HB1583 HD2 SD1

Measure Title:	RELATING TO ELECTRIC GRID RESILIENCY.
Report Title:	DOE; PUC; DOT; NELHA; Electric Grid; Renewable Energy; Sustainable Schools Initiative; Microgrids; Feasibility Analysis
Description:	Authorizes the Department of Education to evaluate the feasibility and cost-benefit of a renewable energy system to provide backup power in the event of a natural disaster or other similar emergency. Authorizes the Department of Transportation to evaluate the feasibility and cost-benefit of a renewable energy microgrid system to provide backup power in the event of a natural disaster or other similar emergency at one facility. Authorizes the Natural Energy Laboratory of Hawaii Authority to evaluate the feasibility and cost-benefit of a renewable energy microgrid system to provide backup power in the event of a natural disaster or other similar emergency. Requires the Public Utilities Commission to incorporate findings from public agency microgrid evaluations into its microgrid service docket and consider ways to incentivize the installation in public facilities of renewable energy systems that can provide backup power in the event the broader electric grid cannot provide power. Effective 7/1/2050. (SD1)
Companion:	
Package:	None
Current Referral:	EDU/EET, CPH/TRS/WAM
Introducer(s):	LOWEN, HOLT, QUINLAN, TAKAYAMA, TODD, WILDBERGER, WOODSON

DAVID Y. IGE
GOVERNOR

JOSH GREEN
LT. GOVERNOR

STATE OF HAWAII
OFFICE OF THE DIRECTOR
DEPARTMENT OF COMMERCE AND CONSUMER AFFAIRS
335 MERCHANT STREET, ROOM 310
P.O. BOX 541
HONOLULU, HAWAII 96809
Phone Number: 586-2850
Fax Number: 586-2856
cca.hawaii.gov

CATHERINE P. AWAKUNI COLÓN
DIRECTOR

JO ANN M. UCHIDA TAKEUCHI
DEPUTY DIRECTOR

Testimony of the Department of Commerce and Consumer Affairs

Before the
Senate Committee on Commerce, Consumer Protection, and Health
and
Senate Committee on Transportation
and
Senate Committee on Ways and Means
Tuesday, April 2, 2019
10:00 a.m.
State Capitol, Conference Room 211

On the following measure:
H.B. 1583, H.D. 2, S.D. 1, RELATING TO ELECTRIC GRID RESILIENCY

WRITTEN TESTIMONY ONLY

Chairs Baker, Inouye, and Dela Cruz and Members of the Committees:

My name is Dean Nishina, and I am the Executive Director of the Department of Commerce and Consumer Affairs' (Department) Division of Consumer Advocacy. The Department offers comments on this bill.

The purposes of this bill are to: (1) authorize the Department of Education to evaluate the feasibility and cost-benefit of a renewable energy system to provide backup power in the event of a natural disaster or other similar emergency; (2) authorize the Department of Transportation to evaluate the feasibility and cost-benefit of a renewable energy microgrid system to provide backup power in the event of a natural disaster or other similar emergency at one facility; (3) authorize the Natural Energy

Laboratory of Hawaii Authority to evaluate the feasibility and cost-benefit of a renewable energy microgrid system to provide backup power in the event of a natural disaster or other similar emergency; and (4) require the Public Utilities Commission (Commission) to incorporate findings from public agency microgrid evaluations into its microgrid service docket and to consider ways to incentivize the installation in public facilities of renewable energy systems that can provide backup power in the event the broader electric grid cannot provide power.

The need for Hawaii to evaluate its existing electric grids and their ability to withstand a natural disaster or similar emergency is clear. The ability of a microgrid or a distributed energy system to provide possible solutions is one reason why the Commission has opened Docket No. 2018-0163, which is investigating the establishment of a microgrid tariff. The role that microgrids and distributed systems can play in addressing emergency situations are also being considered in the Integrated Grid Planning proceedings (Docket No. 2018-0165). In addition, the appropriate pricing for services to the grid by distributed energy systems and/or microgrids will be a major focal point in the market track phase in the distributed energy systems proceeding, Docket No. 2014-0192. Furthermore, in Docket No. 2018-0088, the Commission is investigating Performance Based Regulation, and the Department and others have recommended that resiliency must be included in any Performance Based Regulation framework.

Thus, the Department appreciates the Legislature's recognition reflected in S.D. 1 that the Commission is already considering microgrids in Docket No. 2018-0163, as well as the guidance that the Commission should consider valuable information gleaned from the proposed public facility microgrid evaluations and pilots in the ongoing microgrid services docket. However, the Department respectfully suggests giving the Commission more flexibility in how it considers the information from the microgrid pilots, instead of being required to consider the findings and data in the microgrids tariff proceeding. If the Commission is required to wait to incorporate findings and data from the pilots authorized in this measure, the proceeding could be required to remain open until findings and data from all of the pilots are available.

The Department also appreciates the Legislature's recognition that a renewable energy system that continuously provides backup power for a prolonged or an indefinite time would be very expensive and agrees with the changes in S.D. 1 that allows the Department of Education flexibility in its evaluation and design of possible systems.

Thank you for the opportunity to testify on this bill.

TESTIMONY OF
JAMES P. GRIFFIN, Ph.D.
CHAIR, PUBLIC UTILITIES COMMISSION
STATE OF HAWAII

TO THE
SENATE COMMITTEES ON
COMMERCE, CONSUMER PROTECTION, AND HEALTH
AND
TRANSPORTATION
AND
WAYS AND MEANS

April 2, 2019
10:00 a.m.

Chairs Baker, Inouye, Dela Cruz, and Members of the Committees:

MEASURE: H.B. No. 1583 HD2 SD1
TITLE: RELATING TO ELECTRIC GRID RESILIENCY.

DESCRIPTION: Authorizes the Department of Education to evaluate the feasibility and cost-benefit of a renewable energy system to provide backup power in the event of a natural disaster or other similar emergency. Authorizes the Department of Transportation to evaluate the feasibility and cost-benefit of a renewable energy microgrid system to provide backup power in the event of a natural disaster or other similar emergency at one facility. Authorizes the Natural Energy Laboratory of Hawaii Authority to evaluate the feasibility and cost-benefit of a renewable energy microgrid system to provide backup power in the event of a natural disaster or other similar emergency. Requires the Public Utilities Commission to incorporate findings from public agency microgrid evaluations into its microgrid service docket and consider ways to incentivize the installation in public facilities of renewable energy systems that can provide backup power in the event the broader electric grid cannot provide power. Effective 7/1/2050. (SD1)

POSITION:

The Public Utilities Commission offers the following comments for consideration.

COMMENTS:

The Public Utilities Commission ("Commission") supports the intent of this bill to increase the resilience of the state in the face of natural disasters and other emergencies. The Commission is currently working with the state's electric utilities and other key stakeholders in several related proceedings to address this issue, including the Hawaiian Electric Companies' integrated grid planning ("IGP") process (see Docket No. 2018-0165), the development of a microgrid services tariff (see Docket No. 2018-0163), and the establishment of performance-based regulatory mechanisms ("PBR") for resilience (see Docket No. 2018-0088).

The Commission is also working closely with the Public Benefits Fee Administrator ("Hawaii Energy") to design new programs and services funded by the Public Benefits Fee ("PBF"), including program offerings and incentives related to resilience (see Docket No. 2007-0323). Hawaii Energy is currently developing a program plan covering the next three years (i.e., through 2021), which will be submitted for public review and comment in May 2019.

With respect to the requirements that the Commission consider, in coordination with the Hawaii State Energy Office, microgrid and critical backup power analysis methodology; the economic value of resiliency; microgrid deployment barriers; and ways to incentivize renewable energy systems that can provide backup power, the Commission is appreciative of Legislative guidance on these matters and will consider opportunities to increase resilience while developing a microgrid services tariff as well as in other ongoing and future proceedings.

Thank you for the opportunity to testify on this measure.

DAVID Y. IGE
GOVERNOR

TESTIMONY BY:

JADE T. BUTAY
DIRECTOR

Deputy Directors
LYNN A.S. ARAKI-REGAN
DEREK J. CHOW
ROSS M. HIGASHI
EDWIN H. SNIFFEN

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

April 02, 2019
10:00 a.m.
State Capitol, Room 211

H.B. 1583, H.D 2, S.D. 1
RELATING TO ELECTRIC GRID RESILIENCY.

Senate Committee(s) on Commerce, Consumer Protection, and Health
Transportation & Ways and Means

The Department of Transportation (DOT) **supports** H.B. 1583, H.D 2, S.D. 1 which authorizes the DOT to evaluate the feasibility and cost-benefit of a renewable energy microgrid system to provide backup power in the event of a natural disaster or other similar emergency at one facility.

This bill recognizes the DOT as operating several critical infrastructure facilities with the potential to host renewable energy systems that, if configured as a microgrid, could provide backup power and integrate with and supplement existing standby generators.

Thank you for the opportunity to provide testimony.

NATURAL ENERGY LABORATORY OF HAWAII AUTHORITY

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

Written Only

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

SENATE COMMITTEE ON COMMERCE, CONSUMER PROTECTION, AND HEALTH

SENATE COMMITTEE ON TRANSPORTATION

and

SENATE COMMITTEE ON WAYS AND MEANS

Tuesday, April 2, 2019
10:00 am
State Capitol, Conference Room 211

in consideration of
H.B. 1583 S.D.1
RELATING TO ELECTRIC GRID RESILIENCY.

The Natural Energy Laboratory of Hawaii Authority (NELHA) supports H.B. 1583 S.D. 1 which directs several government agencies including NELHA to evaluate the feasibility and cost-benefit of a renewable energy system to provide backup power in the event of an emergency. This measure also authorizes NELHA to establish a microgrid demonstration project at its Hawaii Ocean Science and Technology Park (HOST Park).

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

73-4460 Queen Kaahumanu Hwy., #101, Kailua-Kona, Hawaii USA 96740-2637
Phone: (808) 327-9585 Fax: (808) 327-9586 Email: nelha@nelha.org Website: http://www.nelha.org

recently updated in 2013 and 2011 respectively. We believe that a full microgrid is unrealistic at this time due to lack of in-house operational capability at NELHA, but we firmly believe that a research microgrid to provide additional resiliency at HOST Park is very attractive from everyone's point of view.

HB 1583 S.D 1 would facilitate and accelerate the implementation of microgrid technology at HOST Park by assisting us in applying for US Federal government funding. It is important to note that we recently received approximately $2 million from the South Korean government for the development and field verification of artificial intelligence based microgrid operation platform for our research campus and environs.

It is important to note that our goal is to deploy microgrid technology only within the park to serve our own demand from the seawater pump stations and the park clients' needs. A majority of the State's export of approximately $80 million in aquaculture products are grown at HOST Park and these businesses need seawater without interruption to ensure that their animals can survive in the event of a severe disruption to our island energy grid.

The lessons learned here at HOST Park will be directly applicable to the rest of Hawaii to help in understanding the benefits of microgrids to island-wide grids and inclusion into the Public Utility Commission's efforts regarding the ongoing microgrid docket.

Thank you for the opportunity to offer these comments.

HB-1583-SD-1
Submitted on: 3/30/2019 2:03:12 PM
Testimony for CPH on 4/2/2019 10:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Lois Crozer	Individual	Support	No

Comments:

O`ahu County Democrats Legislative Priorities Committee

COMMITTEE ON COMMERCE, CONSUMER PROTECTION, AND HEALTH
Senator Rosalyn H. Baker, Chair
Senator Stanley Chang, Vice Chair

COMMITTEE ON TRANSPORTATION
Senator Lorraine R. Inouye, Chair
Senator Breene Harimoto, Vice Chair

COMMITTEE ON WAYS AND MEANS
Senator Donovan M. Dela Cruz, Chair
Senator Gilbert S.C. Keith-Agaran, Vice Chair

LATE

DATE: Tuesday, April 2, 2019
TIME: 10:00 a.m.
PLACE: Conference Room 211 State Capitol

RE: Testimony in Support of HB 1583, HD2, SD1, Relating to Electric Grid Resiliancy

To the Honorable Rosalyn H. Baker, Chair; Senator Stanley Chang, Vice Chair; and members of the Committee on Commerce, Consumer Protection, and Health; and

To the Honorable Lorraine R. Inouye, Chair; Senator Breene Harimoto, Vice Chair; and members of the Committee on Transportation; and

To the Honorable Donovan M. Dela Cruz, Chair; Senator Gilbert S.C. Keith-Agaran, Vice Chair; and members of the Committee on Ways and Means:

My name is Melodie Aduja and I serve as Chair of the O`ahu County Democrats Legislative Priorities Committee of the Democratic Party of Hawai`i ("DPH"). Mahalo for this opportunity to submit testimony on HB 1583, HD2, SD1. The O`ahu County Democrats Legislative Priorities Committee ("OCDLPC") hereby submits its testimony in **SUPPORT of** HB 1583, HD2, SD1, Relating **to Electric Grid Resiliancy.**

HB 1583, HD2, SD1, authorizes (1) the Department of Education to evaluate the feasibility and cost-benefit of a renewable energy system to provide backup power in the event of a natural disaster or other similar emergency; (2) authorizes the Department of Transportation to evaluate the feasibility and cost-benefit of a renewable energy microgrid system to provide backup power in the event of a natural disaster or other similar emergency at one facility; (3) authorizes the Natural Energy Laboratory of Hawaii Authority to evaluate the feasibility and cost-benefit of a renewable energy microgrid system to provide backup power in the event of a natural disaster or other similar emergency; and (4) requires the Public Utilities Commission to incorporate findings from public agency microgrid evaluations into its microgrid service docket and consider ways to incentivize the installation in public facilities of renewable energy systems that can provide backup power in the event the broader electric grid cannot provide power.

DPH demands the protection of the people of Hawai‘i and their property against natural and man-made disasters. DPH believes in the science of climate change, affirm human activity as its primary cause and main driver, and support emergency preparedness and planning efforts to mitigate its impacts. This includes investment in early warning systems, emergency management and response systems and adequate emergency sheltering. *Democratic Party of Hawai`i Platform (2018), p. 20, ln. 28-32.*

For the foregoing reasons, i.e., to invest in early warning systems, emergency management and response systems, including backup power in the event the broader electric grid cannot provide power, and adequate emergency sheltering to protect the people of Hawai‘i and their property against natural and man-made disasters, OCCLP supports HB 1583, HD2, SD1, and urges its passage out of the Committees on Commerce, Consumer Protection, and Health; Transportation; and Ways and Means.

Mahalo nui loa
Me ka `oia`i`o

/s/ *Melodie Aduja*

Melodie Aduja
Chair, O`ahu County Democrats Legislative Priorities Committee
Ph. (808) 258-8889
Email: legislativepriorities@gmail.com

O'ahu County Democrats

oahudemocrats.org

Aloha mai kākou, Honorable Chairs Baker, Inouye, Dela Cruz, and Committee Members,

RE: H.B. 1583 HD2 SD1, Relating to Electric Grid Resiliency.

The O'ahu County Democrats write in proud support of House Bill 1583, HD2 SD1.[1]

This measure may be one of the most forward-thinking, practical and holistic measures that the legislature has carried into April 2019. It weaves across the issues of disaster resiliency, infrastructure modernization and a changing climate. The feasibility studies authorized under this measure, as issued by the Department of Education (DOE), Department of Transportation (DOT), and National Renewable Energy Laboratory (NREL), are necessary steps for a comprehensive improvement for our energy security in a vulnerable archipelago.

Fossil fuels are not merely—pun intended—a *dinosaur* of our energy past. Post-disaster, fuel will rapidly deplete after being prioritized among the few. All our islands depend on potential single points-of-failure in our infrastructure, namely, the Port of Honolulu, whereby fuel is transportation across Oahu, and to the other three counties. The Port could be destroyed by, among other disasters, a merely 1-meter tsunami (roughly 3 feet).

Furthermore, our schools are generally our shelters *post-disaster*. Many people do not yet realize the impact of 1.5. million people being advised to *shelter-in-place,* and the age and condition of our school facilities, many of which are not engineer-rated, nor intended for shelter during a disaster. Thus, the ongoing modernization of our schools is a tough hill to climb. To condense the purpose and need of this measure:

> *This measure is the logical planning step towards schools that are more habitable and resilient for the daily school population and for life-saving, emergency needs.*

We laud the work of Representative Lowen in introducing this critical measure, and her hard work with all of you for its passage.

Honorable Members, please vote 'aye' on H.B. 1583 HD2 SD1.

LATE

Mahalo nui loa,

DP Armstrong

Dylan P. Armstrong, Vice Chair
O'ahu County Committee, O'ahu County Democrats

1. Environmental Platform. O'ahu County Democrats 2019. https://www.oahudemocrats.org/oahuplatform.htm#en

DAVID Y. IGE
GOVERNOR

DR. CHRISTINA M. KISHIMOTO
SUPERINTENDENT

STATE OF HAWAI`I
DEPARTMENT OF EDUCATION
P.O. BOX 2360
HONOLULU, HAWAI`I 96804

LATE

Date: 04/02/2019
Time: 10:00 AM
Location: 211
Committee: Senate Commerce, Consumer Protection, and Health
Senate Transportation
Senate Ways and Means

Department: Education

Person Testifying: Dr. Christina M. Kishimoto, Superintendent of Education

Title of Bill: HB 1583, HD2, SD1 RELATING TO ELECTRIC GRID RESILIENCY.

Purpose of Bill: Authorizes the Department of Education to evaluate the feasibility and cost-benefit of a renewable energy system to provide backup power in the event of a natural disaster or other similar emergency. Authorizes the Department of Transportation to evaluate the feasibility and cost-benefit of a renewable energy microgrid system to provide backup power in the event of a natural disaster or other similar emergency at one facility. Authorizes the Natural Energy Laboratory of Hawaii Authority to evaluate the feasibility and cost-benefit of a renewable energy microgrid system to provide backup power in the event of a natural disaster or other similar emergency. Requires the Public Utilities Commission to incorporate findings from public agency microgrid evaluations into its microgrid service docket and consider ways to incentivize the installation in public facilities of renewable energy systems that can provide backup power in the event the broader electric grid cannot provide power. Effective 7/1/2050. (SD1)

Department's Position:
The Hawaii State Department of Education (Department) supports HB 1583, HD2, SD1.

The Department will complete a pilot project at 3633 Waialae Avenue by the end of April 2019. The pilot project seeks to determine the feasibility and costs of: i) solar renewable energy; ii) battery power; and iii) diesel fuel backup power micro grid system at a DOE facility.

Following testing and operations, the Department will be able to provide a detailed cost benefit analysis for similar systems at designated schools shelters.

Thank you for the opportunity to provide testimony on this measure.

The Hawaii State Department of Education seeks to advance the goals of the Strategic Plan which is focused on student success, staff success, and successful systems of support. This is achieved through targeted work around three impact strategies: school design, student voice, and teacher collaboration. Detailed information is available at www.hawaiipublicschools.org.