

DAVID Y. IGE
GOVERNOR

DOUGLAS S. CHIN
LIEUTENANT 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 SENATE COMMITTEE ON
WAYS AND MEANS**

**TWENTY-NINTH LEGISLATURE
Regular Session of 2018**

Thursday, April 5, 2018
10:30 a.m.

**WRITTEN TESTIMONY OF DEAN NISHINA, EXECUTIVE DIRECTOR, DIVISION OF
CONSUMER ADVOCACY, DEPARTMENT OF COMMERCE AND CONSUMER
AFFAIRS, TO THE HONORABLE DONOVAN M. DELA CRUZ, CHAIR,
AND MEMBERS OF THE COMMITTEE**

HOUSE BILL NO. 2110, H.D. 2, S.D. 1 - RELATING TO RESILIENCY.

DESCRIPTION:

This measure directs the Public Utilities Commission (“Commission”) to establish a microgrid services tariff or tariffs to encourage and facilitate the development and use of energy resilient microgrids. In addition, section 3 of S.D. 1 directs the Commission to consider and learn from the actions taken to establish and deploy microgrids in Puerto Rico.

POSITION:

The Division of Consumer Advocacy (“Consumer Advocate”) takes no position on this bill and offers comments.

COMMENTS:

The Consumer Advocate supports electric service that is affordable, safe, reliable, and resilient and agrees that microgrids could have a significant role to play in readying Hawaii for a catastrophic event, as well as possibly facilitating Hawaii's clean energy goals.

The Consumer Advocate also appreciates the bill's acknowledgment that microgrids could adversely impact other customers. To protect all customers' interests, the Commission should be allowed to complete the necessary analysis. There is currently a docket before the Commission that focuses on Distributed Energy Resources, Docket No. 2014-0192. Some of the apparent objectives of S.D. 1 should be addressed in the upcoming phase of that docket. The Consumer Advocate notes that, as compared to H.D. 2, the current draft includes language that makes clear that a microgrid would not be a public utility. By itself, this language is not objectionable, but it creates potential issues, such as what type of regulatory protection and recourse customers, who may be part of that microgrid, may have if service and/or compensation issues are not clearly defined between the customer, microgrid operator, and utility. The Consumer Advocate anticipates these types of issues will be addressed in Docket No. 2014-0192. Thus, the Consumer Advocate suggests that, rather than advancing this bill, the Legislature consider allowing the Commission to continue its efforts in Docket No. 2014-0192 and deferring this bill. In the alternative, the Consumer Advocate suggests that a resolution, rather than a statute, might be sufficient and more administratively efficient.

Thank you for this opportunity to testify.



Email: communications@ulupono.com

SENATE COMMITTEE ON WAYS & MEANS
Thursday, April 5, 2018 — 10:30 a.m. — Room 211

Ulupono Initiative Strongly Supports HB 2110 HD 2 SD 1, Relating to Resiliency

Dear Chair Dela Cruz, Vice Chair Keith-Agaran, 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 firm that strives to improve the quality of life for the people of Hawai'i by working toward solutions that create more locally produced food; increase affordable, clean, renewable energy; and better management of waste and fresh water. Ulupono believes that self-sufficiency is essential to our future prosperity and will help shape a future where economic progress and mission-focused impact can work hand in hand.

Ulupono strongly supports HB 2110 HD 2 SD 1, which directs the Public Utilities Commission to establish a microgrid services tariff, because it aligns with our goal of increasing the production of clean, renewable energy and will make our islands more resilient in the event of a natural disaster.

Renewable energy innovation is needed to achieve the state's ambitious goal of 100 percent clean energy by 2045. Microgrid projects can provide communities and organizations with a faster path for incorporating renewable energy production and storage projects. Microgrids provide each island's system with greater resilience because these grids are able to separate from the electricity grid if it fails and then help restart the grid. While the Department of Defense's microgrids help play this role today, additional microgrids on the civilian side would augment system security for all. For critical facilities that need a continuous supply of electricity from a microgrid, such as hospitals, the water utility, police and telecommunications, along with resort complexes, microgrids can sometimes provide higher reliability and resilience than the traditional utility.

I currently serve on the Transformation Advisory Council for PREPA in Puerto Rico and microgrids are very much under consideration as Puerto Rico moves forward for exactly the reasons stated above. The Puerto Rico commission (PREC) recently passed the initial regulations authorizing microgrids.

For microgrids to be part of Hawai'i's electrical system, the economic relationships between the microgrid owner and the host utility must be efficient and equitable. The

Investing in a Sustainable Hawai'i



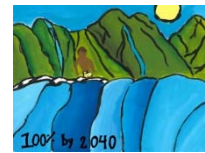
pricing between the two parties should adhere to the fundamental principle that each party receives value for the services it provides and pays for the services it needs. Thus, Ulupono strongly endorses the language on page 4, (1), (2), and (3) regarding the microgrid services tariff.

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

Thank you for this opportunity to testify.

Respectfully,

Kyle Datta
General Partner



SENATE COMMITTEE ON WAYS AND MEANS

April 5, 2018, 10:30 A.M.

Room 211

(Testimony is 2 pages long)

TESTIMONY IN STRONG SUPPORT OF HB 2110 HD2 SD1

Aloha Chair Dela Cruz, Vice Chair Keith-Agaran, and Committee members:

Blue Planet Foundation **strongly supports** HB 2110 HD2 SD1, seeking to strengthen Hawaii's energy systems by facilitating the development of energy resilient microgrids. This measure directs the Public Utilities Commission (PUC) to establish a microgrid services tariff to standardize the value of services exchanged between the microgrid owner and the utility.

We respectfully ask that your committees amend HB 2110 HD2 SD1 to take effect upon approval.

The devastation of Puerto Rico by Hurricane Maria last year was a painful wake-up call. Like Puerto Rico, Hawaii's current energy system is not designed for the violence of climate change. Nearly 90% of Puerto Rico residents lacked power one month after the storm hit. Today, Puerto Rico is rebuilding its energy system and incorporating microgrids, or smaller grids with local control capability that can disconnect from the larger electricity grid and operate autonomously. This is critical for times when a severe storm or disaster knocks out the larger electricity grid. **In times of emergency, residents need safe energy "oases" with energy storage to power critical medical equipment, provide refrigeration, and charge critical communication devices.**

While Hawaii is a national leader in developing renewable energy, few microgrids have been developed, as their development has been inhibited by a number of factors, **including interconnection barriers and a lack of a standard of terms regarding the value of services exchanged between the microgrid operator and the utility.**

Microgrids—a small configuration of renewable energy, energy storage, and control that is connected to the larger electricity grid—can strengthen our energy system and reduce costs for everyone. They are also capable of operating alone, or "islanding," in the event that the larger power grid fails, providing needed safe havens in times of disaster or emergency.

But microgrids aren't just for emergencies. During regular use, microgrids can provide valuable services to help regulate the power on the larger utility grid. By smartly controlling the

info@blueplanetfoundation.org

55 Merchant Street 17th Floor • Honolulu, Hawai'i 96813 • 808-954-6142 • blueplanetfoundation.org

loads, storage, renewable energy, and electric vehicles that are connected within a microgrid, the microgrid itself can help regulate frequency, provide voltage control, shift load, provide demand response capabilities, and other ancillary services.

House Bill 2110 HD2 SD1 provides guidance to the PUC to develop a tariff for such microgrid services, **ensuring that such a tariff is designed to provide fair compensation for electricity, electric grid services, and other benefits provided to or by the electric utility**, the person or entity operating the microgrid, and other ratepayers. Further, in developing the tariff, the PUC, to the extent possible, should seek to **standardize and streamline the related interconnection processes for microgrid projects**. This would encourage and facilitate the development of microgrids and leverage the technology for the benefit and security of our islands' power systems.

Without a standard process for valuing microgrid services and a clear process to interconnect, Hawaii risks that future microgrids might disconnect from the utility grid altogether. When this happens, not only do other utility customers lose the benefit of the services that the microgrid provides, they may also face increased rates as the overall energy system costs are covered by fewer customers.

Hawaii has the opportunity to meet the trifecta of needs for more renewable energy, greater resiliency, and public safety by harnessing the power of energy storage, microgrids, and smart planning.

Thank you for the opportunity to testify.



Testimony before the Senate Committee on Ways and Means

April 5, 2018

10:30 am

Conference Room 211

H.B. 2110 HD2 SD1 Relating to Resiliency

By Keiki-Pua Dancil, Ph.D.

Director, Business Strategy Development

Hawaiian Electric Company, Inc.

Chair Dela Cruz, Vice Chair Keith-Agaran, and Members of the Committee:

My name is Keiki-Pua Dancil, and I am the Director of Business Strategy Development at Hawaiian Electric Company. I am testifying on behalf of Hawaiian Electric and its subsidiary utilities, Maui Electric and Hawaii Electric Light (collectively “Companies”). The Companies **support** H.B. 2110 HD2 SD1.

As we transition to a 100% renewable future, safety, reliability, and resiliency of our island grids is paramount. The Companies believe that properly designed microgrids may provide benefits to all. The Companies are encouraged with the language in the proposed bill and support working through a Public Utilities Commission process to help identify appropriate microgrid programs and tariff structures.

Thank you for the opportunity to provide this testimony.



Before the Senate Committee on Ways and Means
Thursday, April 5, 2018, 10:30 a.m., Room 211
HB 2110 HD 2 SD 1: RELATING TO RESILIENCY

Aloha Chair Dela Cruz, Vice Chair Keith-Agaran, and members of the Committee,

On behalf of the Distributed Energy Resources Council of Hawaii (“DER Council”), I would like to testify in strong support for HB 2110 HD 2 SD 1, which directs the Public Utilities Commission to establish a microgrid services tariff to facilitate and encourage the development and use of energy resilient microgrids. 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.

Microgrids have the unique feature of being able to operate both in parallel with the electrical grid and also independently from the electrical grid depending upon the current best use of the renewable energy installation. This extremely flexible resource can support various grid services such as integrating energy storage and demand response, load shifting, frequency and voltage support, in addition to providing an independent source of power during grid emergencies. As Hawaii begins to focus on grid resiliency, the development of microgrids should be a substantial part of the planning process.

However, there is no clear regulatory pathway at this point for the development of microgrids and the means by which the utility will integrate the microgrid function. Although several other distributed energy resources dockets are currently active at the PUC, none of the current dockets focus specifically on microgrids. This subject is complex enough to warrant a separate deliberation, and we should not expect that it would be inserted into the current ongoing dockets.

Therefore, DERC strongly supports HB 2110 HD 2 SD 1. Now is the time to provide substantial support for Hawaii’s grid resiliency.

Thank you for the opportunity to testify

Leslie Cole-Brooks
Executive Director
DER Council of Hawaii



ORGANIZING *for* ACTION

To: The Senate Committee on Ways and Means
From: Brodie Lockard, OFA Hawaii, 262-1285
Date: Thursday, April 5, 2018

In support of HB 2110 HD2 SD1

Dear Chair Dela Cruz, Vice Chair Keith-Agaran and Committee members,

I am the Hawaii Climate Lead for Organizing for Action, a progressive group that played a lead in electing President Barack Obama twice. OFA Hawaii supports HB 2110 HD2 SD1.

Residents and businesses are vulnerable to disruptions in the islands' energy systems caused by extreme weather events or other disasters. Microgrids would build energy resiliency into our communities, thereby increasing public safety and security.

Microgrids hold great potential as a way for small groups of energy users--an apartment complex, a hotel, a school campus--to produce their own energy and be self-sufficient in an emergency.

Microgrids can also provide valuable services to the public utility electricity grid, including energy storage and demand response, to support load shifting, frequency response, and voltage control, among other ancillary services.

Few microgrids have been proposed in Hawaii, in part because of a lack of standard terms regarding the value of services exchanged between the microgrid operator and the utility.

HB 2110 HD2 SD1 directs the PUC to develop a standard tariff for microgrid services (properly valuing the grid services that a microgrid can provide to the larger grid). The idea is to unlock the microgrid market by creating clear, standard terms for microgrids to plug-in--similar to what NEM did for rooftop solar. Otherwise those who want to build a microgrid and interconnect are left to negotiate with HECO.

Please support HB 2110 HD2 SD1. Thank you for this opportunity to submit testimony.

Brodie Lockard
Hawaii Climate Lead, Organizing for Action



Testimony Before the Senate Committee on Ways and Means

By Michael Yamane
Chief of Operations
Kaua'i Island Utility Cooperative
4463 Pahe'e Street, Suite 1, Līhu'e, Hawai'i, 96766-2000

Thursday, April 5, 2018, 10:30 a.m.
Conference Room # 211

House Bill No. 2110, HD2 SD1 – Relating to Resiliency

To the Honorable Donovan M. Dela Cruz, Chair, Senator Gilbert S.C. Keith-Agaran, Vice Chair and Members of the Committee:

DESCRIPTION: Directs the Public Utilities Commission to establish a microgrid services tariff to encourage and facilitate the development and use of energy resilient microgrids.

POSITION: KIUC opposes HB 2110, HD2 SD1. KIUC recommends that this bill should be deferred. Alternatively, KIUC requests that it be specifically exempted from this measure.

COMMENTS: This measure attempts to address technical, policy and economic issues associated with the establishment of a microgrid services tariff based on a defined set of principles/requirements. KIUC contends that this measure may result in unintended consequences adverse to the public interest (particularly to KIUC's member-owners) by unduly limiting and restricting the Commission in how it can address these issues. The Commission must have adequate regulatory flexibility to address these complex and technical issues as it deems necessary for the public interest.

- The Commission, under its general investigatory powers (i.e., Hawai'i Revised Statutes §§ 269-7(a) and 269-15), already has the statutory authority and discretion to initiate a proceeding to address technical, policy and economic issues associated with the establishment of a microgrid services tariff. Therefore, we argue that this bill is unnecessary.

HB 2110, HD2 SD1
April 5, 2018

- If the intent of this measure is to address energy resiliency or the vulnerability to disruptions to the island of Kauaʻi's energy system caused by extreme weather events or other disasters, KIUC has already implemented various processes and physical improvements to its system. As you may be aware, in 1992, Hurricane Iniki caused substantial damage to Kauaʻi's electrical infrastructure similar to what occurred in Puerto Rico in 2017. Since then, Kauaʻi Electric (KIUC's predecessor) and KIUC has hardened its infrastructure and has significantly improved resiliency. In addition, KIUC has utilized advancement in energy storage technology to increase grid stability, reliability, and resiliency.

Mahalo for your consideration.



HB2110 HD2 SD1

Energy Resiliency; Microgrid Services Tariff

April 5, 2018, 2:00p.m.

Relating to Resiliency

Aloha Chair Dela Cruz, Vice Chair Keith-Agaran, and members of the committee, my name is Maxim Poudrier-Tudan, and I am with the Sierra Student Coalition at the University of Hawaii at Manoa. The Sierra Student Coalition at the University of Hawaii at Manoa stands in strong support of HB2110 HD2 SD1 relating to resiliency.

HB2110 HD2 SD1 creates a tariff to help not only encourage, but enable the establishment of a microgrid here in Hawai'i. The benefits of Having a microgrid are unprecedented, and thus funding a microgrid is imperative for Hawai'i's future. Residents and businesses are vulnerable to disruptions in the islands' energy systems caused by extreme weather events or other disasters. Microgrids would build energy resiliency into our communities, thereby increasing public safety and security. Microgrids hold great potential as a way for small groups of energy users as well. Energy users such as an apartment complex, a hotel, a school campus--to produce their own energy and be self-sufficient in the event of an emergency. Not only this, but microgrids such as the one proposed in HB 2110 HD2 SD1 has the potential to benefit low and middle-income communities and renters, to demographics that might not otherwise be able to benefit from residential distributed energy generation.

These microgrids can also provide services to the PUC by creating systems of energy storage and demand response to support load shifting, frequency response, and voltage control. Funding this microgrid will help unlock the microgrid market by creating clear, standard terms for microgrids to apply. Allowing the PUC to begin a process to examine the interconnection of any sized microgrid is necessary, and of great importance. HB2110 HD2 SD1 will help the state of Hawaii reach its goal of 100% renewable energy by 2045.

Mahalo for the opportunity to submit testimony.



Chair Dela Cruz
Vice Chair Keith-Agaran
Senate Committee on Ways and Means

Thursday, April 5, 2018
10:30 A.M.

TESTIMONY IN SUPPORT OF HB2110 HD2 SD1 RELATING TO RESILIENCY

Aloha Chair Dela Cruz, Vice Chair Keith-Agaran, Members of the Senate Committee on Ways and Means,

My name is Jun Shin, a freshman at the University of Hawaii at Manoa. I serve as a board member at-large for Young Progressives Demanding Action – Hawaii, an organization that is a member of the Common Good Coalition. I am **testifying in support of HB2110 HD2 SD1 relating to resiliency.**

HB2110 HD2 SD1 creates a tariff to help not only encourage, but enable the establishment of a microgrid here in Hawai'i. The benefits of having a microgrid are unprecedented, and thus funding a microgrid is imperative for Hawai'i's future. Residents and businesses are vulnerable to disruptions in the islands' energy systems caused by extreme weather events or other disasters. Microgrids would build energy resiliency into our communities, thereby increasing public safety and security and preventing Hawaii from going through the struggles that our brothers and sisters in places like Puerto Rico had to go through. Microgrids hold great potential as a way for small groups of energy users as well. Energy users such as an apartment complex, a hotel, a school campus, etc can produce their own energy and be self-sufficient in the event of an emergency. Not only this, but microgrids such as the one proposed in HB 2110 HD2 SD1 has the potential to benefit low and middle-income communities and renters, to demographics that might not otherwise be able to benefit from residential distributed energy generation. This has the potential to give everyone the opportunity to be environmental stewards, as well as be prepared for emergencies that may come our way.

These microgrids can also provide services to the PUC by creating systems of energy storage and demand response to support load shifting, frequency response, and voltage control. Funding this microgrid will help unlock the microgrid market by creating clear, standard terms for microgrids to apply. Allowing the PUC to begin a process to examine the interconnection of any sized microgrid is necessary, and of great importance. HB2110 HD2 SD1 will help the state of Hawaii reach its goal of 100% renewable energy by 2045. **Please pass HB2110 HD2 SD1 out of this committee.** As a state made up of islands, we stand to benefit greatly from this investment.

Mahalo for the opportunity to testify,

Jun Shin,
Board Member At-Large
Young Progressives Demanding Action – Hawaii
1561 Kanunu St. #2106 Honolulu, HI 96814
Cell: 808-255-6663
Email: junshinbusiness729@gmail.com



To: The Senate Committee on Ways and Means
From: Sherry Pollack, 350Hawaii.org
Date: Thursday, April 5, 2018

In support of HB 2110 HD2 SD1

Dear Chair Dela Cruz, Vice Chair Keith-Agaran and Committee members,

I am the Vice President of the Hawaii chapter of 350.org, the largest international organization dedicated to fighting climate change. 350Hawaii.org supports HB 2110 HD2 SD1.

Residents and businesses are vulnerable to disruptions in the islands' energy systems caused by extreme weather events or other disasters. Microgrids would build energy resiliency into our communities, thereby increasing public safety and security.

Microgrids hold great potential as a way for small groups of energy users--an apartment complex, a hotel, a school campus--to produce their own energy and be self-sufficient in an emergency.

Microgrids can also provide valuable services to the public utility electricity grid, including energy storage and demand response, to support load shifting, frequency response, and voltage control, among other ancillary services.

Few microgrids have been proposed in Hawaii, in part because of a lack of standard terms regarding the value of services exchanged between the microgrid operator and the utility.

HB 2110 HD2 SD1 directs the PUC to develop a standard tariff for microgrid services (properly valuing the grid services that a microgrid can provide to the larger grid). The idea is to unlock the microgrid market by creating clear, standard terms for microgrids to plug-in--similar to what NEM did for rooftop solar. Otherwise those who want to build a microgrid and interconnect are left to negotiate with HECO.

Please support HB 2110 HD2 SD1. Thank you for this opportunity to submit testimony.

Sherry Pollack
Vice President, 350Hawaii.org

HB-2110-SD-1

Submitted on: 4/2/2018 6:56:46 PM

Testimony for WAM on 4/5/2018 10:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Benton Kealii Pang, Ph.D.	Individual	Support	No

Comments:

I support HB2110. Microgrids have the added benefit of providing access to these types of energy generation to a wider and more diverse range of communities. Microgrids such as the one proposed in HB 2110 has the potential to benefit low and middle income communities and renters, to demographics that might not otherwise be able to benefit from residential distributed energy generation. Please pass this measure.

HB-2110-SD-1

Submitted on: 4/2/2018 8:27:19 PM

Testimony for WAM on 4/5/2018 10:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Sarah Toole	Individual	Support	No

Comments:

My name is Sarah Toole, my address is 1128 Ala Napunani St. 96818, and I am a political science student at UH Manoa.

I support this bill.

HB-2110-SD-1

Submitted on: 4/3/2018 9:07:11 AM

Testimony for WAM on 4/5/2018 10:30:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
june chee	Individual	Support	No

Comments: