



DAVID Y. IGE  
GOVERNOR  
SHAN S. TSUTSUI  
LT. GOVERNOR

STATE OF HAWAII  
OFFICE OF THE DIRECTOR  
DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS  
335 MERCHANT STREET, ROOM 310  
P.O. Box 541  
HONOLULU, HAWAII 96809  
Phone Number: 586-2850  
Fax Number: 586-2856  
cca.hawaii.gov

CATHERINE P. AWAKUNI COLÓN  
DIRECTOR  
JO ANN M. UCHIDA TAKEUCHI  
DEPUTY DIRECTOR

TO THE HOUSE COMMITTEE  
ON ENERGY AND ENVIRONMENTAL PROTECTION

TWENTY-NINTH LEGISLATURE  
REGULAR SESSION OF 2018

THURSDAY, JANUARY 25, 2018  
8:30 AM

TESTIMONY OF DEAN NISHINA, EXECUTIVE DIRECTOR, DIVISION OF  
CONSUMER ADVOCACY, DEPARTMENT OF COMMERCE AND CONSUMER  
AFFAIRS, TO THE HONORABLE CHRIS LEE, CHAIR,  
AND MEMBERS OF THE COMMITTEE

HOUSE BILL NO. 1801 - RELATING TO RENEWABLE ENERGY.

**DESCRIPTION:**

This measure amends the definition of “renewable portfolio standard” to more accurately reflect the percentage of renewable energy penetration in the State. It also establishes renewable portfolio standards and targets for gas utility companies that mirror those set for electric utility companies.

**POSITION:**

The Division of Consumer Advocacy (“Consumer Advocate”) supports this bill and offers the following comments.

**COMMENTS:**

The Consumer Advocate supports 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 Renewable Portfolio Standards (“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 more than 100% of generation 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 towards 100% renewable energy across sectors.

The proposed RPS for regulated gas utilities does, however, raise concerns that if the proposed statutory 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 the 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, 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 costs to provide gas. 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.

While the preamble to this bill states "gas-fired *distributed* electrical generation" (emphasis added) may unintentionally promote suboptimal energy investments, the creation of an RPS for gas utilities under proposed HRS sections 269-A(a) and (b) in section 2 of this bill and the definition of "grid-connected" in section 3 of this bill would apply the RPS only to gas utilities that sell gas for grid-connected electrical energy generation. To address the potentially suboptimal investments of and arising from distributed gas-fired electrical generation, the Consumer Advocate respectfully suggests applying the RPS in the proposed statute to all gas utilities companies, whether or not they are grid-connected or regulated.

Thank you for the opportunity to testify on this measure.

TESTIMONY OF RANDY IWASE  
CHAIR, PUBLIC UTILITIES COMMISSION  
STATE OF HAWAII  
TO THE  
HOUSE COMMITTEE ON  
ENERGY & ENVIRONMENTAL PROTECTION

January 25, 2018  
8:30 a.m.

**MEASURE:** H.B. No. 1801  
**TITLE:** RELATING TO RENEWABLE ENERGY.

Chair Lee and Members of the Committee:

**DESCRIPTION:**

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

**POSITION:**

The Public Utilities Commission ("Commission") offers the following comments for consideration.

**COMMENTS:**

The Commission takes no position with respect to establishing a new RPS for the gas utility as proposed in Section 2 and Section 3. The Commission notes at this time it is unclear how the specific data needed to track the gas utility's RPS status would be measured and reported. For example, the gas RPS is based on gas sold for electric generation, yet gas can be used for many other purposes as well. It is unclear how it could be determined whether the gas sold was actually used for electrical energy generation. The gas utility may have additional information regarding their ability to measure and report this data.

The Commission takes no position with respect to redefining the electricity RPS as proposed in Sections 4 and 5. The Commission notes at this time it is unclear how the specific data needed to track the electric utility's RPS status would be measured and reported.

Thank you for the opportunity to testify on this measure.



**DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM**

DAVID Y. IGE  
GOVERNOR

LUIS P. SALAVERIA  
DIRECTOR

MARY ALICE EVANS  
DEPUTY DIRECTOR

No. 1 Capitol District Building, 250 South Hotel Street, 5th Floor, Honolulu, Hawaii 96813  
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804  
Web site: [www.hawaii.gov/dbedt](http://www.hawaii.gov/dbedt)

Telephone: (808) 586-2355  
Fax: (808) 586-2377

Statement of  
**LUIS P. SALAVERIA**  
Director  
Department of Business, Economic Development and Tourism  
before the  
**HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION**  
Thursday, January 25, 2018  
8:30 a.m.  
State Capitol, Conference Room 325  
  
in consideration of  
**HB1801**  
**RELATING TO RENEWABLE ENERGY.**

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

The Department of Business, Economic Development, and Tourism (DBEDT) supports HB1801, which modifies the definition of “renewable portfolio standard (RPS)” for electric utility companies to be based on ‘generation’ instead of ‘sales’ in order to more accurately reflect the percentage of renewable energy penetration in the State. It also establishes a renewable portfolio standard for gas utility companies of 100% by December 31, 2045, that mirrors that set for electric utility companies.

To fully meet the objectives of Act 97, Session Laws of Hawaii (SLH) 2015 establishing the 100% renewable portfolio standard (RPS) by 2045 and Act 38, SLH 2015 aspiring for greater energy security and self-sufficiency through the reduction and ultimate elimination of Hawaii’s dependence on imported fuels for electrical generation, the current method for calculating RPS for electric utility companies must be modified so it can accurately represent the percentage of renewable penetration in Hawaii. This is because the current method of calculating RPS is flawed as it is incongruent to compare ‘renewable electrical energy generation’ to ‘electrical energy sales’. This flaw causes the RPS to be inflated due to the denominator (‘sales’) excluding: (1) customer-sited grid-connected electrical energy generated; and (2) transmission and distribution (T&D) energy losses that occur between the points of electrical energy generation and the customer meter where sales are measured.

Additionally, as Hawaii’s energy sector transitions to renewable energy, it is important that all relevant entities are aligned and that we avoid creating an unfair

playing field that may unintentionally harm consumers by promoting suboptimal long-lived investments in fossil fuels through gas-fired distributed electrical generation.

We strongly encourage the committee to pass this measure and are open to further discussion with other stakeholders on this measure.

Thank you for the opportunity to offer comments in support of HB1801.



Before the House Committee on Energy & Environmental Protection  
Thursday, January 25, 2018, 8:30 a.m., room 325  
HB 1801: RELATING TO RENEWABLE ENERGY

Aloha Chair Lee, Vice Chair Lowen, and members of the Committees,

On behalf of the Distributed Energy Resources Council of Hawaii (“DER Council”), I would like to testify in strong support for HB 1801, which amends the renewable energy portfolio (“RPS”) to more accurately reflect the amount of renewable energy generation in Hawaii based upon electricity generation rather than electricity sales, and which creates an RPS for gas utilities. The DER Council is a nonprofit trade organization formed to assist with the development of distributed energy resources and smart grid technologies to support an affordable, reliable, and sustainable energy supply for Hawaii.

The Hawaii state legislature amended the RPS from 40% renewables for electricity generation by 2030 to 100% renewables for electricity generation by 2045. However, many people and even some stakeholders who have worked closely on these issues mistakenly believe that 100% renewables by 2045 as per our current accounting for the RPS literally means that 100% of all energy generated and sold in Hawaii will come from renewable generation. Instead, because the current language in the RPS, the state’s RPS could actually meet the 100% mandate, but still generate some electricity from fossil fuels. In fact, the more roof top generation that is included in the calculation, the greater the amount of fossil fuels that could be included in the RPS at 100%.

In addition, DERC strongly supports the development of an RPS for gas utilities. Natural gas is another form of fossil fuel, and the use of natural gas for electricity generation should have a reasonable plan to join Hawaii’s 100% renewable energy goal.

The DER Council supports HB 1801 because the proposed amendment clarifies the accounting for the RPS by basing the entire RPS upon electricity generation, and because HB 1801 rightfully includes gas utilities in Hawaii’s 100% renewable mandate. In this way HB 1801 ensures that the RPS will reflect what most think that it already means: a complete independence from imported fossil fuels by 2045.

Thank you for the opportunity to testify

Leslie Cole-Brooks  
Executive Director  
DER Council of Hawaii



To: The Committee on Energy & Environmental Protection (EEP)  
From: Brodie Lockard, 350Hawaii.org  
Date: Wednesday, January 24, 2018  
Re: Support for HB 1801, Relating to Renewable Energy

Dear Chair Lee, Vice Chair Lowen and Committee members--

350Hawaii.org supports HB 1801, 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, both to set an example and to save our own skins. 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.

Thank you for this opportunity to submit testimony in support of HB 1801.

Brodie Lockard  
350Hawaii.org



Email: [communications@ulupono.com](mailto:communications@ulupono.com)

HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION  
Thursday, January 25, 2018 — 8:30 a.m. — Room 325

### **Ulupono Initiative Supports HB 1801 with Amendments, Relating to Renewable Energy**

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

My name is Kyle Datta and I am General Partner of the Ulupono Initiative, a Hawai'i-based impact investment company that strives to improve the quality of life for the people of Hawai'i by working toward solutions that create more locally grown food, increase affordable, renewable energy, and reduce waste. We believe 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 HB 1801 with Amendments**, which fixes the renewable portfolio standard (RPS) for electrical energy by removing the double count from the formula and adding a gas RPS.

Ulupono **strongly supports** the correction to the RPS formula contained in Section 4 on page 11 of HB 1801, modifying Section 269-92, Renewable Electric standards for electric utilities. We concur with the legislative findings in the preamble as to the deficiencies in the current electrical utility RPS formula.

#### **Why is this so important? 100% should mean 100%**

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 24 percent. Similarly, for the 2030 RPS goal of 40 percent, the actual renewable generation is 32 percent. Correcting the formula would save 1.4 MM bbls of oil in 2030 — nearly 3 percent of total state energy use, or the equivalent of adding more than 400 MW of solar power to the grid.

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.

Minor amendments to this subsection include the observation that the language “but excluding electrical generation used exclusively for emergency service in the case of failure of the normal supply from the Hawaii electrical system” is well intentioned, but may be unnecessary because Section 269-92, subpart (f) already contains a large number of exclusions for events outside the company’s reasonable control, that include natural and manmade emergencies. Thus, the additional

*Investing in a Sustainable Hawai'i*



exclusion may create unnecessary record keeping and some confusion.

**Ulupono supports the intent of the applying the RPS to the gas company, raises some concerns**

Ulupono understands the intent of Section 269-A, 269-B, and 269-C is to ensure that gas used for electrical generation is included under the RPS. We support this intent. We raise some concerns about how the language and definitions in Sections 269 and 269-92 will interact.

In Section 269-A, if a regulated gas utility sells gas to a regulated electrical utility, then by 2045, the percent of gas sold (measured in renewable therms/total therms) must equal 100%. We note that once the RPS definition is fixed in Section 269-92, the regulated electrical utility must ensure that all generation is 100% renewable. Thus, under Section 269-92, if a regulated electric utility has a gas fired generator, and continues to use gas, all the gas it purchases, whether from a regulated utility or independent supplier, must be 100% renewable for the regulated electrical utility to be in compliance. Thus, Section 269-92 is more broad, and we are unclear on the benefit of Section 269-A, beyond confirmation that the gas sold from a regulated gas utility to a regulated power company in 2045 is indeed 100% renewable.

Given this, our recommendation is to keep this bill clean and focus on Section 269-92.

Thank you for this opportunity to testify.

Respectfully,

Kyle Datta  
General Partner



49 South Hotel Street, Room 314 | Honolulu, HI 96813  
www.lwv-hawaii.com | 808.531.7448 | voters@lwv-hawaii.com

COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION

THURSDAY, JANUARY 25 , 8:30 AM., Room Number 325  
HB1801, RELATING TO RENEWABLE ENERGY

**TESTIMONY**

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

Chair LEE; Vice-Chair LOWEN, and Committee Members:

**The League of Women Voters of Hawaii SUPPORTS HB1801 and SUGGESTS an amendment. HB1801 would change the definition of the Renewable Portfolio Standard (RPS) contained in Act 97 (2015) to more accurately estimate the percentage of renewable energy in Hawaii's energy portfolio; and would establish an RPS which applies to gas utilities as they generate electricity.**

We definitely support these changes to RPS calculations. It is important to keep track of progress towards Hawaii's goal of 100% renewable energy by 2045 goal. The proposed revision to the definition of RPS will improve the accuracy of measurement of progress, thus enabling policy makers to adjust policies such as incentives if needed to reach our goal.

We also support including gas (a fossil fuel) in calculating an RPS applied to gas-generated electricity, which will level the playing field for the electric and gas utilities, and also more accurately document the amount of renewable energy into Hawaii's energy mix.

However this bill leaves out of consideration the amount of gas used in ways other than electricity generation, for example as a fuel in manufacturing plants and in gas powered stoves, water heaters etc.

We suggest the bill be amended to include all the gas utility's activities which supply energy in Hawaii, not only those which provide electricity.

Thank you for the opportunity to submit testimony.

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

**H.B. No. 1801**

**Relating to Renewable Energy**

Thursday, January 25, 2018

8:30 am

State Capitol, Conference Room 325

Lisa Giang  
Manager, Advanced Planning  
Hawaiian Electric Company, Inc.

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

My name is Lisa Giang 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 strong support of establishing a renewable gas portfolio standard, but in opposition to the timing of the changes proposed to the renewable portfolio standard ("RPS") applying to electric utilities. As such, we cannot support this bill in its current form.

The Companies are in strong support of H.B. 1801 establishing a 100% RPS by 2045 for the gas utilities to align with the State's policy to transition away from fossil fuels and towards renewable energy. The Companies offer the following comments for consideration:

1. To ensure progress towards the 100% RPS by 2045, establish intermediate goals similar to the electric utilities from 2030 on.
2. The gas RPS as written applies to the regulated gas utilities only while the unregulated gas market could remain on fossil fuels and not transition to renewable energy. This would leave a major gap in the State's clean energy policy allowing customers the option to disconnect

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

Our concerns over the proposed changes to the definition of the RPS for electric utilities center on the timing of these changes. The proposed definition includes all grid-connected energy systems – which includes fossil fueled customer-owned generation over which we have no control – and therefore exposes us to non-compliance if customers choose to invest in fossil gas-fired cogeneration. Applying this new definition to our 2020 RPS requirement, which is less than two years away, unfairly increases the risk to us of not achieving the 30% RPS in 2020. Applying the change instead to our 2030 RPS and beyond would be a more reasonable timeframe to align the market realities and public policy, and also mitigate our concern over customer-owned fossil fueled generation as the new renewable gas RPS begins to kick in.

Thank you for this opportunity to testify.



## Testimony to the House Committee On Energy & Environmental Protection

Thursday, January 25, 2018 8:30 a.m.  
Conference Room 325, State Capitol  
RE: House Bill 1801

Chair Lee, Vice Chair Lowen and Members of the Committee on Energy and Environmental Protection

Hawaii Gas opposes HB 1801 and provides the following comments.

HB1801 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 per cent by December 31, 2045 be imposed.

There are a number of technical and practical issues to be considered that make this policy goal, while admirable, unachievable and impractical.

**Regarding the gas utility, incorporating renewable gas energy into a gas utility business is a function of availability, cost and reliability.**

While Hawaii Gas has endeavored to find new renewable fuel sources, renewable biogas advancements globally have lagged renewable electricity generation gains. Renewable electricity generation (namely from wind and solar) has disproportionately benefitted from technological advancements over decades, while material state and federal subsidies have boosted overall US project economics. Biogas production technologies, while the subject of significant small-scale research efforts at various universities and labs, and modest, albeit heavily subsidized, commercialization efforts abroad, do not benefit from the same level of state and federal financial incentives as those associated with renewable electricity. This lack of financial incentives, combined with low natural gas prices in most of the US mainland, has resulted in a far lower level of commercialization of renewable natural gas projects relative to alternative energy sources. To our knowledge, no other state has imposed an RPS on any gas utility in the United States.

Hawaii Gas has been evaluating the generation of renewable gaseous energy for at least the last 6 years as diversifying our fuel supplies into clean and renewable fuels is a key priority for our business. However, based on our substantial research, analysis of the marketplace and pilot projects, we have determined that RNG is not currently available in sufficient quantities, or at a reasonable cost to our customers, to mandate its use or set viable portfolio standards, at this time.

Today, the only renewable gas energy resources available to Hawaii Gas are the hydrogen produced at our SNG Plant from recycled wastewater and the RNG produced at wastewater treatment plants and landfills, mainly on Oahu, which total about 4 million therms per year or less than one-seventh of the state's total annual gas demand. Biogas produced at municipal sites is neither scalable, meaning it cannot be substantially increased, nor is it readily available to Hawaii Gas (with the notable exception being the biogas contract awarded in August 2016 until December 2024, for the Honouliuli Wastewater Treatment Plant<sup>1</sup>, which will finally come online by the end of 2018 meeting less than one-twentieth of the Oahu demand.) Thus, while municipal biogas may meet a portion of the state's annual demand and provide a revenue stream to the county, it will be unable to meet the overwhelming majority of the State's needs. Additionally, the City and County of Honolulu has indicated they may want to use a majority of their RNG in their own operations.

To meet existing demand and at a competitive price, Hawaii Gas has spent extensive time and resources exploring and investing in initiatives to create RNG or import RNG. Amongst those include a pilot project at our SNG Plant to perform gasification using fats and oils. Unfortunately, the pilot project was concluded to be uneconomical, as the biogas could not be produced at scale and would have resulted in higher prices for our customers. Similarly, importing RNG from the mainland results in far higher prices for Hawaii's gas users.

For renewable natural gas to scale, the industry must explore new and innovative approaches to produce RNG from feedstocks such as energy crops. It is well known that RNG can be produced from food waste, energy crops and various other forms of biomass. The challenge is to do this cost effectively, reliably, achievable and at a scale that meets demand. Hawaii Gas has been working with several parties over the past few years to explore the use of purpose grown energy crops coupled with advanced treatment and anaerobic digestion technology.

In this arena, finding available arable land with water is presenting a challenge. As most of the demand for gas is on Oahu, and transporting gas among Hawaii's islands adds to cost challenges, the ideal location for purpose grown solutions is Oahu. Unfortunately, Hawaii Gas studies have shown that roughly 15,000 to 30,000 acres, plus water rights, would be required in order to convert current Synthetic Natural Gas to 100% RNG. To date, we have been unable to locate even 1,000 acres of suitable irrigated land. As with any land acquisition in the state, we are competing with land needs for food and housing which are critical initiatives for the state.

Turning to the use of utility gas in "grid connected generation systems", Hawaii Gas does currently fuel a small grid-connected customer-sited generation system. However, a major loophole this bill does not address is the other grid-connected customer-sited generation on Oahu - the two refineries, which use a total of 32 megawatts of combined heat and power (as reported by the

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<sup>1</sup> In August 2016, the City and County of Honolulu awarded Hawaii Gas the contract for biogas at the Honouliuli Wastewater Treatment Plant. Biogas production is estimated to be 800,000 therms per year. The contract term ends December 2024. Hawaii Gas filed its Application with the Public Utilities Commission in September 2016 to obtain approval for capital expenditures and to enter into a fuel supply agreement with the County. The Application was approved in September, 2017.

Department of Energy) for plant operations. Further, grid-connected customers utilize utility gas for customer-sited generation systems, which provide a valuable source of energy resiliency for large users such as hospitals and hotels in the event of electric utility outages or natural disasters. As HB 2249 relating to electric grid resiliency contemplates, it is important that the state is prepared to withstand natural disasters and other emergencies. By powering these generators with diverse underground fuel supply, Hawaii Gas supports a level of resiliency when the electric grid goes down. Such occurrences are noted in Puerto Rico, which was dependent on above ground electric power poles, and contrasted by the floods in Houston where hospitals that were interconnected with gas CHP systems were able to continue operations.

Thank you for the opportunity to testify on HB 1801.

Sincerely,

Hawaii Gas



SIERRA CLUB OF HAWAII  
MĀLAMA I KA HONUA. *Cherish the Earth.*

**HOUSE COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION**

Thursday, January 25, 2018 8:30AM Conference Room 325

**In SUPPORT of HB 1801** Relating to renewable energy

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Aloha Chair Lee, Vice Chair Lowen and members of the Committee,

On behalf of our 20,000 members and supporters, the Sierra Club of Hawai'i **strongly supports HB 1801**, 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 standard that commits to increase their reliance on renewable energy.

Hawai'i Revised Statutes section 269-92 mandates a 100% renewable energy portfolio standard by year's end 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 1801 ensures this success.

Additionally, the gas utility should not have a lower standard than the electric utility. Not all gas is clean and renewable, which the gas utility should be held accountable for. These utilities should be well aligned in their standards and commitments to effectively transition to 100% by 2045.

Thank you very much for this opportunity to provide testimony on this important issue.

Mahalo,

Marti Townsend  
Director



P.O. Box 37158, Honolulu, Hawai'i 96837-0158  
Phone: 927-0709 [henry.lifeoftheland@gmail.com](mailto:henry.lifeoftheland@gmail.com)

COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Rep. Chris Lee, Chair

Rep. Nicole E. Lowen, Vice Chair

Date: Thursday, January 25, 2018

Time: 8:30 a.m.

Place: Conference Room 325

HB 1801, Relating to Renewable Energy

SUPPORT

Aloha Chair Lee, Vice Chair Lowen, 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.

HB 1801 fixes the definition of Renewable Portfolio Standard (RPS). In the NextEra HECO merger proceedings, in response to a Life of the Land Information Requests, HECO gave an example how the current definition allows a grid with 35% renewables to have an RPS of 115%.

HB 1801 attempts to extend the RPS to the Gas Company. But the way the bill is worded, it would have no impact, since the gas company does not directly connect to the electric grid. The definitions of "Grid-connected" and "Hawaii electric system" should be deleted. Chapter 269 deals only with regulated activities. One phrase should be modified: "(b) Each gas utility company ~~that sells gas for grid-connected electrical energy generation by regulated utility operations in the State~~ shall establish a renewable energy portfolio standard of one hundred per cent by December 31, 2045.

There are two other fixes that could be made: renewable energy must have low life cycle greenhouse gas emissions, and the amount of renewable energy must be discounted by the amount of fossil fuels used to make the renewable energy.

Mahalo,  
Henry Curtis



# Hawai`i Interfaith Power and Light

*A religious response to global warming*



**To: The Committee on Energy & Environmental Protection (EEP)**

**From: Hawaii Interfaith Power & Light (HIPL),**

Steve Lohse, HIPL Legislative Liaison, 808-499-5406, [lohse@hawaii.edu](mailto:lohse@hawaii.edu)

Date: Thursday, January 25, 2018

Time: 8:30 a.m.

Place: Conference Room 325, State Capitol, 415 South Beretania Street

**Re: Support for HB 1801, Relating to Renewable Energy.**

Aloha e Chair Lee, Vice Chair Lowen, and Members of the Committee on Energy & Environmental Protection,

My name is Steve Lohse, I'm an environmental scientist and Legislative Liaison for Hawaii Interfaith Power & Light (HIPL). HIPL's interfaith mission affirms and promotes responsible policy and effective action on energy and climate change. On behalf of our interfaith community, thank you for this opportunity to submit **Testimony in Support of HB 1801**.

**(1)** Hawaii commits by law to recognize the need to reduce reliance on fossil fuels, to consider levels and effects of greenhouse gas emissions, and to transition away from imported fuels and toward renewable local resources that provide secure and affordable energy. **Please, do everything in your power at every opportunity to establish a 100% renewable portfolio for Hawaii without unnecessary distractions or delays.**

**(2)** HIPL also supports the following amendment to HB 1801. **Please, ensure that Hawaii's 100% renewable portfolio standards apply to ALL regulated activities of gas utility companies**, not merely to gas for "grid-connected electrical energy generation." Exceptions like this are like holes in a bucket, they render the entire bucket that much less effective!

*With a sense of urgency*, we rely on you to affirm and promote 100% renewable energy in Hawaii without delay. As always, thank you for all that you do!

Aloha no,

Hawaii Interfaith Power & Light (HIPL)

Steve Lohse, Legislative Liaison

*HIPL embraces the following goals:*

- *raise awareness of the deeply spiritual nature of energy and climate challenges;*
- *advocate energy policies that promote conservation, efficiency, and renewables;*
- *provide inspiration, resources, leadership, and education for effective interfaith action and community building.*



# Bio Carbon Solutions Global

January 24, 2018

**The House Committee on Energy & Environmental Protection**

**Hearing: January 25, 2018 8:30 a.m. Room #325**

**Testimony in support of HB 1801 by Tim Newberry**

**Aloha Chair Lee, Vice Chair Lowen and Members of the Committee,**

I am the CEO of Bio Carbon Solutions Global. We are a Honolulu-based company that brings 21<sup>st</sup> century technological solutions to almost the entire spectrum of waste management.

As such we are well aware of how many options the state has to sustainably produce gas.

As Hawai'i strives to meet the goal of 100% renewable energy, we strongly believe all energy-related industries should be accountable and should be required to contribute to this effort.

The climate crisis is upon us with ever-worse predictions of the damage that will be done to our lifestyle and our very existence. Every company - indeed every individual - has an obligation to do whatever they can to mitigate their carbon footprint.

**For this reason I am testifying in strong support of this bill.**

This is not a self-serving plea. Although my company, and its vendors, hold some exclusive patents, we are not unique in our ability to produce synthetic gas from multiple sources, including Municipal Solid Waste, Municipal Waste Water and bio-solids, Agricultural waste and wood chips.

Several companies around the country have the ability to manufacture synthetic gas from feedstocks that are otherwise treated as waste. In other words, utilities that sell gas in Hawai'i do not have to import their feedstock from the mainland and can use local gas derived from recycled feedstock.



# Bio Carbon Solutions Global

We strongly believe that the purpose of this bill -to ensure that all utilities be treated equally as the state moves to reduce its carbon footprint- can be ensured without imposing additional financial costs on the utilities or their ratepayers.

However we note that this proposed bill does not include one potential re-usable feedstock: end of life tires (TDF). At the moment a large number of used tires are dumped in the HI-Power facility where noxious toxic fumes could be sent into the air when incinerated. With a tradewind pattern these particulate are spread, by the winds aloft, downwind into environmental justice areas, such as The Waianae coast.

In a closed-loop system such as we and other companies employ, end of life tires can be reformulated to produce synthetic liquid fuel, including extremely usefull "renewable cutter fuel" for heavy fuels such as LSFO (Bunker fuel).

They can also be used to produce carbon black, which can be recycled to manufacture new tires, or as a useful pigment.

Most crucially for the purposes of this bill, end of life tires can be used to produce synthetic gas — which is very similar to Natural Gas.

For this reason we respectfully suggest an amendment to Section 3, Number 1 at current line #16 of the proposed bill, under the definition of "Renewable Gas" so that it would now read as follows:

"Renewable gas" means gas generated or produced using the following sources:

- (1) Biogas, including landfill and sewage-based digester gas;
- (2) Biomass, biomass crops, agricultural and animal residues and wastes, municipal solid waste, and other 14 solid waste;
- (3) Biofuels;
- (4) Hydrogen produced from renewable energy sources;
- (5) End-of-life tires, tire-derived fuels, or TDF

I thank you for this opportunity to testify.

**Mahalo,**



# Bio Carbon Solutions Global

Tim Newberry, RA, AIA

Chief Executive Officer

Bio Carbon Solutions Global

Thank You,

Tim Newberry, RA, AIA

Chief Executive Officer

Bio Carbon Solution Global

**HB-1801**

Submitted on: 1/23/2018 1:30:20 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Nanea Lo		Support	No

Comments:

**HB-1801**

Submitted on: 1/23/2018 1:41:12 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Dawn Morais Webster Ph.D.	Independent Issue Advocate	Support	No

Comments:

We have to make sure that we set standards and expectations for ALL players to move us towards our renewable energy goals. I support this bill because it holds the gas company accountable in ways that mirror what we ask of the electric utilities.

**HB-1801**

Submitted on: 1/23/2018 1:44:26 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Taurie Kinoshita		Support	No

Comments:

More regulations in support of clean energy are crucial for the health of our planet, and our future. I support HB1801, thank you for your consideration.

**HB-1801**

Submitted on: 1/23/2018 1:55:39 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Sandra Fujita		Support	No

Comments:

I support HB1801.

**HB-1801**

Submitted on: 1/23/2018 1:59:22 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Michael Kramer		Support	No

Comments:

Chair Lee, Vice-Chair Lowen, and Members of the Energy and Environmental Protection Committee,

I write in support of HB1801 in order to provide clarity and accuracy regarding the renewables portfolio standard. We need to have credible data regarding the progress we're making towards our state renewable energy goals, and this bill assists with that process. I urge you to support this bill to accelerate our timely transition to a clean energy future.

Aloha,

Michael Kramer

Kailua-Kona, HI

**HB-1801**

Submitted on: 1/23/2018 2:05:47 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
B.A. McClintock		Support	No

Comments:

Please support. This is an important bill in order for Hawaii to move forward towards its renewable energy goals.

**HB-1801**

Submitted on: 1/23/2018 2:10:08 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Dave Kisor		Support	No

Comments:

Hawai'i definitely needs considerably more renewable energy and I don't mean leaky geothermal. I believe there is more than enough land to grow industrial hemp that could support not only fuels, but building, fabric and paper industries. It may not be the end all, but it's more 'aina friendly then petroleum products, of which PGV uses in their process. Funny how they were billed as green while using pentane. C'esspool la vie! I support HB1801.

**HB-1801**

Submitted on: 1/23/2018 2:13:10 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Rebecca Leshner		Support	No

Comments:

I support HB1801.

Renewable energy is critical to slowing the pace of global climate change which is already having negative impacts on Hawaii. Fossil fuels, especially gas, add carbon dioxide to the atmosphere and the sooner we reach the goal of 100% renewable energy the better. We need to protect our coral reefs, eroding beaches, and economy (tourism) which means reducing/eliminating the use of fossil fuels.

**HB-1801**

Submitted on: 1/23/2018 2:16:39 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Joan Gannon	West Hawaii CHC	Support	No

Comments:

I support HB 1801 because compared to renewable energy liquid natural gas is not clean or cost effective.

Joan Gannon. Kealahou, Hi 96750

**HB-1801**

Submitted on: 1/23/2018 2:28:49 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Lilinoe Smith	Mr.	Support	No

Comments:

I support HB 1801 with an admendment that it applies to ALL regulated activities of the gas company. Mahalo!

William J. Smith

Kalaheo, Kauai

**HB-1801**

Submitted on: 1/23/2018 2:36:39 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Hanna Nason	Hawaii Pacific University student	Support	No

Comments:

**HB-1801**

Submitted on: 1/23/2018 2:36:43 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Cheyanne Phillips		Support	No

Comments:

It's better for the economy and nature

**HB-1801**

Submitted on: 1/23/2018 2:39:22 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Bruna Cabral		Support	No

Comments:

**HB-1801**

Submitted on: 1/23/2018 2:39:38 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Elena Maria Emmert	Hawaii Pacific University	Support	No

## Comments:

I support HB1801. If we want to achieve a sustainable future, this is one of many steps we should take in order to improve the current situation of our environment. Our environment is suffering and renewable energy is the solution to re-route our course on a more environmental friendly path. It is up to us to take care of our environment. I am in support of HB1801 as this can push our society a step towards a fully sustainable future.

**HB-1801**

Submitted on: 1/23/2018 2:39:44 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Roland Pira		Support	No

Comments:

**HB-1801**

Submitted on: 1/23/2018 2:41:25 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Marina Ghin		Support	No

Comments:

Renewable energy is the future of our planet and needs to be used now more than ever. Fossil Fuels when burned emit harmful gases into the atmosphere and hurt us as a community. Fracking is especially a problem for us here in Hawaii since we dont have any oil or natural gas reserves. I support using renewable energy and think it will help stop greenhouse gases and make Hawaii a much cleaner place for our inhabitants.

**HB-1801**

Submitted on: 1/23/2018 2:41:49 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Tyler Montgomery		Support	No

Comments:

I am a firm believer in renewable energy. I feel we are wasting so much solar power when we could have solar panels on top of all city and county buildings. I understand that they are expensive to build but in the long run we will be saving more money.

**HB-1801**

Submitted on: 1/23/2018 2:42:24 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Amanda Dees		Support	No

Comments:

I support this this bill, because it will create a better environment not only for us but for the future.

**HB-1801**

Submitted on: 1/23/2018 2:43:18 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Frankie Maldonado		Support	No

Comments:

I support HB1801. HB1801 amends the definition of "Renewable Portfolio Standard" to more accurately reflect the percentage of renewable energy penetration in the State.

**HB-1801**

Submitted on: 1/23/2018 2:43:34 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Joanne Warwick		Support	No

Comments:

Standards for electric companies should be the same for the gas companies, especially when Hawaii is trying to move toward more a more sustainable future. Hawaii is a perfect state to use multiple variations of sustainable energy such as wind, geothermal energy, and solar power. Trying to transport the gas from wherever it comes from is going to cost taxpayers money for something they do not want. In light of the recently signed bill in Washington, our leader created a 30% tariff increase on solar panel companies which has spiked prices for the renewable energy. It is our responsibility with a state headed for a sustainable future. I support this bill completely, to hold gas companies equally as responsible as electric companies, they should be held just as responsible for the damage to hawaii's ecosystems. We must push this bill through the better of the environment around us, and set an example for the rest of the country to follow.

**HB-1801**

Submitted on: 1/23/2018 2:44:18 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Makenna	HPU Student	Support	No

Comments:

I believe that in order to make progress towards 100% renewable energy, all forms of energy used by the state should be held to the same standards. If not held to the same standards, the states goal will be harder to achieve. An unequal standard leads to potential corruption based on profit or other benefits.

**HB-1801**

Submitted on: 1/23/2018 2:51:07 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
John NAYLOR	N/A	Support	No

Comments:

**HB-1801**

Submitted on: 1/23/2018 3:02:01 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Stewart Taggart	Grenatec	Support	No

Comments:

I wholeheartedly support this bill.

LNG offers only specious economies. It perpetuates carbon emissions for another generation when better technologies are available. You should have a look at what Kawasaki Heavy Industries is doing in Australia: exporting hydrogen to Japan. If we must import a fuel, make it hydrogen. We could also produce hydrogen ourselves, creating value and intellectual property along the way.

I look forward to passage of this bill and its implementation.

**HB-1801**

Submitted on: 1/23/2018 3:24:20 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
dorothy clegg		Support	No

Comments:

I support HB 1801.....

**HB-1801**

Submitted on: 1/23/2018 4:10:40 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Ron Reilly		Support	No

Comments:

Dear Legislators,

I am in strong support of HB1801. The sooner we can stop using fossil fuels including LNG and the CO2 and methane that it produces, the sooner we will reach sustainability.

My concern is that 2045 is too far in the future. Climate chaos and climate weirdness is with us NOW..! Just ask the West Coast and Florida and New York and Puerto Rico. Does Hawaii have to wait until a string of Category 5 hurricanes are lined up and bearing down before we take emergency measures commensurate with the threat..?

Please pass HB1801 - it is a step in the right direction. Hopefully to be soon followed by many more, such as Carbon Fee and Dividend at the federal level, that is supported in the House of Representatives by the Climate Solutions Caucus (33 Republicans + 33 Democrats).

Thank You, Ron Reilly, Volcano Village Hawaii 96785.

**HB-1801**

Submitted on: 1/23/2018 4:55:41 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Stuart Coleman	Surfrider Foundation	Support	No

Comments:

Dear Chair and Committee Members,

I am writing to voice my support for HB 1801. In March, Hawaii's Public Utilities Commission allowed Hawaii Gas to begin importing more liquefied natural gas. LNG proponents describe it as a "bridge fuel" useful for reducing energy costs and greenhouse gas emissions as Hawaii transitions to our legislatively-mandated 100% renewable energy by 2045. But this is a bridge fuel to nowhere.

Hawaii Gas describes LNG on its website as "clean," "cost-effective," and a "diversified fuel supply." These are half-truths and distortions. The legislature needs to restrict LNG imports.

LNG is not clean. It is a fossil fuel and greenhouse gas. Burning it does emit less CO2 than the imported coal and oil that currently produce over 80% of Hawaii's electricity. But LNG is 85 to 95% methane[1], a global warming gas 84 times as potent as CO2 over a 20-year period[2]. About 25% of the manmade global warming we're experiencing today is caused by methane emissions. And the largest source of industrial methane emissions is the oil and gas industry[2].

Because it is mined, LNG hurts the environment right here by worsening climate change. It leaks at drilling sites, along pipelines, at compression stations, at storage facilities and throughout the networks of piping that carry it to homes[3]. Washington, D.C. alone has 5,893

natural gas leaks[4]. And transporting LNG to Hawaii burns fuel, producing even more greenhouse gases.

LNG is not cost-effective over the long term. The price of renewables like wind and solar, and battery storage, continues to plummet. The necessary infrastructure to increase LNG imports would cost \$200 million by Hawaii Gas's own estimate[5], and they've already applied for a rate hike. We should not spend another penny on fossil fuel infrastructure. The long-term cost of delaying full use of renewable energy—i.e., more rapid climate change—is already clear in our state: more and stronger hurricanes, beach loss, dying coral reefs, higher average temperatures, decreased trade winds, periods of drought and heavy rain with flooding. Soon to come are damage to tourism, our largest source of income; more

disease; endangered fisheries; declining crop production; stressed native animals and plants; and increased spread of invasive species.

LNG is not needed to diversify Hawaii's fuel supply. We have wind, solar, geothermal, hydroelectric, deep sea water chilling, and biomass, with ocean thermal and wave energy on the way. All we need are batteries and resolve. LNG is currently exempt from the 100% renewables

standard Hawaii is aiming for. It's not renewable and should just fade away as we reach for our goal. Finally, LNG is not safe. Fracking to obtain it contributes to all manner of calamities from breast cancer to flammable tap water to earthquakes[6]. It's no wonder that Vermont, New York, Maryland, several European countries and Hawaii County have all banned the practice.

The Union of Concerned Scientists' primary recommendation concerning LNG is that "Policy makers at all levels of government should prioritize the use of cleaner and safer strategies such as renewable energy and energy efficiency in all sectors of the economy" [7]. UCS also finds both that continued increases in natural gas demand could result in shortages and significant price increases, and that cheap natural gas could crowd renewable energy out of the power market in the near term. Mahalo for your consideration.

Aloha, Stuart Coleman, 2927 Hibiscus Pl., Hon., HI 96815

**HB-1801**

Submitted on: 1/23/2018 5:09:03 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Karen M Kimbrell		Support	No

Comments:

**HB-1801**

Submitted on: 1/23/2018 5:38:11 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
william metzger	Select.	Support	No

Comments:

I support HB1801.

William J. Metzger

Honolulu, 96822

**HB-1801**

Submitted on: 1/23/2018 7:13:08 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Roberta Baker		Support	No

Comments:

Dear elected officials,

I strongly support HB1801, with an amendment that it applies to all regulated activities of the gas company, rather than just "grid connected electrical energy generation."

Thank you

Sincerely,

Roberta baker

**HB-1801**

Submitted on: 1/23/2018 7:20:32 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

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

Comments:

SUPPORT HB1801 with an amendment that it applies to all regulated activities of the gas company, rather than just "grid connected electrical energy generation."

Thank you for your very kind attention.

Joseph Kohn MD

[www.WeAreOne.cc](http://www.WeAreOne.cc)

**HB-1801**

Submitted on: 1/23/2018 8:07:56 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Shannon Rudolph		Support	No

Comments:

SUPPORT

**HB-1801**

Submitted on: 1/24/2018 11:25:55 AM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Alan Ewell		Support	No

Comments:

Hawaii Gas describes LNG as "clean," "cost-effective," and a "diversified fuel supply."

LNG is not clean. It is a fossil fuel and greenhouse gas. Burning it does emit less CO2 than the imported coal and oil. But LNG is 85 to 95% methane, a global warming gas 84 times as potent as CO2.

LNG is not cost-effective over the long term. The price of renewables like wind and solar, and battery storage, continues to plummet. The necessary infrastructure to increase LNG imports would cost \$200 million by Hawaii Gas's own estimate.

LNG is not needed to diversify Hawaii's fuel supply. We have wind, solar, geothermal, hydroelectric, deep sea water chilling, and biomass, with ocean thermal and wave energy on the way.

LNG is not safe. Fracking to obtain it contributes to health and environmental disasters from breast cancer to flammable tap water to earthquakes.

**HB-1801**

Submitted on: 1/24/2018 11:23:11 AM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Merle Hayward		Support	No

Comments:

The Islands of Hawaii are at great risk from extreme weather, sea level rise and damaging flooding as CO2 from fossil fuels flood the atmosphere. There is a belief that natural gas is cleaner than oil or coal, however, the methane that is released during the fracking process to capture natural gas is considered more dangerous to the environment than carbon dioxide because it heats the Earth. Atmospheric pollution from fracking that occurs elsewhere also has an effect on Hawaii's climate, and so natural gas must be considered a pollutant that must be monitored along with other fossil fuels.

**HB-1801**

Submitted on: 1/24/2018 11:13:35 AM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Phil Barnes		Support	No

Comments:

In order for the state to have accurate figures when determining our total renewable energy use it would be helpful for gas and electric utility companies to be using the same process for defining their rebewable energy standards.

**HB-1801**

Submitted on: 1/24/2018 9:58:13 AM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Richard Reed		Oppose	No

Comments:

I'm not in favor of as written because I think bio-gas from land fills would be better used by converting them to nitrogen fertilizers or using directly in the garbage trucks and I think it is a stretch to envision hauling tree tops and field waste to a central digester for conversion to bio-gas then hauling that to be blended with Nat. gas, all using diesel. Bio-gas from sewer digesters can usually be all used to generate electricity for on site use. I submit that we should be phasing out burning carbon fuels as they contribute to global warming and premature deaths from air pollution so this bill should be restricting the expansion of gas distribution.

**HB-1801**

Submitted on: 1/24/2018 8:14:06 AM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Ian K. Withy-Berry		Support	No

Comments:

I support HB1801.

**HB-1801**

Submitted on: 1/24/2018 6:17:51 AM

Testimony for EEP on 1/25/2018 8:30:00 AM

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

Comments:

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

Climate change is the most serious challenge in the history of our species. Improving Hawaii's renewable portfolio standard (RPS) is an important part of Hawaii's contribution to mitigation of climate change effects such as sea level rise.

HB 1801 fixes a flaw in the RPS to more accurately reflect the percentage of renewable energy by making clear energy sales does not capture all energy consumed here. I strongly support this bill, but with an amendment that this bill applies to **all regulated activities of the gas company**, rather than just "grid connected electrical energy generation."

(b)Each gas utility company that sells gas for grid-connected electrical energy generation by regulated utility operations in the State shall establish a renewable energy portfolio standard of one hundred per cent by December 31, 2045.

**Should be amended to:** b) Each gas utility company shall establish a renewable energy portfolio standard of one hundred per cent by December 31, 2045.

In order to ensure a full and fair transition to clean energy and avoid undermining our own efforts to achieve this goal, this amendment is crucial to address this flaw.

Thank you for the opportunity to provide testimony.

Randy Ching (Kaimuki)

**HB-1801**

Submitted on: 1/24/2018 5:38:12 AM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Patricia Blair		Support	No

Comments:

I support HB 1801 with an amendment that it applies to all regulated activities of the gas company.

**HB-1801**

Submitted on: 1/24/2018 4:15:19 AM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Mary Lacques		Support	No

Comments:



## HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

January 25, 2018, 8:30 A.M.

Room 325

(Testimony is 4 pages long)

### TESTIMONY IN STRONG SUPPORT OF HB 1801, SUGGESTED AMENDMENT

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

Blue Planet Foundation **strongly supports** HB 1801, which revises Hawai'i's historic 100% renewable energy standard to ensure that **"100%" means "100%."**

This important measure does two things. First, it implements a needed accounting correction for the state's renewable portfolio standard (RPS) calculation. Presently, 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 1801 would revise the RPS accounting calculation to address this potential outcome.

Second, House Bill 1801 expands the RPS to include all grid-connected generation, including gas-fired generation. This helps to wean Hawai'i from imported fossil fuels while reducing unfairness in the energy market by requiring all types of generation on the electricity grid to comply with the RPS.

**Blue Planet respectfully requests that the Committee amend HB 1801 to apply the RPS to all regulated gas sold in Hawai'i—not just gas that is connected to the electricity grid.**

Our suggested language is at the end of this testimony.

This is a critical measure for 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. After various iterations through roughly the past fifteen years, 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. It 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

[info@blueplanetfoundation.org](mailto:info@blueplanetfoundation.org)

55 Merchant Street 17<sup>th</sup> Floor • Honolulu, Hawai'i 96813 • 808-954-6142 • [blueplanetfoundation.org](http://blueplanetfoundation.org)

that is substantially less than the cost of fossil fuel. With strong Public Utilities Commission (PUC) guidance and oversight, it is resulting in utility power supply plans that will achieve the mandate ahead of schedule, while simultaneously saving consumers billions of dollars compared to the fossil fuel status quo. **The state is on track to achieve the vision set by the legislature for renewable electricity, including both the near-term and long-term RPS requirements.**

### **100% MEANS 100%**

To the credit of the Hawaiian Electric Companies, the 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% MEANS ALL GRID-CONNECTED GENERATION—INCLUDING GAS**

House Bill 1801 wisely includes all grid-connected generation in the calculation of the state's RPS. This addresses one of the primary concerns with the current approach where distributed energy resources might also include fossil fuel generation (likely to be gas-fired generation). **This type of natural gas-fired generation could render it impossible for electric utilities to meet their renewable energy goals.**

### **WHAT IS RENEWABLE NATURAL GAS?**

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. Thus, as noted above, using fossil fuel-based natural gas 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 these are fossil fuels.

However, The Gas Company also currently uses some gas that is derived from renewable sources. Approximately 2.8% of its gas supply presently comes from a renewable feedstock.<sup>1</sup>

In September 2017, Hawai'i Gas received approval from the Hawai'i PUC to begin installing equipment to capture and process biogas from the Honouliuli Wastewater Treatment Plant on O'ahu.<sup>2</sup> This is a renewable "biogas" created during the process of treating wastewater—i.e. renewable natural gas (RNG). The project is expected to be up and running by the end of 2018.

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. This is a remarkable win-win solution.

As a result, renewable natural gas is set to soon comprise roughly 5% of the gas supply on O'ahu. 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. On the U.S. mainland, Clean Power Fuels 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.

## **SUGGESTED AMENDMENT**

Blue Planet Foundation feels strongly that Hawai'i should extend the benefits of the RPS to natural gas utility companies. This is consistent with the states overarching goal of reducing—and ultimately eliminating—all imported petroleum for energy use. This amendment would also reduce unfairness in the energy market which may result from requiring electric utilities, but not gas utilities, to comply with the renewable standards.

Our suggested amendment to Section 2 of HB 1801 is as follows:

**"§269-A Renewable portfolio standards for gas utility companies.**

(a) The renewable portfolio standard for a gas utility company means total heat energy in therms from renewable gas sold divided

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<sup>1</sup> See Hawaii Gas Annual Renewable Energy Report to PUC (March 2017), *available at* <https://puc.hawaii.gov/wp-content/uploads/2013/04/00005F5A.pdf>

<sup>2</sup> See <http://www.hawaiigas.com/clean-energy/renewable-natural-gas/>

by total heat energy in therms from gas sold, expressed as a percentage. [~~For the purposes of this definition, the terms "renewable gas sold" and "gas sold" are limited to gas sold for grid-connected electrical energy generation under regulated gas utility company operations in the State.~~]

(b) Each gas utility company [~~that sells gas for grid-connected electrical energy generation by regulated utility operations in the State~~] shall establish a renewable energy portfolio standard of one hundred per cent by December 31, 2045.

## **CONCLUSION**

Blue Planet Foundation strongly supports HB 1801 with our suggested amendment 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.

**HB-1801**

Submitted on: 1/23/2018 11:10:05 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
David Mulinix		Support	No

Comments:

Aloha Representatives Lowen, Ichiyama, Lee, Mckelvey, Takumi, Yamane,

I'm writing in support of HB1801 with an amendment that it apply to all regulated activities of the gas company, rather than just "grid connected electrical energy generation."

Passing this bill is vital. So called "natural gas" is a "fossil fuel" and "fossil fuels" are beginning to irrevocably destroy the ecosystem of our planet. Once our ecosystem is gone, that will be the end of our life support system on our Mother Earth for our children. Our species will cease to exist. This is no longer science fiction, if we do not start now to ween ourselves from fossil fuels, this scenario will be our inevitable fate.

The worst hurricanes in history are tearing across our planet and already Pacific Islands are disappearing and villages in Alaska are falling into the sea (see links below). This is just the beginning. If we are to save our precious Hawaiian Islands home, there is no longer a buffer of time, we must act now.

## **Pacific Nation Kiribati Is Disappearing as Sea Level Rises**

[https://www.democracynow.org/2018/1/23/a\\_warning\\_from\\_the\\_center\\_of](https://www.democracynow.org/2018/1/23/a_warning_from_the_center_of)

Climate change: A village falls into the sea

<http://www.dw.com/en/climate-change-a-village-falls-into-the-sea/a-18717942>

Please pass HB1801 with the amendment, not for me, but for your children's future.

Mahalo Nui Loa,

Dave Mulinix, Member 350.org Hawaii

Kaneohe 96744

dave.mulinix@juno.com

**HB-1801**

Submitted on: 1/23/2018 10:35:29 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Sherry Pollack		Support	No

Comments:

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

Thank you for hearing HB 1801. Climate change is the most serious challenge of our generation, and working to improve Hawaii's renewable portfolio standard (RPS) is a critical component to Hawaii's contribution in the fight to save our life support system.

HB 1801 fixes a flaw in the RPS to more accurately reflect the percentage of renewable energy by making clear energy sales does not capture all energy consumed here. I strongly support this bill, but with an amendment that this bill applies to **all regulated activities of the gas company**, rather than just "grid connected electrical energy generation."

Specifically:

(b)Each gas utility company that sells gas for grid-connected electrical energy generation by regulated utility operations in the State shall establish a renewable energy portfolio standard of one hundred per cent by December 31, 2045.

**Should be amended to:** b) Each gas utility company shall establish a renewable energy portfolio standard of one hundred per cent by December 31, 2045.

In order to ensure a full and fair transition to clean energy and avoid undermining our own efforts to achieve this goal, this amendment is crucial to address this flaw.

Thank you for the opportunity to provide testimony.

Sherry Pollack

Member, 350.org Hawaii

**HB-1801**

Submitted on: 1/23/2018 9:50:37 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Lois Crozer		Support	No

Comments:

This should apply to all regulated activities of the gas company.

**HB-1801**

Submitted on: 1/23/2018 8:44:51 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
tlaloc tokuda	n/a	Support	No

Comments:

I support bill [HB1801](#) with an amendment that it applies to all regulated activities of the gas company, rather than just "grid connected electrical energy generation." There has been many studies on Fracking and many of these studies find that LNG is no longer a clean alternative. This is all related to Fracking and how fracking technology is no clean – all the chemical it uses and the way it destroys clean aquifers. There are many movies and youtube sites where it shows how dirty the water is and how it can catch on fire! LNG also is a greenhouse gas as it leaks at drilling sites, along pipelines, at compression stations, at storage facilities and throughout the networks of piping that carry it to homes[3]. Washington, D.C. alone has 5,893 natural gas leaks[4]. And transporting LNG to Hawaii burns fuel, producing even more greenhouse gases.

LNG is not cost-effective over the long term. The price of renewables like wind and solar, and battery storage, continues to plummet. The necessary infrastructure to increase LNG imports would cost \$200 million by Hawaii Gas's own estimate[5], and they've already applied for a rate hike. We should not spend another penny on fossil fuel infrastructure. The long-term cost of delaying full use of renewable energy—i.e., more rapid climate change—is already clear in our state: more and stronger hurricanes, beach loss, dying coral reefs, higher average temperatures, decreased trade winds, periods of drought and heavy rain with flooding. Soon to come are damage to tourism, our largest source of income; more disease; endangered fisheries; declining crop production; stressed native animals and plants; and increased spread of invasive species.

LNG is not needed to diversify Hawaii's fuel supply. We have wind, solar, geothermal, hydroelectric, deep sea water chilling, and biomass, with ocean thermal and wave energy on the way. All we need are batteries and resolve. LNG is currently exempt from the 100% renewables standard Hawaii is aiming for. It's not renewable and should just fade away as we reach for our goal.

Finally, LNG is not safe. Fracking to obtain it contributes to all manner of calamities from breast cancer to flammable tap water to earthquakes[6]. It's no wonder that Vermont, New York, Maryland, several European countries and Hawaii County have all banned the practice. Keep all hydro-carbons in the ground!

Sincerely yours,

Tlaloc Tokuda

**HB-1801**

Submitted on: 1/24/2018 3:20:38 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Javier Mendez-Alvarez		Support	No

Comments:

**HB-1801**

Submitted on: 1/24/2018 5:10:51 PM

Testimony for EEP on 1/25/2018 8:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Bill Bugbee		Comments	No

Comments:

Here in Hawai'i, our vaulted 100% RPS state goal by 2045 (although well intended) has many deficiencies that which each passing year remain unaddressed by the legislature. If we are to advance the state to a true 21st century clean energy economy, then continuing to ignore these deficiencies will have economic and environmental consequences long before the 2045 RPS deadline.

HB 1801 focuses on expanding the fossil fuel sector participation in the RPS energy mix.

Instead of reforming and eliminating qualifying emissions-laden "renewable" and polluting energy sources from the state's flawed the renewable portfolio standard (RPS), these dirty energy sources serve increasingly as substitutes for fossil fuels in the state's power production mix; including the burning of so-called bio fuels which contribute to global warming and pollute local communities – case in point, the HuHona biomass power plant (Big Island).

At a time when bold RPS reform action is needed by the legislature, HB 1801 does little more than re-arrange the deck chairs on the Titanic. The goal of HB 1801 states "...*the legislature finds that the simplest, fairest, and most effective solution to this concern is to implement renewable portfolio standard targets for gas utilities...*" This objective is fundamentally flawed by concentrating on propping up and extending the life of a fossil fuel that emits 50% of the greenhouse gas and other pollutants when burned to that of coal – the dirtiest of all fossil fuels.

HB 1801, does speak to the need for reform of the current RPS calculation formula, but that alone does not merit the passage of this bill as currently written. I do not support HB1801, and nor should the legislature.

Clean, emission-free energy is currently cost effective and competitive with fossil fuels: solar, wind, plus storage, along with other current and emerging clean energy options are available today and commercially and technically-ready to completely replace (long before 2045) the need for dirty energy powering Hawaii's separate power grids.

Reforming the state's RPS must be a priority for transitioning Hawai'i to a clean energy economy; unfortunately HB 1801 is not the vehicle for this reform.

Hawai'i can become a leader in sustainability through the transition to a diversified clean energy economy. Hawai'i also has the potential to become an exporter of clean energy tech and fuel, create clean energy sector jobs, and live sustainably through changes in Energy (production and consumption), Agriculture, Healthcare, Transportation, and Housing, beginning by reducing the state's overall carbon pollution footprint. This will take leadership at all levels of government, beginning with the governor and the legislature.

**HB-1801**

Submitted on: 1/25/2018 6:10:42 AM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Travis Idol		Support	No

Comments:

I support this bill and encourage your committee to do the same. The current practice of allowing electric utilities to count grid-connected rooftop solar and other small sources of renewable energy in the numerator but not the denominator of their calculation of how much electricity generation is renewable is misleading and counter to the spirit of Hawaii's goals of 100% renewable energy generation. That needs to be changed. As well, natural gas companies should be required to adhere to our renewable portfolio standards, as well, even if they are not supplying gas for electricity generation. Fracking is a horrible environmental practice that significantly contributes to greenhouse gases and climate change, so natural gas is not a "clean" fossil fuel. We should not exclude them from our RPS and ultimately need to eliminate our use of this as we embrace the clean and abundant renewable energy sources available to us.

**HB-1801**

Submitted on: 1/25/2018 7:03:08 AM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Carolynn Bell-Tuttle		Support	No

Comments:

**Please, do everything in your power at every opportunity to establish a 100% renewable portfolio for Hawaii without unnecessary distractions or delays.**

**Please, ensure that Hawaii's 100% renewable portfolio standards apply to ALL regulated activities of gas utility companies.**

**HB-1801**

Submitted on: 1/25/2018 8:20:48 AM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Aya Kimura		Support	No

Comments:

I support this bill that tries to get more transparency and accountability in the way that the state's progress is presented to the public.

I also support the following amendment to HB 1801. Please, ensure that Hawaii's 100%renewable portfolio standards apply to ALL regulated activities of gas utility companies, not merely to gas for "grid-connected electrical energy generation.

I also wanted the language to be clear in what constituted "renewable energy" in making clear that LNG does not count as such. The idea of "transition fuel" creates more investments and vested interests in the infrastructure of fossil fuel, making it further politically difficult to graduate from fossil fuel.

**HB-1801**

Submitted on: 1/25/2018 11:28:31 AM

Testimony for EEP on 1/25/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Meredith Buck		Support	No

Comments:

"Compared to renewables, LNG isn't clean or cost-effective." (Star Advertiser, Island Voices, Jan. 11). I support HB1801. My household is very happy with the solar electric we have installed at home, and I hope to see more renewables on the island. It is the best option we have to reaching energy independence as an island community, as well as mitigating the effects of climate change. Thank you.