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**TO THE HOUSE COMMITTEE ON
ENERGY AND ENVIRONMENTAL PROTECTION**

TWENTY-NINTH LEGISLATURE
Regular Session of 2018

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

**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. 2110, RELATING TO RESILIENCY.

DESCRIPTION:

This measure directs the public utilities commission to establish a microgrid services tariff or tariffs to encourage and facilitate the development and use of energy resilient microgrids.

POSITION:

The Division of Consumer Advocacy (“Consumer Advocate”) offers comments on this bill.

COMMENTS:

The Consumer Advocate appreciates the Legislature’s recognition that Hawaii must approach its energy planning future with a holistic vision. The Consumer Advocate has consistently been advocating for electric service that is affordable, safe, reliable, and resilient. The Consumer Advocate agrees that microgrids could have a significant role to play in achieving Hawaii’s clean energy policies and that steps should be taken to ensure Hawaii can investigate the role that microgrids might play. The Consumer Advocate also appreciates the Legislature’s acknowledgement that microgrids could adversely impact other customers. To protect all customers’ interests, the necessary analysis should be

allowed to proceed before the Public Utilities Commission (“Commission”). There is currently a docket before the Commission that focuses on Distributed Energy Resources, Docket No. 2014-0192. Some of the apparent objectives of this proposed measure should be addressed in the upcoming phase of that docket. 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. If, however, the Legislature believes it is necessary to communicate its desire to have the Commission address microgrids, the Consumer Advocate suggests that using a resolution to communicate that desire, rather than a statute, might be sufficient and more administratively efficient.

Thank you for this opportunity to testify.

HB-2110

Submitted on: 1/29/2018 7:42:48 PM

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

Submitted By	Organization	Testifier Position	Present at Hearing
Melodie Aduja	OCC Legislative Priorities	Support	No

Comments:

**PRESENTATION OF THE
OAHU COUNTY COMMITTEE ON LEGISLATIVE PRIORITIES
DEMOCRATIC PARTY OF HAWAII
TO THE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION
HOUSE OF REPRESENTATIVES
TWENTY-NINTH LEGISLATURE
REGULAR SESSION OF 2018
Tuesday, January 30, 2018**

8:30 a.m.

Hawaii State Capitol, Conference Room 325

RE: Testimony in Support of HB 2110, RELATING TO RESILIENCY

To the Honorable Chris Lee, Chair; the Honorable Nicole E. Lowen, Vice-Chair, and Members of the Committee on Energy & Environmental Protection:

Good morning, my name is Melodie Aduja. I serve as Chair of the Oahu County Legislative Priorities Committee of the Democratic Party of Hawaii. Thank you for the opportunity to provide written testimony on House Bill No. 2110, relating to energy resiliency and microgrid services tariff. The OCC Legislative Priorities Committee is in favor of House Bill No. 2110 and support its passage.

House Bill No. 2110, is in alignment with the Platform of the Democratic Party of Hawai'i ("DPH"), 2016, as it directs the public utilities commission to establish a microgrid services tariff or tariffs to encourage and facilitate the development and use of

energy resilient microgrids. The DPH Platform states that “Electricity rates in Hawai’i are among the highest in the nation despite the fact that we enjoy an abundance of sunshine year-round. Electric utility companies and cooperatives must open the grid to alternative power sources including solar panels and geothermal energy. We support the effort of our government officials to require utilities to provide for the maximum, comprehensive, integrated use of renewable energy and associated technologies such as storage and smart grid technologies.” (Platform of the DPH, P. 9, Lines 458-462 (2016)).

Given that House Bill No. 2110 directs the public utilities commission to establish a microgrid services tariff or tariffs to encourage and facilitate the development and use of energy resilient microgrids, it is the position of the OCC Legislative Priorities Committee to support this measure.

Thank you very much for your kind consideration.

Sincerely yours,

/s/ Melodie Aduja

Melodie Aduja, Chair, OCC Legislative Priorities Committee

Email: legislativepriorities@gmail.com, Tel.: (808) 258-8889

HB-2110

Submitted on: 1/30/2018 6:21:31 AM

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

Submitted By	Organization	Testifier Position	Present at Hearing
Ron Whitmore	Dept of Research & Development, Hawaii County	Support	No

Comments:

The County of Hawaii Department of Research and Development strongly supports HB 2110, seeking to strengthen Hawaii's energy systems by facilitating the development of energy resilient microgrids.

Hawaii County's energy system is particularly vulnerable to a wide range of hazards, including earthquakes, tsunamis, lava flow, and hurricanes, all of which have disabled components of our electrical grid in recent history.

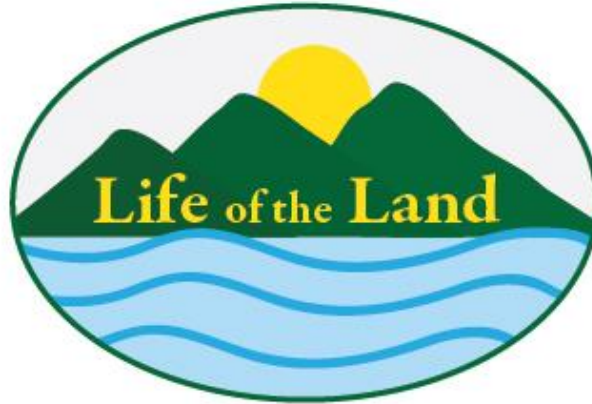
A more decentralized system composed of inter-dependent microgrids is far less vulnerable to hazards and far more resilient. Since they can operate both as part of an interconnected grid and independently in the event of grid failures, microgrids provide the flexibility needed. This is particularly useful in Hawaii County, where we have many small communities ringing a vast island, separated by large open spaces.

Microgrids provide other benefits, too. By intelligently controlling load, storage, production, and connected electric vehicles, microgrids help regulate frequency, provide voltage control, shift load, and provide demand response capabilities.

Without a standard process for valuing microgrid services and a clear process to interconnect, local communities may develop their own microgrids and disconnect from the interdependent grid altogether. If this happens, utility customers lose the benefits of microgrids and face increased rates as the overall energy system costs are covered by fewer customers.

We respectfully request that the committee forward HB 2110 as currently written.

Thank you for the opportunity to testify.



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COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Rep. Chris Lee, Chair

Rep. Nicole E. Lowen, Vice Chair

Tuesday, January 30, 2018

8:30 a.m.

Conference Room 325

HB 2110 Relating to Resiliency

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 2110 RELATING TO RESILIENCY

Support

The bill is focused on standardizing microgrids. The bill was introduced due to efforts by UH and NELHA to plan for microgrids.

Life of the Land is a very strong proponent of microgrids but believes that the formation of microgrids is misunderstood. Contrary to the beliefs of many, microgrids are legal in this state. Any house with solar and a battery that can stay lit when the grid goes down, is a microgrid. Any electric car powered by the grid is a microgrid when it is in the drive mode. Anyone can build a multi-building microgrid anywhere in the State, providing they comply with the applicable rules and regulations of the Public Utilities Commission.

The lack of fixed multi-unit microgrids in this State is the result of four issues: (1) not many non-military microgrids have been proposed, and (2) those that were proposed by UH Mānoa and NELHA (a) involve transferring costs and risks to all ratepayers, (b) the proponents have not

participated in regulatory proceedings before the Public Utilities Commission, and (c) the microgrid would be exempt from oversight by the Public Utilities Commission.

A proceeding on microgrids could be part of the existing Distributed Energy Resources (DER) proceeding, or could be a separate proceeding, as was the recent Demand Response docket.

In either case, the Legislature should legislate that UH and NELHA are parties to the proceeding.

Perhaps the most complex proceeding ever to have been before the Public Utilities Commission, is the ongoing “Investigation on Distributed Energy Resources” (DER), docket number 2014-0192.

The docket currently has 19 parties.

Consumer Advocate	SunPower Corporation
Hawaii PV Coalition	Apollo Energy Corporation
DBEDT	Distributed Energy Resources Council of Hawaii
Life of the Land	Ulupono Initiative LLC
Blue Planet Foundation	The Energy Freedom Coalition of America, LLC
HECO	Renewable Energy Action Coalition of Hawaii, Inc.
MECO	Hawaii Solar Energy Association
HELCO	Kauai Island Utility Coop
Puna Pono Alliance	The Alliance for Solar Choice
Ron Hooson	

The Commission broke the proceeding down sequentially into Part 1 and Part 2, each containing a myriad of issues. The Commission issued Decision and Orders No. 33258, dated October 12, 2015 (321 pages), No. 34534, dated May 3, 2017 (54 pages), and No. 34924, dated October 20, 2017 (202 pages).

Issue Order No. 32737, dated March 31, 2015, included, “What near-term revisions to applicable interconnection-related tariffs should be made expedite the interconnection process, mitigate DER integration challenges, and enable beneficial DER investment, deployment, and customer choice?”

Issue Order No. 34206, dated December 9, 2016, included, “What measures can be taken to proactively identify, and address anticipated technical barriers to safely integrating increasing amounts of DER in a cost-effective manner? ...What alternative rate designs, including unbundled rate designs, should be considered to facilitate the safe and beneficial integration of DER onto Hawaii’s electric grids?”

Mahalo
Henry Curtis
Executive Director



To: The Committee on Energy & Environmental Protection (EEP)
From: Brodie Lockard, 350Hawaii.org

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

350Hawaii.org supports HB 2110.

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.

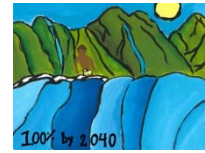
Microgrids can also provide valuable services to the public utility electricity grid, including energy storage and demand response, to support load shifting, frequency response, and voltage control, among other ancillary services.

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 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 (and we know who holds the cards in those negotiations).

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

Brodie Lockard
350Hawaii.org



HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

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

Room 325

(Testimony is 2 pages long)

TESTIMONY IN STRONG SUPPORT OF HB 2110

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

Blue Planet Foundation **strongly supports** HB 2110, 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.

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 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.

info@blueplanetfoundation.org

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

House Bill 2110 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.

We respectfully request that the Committee forward HB 2110 as currently written.

Thank you for the opportunity to testify.



**Testimony before the House Committee on Energy & Environmental Protection
January 30, 2018
8:30 am
Conference Room 325
H.B. 2110 – Relating to Resiliency**

**By Keiki-Pua Dancil
Director, Business Strategy Development
Hawaiian Electric Company, Inc.**

Chair Lee, Vice Chair Lowen, 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.

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 PUC process to help identify appropriate microgrid programs and tariff structures.

Thank you for the opportunity to provide this testimony.



HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

January 30, 2018
(*Testimony is 1 page long*)

TESTIMONY IN SUPPORT OF HB 2110 WITH PROPOSED AMENDMENTS

Aloha Chair Lee and Members of the Committee:

The Alliance for Solar Choice (TASC) respectfully supports HB 2110, relating to resiliency (requiring the Commission to establish a microgrid services tariff). TASC advocates for maintaining successful distributed solar energy policies and markets throughout the United States. Collectively, TASC members serve a majority of the solar customers in Hawaii.

This measure wisely notes the opportunity to create more resilient, lower cost, and customer empowering sources of power through the use of microgrids. These systems can provide backup power to public buildings, such as hospitals and emergency centers, and “sell back” the power to the grid when these systems are not being actively used. Microgrids also have the capacity to serve remote locations where the cost of transmitting power may be unduly burdensome.

TASC notes two concerns with this draft. First, it places a fairly high burden on the Commission to develop an entirely new microgrid program. Narrowing the scope of the task by, among other things, pointing to specific programs or adopting parameters could limit the scope of the Commission’s investigation and concurrent burden. For example, the Legislature could direct the Commission to look at Puerto Rico’s recently announced rules and the related comments, for direction.¹

Second, TASC notes a primary hurdle to developing microgrids is the statutory definition of a “public utility” contained in Haw. Rev. Stat. § 269-1. Third-party entities are unwilling to be defined as a public utility, and the perhaps unnecessary public oversight that entails, even if the end result is in the public interest. Inasmuch as this issue is statutory, this Committee should consider amending the definition of “public utility” to read:

“Public utility”:

...

(2) Shall not include:

...

Anyone who operates a microgrid project pursuant to a microgrid services tariff that allows for an exemption from the definition of a “public utility.”

Thank you for considering our comments.

¹ Available at <http://energia.pr.gov/wp-content/uploads/2018/01/Proposed-Regulation-on-Microgrid-Development-CEPR-MI-2018-0001-2.pdf>

HB-2110

Submitted on: 1/27/2018 1:47:15 PM

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

Submitted By	Organization	Testifier Position	Present at Hearing
Javier Mendez-Alvarez		Support	No

Comments:

HB-2110

Submitted on: 1/28/2018 5:31:25 AM

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

Submitted By	Organization	Testifier Position	Present at Hearing
Patricia Blair		Support	No

Comments:

HB-2110

Submitted on: 1/28/2018 1:42:10 AM

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

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

Comments:

Dear Legislators,

I am in support of HB 2110 which directs the PUC to establish a microgrid services tariff to encourage and facilitate the development and use of energy resilient microgrids.

Thank you for your consideration.

Jan Pappas

Aiea, Hawaii 96701

HB-2110

Submitted on: 1/28/2018 2:04:10 PM

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

Submitted By	Organization	Testifier Position	Present at Hearing
Taurie Kinoshita		Support	No

Comments:

I support HB 2110. I support the establishment of a microgrid services tariff or tariffs to encourage and facilitate the development and use of energy resilient microgrids. Thank you for consideration.

HB-2110

Submitted on: 1/28/2018 4:42:15 PM

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

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

Comments:

HB-2110

Submitted on: 1/28/2018 7:17:53 PM

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

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

Comments:

Aloha Representatives and Senators,

I am a member of 350 HI and support HB 2110 for the following reasons.

* 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 the event of an emergency.

* Microgrids are legal in Hawaii but not many have been proposed. One reason is a lack of standard terms regarding the value of services exchanged between the microgrid operator and the utility.

* 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.

* This bill 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 (and we know who holds the cards in those negotiations).

Mahalo for your considerations

HB-2110

Submitted on: 1/28/2018 10:26:06 PM

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

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

Comments:

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.

HB-2110

Submitted on: 1/29/2018 8:25:57 AM

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

Submitted By	Organization	Testifier Position	Present at Hearing
Joan Gannon	West Hawaii CHC	Support	No

Comments:

I support 2110

HB-2110

Submitted on: 1/29/2018 8:30:07 AM

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

Submitted By	Organization	Testifier Position	Present at Hearing
Leslie Cole-Brooks	DER Council of Hawaii	Support	No

Comments:

HB-2110

Submitted on: 1/29/2018 9:04:51 PM

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

Submitted By	Organization	Testifier Position	Present at Hearing
Severine Busquet		Support	No

Comments:

Hi:

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 the event of an emergency. In addition to promote lowering energy consumption, microgrids would build energy resiliency into our communities, thereby increasing public safety and security. Microgrids are legal in Hawaii but not many have been proposed. One reason is a lack of standard terms regarding the value of services exchanged between the microgrid operator and the utility.

I support HB2110 in order to unlock the microgrid market by having the PUC creating clear, standard terms for microgrids to plug-in--similar to what NEM did for rooftop solar. Thanks for your attention

Severine