

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

February 9, 2017
8:30 am

MEASURE: H.B. No. 1280

TITLE: RELATING TO ENERGY MODERNIZATION AT THE DEPARTMENT OF
EDUCATION.

Chair Lee and Members of the Committee:

DESCRIPTION:

This measure would exempt microgrids operated by the Department of Education (“DOE”) at public schools and other properties of the DOE from regulation as a public utility by the Public Utilities Commission (“Commission”).

POSITION:

The Commission offers the following comments for the Committee’s 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).

However, this measure allows for a microgrid exempt from Commission regulation to serve entities “on or within properties adjacent to or nearby the school’s property[.]” Oversight and consumer protection issues may arise for entities served or affected by microgrids exempt from Commission regulation. For example, it is unclear how important minimum standards for interconnection or reliability would be established for microgrids exempt from Commission regulation.

Thank you for the opportunity to testify on this measure.



STATE OF HAWAII
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAII 96804

Date: 02/09/2017

Time: 08:30 AM

Location: 325

Committee: House Energy & Environmental
Protection

Department: Education

Person Testifying: Kathryn S. Matayoshi, Superintendent of Education

Title of Bill: HB 1280 RELATING TO ENERGY MODERNIZATION AT THE
DEPARTMENT OF EDUCATION.

Purpose of Bill: Facilitates development and use of electric microgrids powered by renewable energy and operated by the Department of Education at public schools and other properties of the Department, by exempting them from regulation as a public utility by the Public Utilities Commission. Adds a definition for "microgrid".

Department's Position:

The Department of Education (DOE) supports HB1280. Future micro-grid projects at DOE schools will play a critical role in clean energy generation, efficiency and sustainability. Across the nation, educational institutions are piloting micro-grid projects as the next step in their comprehensive energy programs.

One of the best examples of micro-grids and education was hurricane Sandy. In the aftermath of the hurricane in 2012, the Princeton University micro-grid managed to provide power to 4,000 apartments, 35 high rise buildings, three shopping centers, and two schools for three days. The terrible damage caused by Sandy highlighted the serious vulnerability of our energy infrastructure and provided a powerful example of how micro-grids can be useful for Hawaii.



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House Committee on Energy & Environmental Protection
Thursday, February 9, 2017 8:30 a.m.
Conference Room 325, State Capitol
TESTIMONY IN SUPPORT OF HB 1280

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

OpTerra Energy Services ("OpTerra") is in **support of HB 1280**, which promotes the implementation of microgrids in Hawai'i's public schools, thereby saving our State money, bolstering our civil defense systems, and increasing energy resilience.

OpTerra is partnering with the Department of Education ("DOE") on its Ka Hei program, which helps Hawai'i's 256 public schools achieve its goal of producing as much renewable energy as it consumes across all public school facilities and becoming net-zero with respect to energy use and to by January 1, 2035, as mandated in the Sustainable Schools Initiative; HRS Section 302A-1510.

Microgrids are one of only two integral pathways for the DOE to achieve its net-zero goal. Without microgrids it becomes very difficult for the DOE to reach its 100% clean energy goals in less than 18 years.

HB 1280 helps the DOE achieve its net-zero energy goals in a number of ways. One particular benefit of the proposed regulation is that it does not allow electric utility companies to assess fees during any phase of the planning, design, construction, or operation of a microgrid. These fees could make financing microgrid projects much more difficult, thereby imposing additional burdens on the DOE to seek alternative financing mechanisms from the capital markets.

Additionally, HB 1280 enables the DOE to operate its public school microgrids independently of the utility grid, which offers significant community benefit beyond the individual campuses. Microgrids have the capability to bolster our state's civil defense assets, which is of particular importance as the climate models show the intensity and frequency of storms increasing in the future. This is particularly beneficial, being that more than 200 of our public schools serve as evacuation centers for the state.

Mahalo for the opportunity to testify.

Sincerely,

Brandon Hayashi
Regional Manager

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

H.B. No. 1280

Relating to Energy Modernization at the Department of Education

Thursday, February 9, 2017

8:30 am

State Capitol, Conference Room 325

Kevin M. Katsura

Assistant Deputy General Counsel (Regulatory), Legal Department
Hawaiian Electric Company, Inc.

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

My name is Kevin Katsura and I am testifying on behalf of Hawaiian Electric Company and its subsidiary utilities Maui Electric Company and Hawai'i Electric Light Company in **opposition** to H.B. 1280.

In Hawai'i, there's no extension cord to the mainland. Unlike California and many other places we're compared to, we can't plug into the mainland grid, either to buy or sell electricity to neighboring utilities and for reliability. As loads continue to decrease, as we have seen over the last 10 years, the loss of large customers will impair the sustainability of fair cost allocations to all customers which will impair economic development and the attainment of our state renewable policies and goals. We must address the State's energy future as a whole and not with techniques that sound reasonable as stand-alone concepts, especially those used in larger grids in the mainland with large manufacturing and commercial loads. Hawaii has the best chance of success when all stakeholders can participate in reasoned discussions.

This bill, among other things:

- Exempts microgrids from being regulated as public utilities. In addition, it prohibits the Department of Education from paying its fair share of

costs by prohibiting the utility from assessing charges, fees, or penalties of any kind to the Department of Education.

- Allows the Department of Education to establish microgrids before determining if it is feasible, how it would impact all customers in Hawaii, and whether it would fit into the state's energy policy of 100% RPS cost effectively by 2045.
- Benefits the Department of Education at the expense of all other customers who will have to pay for all the cost of the current infrastructure while impeding the utilities' ability to pursue 100% renewable energy by 2045.
- May result in the degradation of service reliability as the utility would not be able to negotiate to change operating requirements and project design to protect the system. The utilities need to be involved in setting operational reliability standards to assure system reliability.

To ensure ALL customers benefit from, and are not adversely impacted by microgrids, we recommend that four key principles be addressed:

1. *Fairness with increased customer options:* Some of our customers have expressed an interest in exploring microgrids as the economics of different solutions, such as renewables and storage, improve. We recommend that the bill encourage collaboration and partnering between utilities and customers to design and operate microgrids and determine and coordinate the specific services needed. These additional services should enhance the value for customers connected to the integrated energy district and ensure that ALL customers benefit from establishing microgrids, not just those within the microgrids. Also, customers within the microgrids should continue to remain customers of the utility and be able to participate in the utilities' energy programs as part of the broader integrated grid. One example of this concept is the collaboration between Hawaiian Electric and the Army to install a 50MW generating facility at Schofield. This system will normally be connected to the larger grid to provide benefits to all customers, but has the ability to be isolated to the Army system to provide them increased energy security and resiliency during abnormal circumstances, a high priority requirement for the Department of Defense.

2. Safety when operating the integrated energy district: Operating an electric grid is complex and the safety of all customers served is paramount. Having an integrated energy district within the macro grid adds more complexity to the coordination and operation of these systems particularly when personnel are working in the energy district and in the macro grid. It is recommended that the operation of the integrated energy district be the responsibility of the Companies to ensure the safety of all customers served.
3. Reliability of the macro electric system: As stated in the preamble, there may be operational benefits that could be derived from an integrated energy district if executed in close coordination and partnership with the macro electric system. To ensure that ALL customers benefit, there should be no negative impacts on the reliability of the macro electric system grid. The Companies agree and reaffirm the wording in the proposed bill that there should not be any compromise to the stability and reliability of the public utility's electric grid.
4. Fairness regarding cost shift issues: In addition, microgrids should not result in increased costs for customers outside of the microgrids. The operational and economic benefits of an integrated energy district should benefit ALL customers. To ensure there is no cost shift issues, regulatory policies need to be addressed as well.

In addition, we would like to include the following definition of a microgrid as defined by the USDOE microgrid group:

A microgrid is a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid. A microgrid can connect and disconnect from the grid to enable it to operate in both grid-connected or island-mode.

Thank you for this opportunity to testify.

From: mailinglist@capitol.hawaii.gov
Sent: Tuesday, February 7, 2017 11:02 PM
To: EEPtestimony
Cc: tika_bean@hotmail.com
Subject: Submitted testimony for HB1280 on Feb 9, 2017 08:30AM

HB1280

Submitted on: 2/7/2017

Testimony for EEP on Feb 9, 2017 08:30AM in Conference Room 325

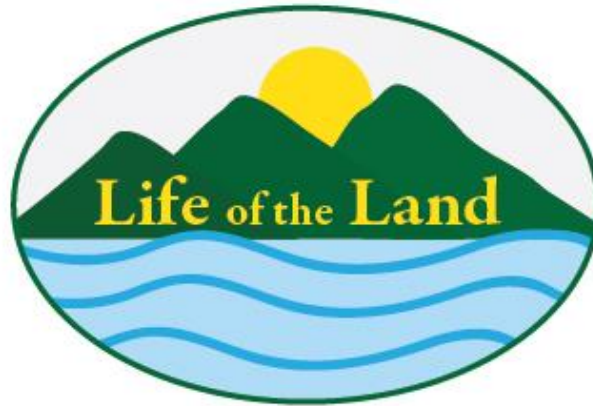
Submitted By	Organization	Testifier Position	Present at Hearing
Erica Scott	Individual	Support	No

Comments: Aloha, my name is Erica Scott and I am a Makiki resident and I strongly support this bill.

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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LATE



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COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Rep. Chris Lee, Chair

Rep. Nicole E. Lowen, Vice Chair

DATE: Thursday, February 9, 2017

TIME: 8:30 am

PLACE: Conference Room 325

RE: HB 1280 Relating to Energy Modernization at the Department of Education COMMENTS

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.

Life of the Land is a very strong proponent of microgrids, and supports the intent of the bill, but cannot support the bill as drafted.

HB 1280, like its counterpart for the University of Hawai`i (HB 848), has a lot of moving parts, some of which have the power to create some serious unintended consequences. Others would generate cross-subsidies between different rate classes. Still others would disrupt long-standing regulatory practices by the Commission.

A better approach would be to require the PUC to open a docket on microgrids, or to include microgrid analysis in the existing Distributed Energy Resources docket 2014-0192.

“The legislature further finds that the development of microgrids in Hawaii faces two key barriers. First, local ordinances could prevent or have the effect of preventing the development of microgrids.”

Life of the Land is unaware of any local restrictions. Utility regulation is controlled by the State. Counties are preempted from energy policy regulations, as Kauai found when they tried to regulate the height of telelectric towers.

“Second, any entity developing a microgrid that serves residents in Hawaii could be subject to regulation by the public utilities commission.”

Independent and Grid-Connected Microgrids are regulated by the Public Utilities Commission.

“It is not the intent of this Act for the public utilities commission to regulate microgrids, especially when such systems could be of great value to isolated and rural areas of our State or provide overriding public benefits in areas such as education, health, housing, transportation, and other community service areas.”

Rural communities often have private water and waste water utilities. These are regulated by the Public Utilities Commission which is charged with making sure the rates are reasonable.

“No electric utility shall be allowed to assess a charge, fee, or penalty of any kind to the Department of Education planning for planning, designing, constructing, or operating a microgrid.”

It is unclear whether this means that the utility should not interfere with the Department of Education planning efforts, or that utility ratepayers should finance Department of Education planning efforts.

“Include lands and buildings owned or controlled by the Department of Education planning and several adjacent or nearby properties”

It is unclear whether all of the land is owned by the Department of Education planning, but some of it is off campus, or whether the Department of Education planning can extend its reach as far off campus as it wishes.

“The microgrid in which the institution is participating makes only limited use of an electric public utility's transmission or distribution lines to provide, sell, or transmit electricity, meaning that the institution only requires the electric utility to install and operate electric lines and facilities to transport electricity from the power source to the microgrid and the microgrid users' electrical systems.”

Any interconnection with the utility requires approval by the PUC.

“Transmittal of electricity within the area covered by the microgrid, particularly from the power source to the microgrid and its users' electrical systems, will be permitted by the applicable electrical utility if the entire microgrid area is within lands owned or controlled by the State of Hawaii.”

At various times, military grids have been owned by the military, and at other times, owned by HECO. The bill seems to cover the possibility that the power source is not located adjacent to the campus, and that it crosses other areas served by the Utility. If the power from the source is transmitted over a line that also serves other customers, then the transfer of energy is wheeling. If it is a new line, then it requires Utility construction. In either case the Utility's actions are regulated by the PUC.

“An electric utility may not charge microgrids standby service rates or similar fees and charges for interconnection into the electric utility system; provided that the educational institution shall pay to the electric utility at established rates filed with and approved by the public utilities commission.”

If the Utility must maintain sufficient spinning reserve to handle loss of a very large Department of Education planning load, without charging a standby fee, then all other ratepayers must subsidize that cost.

Mahalo,

Henry Curtis
Executive Director



HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION

Thursday, February 9, 2017 8:30AM Room 325

In SUPPORT HB 1280 Relating to Energy Modernization at the Department of Education

Aloha Chair Lee and members of the Energy & Environmental Protection Committee,

On behalf of our 20,000 members and supporters, Sierra Club of Hawai'i supports HB 1280, which defines "microgrid" and facilitates the development and use of microgrids, powered by renewable energy and operated by DOE, at public schools and other DOE properties, by exempting them from regulation as a public utility by the PUC.

HB 1280 will allow the DOE to better capitalize on the potential renewable energy resources throughout the State. The use of renewable energy to power public schools throughout Hawai'i will reduce our carbon footprint and have a significant benefit to the environment. Further, authorizing the DOE to use microgrids in this way will help facilitate the State's transition to achieving its goal of a 100% clean energy economy by 2045.

In addition, the use of microgrids will provide a more efficient utility system and save a substantial amount of taxpayer dollars. Microgrids create a more secure utility system with built in redundancies that encourage self-reliance. They are able to operate independent of the main grid and would provide public schools throughout Hawai'i with power in situations where the main power grid is inoperative.¹ Given these reasons, along with the fact that the implementation of microgrids to power our public school system will likely result in millions of dollars being saved,² we strongly urge this Committee to pass HB 1280.

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

Mahalo,
Marti Townsend
Director

¹U.S. Department of Energy Website, *How Microgrids Work* (June 17, 2014) available at: <https://energy.gov/articles/how-microgrids-work>.

² National Electrical Manufacturers Association, *Microgrids, Macro Benefits: How to talk to decision makers about building your own electrical power system*, p.6 (2014) available at: <https://www.nema.org/Communications/Documents/Microgrids-Macro-Benefits.pdf>.