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**Testimony in SUPPORT of HB 2469  
Relating to Critical Energy Infrastructure**

SENATOR CHRIS LEE, CHAIR  
SENATE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Hearing Date: February 6, 2018  
Time: 8:30 AM

Room Number: 224

1 **Fiscal Implications:** State agencies whose permits relate to Hawaii's electric grid infrastructure  
2 would require additional resources to review and determine proper siting of all applicable  
3 projects.

4 **Department Testimony:** The Department of Health (Department) supports HB 2469. The  
5 Department recommends that the state or county programs dedicated to land use planning and  
6 siting approvals be designated as the agencies to implement this bill.

7 We support the objective of minimizing grid infrastructure disaster risk by establishing a  
8 review and approval process to ensure that Hawaii's critical resources are appropriately sited to  
9 avoid the impacts of sea level rise. However, appropriate siting of a facility should be evaluated  
10 within the designated state or county land use planning agency responsible for regulating  
11 development and managing resources at the very beginning of a proposed project. Siting  
12 determinations should not be the responsibility of the Department or other permitting programs  
13 whose approval processes do not include siting evaluations and who do not have the applicable  
14 knowledge or authority to make these determinations.

15 The Department suggests that this process be handled similar to Special Management  
16 Area (SMA) requirements for controlling developments along the shoreline, specified in  
17 HRS 205A, Part II. Like the SMA process, proposed developments located near or within the  
18 sea level rise exposure area should first be evaluated by the designated state or county land use

1 planning agency. Other permitting agencies should then reference this evaluation prior to the  
2 issuance of any permit.

3 Siting evaluation provided by a single agency, specialized in planning and assessment of  
4 development, would promote consistency, accuracy, and efficiency in making important  
5 determinations which affect Hawaii's critical electric grid infrastructure. This approach is in line  
6 with the 2017 Hawaii Sea Level Rise Vulnerability and Adaptation Report in which the Hawaii  
7 County Planning Department suggests the use of existing regulatory frameworks, such as the  
8 SMA, to require coastal development to factor in sea level rise alongside other coastal hazards.

9 Thank you for the opportunity to testify on this bill.



## Testimony to the House Committee on Energy and Environmental Protection

Tuesday, February 6, 2018 8:30 a.m.  
Conference Room 325, State Capitol  
RE: House Bill 2469

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

Hawaii Gas **opposes** HB2469 and provides the following comments:

HB2469 seeks to address concerns related to the impact of sea level rise that ‘may occur in the mid to latter half of this century’ cited in the Hawaii Climate Change Mitigation and Adaptation Commission’s 2017 Hawaii Sea Level Rise Vulnerability and Adaptation Report (“HSLRVA Report”). This measure states that the purpose of the Act is to “adopt one of the recommendations of the Sea Level Rise Vulnerability and Adaptation Report regarding the siting of new development by prohibiting the approval of new critical electric grid infrastructure in the sea level rise exposure area.” Further, the measure prohibits state or county agencies from issuing permits to “any applicant for the construction or operation of a new grid-connected electrical generation facility in excess of one megawatt or energy storage facility in excess of one megawatt hour located anywhere in a sea level rise exposure area.”

HG appreciates the HSLRVA Report and believes that a holistic approach to solving this challenge is necessary; however, putting forth piecemeal legislation that restricts certain business’ ability to move forward with initiatives that will provide them cost savings, cleaner energy as well as resiliency benefits is short-sighted. For instance, among other impacts, this bill would prohibit businesses from implementing any distributed generation technologies or back-up generation in excess of one megawatt or energy storage facility in excess of one megawatt hour. This means that a hotel in Waikiki would not be able to install a solar plus storage system, even if the hotel finds that the system would reduce GHG, lower energy costs and have resiliency benefits now. Some “grid-connected” distributed energy generation systems have the ability to operate in “islanded” mode when grid power is unavailable, and thus serve as key elements in building and enhancing overall power infrastructure resiliency.



In addition, HG also owns critical infrastructure in the potential vulnerability zones and it's important to its continued operations to ensure it has a reliable source of back-up power to ensure reliable operations for its customers.

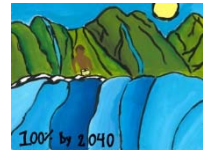
There are many interesting recommendations listed in the HSLVRA Report, but a specific reference to limitations on the development of grid-connected electrical generation in future potential inundation zones is nowhere to be found. In fact, the report makes no reference to electrical generation (the word "generation" according to a search of the report, is only used six times). There is a reference to the recommendation on pg. 226 of the report, which states that "State and Counties should adopt a review and approval process to ensure the new development and capital improvement projects with an expected life span of 30 years or more are designed and sited to address the impacts of sea level rise..." The recommendation in the HSLVRA Report does not say (as implied in HB2469) that the state and counties should prohibit businesses' from constructing or operating new grid-connected electrical generation facilities, so using the report as a justification for this proposal seems to be a non-sequitur. Further, the disclaimer on the report on pg. ii, states that "This report should be used strictly as a planning reference tool and not for permitting, or other legal purposes."

Even if the recommendations in the HSLVRA report were accepted at face value, there is nothing in the report that suggests that new development and capital improvement projects should be completely prohibited, merely that such projects should be "designed and sited to address the impacts of sea level rise." While a bill which focused on those proscriptive elements may be more consistent with the report's recommendations, many organizations and individuals who own or lease real property interests within impacted areas are already taking actions with regard to the potential impacts of sea level rise to preserve and enhance the future value and current insurability of these long-lived investments. Since many of these properties have values in the hundreds of millions of dollars, there is already a clear motivating factor for such potential impacts to be



considered. As a result, it is unclear that this is an area where legislation, prohibitive or proscriptive, is necessary.

Thank you for the opportunity to testify on HB 2469.



## HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

February 6, 2018, 8:30 A.M.

Room 325

(Testimony is 2 pages long)

### TESTIMONY IN SUPPORT OF HB 2469 WITH AMENDMENT

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

Blue Planet Foundation **supports** HB 2469, seeking to strengthen Hawaii's energy systems by prohibiting the development of new large energy infrastructure in the sea level rise vulnerability area. **We respectfully request that this measure be amended to increase the allowable sizes of energy generation and energy storage infrastructure.**

Global climate change is increasing the vulnerability of Hawaii's coastal areas to sea level rise, flooding, erosion, and storm surge. The 2017 Sea Level Rise Vulnerability and Adaptation Report—mandated by the legislature—provides a sobering statewide assessment of Hawaii's exposure to sea level rise. The report found that a 3.2 foot sea level rise—possible as early as 2060—would jeopardize a coastal area approximately 25,800 acres in size. This "sea level rise exposure area" would be exposed to potential chronic flooding and land loss based on modeling passive flooding, annual high wave flooding, and coastal erosion with sea level rise. The report found that over 6,500 structures located in the sea level rise exposure area would be compromised or lost, with an estimated loss of \$19 billion from flooded structures and land.

The report also made recommendations to reduce Hawaii's exposure and sensitivity to sea level rise and increase the state's capacity to adapt. **The report recommends that state and county leaders prioritize redevelopment outside of the sea level rise exposure area and limit exposure within the sea level rise exposure area.** The report further recommends that the state and counties should adopt a review and approval process to ensure that new development and capital improvement projects with an expected life span of 30 years or more are designed and sited to address the impacts of sea level rise utilizing the sea level rise exposure area as a vulnerability zone.

**House Bill 2469 seeks to codify this recommendation for critical energy infrastructure.** It makes little sense to site new or expanded energy infrastructure in an area that we know is vulnerable to flooding, erosion, storm surge, and sea level rise. Further, building utility infrastructure in this exposure area risks utility customer "stranded asset" expenses, as the facilities are paid for by ratepayers but may not contribute value to the system.

Last fall, Puerto Rico was devastated by Hurricane Maria, leaving 90% of the island residents without power one month after the storm hit. They have learned a difficult lesson about the need to build resilient energy infrastructure—before the storm hits.

Hawaii ought to heed the unfortunate example of Puerto Rico and ensure that decisions on critical energy infrastructure reflect the reality of our changing climate and oceans.

Blue Planet respectfully requests that this committee amend HB 2469 to increase the allowable size of both energy generation and energy storage infrastructure in the sea level rise exposure area.

**Suggested amendment to current HB 2469:**

"§196-     **Energy infrastructure resiliency.** (a) No state or county agency shall issue a permit to any applicant for the construction or operation of a new grid-connected electrical generation facility in excess of [~~one~~] five megawatts or energy storage facility in excess of [~~one~~] fifty megawatt hours located anywhere in a sea level rise exposure area.

We respectfully request that the Committee forward HB 2469 with this amendment.

Thank you for the opportunity to testify.

**Testimony before the  
House Committee on Energy & Environmental Protection**

**H.B. 2469 – Relating to Critical Energy Infrastructure**

**Tuesday, February 6, 2018  
8:30 am  
Conference Room 325**

**By Jack Shriver  
Manager, Generation Project Development  
Hawaiian Electric Company**

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

My name is Jack Shriver, Manager of Generation Project Development at Hawaiian Electric. I am testifying on behalf of Hawaiian Electric, Maui Electric, and Hawai'i Electric Light (collectively the "Hawaiian Electric Companies").

The Hawaiian Electric Companies oppose H.B. 2469 as written. The Companies support the intent to increase the long-term viability and energy resiliency and of the island grids, but the bill proposes to do so by limiting potential siting options for new power generation and storage facilities without any consideration of specific site or facility details. The bill does not take into consideration the potential lifecycle of a facility relative to the potential sea level rise at its location or how mitigations might be incorporated into civil design to reduce or eliminate the concern. The outright prevention of new generation facilities being built in a sea level rise exposure area will furthermore preclude the future incorporation of any offshore or floating power facilities into island grids, such as offshore wind, wave energy, ocean thermal energy conversion (OTEC), or other such future potential contributors to island energy resiliency. Finally, the sea level rise exposure area depictions in the



report which the bill proposes to use as the basis for determining permissibility are not intended for permitting use.

Some power generation and storage facilities, most notably solar PV and battery storage systems, have currently expected lifecycles of approximately 20-25 years. Given that the Sea Level Rise Vulnerability and Adaptation Report indicates that the 3.2 foot level rise cited is not anticipated to be reached until the year 2060, these and other types of power generation and storage facilities would be unnecessarily limited in siting options in the interim. This limitation of siting options could have the unintended consequence of reducing the amount of renewable energy and storage that is integrated into the grid, or increase the cost of it.

With limited land space available on the islands, there is an increasing chance that offshore energy sources such as floating wind, ocean thermal energy conversion, floating power plants using renewable fuels, or wave energy devices will be considered viable options in order to reach the State's 100% renewable goal. Since these facilities will be located on the ocean, in order to connect them to the islands' grids these facilities will of necessity cross the shoreline through the cited sea level rise exposure area. Without access to State and County permits, these facilities cannot be constructed, denying the grid access to an entire sector of potentially resilient and renewable energy resources.

The report itself, in the Disclaimer on page ii states that the report's "flood maps are in the range of 80% probability," and "as with all remotely sensed data, all features should be verified with a site visit." The uncertainty of the data indicates that some of the locations shown in the vulnerability area may not be at risk, or if they are, could be made viable using long-term, proven mitigations such as filling in low-lying depressions, elevating ground levels underneath critical structures, using berms, or building walls. Finally, the Disclaimer states explicitly that "this report should be used strictly as a planning reference tool and not for permitting, or other legal purposes."

For these reasons, the Companies respectfully request that this measure be held. Thank you for the opportunity to provide testimony.



**HAWAI'I LODGING & TOURISM**  
**A S S O C I A T I O N**

Testimony of

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

Committee on Energy & Environmental Protection  
February 6, 2018

House Bill 2469: Relating to Critical Energy Infrastructure

Chair Lee and members of the Committee on Energy & Environmental Protection:

On behalf of the nearly 700 members of the Hawai'i Lodging & Tourism Association, the largest private-sector visitor industry organization in the state, we thank you for the opportunity to testify on House Bill 2469, which would prohibit state and county agencies from approving a permit to construct or operate a new grid-connected electrical generation facility or storage facility in excess of one-megawatt-hour if it is located in an area exposed to sea-level rise.

The legislation appears well-intentioned, in that it purports to protect seaside energy-generation facilities and equipment to avoid the impact of a disaster like Puerto Rico's. However, we believe it would also hamper the ability of the hotel industry to implement creative energy-saving measures on individual properties, most of which are located along the coastlines of the Hawaiian Islands. Energy is the second highest expense in hotel operations, and without investing in new technology, hotels will continue to depend on the utility grid and pay the high cost of that electrical power.

Additionally, the federal government's retreat from climate change initiatives in the energy sector means that state and local governments and industry must be more aggressive in adopting new technologies and constructing improved energy production and conservation facilities. Prohibiting public agencies in Hawai'i from approving these potential new facilities would only prolong our heavy dependence on imported fossil fuels, keep energy costs high, limit back-up energy sources should the utility grid collapse, and contribute to the pollution that is one of the causes of sea-level rise.

The Hawai'i Lodging & Tourism Association, therefore, opposes House Bill 2469 and thanks you for the opportunity to offer these comments.

**HB-2469**

Submitted on: 2/3/2018 4:47:19 PM

Testimony for EEP on 2/6/2018 8:30:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Benton Kealii Pang, Ph.D.	Hawaiian Civic Club of Honolulu	Support	No

Comments:

I support this bill and glad to see climate change mitigation being used in the analysis of electric generators.

**HB-2469**

Submitted on: 2/5/2018 6:41:35 AM

Testimony for EEP on 2/6/2018 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 Joan Gannon, chairperson of the Protect Marine Life Committee for the Democratic Party on Hawaii Island, support HB2469.

I ask the Committee on Energy and Environmental Protection to please pass this HB2469.

Thank you Joan