UNIVERSITY OF HAWAI‘I SYSTEM
Legislative Testimony

Testimony Presented Before the
House Committee on Finance
February 24, 2017 at 11:00 a.m.
by
Kalbert K. Young
Vice President for Budget and Finance/Chief Financial Officer
University of Hawai‘i System

HB 848 HD2 – RELATING TO ENERGY MODERNIZATION AT THE UNIVERSITY OF HAWAII SYSTEM

Chair Luke, Vice Chair Cullen, and members of the committee:

The University of Hawai‘i (UH) supports HB 848 HD2, Relating to Energy Modernization at the University of Hawai‘i.

The purpose of this bill is to encourage and facilitate the development and use of microgrids at the various campuses and facilities operated by the University of Hawai‘i in such a manner as to expand access to locally generated renewable energy and advanced distributed energy resources, and to promote the efficient distribution of electricity to the State’s residents and businesses. To this end, the measure seeks PUC oversight and authority over micro-grid related rates and charges that the electric utility may charge the University.

Despite the title of the bill, this measure does not seek to exempt the University from PUC authority. In fact, it seeks to accomplish the opposite. Currently, there is no PUC oversight of microgrids that require interface and cooperation with the public utility. This measure inserts PUC oversight and authority over microgrids managed by the University, which ensures review by an independent body.

In order to achieve UH’s Net Zero Energy mandate (Act 99, Session Laws of Hawai‘i 2015), the University will need to develop large-scale renewable energy projects that will benefit our students and the communities we serve, can help to increase the macro electric system grid’s stability and resilience, and support the State in achieving its goal of 100% clean energy by 2045.

This bill will encourage the facilitation, development and use of microgrids and renewable energy across the University System, as well as increase the options available to develop collaborative solutions to finance and develop large-scale renewable energy projects.

It also establishes initial parameters on the microgrid size and distance from the power source, striking a balance between the University's need to use renewable energy to help achieve net-zero energy and an allowable use of the electric utility's facilities.

Thank you for the opportunity to testify in support of the measure.

TESTIMONY OF RANDY IWASE
CHAIR, PUBLIC UTILITIES COMMISSION
STATE OF HAWAII
TO THE
HOUSE COMMITTEE ON
FINANCE

February 24, 2017
11:00 a.m.

MEASURE: H.B. No. 848, H.D. 2
TITLE: RELATING TO ENERGY MODERNIZATION AT THE UNIVERSITY OF HAWAII SYSTEM

Chair Luke and Members of the Committee:

DESCRIPTION:

This measure would exempt microgrids that promote and serve public higher education institutions 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). Microgrids offer the potential to aggregate pockets of load and generation resources, which can disconnect and reconnect to the main grid in times of emergency.

However, this measure allows for a microgrid exempt from Commission regulation to serve entities "on or within properties adjacent to or nearby the institution's property[.]" Oversight and consumer protection issues may arise for entities served or affected by a microgrid 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. The Commission should retain the appropriate regulatory authority necessary to address this and other issues for microgrids.

Thank you for the opportunity to testify on this measure.

COLLEGE OF SOCIAL SCIENCES

HAWAII ENERGY POLICY FORUM

UNIVERSITY OF HAWAI'I AT MĀNOA

Testimony of Sharon Moriwaki
Chair, Hawaii Energy Policy Forum

To the
House Committee on Finance

February 24, 2017 at 11:00 am in Conference Room 308

COMMENTS ON HB848 HD2, Relating to Energy Modernization at the University of Hawaii System

Chair Luke, Vice-Chair Cullen, and Members of the Committee,

I am Sharon Moriwaki, Chair of the Hawaii Energy Policy Forum (Forum). The Forum, created in 2002, is comprised of over 40 representatives from Hawaii's electric utilities, oil and natural gas suppliers, environmental and community groups, renewable energy industry, and federal, state and local government, including representatives from the neighbor islands. Our vision and mission, and comprehensive "10 Point Action Plan" serves as a guide to move Hawaii toward its preferred energy goals and our support for this bill.

HB 848, HD2 exempts microgrids that promote and serve public higher education institutions from regulation as a public utility by the Public Utilities Commission, and adds a definition for "microgrid".

HEPF Position: Comments.

HB 848 HD1 authorizes the establishment of microgrid demonstration projects for the generation, storage and distribution of renewable energy.

The Forum provides the following comments:

Microgrids have great potential to help integrate more renewable energy into our electric grids and providing for additional resilience and flexibility for those on a microgrid. However, there should be a set of standards or rules that would apply to **any** microgid project, rather than naming specific entities or projects in statute. Additionally, any use of a utilities assets or services should be compensated – otherwise those costs will be borne by other ratepayers.
Thank you for the opportunity to testify.

This testimony reflects the position of the Forum as a whole and not necessarily of the individual Forum members or their companies

TESTIMONY BEFORE THE HOUSE COMMITTEE ON FINANCE

H.B. No. 848, H.D. 2

Relating to Energy Modernization at the University of Hawaii System

Friday, February 24, 2017
11:00 am; Agenda #1
State Capitol, Conference Room 308

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

Chair Luke, Vice Chair Cullen, 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 (collectively referred to as "the Companies). The Companies support microgrids that benefit all customers (those within and outside the microgrid). Accordingly, the Companies oppose HB 848 HD 2.

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.

Hawaiian Electric is actively working with the UH System Administration on options to help them achieve their energy and sustainability goals, which includes

how they might effectively develop renewable energy systems on their lands. We are seeking win-win solutions that simultaneously help the University *and* our broader community of energy customers. This bill does not contemplate a collaborative, mutual gains approach between the UH, Hawaiian Electric and other customers, and in fact pursues an opposite pathway, putting the UH at odds with our other customers. We did not need any legislation to begin our collaboration with the UH, and it is unfortunate that the proposed legislation may effectively shut our collaboration down.

This bill, among other things:

- Exempts microgrids from being regulated as public utilities in addition it prohibits the university from paying its fair share of costs by prohibiting the utility from assessing charges, fees, or penalties of any kind to the university.
- Allows the university 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 university 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 gird 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: Wednesday, February 22, 2017 6:18 PM
To: FINTestimony
Cc: ryan.oswald@aol.com
Subject: *Submitted testimony for HB848 on Feb 24, 2017 11:00AM*

HB848
Submitted on: 2/22/2017
Testimony for FIN on Feb 24, 2017 11:00AM in Conference Room 308

Submitted By	Organization	Testifier Position	Present at Hearing
Ryan Oswald	Individual	Oppose	No

Comments:

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

Aloha Chair Luke and members of the House Committee on Finance,

My name is Quincy Bedoya, I am a second year student at the University of Hawaii at Manoa William S. Richardson School of Law, and I am in full support of HB 848 HD2. The bill provides a definition for "microgrid" and would exempt microgrids serving the University of Hawaii ("University") campuses and facilities from regulations as a public utility by the Public Utilities Commission ("PUC"). This bill will greatly assist the University in achieving their 2035 net-zero goal "with respect to energy use, producing as much energy as the system consumes across all campuses."[1]

Given the plans to develop a solar farm near the UH West Oahu Campus, [2] and the determination that it could produce more than 80% of the campuses on Oahu's energy consumption,[3] this bill is an excellent idea. Because a microgrid system are able to operate independently of the main grid, [4] it would provide the University with a more secure and efficient utility system. In situations in which the main grid inoperable, the University campuses would still be able to access the power stored within the microgrid system.

Microgrid technology has already been implemented at various universities throughout the country and have saved these universities a substantial amount of money. The Illinois Institute of Technology reported in 2014, that because of their microgrid system, IIT saves about $1 million annually.[5] In that same year, the University of California, San Diego reported that their particular microgrid system saves them more than $8 million annually in power costs. [6] As a current graduate student, and proud alumni of the University of Hawaii at Manoa, I am extremely excited at the possibilities that this proposed project could create throughout the University's campuses around the State.

For the reasons mentioned above, combined with the fact that this bill would be a huge step in also assisting the State achieve its clean energy goals, I urge you to support HB 848 HD2 as it is. Thank you very much for taking the time to consider my testimony.

Mahalo,
Quincy Bedoya

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[1] Act 99, Session Laws of Hawaii 2015
[2] Duane Shimogawa, *Large solar energy farm planned for West Oahu*, Pacific Business News (November 9, 2016), available at: http://www.bizjournals.com/pacific/news/2016/11/09/large-solar-energy-farm-planned-for-west-oahu.html.
[3] University of Hawaii System, *2016 Annual report on Net-Zero Energy for the University of Hawaii*, Report to the 2016 Legislature, p. 10, (Jan. 2016), available at: http://hawaii.edu/offices/eaur/govrel/reports/2016/hrs304a-119_2016_net-zero_annual-report.pdf
[4] U.S. Department of Energy Website, *How Microgrids Work* (June 17, 2014) available at: https://energy.gov/articles/how-microgrids-work.
[5] 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.
[6] *Id.*