550

Submitted on: 1/28/2019 11:57:27 AM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Joseph Kohn MD	We Are One, Inc. - www.WeAreOne.cc - WAO	Support	No

Comments:

There is no rational reason to pollute our own environment or destroy ecosystems.

www.WeAreOne.cc

HB-550

Submitted on: 1/27/2019 1:59:25 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

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

Comments:

Aloha Chair Lowen, Vice Chair Wildberger, and Committee members,

I am writing in strong support of **HB550**. This bill would amend the renewable portfolio standard (RPS) to more accurately reflect the percentage of renewable energy penetration in the State. It also establishes a RPS and targets for gas utility companies that mirrors those set for electric utility companies, in addition to accelerating our adoption of renewable energy.

We need to fix the critical flaws in our RPS that would prevent us from ensuring a full and fair transition to clean energy. We must not undermine our own efforts to achieve our 100% renewable energy goal.

A suggested amendment is to apply the gas utility RPS to include all regulated activities of the gas company, rather than just "electrical energy generation" as gas can be burned for other purposes, all of which need monitoring and regulation.

An additional critical amendment is regarding the targets set to achieve 100% renewable energy. The recently released UN IPCC report makes clear we must limit warming to 1.5 degrees Celsius and that to do this it requires a major and immediate transformation across all sectors to achieve the needed emissions reductions. That said, I emphatically recommend that we further accelerate our adoption of renewable energy with a target of 100% clean energy by 2030. The science tells us that 2045 is woefully too late, and that we all can and must do better or suffer the extinction of thousands of species on this planet, including our own.

Let Hawaii set an example for others around the globe and show what true climate leadership means. This is for our own sake, and for that of everything else on this planet.

Mahalo for the opportunity to testify in **strong support** of this very important bill with the recommended amendments stated.

Additional Points for HB550:

***The UN IPCC report highlights how ambitious climate action brings many benefits for shared prosperity and economic stability — more jobs, increased energy access, access to sustainable transportation and health improvements, to name a few. We need to accelerate our RPS target and move to 100% clean renewable energy by 2030 for the sake of climate stability, and for the needed economic benefits it will bring to Hawaii.

***Hawaii's fossil fuel companies have cited cost as a factor when submitting testimony in opposition to bills similar to HB550 in the past. But they never mention the **full costs** which should be factored in, such as the costs our island state must now face with regards to climate resiliency and mitigation efforts as a result of climate change.

The Hawaii Sea Level Rise Vulnerability and Adaptation Report estimates the lost value of flooded structures and land will be over \$19 billion when, as predicted, sea levels rise 3.2 feet, which is now predicted to be by as soon as midcentury. This doesn't even account for the impact to our visitor economy or to our natural resources, or the impact to our roads and other infrastructure.

***Governments around the world must take “rapid, far-reaching and unprecedented changes in all aspects of society” to avoid catastrophic levels of global warming, according to the new IPCC report. It says the planet will reach the crucial threshold of 1.5 degrees Celsius above pre-industrial levels as early as 2030, precipitating the risk of extreme drought, wildfires, floods and food shortages for hundreds of millions of people. We cannot wait 27 years to achieve our 100% renewable energy goal. We are facing a global emergency and crisis. We must act now with urgency to fight climate change and accelerate our actions, setting a target of no later than 2030 for 100% clean, renewable energy. We're depending on you.

Sincerely,

Jonathan Boyne

96822

HB-550

Submitted on: 1/27/2019 2:02:03 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Carolynn Bell-Tuttle	Individual	Support	No

Comments:

Aloha Chair Lowen, Vice Chair Wildberger, and Committee members,

I am writing in strong support of **HB550**. This bill would amend the renewable portfolio standard (RPS) to more accurately reflect the percentage of renewable energy penetration in the State. It also establishes a RPS and targets for gas utility companies that mirrors those set for electric utility companies, in addition to accelerating our adoption of renewable energy.

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Let Hawaii set an example for others around the globe and show what true climate leadership means. This is for our own sake, and for that of everything else on this planet.

Mahalo for the opportunity to testify in **strong support** of this very important bill with the recommended amendments stated.

HB-550

Submitted on: 1/27/2019 2:21:26 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

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

Comments:

Our climate crisis requires that we get serious about truly weaning ourselves from all forms of fossil fuel. Any and all loopholes that permit sustained dependency of all forms of fossil energy (oil, natural gas, coal) and those that result in increased CO2 emissions prevent us from achieving our clean energy goals in a timely manner. I'm sure you've learned from many scientific quarters and, most recently, from the UN IPCC, that we don't have a lot of time left to address our climate crisis.

Please act on behalf of our children, grandchildren, and generations to come. Please support HB550.

Noel Morin

HB-550

Submitted on: 1/27/2019 3:04:42 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Noel Bobilin	Individual	Support	No

Comments:

Aloha Chair Lowen, Vice Chair Wildberger, and Committee members,

I am writing in strong support of **HB550**. This bill would amend the renewable portfolio standard (RPS) to more accurately reflect the percentage of renewable energy penetration in the State. It also establishes a RPS and targets for gas utility companies that mirrors those set for electric utility companies, in addition to accelerating our adoption of renewable energy.

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Let Hawaii set an example for others around the globe and show what true climate leadership means. This is for our own sake, and for that of everything else on this planet.

Mahalo for the opportunity to testify in **strong support** of this very important bill with the recommended amendments stated.

Additional Points for HB550:

***The UN IPCC report highlights how ambitious climate action brings many benefits for shared prosperity and economic stability — more jobs, increased energy access, access to sustainable transportation and health improvements, to name a few. We need to accelerate our RPS target and move to 100% clean renewable energy by 2030 for the sake of climate stability, and for the needed economic benefits it will bring to Hawaii.

***Hawaii's fossil fuel companies have cited cost as a factor when submitting testimony in opposition to bills similar to HB550 in the past. But they never mention the **full costs** which should be factored in, such as the costs our island state must now face with regards to climate resiliency and mitigation efforts as a result of climate change.

The Hawaii Sea Level Rise Vulnerability and Adaptation Report estimates the lost value of flooded structures and land will be over \$19 billion when, as predicted, sea levels rise 3.2 feet, which is now predicted to be by as soon as midcentury. This doesn't even account for the impact to our visitor economy or to our natural resources, or the impact to our roads and other infrastructure.

***Governments around the world must take "rapid, far-reaching and unprecedented changes in all aspects of society" to avoid catastrophic levels of global warming, according to the new IPCC report. It says the planet will reach the crucial threshold of 1.5 degrees Celsius above pre-industrial levels as early as 2030, precipitating the risk of extreme drought, wildfires, floods and food shortages for hundreds of millions of people. We cannot wait 27 years to achieve our 100% renewable energy goal. We are facing a global emergency and crisis. We must act now with urgency to fight climate change and accelerate our actions, setting a target of no later than 2030 for 100% clean, renewable energy. We're depending on you.

HB-550

Submitted on: 1/27/2019 3:40:56 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Kanani Kai	Individual	Support	No

Comments:

Linda J. Morgan

P. O. Box 377406

Ocean View, HI 96737

Hawaii State House of Representatives

Jan. 27, 2019

Dear Representatives:

I strongly support HB550 because it is a measure that would help reduce global climate change. I moved here eighteen years ago from Paradise, CA. Five of my family members and many friends lost everything in the Camp Fire on Nov. 8, 2019. Each of them barely escaped with their life and only the clothes they wore. This horrific fire was partly caused by a drought related to climate change. A wildfire like this could easily happen in my home town of Ocean View on the Big Island, especially since we have only one fire hydrant in the whole community.

We need to do everything possible to reverse climate change and reduce its dangers. Please pass HB550.

Sincerely,

Linda J. Morgan

HB-550

Submitted on: 1/27/2019 5:57:32 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

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

Comments:

Aloha Chair Lowen, Vice Chair Wildberger, and Committee members,

I am writing in strong support of HB550. This bill would amend the renewable portfolio standard (RPS) to more accurately reflect the percentage of renewable energy penetration in the State. It also establishes a RPS and targets for gas utility companies that mirrors those set for electric utility companies, in addition to accelerating our adoption of renewable energy.

We need to fix the critical flaws in our RPS that would prevent us from ensuring a full and fair transition to clean energy. We must not undermine our own efforts to achieve our 100% renewable energy goal.

A suggested amendment is to apply the gas utility RPS to include all regulated activities of the gas company, rather than just "electrical energy generation" as gas can be burned for other purposes, all of which need monitoring and regulation.

An additional critical amendment is regarding the targets set to achieve 100% renewable energy. The recently released UN IPCC report makes clear we must limit warming to 1.5 degrees Celsius and that to do this it requires a major and immediate transformation across all sectors to achieve the needed emissions reductions. That said, I emphatically recommend that we further accelerate our adoption of renewable energy with a target of 100% clean energy by 2030. The science tells us that 2045 is woefully too late, and that we all can and must do better or suffer the extinction of thousands of species on this planet, including our own.

Let Hawaii set an example for others around the globe and show what true climate leadership means. This is for our own sake, and for that of everything else on this planet.

Mahalo for the opportunity to testify in strong support of this very important bill with the recommended amendments stated.

Koohan Paik-Mander

P.O. Box 5133

Honokaa, HI 96727

HB-550

Submitted on: 1/27/2019 6:33:37 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Peggy McArdle	Individual	Support	No

Comments:

Aloha. I fully support. Mahalo.

HB-550

Submitted on: 1/27/2019 6:57:54 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

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

Comments:

Aloha Chair Lowen, Vice Chair Wildberger, and Committee members,

I am writing in strong support of HB550. This bill would amend the renewable portfolio standard (RPS) to more accurately reflect the percentage of renewable energy penetration in the State. It also establishes a RPS and targets for gas utility companies that mirrors those set for electric utility companies, in addition to accelerating our adoption of renewable energy.

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An additional critical amendment is regarding the targets set to achieve 100% renewable energy. The recently released UN IPCC report makes clear we must limit warming to 1.5 degrees Celsius and that to do this it requires a major and immediate transformation across all sectors to achieve the needed emissions reductions. That said, I emphatically recommend that we further accelerate our adoption of renewable energy with a target of 100% clean energy by 2030. The science tells us that 2045 is woefully too late, and that we all can and must do better or suffer the extinction of thousands of species on this planet, including our own.

Let Hawaii set an example for others around the globe and show what true climate leadership means. This is for our own sake, and for that of everything else on this planet.

Mahalo for the opportunity to testify in strong support of this very important bill with the recommended amendments stated.

Sincerely,

Emily Garland

119 Kapiolani Street, Apartment 4

Hilo, HI 96720

HB-550

Submitted on: 1/27/2019 7:02:27 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

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

Comments:

Aloha Chair Lowen, Vice Chair Wildberger, and Committee members,

I am writing in strong support of HB550. This bill would amend the renewable portfolio standard (RPS) to more accurately reflect the percentage of renewable energy penetration in the State. It also establishes a RPS and targets for gas utility companies that mirrors those set for electric utility companies, in addition to accelerating our adoption of renewable energy.

We need to fix the critical flaws in our RPS that would prevent us from ensuring a full and fair transition to clean energy. We must not undermine our own efforts to achieve our 100% renewable energy goal.

A suggested amendment is to apply the gas utility RPS to include all regulated activities of the gas company, rather than just "electrical energy generation" as gas can be burned for other purposes, all of which need monitoring and regulation.

An additional critical amendment is regarding the targets set to achieve 100% renewable energy. The recently released UN IPCC report makes clear we must limit warming to 1.5 degrees Celsius and that to do this it requires a major and immediate transformation across all sectors to achieve the needed emissions reductions. That said, I emphatically recommend that we further accelerate our adoption of renewable energy with a target of 100% clean energy by 2030. The science tells us that 2045 is woefully too late, and that we all can and must do better or suffer the extinction of thousands of species on this planet, including our own.

Let Hawaii set an example for others around the globe and show what true climate leadership means. This is for our own sake, and for that of everything else on this planet.

Mahalo for the opportunity to testify in strong support of this very important bill with the recommended amendments stated.

Barbara Hershey

PO Box 156

pepeekeo, HI 96783

HB-550

Submitted on: 1/27/2019 7:20:49 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
sharon Levine	Individual	Support	No

Comments:

Aloha Chair Lowen, Vice Chair Wildberger, and Committee members,

I am writing in strong support of HB550. This bill would amend the renewable portfolio standard (RPS) to more accurately reflect the percentage of renewable energy penetration in the State. It also establishes a RPS and targets for gas utility companies that mirrors those set for electric utility companies, in addition to accelerating our adoption of renewable energy.

We need to fix the critical flaws in our RPS that would prevent us from ensuring a full and fair transition to clean energy. We must not undermine our own efforts to achieve our 100% renewable energy goal.

A suggested amendment is to apply the gas utility RPS to include all regulated activities of the gas company, rather than just "electrical energy generation" as gas can be burned for other purposes, all of which need monitoring and regulation.

An additional critical amendment is regarding the targets set to achieve 100% renewable energy. The recently released UN IPCC report makes clear we must limit warming to 1.5 degrees Celsius and that to do this it requires a major and immediate transformation across all sectors to achieve the needed emissions reductions. That said, I emphatically recommend that we further accelerate our adoption of renewable energy with a target of 100% clean energy by 2030. The science tells us that 2045 is woefully too late, and that we all can and must do better or suffer the extinction of thousands of species on this planet, including our own.

Let Hawaii set an example for others around the globe and show what true climate leadership means. This is for our own sake, and for that of everything else on this planet.

Mahalo for the opportunity to testify in strong support of this very important bill with the recommended amendments stated.

Shar Levine

84-265 Farrington Hwy

Waianae, Hi. 96792

HB-550

Submitted on: 1/27/2019 8:46:33 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Vivien Lee	Individual	Support	No

Comments:

HB-550

Submitted on: 1/27/2019 9:18:39 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
L.M. Holmes	Individual	Support	No

Comments:

Aloha Chair Lowen, Vice Chair Wildberger, and Committee members,

I am writing in strong support of HB550. This bill would amend the renewable portfolio standard (RPS) to more accurately reflect the percentage of renewable energy penetration in the State. It also establishes a RPS and targets for gas utility companies like those set for electric utility companies, in addition to accelerating our adoption of renewable energy.

We need to fix the critical flaws in our RPS that would prevent us from ensuring a full and fair transition to clean energy. We must not undermine our own efforts to achieve our 100% renewable energy goal.

A suggested amendment is to apply the gas utility RPS to include all regulated activities of the gas company, rather than just "electrical energy generation" as gas can be burned for other purposes, all of which need monitoring and regulation.

An additional critical amendment is regarding the targets set to achieve 100% renewable energy. The recently released UN IPCC report makes clear we must limit warming to 1.5 degrees Celsius and that to do this it requires a major and immediate transformation across all sectors to achieve the needed emissions reductions. That said, I emphatically recommend that we further accelerate our adoption of renewable energy with a target of 100% clean energy by 2030. The science tells us that 2045 is woefully too late, and that we all can and must do better or suffer the extinction of thousands of species on this planet, including our own.

Let Hawaii set an example for others around the globe and show what true climate leadership means. This is for our own sake, and for that of everything else on this planet.

Mahalo for the opportunity to testify in strong support of this very important bill, and recommended amendments.

Dr. Lorna Holmes

215 N. King St. #910 Honolulu, HI 96817

I strongly support HB 550. There is a climate change problem, and Hawai'i is in a unique position to be a leader in renewable energy and reducing carbon pollution so we can ensure the health of our planet and our children and their children...and so on for 7 generations! We must work on the 100% renewable energy target with much more conviction! 2045 is too late! **HB 550** would amend the renewable portfolio standard (RPS) to more accurately reflect the percentage of renewable energy penetration in the State. It also establishes a RPS and targets for gas utility companies that mirrors those set for electric utility companies, in addition to accelerating our adoption of renewable energy.

A suggested amendment is to apply the gas utility RPS to include all regulated activities of the gas company, rather than just "electrical energy generation" as gas can be burned for other purposes, all of which need monitoring and regulation.

Thank you for accepting my testimony and for acting on behalf of the people of Hawai'i and generations to come.

HB-550

Submitted on: 1/27/2019 10:19:31 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Janet Pappas	Individual	Support	No

Comments:

Dear Legislators,

I fully support HB550 regarding the State's renewable energy goals. Currently, the calculation of the "renewable portfolio standard" in Hawaii is based on electrical energy _sales_ rather than on electrical energy _generation_ resulting in Hawaii's renewable energy percentage appearing to be higher than it actually is. HB550 corrects this calculation.

Also, Hawaii gas utilities using fossil fuel-based gas are not included in the calculation at all, again making it appear that we are using more renewables than is actually the case. HB550 lays out a path to renewables for gas utilities, ensuring a phase-out of fossil fuel sources.

Let's correct these calculations and business practices and be honest about where we stand in reaching Hawaii's goal of 100% renewable energy by 2045 or--hopefully--sooner.

I ask for your support of HB550 to put our State on the road to 100% clean energy.

Thank you.

Sincerely,

Jan Pappas

Aiea, Hawaii

HB-550

Submitted on: 1/28/2019 12:35:02 AM

Testimony for EEP on 1/29/2019 8:30:00 AM

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

Comments:

HB-550

Submitted on: 1/28/2019 12:56:02 AM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Doug Pyle	Individual	Support	No

Comments:

Aloha Chair Lowen, Vice Chair Wildberger, and Committee members,

My name is Douglas Pyle, and I am writing as an individual in strong support of HB550. I thank you for this opportunity to provide brief testimony on a bill important in the effort to reduce the rate and magnitude of harmful, fossil-fuel related climate change.

I support a suggested amendment to apply the gas utility RPS to include all regulated activities of the gas company, rather than just "electrical energy generation" as gas can be burned for other purposes, all of which need monitoring and regulation.

An additional critical amendment is regarding the targets set to achieve 100% renewable energy. The recently released UN IPCC report makes clear we must limit warming to 1.5 degrees Celsius and that to do this it requires a major and immediate transformation across all sectors to achieve the needed emissions reductions. That said, I emphatically recommend that we further accelerate our adoption of renewable energy with a target of 100% clean energy by 2030. The science tells us that 2045 is woefully too late.

HB-550

Submitted on: 1/28/2019 7:07:58 AM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Harriet Burkholder	Individual	Support	No

Comments:

HB-550

Submitted on: 1/28/2019 7:46:35 AM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Lana Brodziak	Individual	Support	No

Comments:

Please support HB550 and 100% Clean Energy by 2030! Mahalos for your support!

HB-550

Submitted on: 1/28/2019 8:38:01 AM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Dean Cail	Individual	Support	No

Comments:

Hawaii needs to be the leader in renewables, with our abundant sun and wind.

HB-550

Submitted on: 1/28/2019 9:06:35 AM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Elif Beall	Individual	Support	No

Comments:

Aloha Chair Lowen, Vice Chair Wildberger, and Committee members,

I am writing in strong support of HB550. This bill would amend the renewable portfolio standard (RPS) to more accurately reflect the percentage of renewable energy penetration in the State. It also establishes a RPS and targets for gas utility companies that mirrors those set for electric utility companies, in addition to accelerating our adoption of renewable energy.

We need to fix the critical flaws in our RPS that would prevent us from ensuring a full and fair transition to clean energy.

The Hawaii Sea Level Rise Vulnerability and Adaptation Report estimates the lost value of flooded structures and land will be over \$19 billion when, as predicted, sea levels rise 3.2 feet, which is now predicted to be by as soon as midcentury. This doesn't even account for the impact to our visitor economy or to our natural resources, or the impact to our roads and other infrastructure. I live on Kauai, which after Oahu, is going to be hardest hit.

So, we must not undermine our own efforts to achieve the State's 100% renewable energy goal. A suggested amendment is to apply the gas utility RPS to include all regulated activities of the gas company, rather than just "electrical energy generation" as gas can be burned for other purposes, all of which need monitoring and regulation.

An additional critical amendment is regarding the targets set to achieve 100% renewable energy. The recently released UN IPCC report makes clear we must limit warming to 1.5 degrees Celsius and that to do this it requires a major and immediate transformation across all sectors to achieve the needed emissions reductions. That said, I emphatically recommend that we further accelerate our adoption of renewable energy with a target of 100% clean energy by 2030. The science tells us that 2045 is woefully too late, and that we all can and must do better or suffer the extinction of thousands of species on this planet, including our own.

Let Hawaii set an example for others around the globe and show what true climate leadership means. This is for our own sake, and for that of everything else on this planet.

Mahalo for the opportunity to testify in strong support of this very important bill with the recommended amendments stated.

With Aloha,

Elif Beall

HB-550

Submitted on: 1/28/2019 9:08:24 AM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Malachy Grange	Individual	Support	No

Comments:

Dear Chair, Co-Chair and Members of the Committee

The UN IPCC report highlights how ambitious climate action brings many benefits for shared prosperity and economic stability — more jobs, increased energy access, access to sustainable transportation and health improvements, to name a few. We need to accelerate our RPS target and move to 100% clean renewable energy by 2030 for the sake of climate stability, and for the needed economic benefits it will bring to Hawaii.

-Hawaii’s fossil fuel companies have cited cost as a factor when submitting testimony in opposition to bills similar to HB550 in the past. But they never mention the full costs which should be factored in, such as the costs our island state must now face with regards to climate resiliency and mitigation efforts as a result of climate change.

The Hawaii Sea Level Rise Vulnerability and Adaptation Report estimates the lost value of flooded structures and land will be over \$19 billion when, as predicted, sea levels rise 3.2 feet, which is now predicted to be by as soon as midcentury. This doesn’t even account for the impact to our visitor economy or to our natural resources, or the impact to our roads and other infrastructure.

-Governments around the world must take “rapid, far-reaching and unprecedented changes in all aspects of society” to avoid catastrophic levels of global warming, according to the new IPCC report. It says the planet will reach the crucial threshold of 1.5 degrees Celsius above pre-industrial levels as early as 2030, precipitating the risk of extreme drought, wildfires, floods and food shortages for hundreds of millions of people. We cannot wait 27 years to achieve our 100% renewable energy goal. We are facing a global emergency and crisis. We must act now with urgency to fight climate change and accelerate our actions, setting a target of no later than 2030 for 100% clean, renewable energy. We’re depending on you.

HB-550

Submitted on: 1/28/2019 9:46:55 AM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Randy Ching	Individual	Support	No

Comments:

Aloha Chair Lowen, Vice Chair Wildberger, and Committee members,

I am writing in strong support of HB550. This bill would amend the renewable portfolio standard (RPS) to more accurately reflect the percentage of renewable energy penetration in the State. It also establishes a RPS and targets for gas utility companies that mirrors those set for electric utility companies, in addition to accelerating our adoption of renewable energy.

Please consider moving the 100% RPS target from 2045 to 2030. The IPCC report states that we have till 2030 to make substantive changes (i.e. stop burning fossil fuels, including natural gas) if we want to keep warming to 1.5 degrees C.

Mahalo for the opportunity to testify in strong support of this very important bill with the recommended amendments stated.

Randy Ching

Honolulu (makikirandy@yahoo.com)



HAWAII TEAMSTERS AND ALLIED WORKERS, LOCAL 996

Affiliated with the International Brotherhood of Teamsters

1817 Hart Street
Honolulu, Hawaii 96819-3205

Telephone: (808) 847-6633
Fax: (808) 842-4575

Testimony to the House Committees on Energy & Environmental Protection, Consumer Protection and Commerce, and Finance

Tuesday, January 29, 2019 8:30 a.m.
Conference Room 335, State Capitol

RE: House Bill 550 – Relating to Renewable Energy

Chair Lowen, Vice Chair Wildberger and Members of the Energy & Environmental Policy Committee:

Chair Takumi, Vice Chair Ichiyama and Members of the House Committee on Consumer Protection and Commerce:

Chair Luke, Vice Chair Cullen and Members of the House Committee on Finance:

The Hawaii Teamsters and Allied Workers, Local 996 stands opposed to HB 550.

HB 550 would inflate both utility and non-utility costs for our members, and other consumers by imposing similar Renewable Portfolio Standards language related to electric utility companies onto gas utility companies. The proposal regarding the application of RNP language is unfair because no policies have been created in respect to the gas industry specifically.

Gas based technologies have been an affordable, reliable, and resilient energy and have provided for the State of Hawai'i's growing population for many generations, especially during times of natural disasters. RNP standards on Electric utilities has shown to increase utility and non-utility costs for consumers.

HB550 would impair consumers the ability to choose between affordable, and less affordable is counterproductive in establishing an affordable Hawai'i by raising the cost of living. Applying similar RNP language to gas which is unrelated to electric would consequently raise gas utility, and non-utility costs and hurt already struggling Hawai'i residents by reducing the Gas industry's competitiveness.

The utility should not be forced into mandates which ignores the industry's complexity, and comes with hefty costs lacking benefits to consumers at a time where majority of Hawai'i households face financial uncertainty.

Thank you for the opportunity to testify on HB 550

Sincerely,

Cody Sula
Government Affairs Liaison
Hawaii Teamsters and Allied Workers, Local 996

HB-550

Submitted on: 1/28/2019 1:03:07 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Hermina Morita	Individual	Oppose	No

Comments:

Aloha Chair Lowern and Members of the Committee:

While renewable energy is an important factor in the development of a low carbon future, I would like to caution the Legislature’s enthusiasm in trying to apply a renewable portfolio standard (RPS) beyond the electricity utility sector without a good understanding of resource availability and affordability, and infrastructure and market challenges of the gas sector which may inadvertently increase costs for Hawaii’s residents and businesses.

While Section 1, page 3, line 21 to page 4, lines 1-2 “requires all gas sold for grid-connected electrical energy generation by regulated gas utility operations in the State to become more renewable over time,” it appears that Section 2 of House Bill 550 actually applies to all net gas sales, not just “grid-connected electrical energy generation.” It is my understanding the primary use of gas (SNG and propane) is for cooking and water-heating, not distributed electricity generation.

The purpose clause states that applying the RPS to the gas utility is “simple, fairest, and most effective solution.” Over a decade ago, the RPS was developed for the electricity sector with an understanding of the numerous renewable resources available for electricity generation. Further, the RPS targets were to be reviewed periodically by the Hawaii Natural Energy Institute to ensure that the target were a bit of a stretch yet achievable and cost-effective. Such analysis should be done prior to any kind of action by the Legislature for a better understanding of the gas sector. Moreover, while gas may be a fossil fuel, gas turbines are praised for their higher efficiency, lower cost, flexibility and compatibility to incorporate more renewable resources onto the electrical grid to increase grid reliability and resiliency.

Hawaii’s energy infrastructure is very complex system and renewable energy and an RPS is just one tool to achieve a low/no carbon future. The question that should be asked is, is this the most appropriate and effective tool to help effect lower carbon usage for the Hawaii’s gas utility at this time when the resource and supply for renewable gas stock is uncertain and in development.

Thank you for allowing me to testify on this matter.

Hermína Morita, P.O. Box 791, Hanalei, HI 96714

HB-550

Submitted on: 1/28/2019 1:03:37 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Luana Jones	Individual	Support	No

Comments:



Hawaii Solar Energy Association
Serving Hawaii Since 1977

**TESTIMONY OF THE HAWAII SOLAR ENERGY ASSOCIATION
IN REGARD TO HB 550, RELATING TO RENEWABLE ENERGY
BEFORE THE
HOUSE COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION
TUESDAY, JANUARY 29TH, 2019**

Chair Lowen, Vice-Chair Wildberger, and members of the committee, my name is Will Giese and I am the Executive Director representing the Hawaii Solar Energy Association, Inc. (HSEA).

HSEA **supports** the intent of HB 550 and provides comments. This measure amends the definition of renewable portfolio standard to reflect the true amount of renewable energy penetration in the state.

In order to accurately track the progress of the state of Hawaii towards its 100% renewable portfolio standard goals, accurate definitions are imperative. The original Act 97 contains language that defines “renewable portfolio standard” as the “percentage of electrical energy sales that is represented by renewable electrical energy” (HRS §269-91). Electrical energy sales do not reflect the actual amount of energy being produced or used and leads to misconceptions regarding progress towards a 100% RPS. Renewable energy sales figures would tend to overestimate the amount of renewable energy penetration. As the preamble to this measure correctly points out, the current RPS calculation does not account for the amount of DER installed on the grid on any one island as “renewable”, but rather as a loss in overall sales.

Residential and commercial distributed energy systems. Along with energy efficiency measures and EV adoption, remain the single most impactful way to lower an individual’s electricity bills and reduce their carbon footprint. Additionally, DER deployment remains the single biggest driver towards meeting RPS goals. Accounting for this should be properly tracked and quantified, in order to give policy makers “the whole picture” of the RPS.

The HSEA also agrees with the notion to include the gas utility company within the confines of the RPS. Removing a major utility entity from the same standard that both the traditional utility company and other stakeholders, such as HSEA member-companies, currently abide further blurs proposer RPS accounting and does nothing to incentivize tackling the underlying issue, which is that burning fossil fuels is not beneficial to the state’s energy goals, its environment, or its people.

Finally, increasing the speed at which utilities adopt RPS standards as this bill outlines in §269-92 on page 14-15 is also recommended, although the HSEA suggests that the



Hawaii Solar Energy Association
Serving Hawaii Since 1977

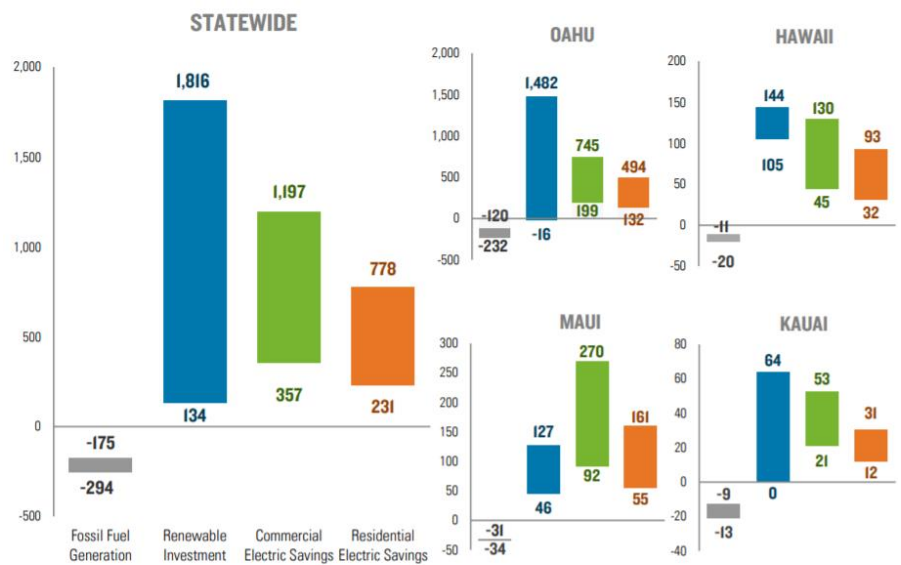
legislature be even more aggressive with these goals. We offer the following amendments to this section:

"269-92 Renewable portfolio standards [---] **for electric utility companies**. (a) Each electric utility company that sells electricity for consumption in the State shall establish a renewable portfolio standard of:

- (1) Ten per cent [~~of its net electricity sales~~] by 18 December 31, 2010; 19
- (2) Fifteen per cent [~~of its net electricity sales~~] by 20 December 31, 2015;
- (3) ~~[Thirty]~~ **Forty per cent** [~~of its net electricity sales~~] by 2 December 31, 2020; 3
- (4) ~~[Forty]~~ ~~[Sixty-five per cent]~~ **Eighty per cent** [~~of its net electricity sales~~] by December 31, 2030;
- (5) ~~[Seventy]~~ ~~[Eighty-five per cent]~~ **Ninety-five per cent** [~~of its net electricity sales~~] by December 31, 2040; and 7
- (6) One hundred per cent [~~of its net electricity sales~~] by 8 December 31, 2045.

Hawaii specific studies such as the “Transcending Oil”¹ report by the Rhodium Group found “that if oil prices remain low and the cost of renewables declines only modestly, the cheapest pathway would achieve 58% renewable energy by 2030—higher than our current goal of 40%. They also found that if oil prices rise and the cost of renewables declines more rapidly, we could achieve 84% renewable energy by 2030 and save the state up to \$7 billion dollars.” These savings are also graphically represented in the same report.²

Figure 3.11: Change in employment from electric sector investment and electricity cost savings
2020-2030 annual average relative to current policy, range of potential



Source: Rhodium Group analysis

It is very simple: **speeding**

¹ <https://www.transcendingoil.com/>

² file:///C:/Users/Will/Downloads/rhodium_transcendingoil_final_report_4-18-2018-final.pdf



Hawaii Solar Energy Association

Serving Hawaii Since 1977

up the RPS = more savings for the state and its people. We further encourage the legislature to look at the possibility of moving the 100% RPS goal to 2035 instead of 2045 as well.

We **support** HB 550 and we urge this committee to pass this measure. Thank you for the opportunity to testify.

Thank you for the opportunity to testify.

HB-550

Submitted on: 1/28/2019 4:14:20 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Kevin Nishimura	Individual	Oppose	No

Comments:

This proposed bill is not realistic. We should pursue solutions that assist in renewable energy alternatives rather than mandating unreasonable or unaffordable "standards" that have no basis for realistic achievability.

HB-550

Submitted on: 1/28/2019 4:30:29 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

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

Comments:

HB-550

Submitted on: 1/28/2019 4:36:32 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

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

Comments:

HB-550

Submitted on: 1/28/2019 4:37:57 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Jared Pasalo	Individual	Oppose	No

Comments:

HB-550

Submitted on: 1/28/2019 4:37:01 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Mustafa Demirbag	Individual	Oppose	No

Comments:

HB-550

Submitted on: 1/28/2019 4:46:10 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Colin Hashiro	Individual	Oppose	No

Comments:

HB-550

Submitted on: 1/28/2019 5:06:37 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Tawnie Bigno	Hawaii Gas	Oppose	No

Comments:

HB-550

Submitted on: 1/28/2019 5:11:32 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Millicent Sakamoto	Individual	Oppose	No

Comments:

HB-550

Submitted on: 1/28/2019 6:25:10 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Ryan Yoshida	Individual	Oppose	No

Comments:

I respect the motivation behind House Bill 550, assuming it is indeed altruistic, but I believe this bill is irresponsible to Hawaii residents.

LATE

LATE

HB-550

Submitted on: 1/28/2019 7:58:20 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

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

Comments:

Aloha Chair Lowen, Vice Chair Wildberger, and Committee members,

I am writing in strong support of **HB550**. This bill would amend the renewable portfolio standard (RPS) to more accurately reflect the percentage of renewable energy penetration in the State. It also establishes a RPS and targets for gas utility companies that mirrors those set for electric utility companies, in addition to accelerating our adoption of renewable energy.

We need to fix the critical flaws in our RPS that would prevent us from ensuring a full and fair transition to clean energy. We must not undermine our own efforts to achieve our 100% renewable energy goal.

A suggested amendment is to apply the gas utility RPS to include all regulated activities of the gas company, rather than just "electrical energy generation" as gas can be burned for other purposes, all of which need monitoring and regulation.

An additional critical amendment is regarding the targets set to achieve 100% renewable energy. The recently released UN IPCC report makes clear we must limit warming to 1.5 degrees Celsius and that to do this it requires a major and immediate transformation across all sectors to achieve the needed emissions reductions. That said, I emphatically recommend that we further accelerate our adoption of renewable energy with a target of 100% clean energy by 2030. The science tells us that 2045 is woefully too late, and that we all can and must do better or suffer the extinction of thousands of species on this planet, including our own.

Let Hawaii set an example for others around the globe and show what true climate leadership means. This is for our own sake, and for that of everything else on this planet.

Mahalo for the opportunity to testify in **strong support** of this very important bill with the recommended amendments stated.

HB-550

Submitted on: 1/28/2019 8:34:59 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Darren Chang	Hawaii Gas	Oppose	No

Comments:

LATE

HB-550

Submitted on: 1/28/2019 9:01:06 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Jared Pasalo	HAWAII GAS	Oppose	No

Comments:

LATE

HB-550

Submitted on: 1/28/2019 10:49:08 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
David Criste	HAWAII GAS	Oppose	No

Comments:

LATE

HB-550

Submitted on: 1/28/2019 11:29:49 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
donovan egloria jr	Individual	Oppose	No

Comments:

LATE

HB-550

Submitted on: 1/28/2019 11:35:41 PM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
D Gomez	Individual	Oppose	No

Comments:

I oppose this bill as written.

LATE



HAWAI'I LODGING & TOURISM
ASSOCIATION

LATE

Testimony of

Mufi Hannemann
President & CEO
Hawai'i Lodging & Tourism Association

Committee on Energy & Environmental Protection
January 29, 2019

House Bill 550: Relating to Renewable Energy

Chair Lowen and members of the Committee, mahalo for the opportunity to submit testimony on behalf of the Hawai'i Lodging & Tourism Association, the state's largest private sector visitor industry organization.

The Hawai'i Lodging & Tourism Association—nearly 700 members strong, representing more than 50,000 hotel rooms and nearly 40,000 lodging workers—respectfully opposes House Bill 550 which mandates a 100-percent renewable energy portfolio by December 31, 2045, on all gas sold for grid-connected electrical energy generation.

The HLTA supports initiatives for a more sustainable future; however, we see the potential for unintended consequences with the language contained in House Bill 550. We foresee the very strict regulation of private industry to comply with another addition to the existing renewable standard portfolio timeline. This one will have a negative impact on large facilities such as our hotels that are currently using, or are in the process of installing, methods of generation such as combined heat and power (CHP) units.

CHP units are supported by the federal government for their efficiency and the role they play in reducing emissions and lowering costs. Additionally, with regard to the matter of energy resiliency in the case of man-made or natural disasters, redundancy and power supply with diverse fuel and diverse generation technology are becoming increasingly important. We believe this bill will not only affect private consumer choice, but due to the lack and high cost of gas, will hurt the entities that are using or planning to use cogeneration as a means of improving efficiency, increasing reliability, diversifying energy options, and lowering costs.

Thank you for the opportunity to offer this testimony.



LATE

January 29, 2019

Representative Nicole E. Lowen, Chair
Representative Tina Wildberger, Vice Chair
House Committee on Energy & Environmental Protection

Comments and Concerns in Opposition and Proposed Amendment to HB 550, Relating to Renewable Energy: Gas, Electric Renewable Portfolio Standards

Tuesday, January 29, 2019, 9:00 a.m., in Conference Room 325

The Land Use Research Foundation of Hawaii (LURF) is a private, non-profit research and trade association whose members include major Hawaii landowners, developers and utility companies. LURF's mission is to advocate for reasonable, rational and equitable land use planning, legislation and regulations that encourage well-planned economic growth and development, while safeguarding Hawaii's significant natural and cultural resources, and public health and safety.

HB 550. The purpose of this bill is to: (1) Change the renewable portfolio standard (RPS) interim goals for 2030 and 2040 to accelerate the adoption of renewable energy; (2) Amend the RPS definition to more accurately reflect the percentage of renewable energy used in the State; and (3) Establish gas utility company RPS for electricity generation. This measure is similar to HB 1801 (2018).

Position. LURF supports the State's goal of 100% renewable energy by 2045, however, we respectfully **oppose** the current version of HB 550 and **propose these amendments:**

- 1.** The RPS goals were established in 2015, and the current proposed changes to the RPS interim goals lack justification; arbitrarily "*moves the goal line*" and may have unintended consequences for electric utilities. LURF respectfully recommends an **amendment to retain the existing RPS goals, subject to review in 2030.**
- 2.** While the changes to the RPS definition may be justified, LURF respectfully recommends an **amendment making the RPS definition change effective from 2030 and beyond.** This is a reasonable timeframe to align the market realities and public policy and also mitigate the concerns of the electric utilities regarding new energy sources.
- 3.** The facts, issues and timing of a new RPS for gas utilities should be studied by experts. LURF respectfully recommends an **amendment to appropriate funds to the Public Utilities Commission to study the feasibility of establishing a RPS for gas utility companies in Hawaii and report to the Legislature next year.**

HB-550

Submitted on: 1/29/2019 6:36:38 AM

Testimony for EEP on 1/29/2019 8:30:00 AM

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

Comments:

Aloha Chair Lowen, Vice Chair Wildberger, and Committee members,

I am writing in strong support of **HB550**. This bill would amend the renewable portfolio standard (RPS) to more accurately reflect the percentage of renewable energy penetration in the State. It also establishes a RPS and targets for gas utility companies that mirrors those set for electric utility companies, in addition to accelerating our adoption of renewable energy.

Let Hawaii set an example for others around the globe and show what true climate leadership means. This is for our own sake, and for that of everything else on this planet.

Mahalo for the opportunity to testify in **strong support** of this very important bill with the recommended amendments stated.

Mahalo,

Caroline Kunitake

LATE

HB-550

Submitted on: 1/29/2019 7:14:26 AM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
EDWIN SAWA	Individual	Oppose	No

Comments:

LATE

HB-550

Submitted on: 1/29/2019 7:24:34 AM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Rene Umberger	Individual	Support	No

Comments:

LATE

LATE

HB-550

Submitted on: 1/29/2019 9:38:05 AM

Testimony for EEP on 1/29/2019 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Dyson Chee	Individual	Support	No

Comments:

I am writing in strong support of **HB550**. This bill would amend the renewable portfolio standard (RPS) to more accurately reflect the percentage of renewable energy penetration in the State. It also establishes a RPS and targets for gas utility companies that mirrors those set for electric utility companies, in addition to accelerating our adoption of renewable energy.

We need to fix the critical flaws in our RPS that would prevent us from ensuring a full and fair transition to clean energy. We must not undermine our own efforts to achieve our 100% renewable energy goal.

A suggested amendment is to apply the gas utility RPS to include all regulated activities of the gas company, rather than just "electrical energy generation" as gas can be burned for other purposes, all of which need monitoring and regulation.

An additional critical amendment is regarding the targets set to achieve 100% renewable energy. The recently released UN IPCC report makes clear we must limit warming to 1.5 degrees Celsius and that to do this it requires a major and immediate transformation across all sectors to achieve the needed emissions reductions. That said, I emphatically recommend that we further accelerate our adoption of renewable energy with a target of 100% clean energy by 2030. The science tells us that 2045 is woefully too late, and that we all can and must do better or suffer the extinction of thousands of species on this planet, including our own.

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Mahalo for the opportunity to testify in **strong support** of this very important bill with the recommended amendments stated.