



NATURAL ENERGY LABORATORY OF HAWAII AUTHORITY

An Authority of the State of Hawaii attached to the Department of Business, Economic Development & Tourism



Statement of
Gregory P. Barbour
Executive Director
Natural Energy Laboratory of Hawaii Authority
before the

HOUSE COMMITTEE ON CONSUMER PROTECTION AND COMMERCE

Tuesday, February 13, 2018
2:00 pm
State Capitol, Conference Room 329

in consideration of

HB 2460 HD 1 **RELATING TO MICROGRIDS.**

The Natural Energy Laboratory of Hawaii Authority (NELHA) supports HB 2460 H.D. 1 which enables microgrid demonstration projects in Hawaii.

The implementation of microgrid technology at NELHA has long been a key component of NELHA's Distributed Energy Resources (DER) strategy and its master plan which were recently updated in 2013 and 2011 respectively.

Many reports over the years have recognized that we provide an ideal location to address deployment challenges; provide power to pump seawater to the businesses in the park that require a continuous supply to avoid catastrophic losses; understand integration into the island-wide utility grid; and, perhaps most importantly how microgrids can help the island-wide grid.

NELHA possesses a unique combination of physical infrastructure and access to clean energy resources. More specifically, NELHA's strategic location on Keahole Point results in our

technology park being a self-contained “branch” served by two separate feeder lines from the main island-wide transmission grid. In addition, as a seawater utility, we operate three main pump stations throughout the park with a high electrical demand of approximately 1 MW. NELHA has many components of a microgrid due to its development in the early 80s which includes ownership of switchgear and transformers in the Research Campus and Farm Compound as well as the recent development of Supervisory Control and Data Acquisition System (SCADA) which includes a vast array of utility grade power monitoring devices, computer storage and display system. We also have many existing and planned renewable energy demonstration projects ranging from energy generation (ocean thermal energy conversion, concentrated solar power, PV, and biofuels) to energy storage (electrical energy storage test bed, and hydrogen production and storage).

We put considerable effort into building strategic relationships over the past several years with key players in this field including: Hawaiian Electric and Light Company (HELCO), State Energy Office, UH Natural Energy Institute; the County of Hawaii; National Energy Renewable Laboratory and Sandia National Laboratory. This has led to numerous projects and official MOU with HELCO, County of Hawaii and Sandia National Labs.

This measure would facilitate and accelerate the implementation of microgrid technology at NELHA by assisting us in applying for grant funding. In addition, while NELHA has assembled various microgrid components, this measure would allow NELHA to adopt a more comprehensive approach with respect to its DER by removing current limitations. Our vision is to deploy microgrid technology only within the park to serve our own demand from the seawater pump stations and the park clients’ needs. We do not intend to wheel electrical power outside of the park boundaries.

The lessons learned here at NELHA will be directly applicable to the rest of Hawaii to help in understanding the benefits of microgrids to island wide grids. In addition, it is important to note that a recent national study found that lower costs for electricity increases economic growth. It will also help fulfill NELHA's mission of economic development in West Hawaii by stabilizing electrical costs within the park, assisting with the commercialization of renewable energy technologies and diversifying the economy. Finally, it is important to note that microgrids can isolate themselves from the larger electricity grid in a time of emergency and thereby add energy resiliency into our communities, thereby increasing public safety and security.

Thank you for the opportunity to offer these comments.

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

February 13, 2018
2:00 p.m.

MEASURE: H.B. No. 2460 HD1
TITLE: RELATING TO MICROGRIDS.

Chair Takumi and Members of the Committee:

DESCRIPTION:

Authorizes the establishment of a Natural Energy Laboratory of Hawaii Authority (NELHA) microgrid demonstration project for the generation, storage, and distribution of renewable energy on property controlled by NELHA. (HB2460 HD1)

POSITION:

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

COMMENTS:

The Commission supports the development of microgrids as an option to meet the energy needs of customers as articulated in the *Commission’s Inclinations on the Future of Hawaii’s Electric Utilities* (See Docket No. 2012-0036, Order No. 32052). Microgrids offer the potential to aggregate pockets of load and generation resources, which can disconnect and reconnect to the larger grid in times of emergency.

However, the Commission notes that oversight and consumer protection issues may arise for entities served or affected by a microgrid exempt from Commission regulation. For example, it is unclear if the proposed language related to wheeling could result in undue subsidization of the NELHA microgrid demonstration project by other customers, absent Commission review.

H.B. No. 2460 HD1
Page 2

Furthermore, the Legislature is considering H.B. 2110 which would require the Commission to open a proceeding by July 1, 2018, to establish a microgrid services tariff. As such, Section 2 (d) of H.B. 2460 may not be necessary.

Thank you for the opportunity to testify on this measure.



Testimony before the House Committee on Consumer Protection & Commerce

February 13, 2018

2:00 pm

Conference Room 329

H.B. 2460 HD1 – Relating to Resiliency

By Keiki-Pua Dancil, Ph.D.

Director, Business Strategy Development

Hawaiian Electric Company, Inc.

Chair Takumi, Vice Chair Ichiyama, 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 the intent but **oppose** H.B. 2460 HD1.

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. Currently, there are two bills (S.B. 2933 and H.B. 2110 HD 1) that encourage and facilitate the development and use of microgrids through the establishment of a standard microgrid services tariff and direct the PUC to open a proceeding to establish a microgrid services tariff by July 1, 2018. The Companies support S.B. 2933 and H.B. 2110 HD1 and believe they will accomplish the intent of H.B. 2460 HD1.

The Companies further suggest that the NELHA site be identified as the first demonstration microgrid project after the rules and tariffs are established for microgrids per H.B. 2110 HD 1.

Thank you for the opportunity to provide this testimony.

HB-2460-HD-1

Submitted on: 2/12/2018 1:48:20 PM

Testimony for CPC on 2/13/2018 2:00:00 PM

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

Comments:



Email: communications@ulupono.com

HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE
Tuesday, February 13, 2018 — 2:00 p.m. — Room 329

Ulupono Initiative Strongly Supports HB 2460 HD 1 with an Amendment, Relating to Microgrids

Dear Chair Takumi, Vice Chair Ichiyama, 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 2460 HD 1, which establishes a Natural Energy Laboratory of Hawai'i Authority (NELHA) microgrid demonstration project, because it aligns with our goal of increasing the production of clean, renewable energy in Hawai'i.

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 businesses that rely upon a continuous supply of electricity from a microgrid, such as hospitals and hotels, certain microgrids need to sell their power to those businesses without being considered a public utility.

NELHA in Kailua-Kona is an excellent example of this, where the fisheries businesses would suffer catastrophic losses in the event of power loss, and it is cheaper to provide reliability for the microgrid than the individual business. NELHA is an important center of aquaculture and energy innovation that has demonstrated that a state authority can be effective and profitable at promoting innovation and commerce. NELHA already demonstrates the state's only operational Ocean Thermal Energy Conversion facility, seawater cooling, and an innovative solar gateway center. NELHA will soon be

Investing in a Sustainable Hawai'i



demonstrating grid side storage technology in partnership with HELCO, Sandia Labs, and Ulupono. It is important to NELHA's expansion and for the economic security of the commercial tenants to have continuous power, which will be enabled by a microgrid. For all of these reasons, the provisions in this bill are highly desirable.

The legislation should ensure that enabling microgrids does not cause grid defection without the appropriate exit charges to guarantee the remaining grid customers are not harmed. This can be addressed by amending 269 (e) to read:

(e) "The Public Utilities Commission may take any steps the commission deems necessary to enable and compel electric public utilities to allow the development of the natural energy laboratory of Hawaii authority microgrid demonstration project by non-utilities. These steps may include issuing related orders, amending or adopting related rules, working with permitting agencies or other authorities to grant exemptions, or other steps necessary to enable the development of the natural energy laboratory of Hawaii authority microgrid demonstration project." Starting on page 5, line 17, add, "The Public Utilities Commission shall determine what exit charges are necessary to prevent the remaining ratepayers from paying for the embedded costs that would have otherwise been paid by the microgrid customers."

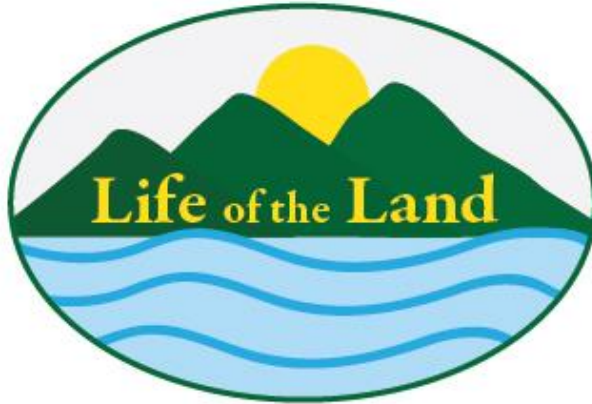
In addition, this legislation provides the utility, regulators, and stakeholders with a test case for microgrids, which may contribute to supporting the state's energy goals.

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



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

COMMITTEE ON CONSUMER PROTECTION & COMMERCE

Rep. Roy M. Takumi, Chair
Rep. Linda Ichiyama, Vice Chair

Tuesday, February 13, 2018
2:00 P.M.
Conference Room 329

HB 2460, HD1 RELATING TO MICROGRIDS.

STRONG SUPPORT

Aloha Chair Takumi, Vice Chair Ichiyama, 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.

The future electric grid architecture will probably consist of layered microgrids. Camp Smith in Aiea has an outer microgrid that can be islanded incase the HECO grid goes off-line. Camp Smith also has two inner microgrids that can survive if the outer microgrid fails.

Microgrid systems can recover quicker from disasters. Microgrid systems can also serve as labs, testing the integration of variable generation and shifting demand. A NELHA microgrid can provide valuable lessons in the development of this new architecture.

Mahalo,

Henry Curtis
Executive Director



HB2460 HD1

Renewable Energy; Microgrid Demonstration Project

February 13, 2018, 2:00p.m.

Relating to Microgrids

Aloha Chair Takumi, Vice Chair Ichiyama, and members of the committee. The Sierra Club Student Coalition stands in support of HB2460 HD1 on renewable energy; microgrid demonstration project.

HB2460 HD1 is imperative for Hawai'i to reach its goal of 100% renewable energy by 2045. The establishment of a Natural Energy Laboratory of Hawaii Authority (NELHA) microgrid demonstration project for the generation, storage, and distribution of renewable energy on property controlled by NELHA will open the door for the for the establishment of many more sites such as this one which will push this state in the direction it chose when adopting the Paris Climate Accords.

Microgrids help create clean forms of energy independently from electric corporation and separate from the electricity grid if it were to fail. Hawai'i and the planet needs more forms of renewable energy now than ever. Clean renewable energy is one of the greatest ways to combat climate change with the reduction of Carbon Dioxide in the air, and less reliance on fossil fuels. The benefits for HB2460 HD1 cannot be overlooked.

Thank you for allowing the Sierra Club Student Coalition to testify.



Hawaii Solar Energy Association
Serving Hawaii Since 1977

**TESTIMONY OF THE HAWAII SOLAR ENERGY ASSOCIATION
IN REGARD TO HB 2460 HD1, RELATING TO RENEWABLE ENERGY,
MICROGRID DEMONSTRATION PROJECTS
BEFORE THE
HOUSE COMMITTEE CONSUMER PROTECTION AND COMMERCE
ON
TUESDAY, FEBRUARY 13TH, 2018**

Chair Takumi, Vice-Chair Ichiyama, and members of the committee, my name is Will Giese, and I represent the Hawaii Solar Energy Association, Inc. (HSEA)

The HSEA was founded in 1977 to further solar energy and related arts, sciences and technologies with concern for the ecologic, social and economic fabric of the Hawaiian Islands. Our membership includes the vast majority of locally owned and operated solar installers, contractors, distributors, manufacturers, and inspectors across all islands.

The HSEA **supports** HB 2460 HD1. This measure seeks to create a microgrid demonstration project through the Natural Energy Laboratory of Hawaii (NELHA) that generates, stores, and distributes renewable energy on NELHA property.

Generally, renewable microgrid are a necessary part of Hawaii's energy infrastructure as the state grows closer to its goal of 100% renewable energy by 2045. A recent study by the Rocky Mountain Institute found that renewable microgrids in island communities reduces costs, build resiliency and grid stability, and contribute to the creation of a smarter grid.¹ An interesting case study of the island nation of Cuba, which ranks second in the world on installed distributed generation after Denmark, found that "microgrids at high-consuming locations could help to avoid transmission and distribution related losses as tourism, demand from private businesses, and strain on the grid grows."²

A microgrid, per this bill, is a small scale renewable energy electrical grid that produces, stores, and transmits electricity for use by consumers both on and off the NELHA property. By providing a test case for a resilient renewable microgrid that can provide energy for consumers on and off site, the NELHA demonstration project sets an important benchmark for how microgrids could be constructed throughout the state. Utility dockets regarding distributed generation and community based renewable energy

¹ Bunker, Kaitlyn. "Renewable Microgrids: Profiles From Islands and Remote Communities Across the Globe." *OurEnergyPolicy.org Renewable Microgrids Profiles From Islands and Remote Communities Across the Globe Comments*, 1 Nov. 2015, www.ourenergypolicy.org/renewable-microgrids-profiles-from-islands-and-remote-communities-across-the-globe/.

² Panfil, et al. "What's next for Cuba's Electricity Sector?" *The Electricity Journal*, vol. 30, no. 8, 2017, pp. 38-44.



Hawaii Solar Energy Association
Serving Hawaii Since 1977

(CBRE) projects would benefit from a variety of data produced by this facility secondary to its energy producing and transmitting purposes.

An added benefit of legislation regarding microgrid, with HB 2460 in particular, is that they directly address the question of utility wheeling. Wheeling is the transmission of energy from within and electrical grid to an outside electrical load, typically via transmission lines. In many states, wheeling is allowed between utility generators and load receivers in a given service area. Capital costs are recovered through transmission fee mechanisms like transmission access fees. The question of how wheeling will be accomplished by microgrid operators to loads outside of their property lines will eventually need to be answered. The NELHA demonstration project outlined in HB 2460 allows energy consumers, developers, and utility operators the chance to observe and refine different mechanisms by which this might be accomplished within a controlled environment.

Now more than ever renewable microgrids that build resiliency and stability into island electrical grids should be seriously considered as a path to 100% RPS by 2045. In the wake of Hurricane Maria, Puerto Rico released proposed rules on microgrid development to strengthen its grid against extreme weather.³ As of last month more than 30% of Puerto Ricans are without electricity.⁴ Puerto Rico is a wake up call for Hawaii. As a state we must decide if we are going to stand by and wait until a major disaster hits our islands, or be proactive with intelligent and timely energy policy.

We **strongly support** HB 2460 HD1 and we urge this committee to pass this measure.

Thank you for the opportunity to testify.

³ Staff, PREC. *REGULATION ON MICROGRID DEVELOPMENT*. MI ed., CEPR, ser. 0001, 2018, *REGULATION ON MICROGRID DEVELOPMENT*.

⁴ Savransky, Rebecca. "Nearly Half a Million Customers Are Still without Power in Puerto Rico." *The Hill*, 25 Jan. 2018, thehill.com/blogs/blog-briefing-room/news/370744-nearly-half-a-million-customers-still-dont-have-power-in-puerto.



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

HOUSE COMMITTEE ON CONSUMER PROTECTION AND COMMERCE

Tuesday, February 13, 2018 2:00PM Conference Room 329

In SUPPORT of HB 2460 HD1 Relating to microgrids

Aloha Chair Takumi, Vice Chair Ichiyama, and members of the Committee,

On behalf of our 20,000 members and supporters, the Sierra Club of Hawai'i, a member of the Common Good Coalition, **strongly supports HB 2460 HD1**, which seeks to create a microgrid demonstration project through the Natural Energy Laboratory of Hawaii (NELHA) that generates, stores, and distributes renewable energy on NELHA property.

In general, the Sierra Club of Hawai'i *supports any effort to build renewable energy that helps meet our state's goal of 100% renewable by 2045*. 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 2460 HD1 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.

The NELHA microgrid demonstration project also allows the study of various impacts associated with the development of microgrids, such as utility wheeling, time-of-use export tariffs, and grid services. This project also helps stimulate local economies by providing good paying jobs and lower energy costs, lowering the energy cost burden in the area, and contributing renewable generation at scale to the state.

Although not specifically called out within the statute as written, we propose that any energy generated by this project and sold to off-site consumers be prioritized for low and middle income communities, Department Hawaiian Homelands (DHHL) communities, and students. We also recommend, to the extent possible, that locally owned companies, installers, and contractors be given priority during bid or Development.

Thank you for the opportunity to testify in **strong support of HD 2460 HD1**.

HB-2460-HD-1

Submitted on: 2/11/2018 5:51:53 PM

Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Janet Graham	350.org	Support	No

Comments:

To go fossil free will require a great deal of planning and research. That is why we need to support the solutions that are just emerging in other places that are working. We are very vulnerable to climate change and, therefore, must be prepared.

- HB2460, which establishes a microgrid demonstration project, aligns with our goals of producing clean, renewable energy. We need more projects like this to make renewable energy a more significant part of our economy.

-Now more than ever renewable microgrids that build resiliency and stability into island electrical grids should be seriously considered as a path to 100% RPS by 2045. Hurricane Maria and the devastation it left in Puerto Rico are a wake-up call for Hawaii to become more proactive in our energy policy.

-Microgrids provide greater resilience because these grids are able to separate from the electricity grid if it fails.

-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.

HB-2460-HD-1

Submitted on: 2/11/2018 3:35:35 PM

Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Carlton York	Individual	Support	No

Comments:

This is a needed step. Please pass this Bill .

HB-2460-HD-1

Submitted on: 2/11/2018 6:21:19 PM

Testimony for CPC on 2/13/2018 2:00:00 PM

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

Comments:

Microgrids are very important to the future clean energy of Hawaii.

HB-2460-HD-1

Submitted on: 2/11/2018 7:23:09 PM

Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
tlaloc tokuda	Individual	Support	No

Comments:

I belong to 350 HI and part of our activities is to promote renewable energy technologies. Even as Trump tries to promote fossil fuel the military seeks renewables and microgrid technologies because they make their bases much more resilient and self sustaining. 350 HI supports HB2460 for the following reasons.

- HB2460, which establishes a microgrid demonstration project, aligns with our goals of producing clean, renewable energy. We need more projects like this to make renewable energy a more significant part of our economy.

-Now more than ever renewable microgrids that build resiliency and stability into island electrical grids should be seriously considered as a path to 100% RPS by 2045. Hurricane Maria and the devastation it left in Puerto Rico are a wake-up call for Hawaii to become more proactive in our energy policy.

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-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.

Plus I live on the Big Island and microgrids would suit our demographics. Please consider.

HB-2460-HD-1

Submitted on: 2/11/2018 5:50:55 PM

Testimony for CPC on 2/13/2018 2:00:00 PM

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

Comments:

HB-2460-HD-1

Submitted on: 2/11/2018 8:41:29 PM

Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Joseph Kohn MD	Individual	Support	No

Comments:

www.WeAreOne.cc

HB-2460-HD-1

Submitted on: 2/11/2018 9:46:20 PM

Testimony for CPC on 2/13/2018 2:00:00 PM

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

Comments:

Now more than ever renewable microgrids that build resiliency and stability into island electrical grids should be seriously considered as a path to 100% RPS by 2045. Hurricane Maria and the devastation it left in Puerto Rico are a wake-up call for Hawaii to become more proactive in our energy policy.

Thank you for the opportunity to submit testimony.

To: The House Committees on Consumer Protection & Commerce
From: Brodie Lockard, 808-262-1285
Date: Tuesday, February 13, 2018

In support of HB 2460 HD1

Dear Chair Takumi, Vice Chair Ichiyama and Committee members--

I support HB 2460 HD1.

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.

Now more than ever, renewable microgrids that build resiliency and stability into island electrical grids should be seriously considered as part of our path to 100% RPS by 2045. Hurricane Maria and the devastation it left in Puerto Rico are a wake-up call for Hawaii to become more proactive in our energy policy.

Microgrids provide greater resilience because they can separate from the electricity grid if it fails. 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.

HB2460 HD1 will help Hawaii become energy self-sufficient.

Thank you for this opportunity to submit testimony.

Brodie Lockard

HB-2460-HD-1

Submitted on: 2/12/2018 9:49:13 AM

Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Angela Huntmer	Individual	Support	No

Comments:

Much can be learned from this project. Please support his bill and make it happen. the State of Hawaii is positioned to be one of the leaders in renewable and sustainable energy. Mahalo.

HB-2460-HD-1

Submitted on: 2/12/2018 10:16:02 AM

Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Tulsi Greenlee	Individual	Support	No

Comments:

HB-2460-HD-1

Submitted on: 2/12/2018 10:40:48 AM

Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
John NAYLOR	Individual	Support	No

Comments:

Aloha All,

Given our recent Nat'l experience & past devastating experience w/ hurricaines & the need to become free of imported & domestic fossil fuels and for the reasons stated below, establishing micro grids all over the State of Hawaii makes sense!

Please scroll for the Below

- HB2460, which establishes a microgrid demonstration project, aligns with our goals of producing clean, renewable energy. We need more projects like this to make renewable energy a more significant part of our economy.

-Now more than ever renewable microgrids that build resiliency and stability into island electrical grids should be seriously considered as a path to 100% RPS by 2045. Hurricane Maria and the devastation it left in Puerto Rico are a wake-up call for Hawaii to become more proactive in our energy policy.

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-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.

Mahalo,

John Naylor Makawao

HB-2460-HD-1

Submitted on: 2/12/2018 11:03:00 AM

Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Leslie Cole-Brooks	Individual	Support	No

Comments:

HB-2460-HD-1

Submitted on: 2/12/2018 1:01:52 PM

Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Meredith Buck	Individual	Support	No

Comments:

- HB2460, which establishes a microgrid demonstration project, aligns with our goals of producing clean, renewable energy. We need more projects like this to make renewable energy a more significant part of our economy.

-Now more than ever renewable microgrids that build resiliency and stability into island electrical grids should be seriously considered as a path to 100% RPS by 2045. Hurricane Maria and the devastation it left in Puerto Rico are a wake-up call for Hawaii to become more proactive in our energy policy.

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HB-2460-HD-1

Submitted on: 2/12/2018 11:22:46 PM

Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Don Aweau	Individual	Support	No

Comments:

HB-2460-HD-1

Submitted on: 2/12/2018 5:50:01 PM

Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Lucia You	Individual	Support	No

Comments:

HB-2460-HD-1

Submitted on: 2/12/2018 2:23:45 PM

Testimony for CPC on 2/13/2018 2:00:00 PM

Submitted By	Organization	Testifier Position	Present at Hearing
Aria Juliet Castillo	Individual	Support	No

Comments:

HB-2460-HD-1

Submitted on: 2/12/2018 1:52:45 PM

Testimony for CPC on 2/13/2018 2:00:00 PM

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

Comments:

Hello,

My name is Nanea Lo and I'm writing to ask for you all to please SUPPORTT this bill.

- HB2460, which establishes a microgrid demonstration project, aligns with our goals of producing clean, renewable energy. We need more projects like this to make renewable energy a more significant part of our economy.

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-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.

Thank you,

Nanea Lo

HB-2460-HD-1

Submitted on: 2/12/2018 1:47:26 PM

Testimony for CPC on 2/13/2018 2:00:00 PM

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

Comments:

I support HB 2460.