

SB 1397

**TESTIMONY OF CARLITO P. CALIBOSO
CHAIRMAN, PUBLIC UTILITIES COMMISSION
DEPARTMENT OF BUDGET AND FINANCE
STATE OF HAWAII
TO THE
SENATE COMMITTEES ON ENERGY AND ENVIRONMENT
AND
COMMERCE AND CONSUMER PROTECTION
FEBRUARY 3, 2011**

MEASURE: S.B. No. 1397
TITLE: Relating to Geothermal Energy.

Chairs Gabbard and Baker and Members of the Committees:

DESCRIPTION:

This bill creates a geothermal energy pilot program and an electric credit process for consumers of electricity generated from geothermal energy.

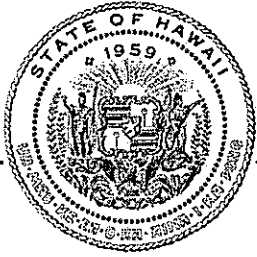
POSITION:

The Public Utilities Commission ("Commission") defers to the Legislature on whether to establish a geothermal energy pilot program and an electric credit for customers as proposed in this bill and offers the following comments.

COMMENTS:

- Section 2 of the bill, states "The credit shall be ten percent and shall be paid by the public utility serving the county with the largest contiguous land mass in the State," but does not explain the base of which the ten percent shall be calculated. Is the credit 10 percent of the entire bill, of the volumetric energy charge, or something else?
- It is unclear who will pay for the cost of the geothermal electric credits. Will the public utility be able to recover these costs from its ratepayers, or must its shareholders pay for the credit?
- Section 3 of the bill, states, among other things, "Notwithstanding section 269-92, the public utilities commission shall direct [HELCO] to establish renewable energy portfolios consisting of twenty per cent of net electricity sales derived from geothermal energy by no later than January 1, 2020." If the Legislature chooses to create such a geothermal energy portfolio requirement, it should do so directly -- rather than having the Commission direct the utility to do so.

Thank you for the opportunity to testify.



**DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM**

NEIL ABERCROMBIE
GOVERNOR

RICHARD C. LIM
INTERIM DIRECTOR

No. 1 Capitol District Building, 250 South Hotel Street, 5th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804
Web site: www.hawaii.gov/dbedt

Telephone: (808) 586-2355
Fax: (808) 586-2377

Statement of
RICHARD C. LIM
Interim Director
Department of Business, Economic Development, and Tourism
before the
**SENATE COMMITTEES ON ENERGY AND ENVIRONMENT AND
COMMERCE AND CONSUMER PROTECTION**

Thursday, February 3, 2011
2:45 PM
State Capitol, Conference Room 225

in consideration of
SB 1397
RELATING TO GEOTHERMAL ENERGY

Chair Gabbard, Chair Baker, Vice Chair English, Vice Chair Taniguchi, and Members of the Committees.

The Department of Business, Economic Development, and Tourism (DBEDT) has concerns about SB 1397, which would require DBEDT to establish a “geothermal energy pilot program” which would maximize the production of geothermal electricity by: developing new energy infrastructure, modifying or expanding existing energy infrastructure, developing a sufficient workforce, and developing incentives to encourage and facilitate the development of infrastructure for renewable energy resources, including geothermal energy. The Energy Resources Coordinator (ERC), who is the Director of DBEDT, is directed to adopt rules pursuant to HRS Chapter 91, Administrative Procedure, necessary for its purpose. The pilot program shall terminate no later than December 1, 2020.

In addition, HRS Chapter 269, Public Utilities Commission, is amended by creating a “geothermal electric credit.” This credit will be earned for each residential electric meter in Hawaii County during the five years after the Hawaii Electric Light Company (HELCO) initially establishes renewable energy portfolios consisting of 5% of net electricity sales derived from geothermal energy. The 10% credit shall be paid by HELCO to eligible electric meters according to a process to be established by the Public Utilities Commission (PUC). The credit shall expire after five years.

The PUC is further authorized to direct HELCO to acquire geothermal electricity at the maximum capacity that is available from geothermal energy producers. The PUC shall direct HELCO to use this electricity to maximize the reduction in fossil fuel use for electricity.

Further, notwithstanding HRS Sec 269-92, Renewable Portfolio Standards, the PUC shall direct HELCO to establish renewable energy portfolios consisting of 20% of net electricity sales derived from geothermal energy no later than January 1, 2020. To assist the Energy Resources Coordinator, the PUC shall develop guidelines and timetables for geothermal power purchase agreements.

We appreciate the over-all concept of this bill, as it supports our goals and objectives for the Hawaii Clean Energy Initiative, but we are concerned about certain aspects of its implementation and also about its cost implications.

This bill asks DBEDT to undertake significant tasks relating to the development, modification and expansion of energy infrastructure, which we understand to include but not be limited to power plant design and construction, well field development, and transmission line design and construction. DBEDT has no expertise or experience in these areas, nor do we have the resources to undertake these complex and critical functions. Even if DBEDT had the requisite expertise and authority, the bill provides no funding for this work.

Recognizing that there are already workforce development programs in place by other agencies, including the Department of Labor and Industrial Relations and the University of Hawaii system, DBEDT is willing to cooperate as appropriate with any geothermal-specific employment training programs which may be developed.

Regarding the proposed credit to Big Island ratepayers, we observe that the matter, as defined in the bill, may be moot. The credit, which is to be applied to each residential meter, is to take effect when geothermal energy initially provides 5% of the net electricity sold on the Big Island's grid, and to expire after five years. Geothermal has been contributing significantly more than 5% of the electricity on the Big Island's grid for more than five years; the plant has been in commercial operation since 1993 and even when not operating at full capacity has provided more than 5% of the island's electricity. It is also unclear how the credit will be calculated; the bill states that it will be 10% but does not define 10% of what quantity.

Thank you for the opportunity to offer these comments.



NEIL ABERCROMBIE
GOVERNOR

BRIAN SCHATZ
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

www.hawaii.gov/dcca

KEALI'S. LOPEZ
INTERIM DIRECTOR

EVERETT KANESHIGE
DEPUTY DIRECTOR

TO THE SENATE COMMITTEES ON ENERGY AND ENVIRONMENT
AND COMMERCE AND CONSUMER PROTECTION

THE TWENTY-SIXTH LEGISLATURE
REGULAR SESSION OF 2011

THURSDAY, FEBRUARY 3, 2011
2:45 P.M.

TESTIMONY OF JEFFREY T. ONO, EXECUTIVE DIRECTOR,
DIVISION OF CONSUMER ADVOCACY, DEPARTMENT OF COMMERCE AND
CONSUMER AFFAIRS, TO THE HONORABLE MIKE GABBARD, CHAIR, THE
HONORABLE ROSALYN H. BAKER, CHAIR, AND MEMBERS OF THE COMMITTEES

SENATE BILL NO. 1397 – RELATING TO GEOTHERMAL ENERGY.

DESCRIPTION:

This measure proposes to create a geothermal energy pilot program that shall terminate no later than December 1, 2020, and creates an electric credit for consumers of electricity generated by geothermal energy.

POSITION:

The Division of Consumer Advocacy ("Consumer Advocate") offers its comments on this measure.

COMMENTS:

The Consumer Advocate appreciates the intent of this measure. The measure seeks to establish geothermal energy renewable energy portfolios for residential electric meters and public utilities with related credit to be paid by the applicable public utility to eligible residential electric meters.

The Consumer Advocate has concerns with any statute that provides for favorable treatment for any one technology over others. The Consumer Advocate

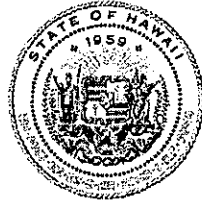
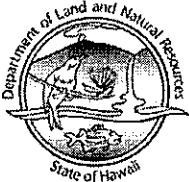
Senate Bill No. 1397
Senate Committees on Energy and Environment
and Commerce and Consumer Protection
Thursday, February 3, 2011, 2:45 p.m.
Page 2

contends that it is better public policy to allow the appropriate investigations to occur to develop the most cost effective technologies that will allow Hawaii the best opportunities to meet the renewable portfolio standards without placing an undue burden on the electric ratepayers. Requiring the development of any one technology might prevent Hawaii from being able to consider other technologies that might be commercially available and more cost effective.

Furthermore, the proposed development of credits is unclear and the benefit of having such credits is not apparent. Further development of this idea and it might be premature to implement this as law until some of the vagueness is addressed.

Thank you for this opportunity to testify.

NEIL ABERCROMBIE
GOVERNOR OF HAWAII



**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES**

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

WILLIAM J. AILA, JR.
INTERIM CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

GUY H. KAULUKUKUI
FIRST DEPUTY

WILLIAM M. TAM
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

**Testimony of
WILLIAM J. AILA, JR.
Chairperson**

**Before the Senate Committees on
ENERGY AND ENVIRONMENT
and
COMMERCE AND CONSUMER PROTECTION**

**Thursday, February 3, 2011
2:45 PM
State Capitol, Conference Room 225**

**In consideration of
SENATE BILL 1397
RELATING TO GEOTHERMAL ENERGY**

Senate Bill 1397 establishes a geothermal energy pilot program under the Department of Business, Economic Development and Tourism (DBEDT) to maximize the production of geothermal electricity by developing new energy infrastructure, modifying or expanding existing energy infrastructure, developing a sufficient workforce, and developing incentives to encourage and facilitate the development of infrastructure for renewable energy resources, including geothermal energy. The measure also establishes a geothermal electric credit under the Public Utilities Commission (PUC) for consumers of electricity derived from geothermal energy. The Department of Land and Natural Resources (Department) defers to DBEDT and PUC regarding this measure's effect on their respective programs and offers the following comments and concerns:

The Department appreciates the overall concept of this measure, as it supports goals and objectives of the Hawaii Clean Energy Initiative, but has concerns about its implementation and cost implications.

The Department is responsible for the effective management of geothermal resources and its development, to protect the health and safety of the public and to ensure the continued viability of the resource for the future. Power generation from geothermal energy began in May 1993 and, on average, annually provides more than 20% of the Big Island's power demands.

The Mineral Resources Program within the Department was abolished in 1995 in response to budget reductions. Departmental statutory and other related responsibilities were performed on an "ad hoc" basis under other programs within the Engineering Division. Two positions to perform statutory, regulatory, and resource management duties were approved by the 2007 Legislature, however, funding for the positions was abolished before they could be established and filled. The Department is currently seeking funding for these two positions in its current biennium budget request. The Department notes however, that this measure, if implemented, would require significantly more regulatory staffing than the two positions provided under the 2007 staffing request.

The proposed credit to consumers, as defined in this measure, may be moot. The credit to be applied to each residential meter, would take effect when geothermal energy initially provides 5% of the net electricity sold on the Big Island, and would expire after five years. Geothermal energy has been contributing significantly more than 5% of the Big Island's electrical demands for over five years.

Thank you for the opportunity to comment.

**Testimony
before the
Senate Committees on**

**Energy and Environment
And
Commerce and Consumer Protection**

S.B. 1397-- Relating to Geothermal Energy

**Thursday, February 3, 2011
2:45 pm, Conference Room 225**

**By Scott Seu
Vice President, Energy Resources
Hawaiian Electric Company, Inc.**

Chairs Gabbard and Baker, Vice-Chairs English and Taniguichi and Members of the Committees:

My name is Scott Seu. I am the Vice President of Energy Resources for Hawaiian Electric Company. I am testifying on behalf of Hawaiian Electric Company (HECO) and its subsidiary utilities, Maui Electric Company (MECO) and Hawaii Electric Light Company (HELCO). We support the intent of S.B 1397 to promote geothermal development on the Big Island but there are several difficulties in the approach that is outlined. For those reasons, we do not believe this bill should be moved forward.

First, the process of developing new geothermal power facilities has to start with a systematic test well program to understand what the characteristics of the underground geothermal energy resource are. Even though we can say that generally, the Big Island has a good geothermal resource, you still need to collect actual surface and subsurface information to determine how much power can be produced, where the power generation facilities should be sited, and how the power generating facilities can be operated. Until you do this, it is speculative as to how much geothermal energy can be produced, where, and at what cost, and establishing a geothermal RPS set-aside is premature.

A geothermal subzone designation process and communications with community and cultural groups would be required before any exploration can take place in Kona. Once subzone and county permits are approved, the exploration would consist of surface and subsurface testing as well as drilling test wells which will provide ground truth towards the geothermal resource potential in this area. If a pilot program is established, it should focus on supporting this test activity first – with support for funding and permitting – and the data gathered should then serve as the basis for future policy and geothermal energy development decisions.

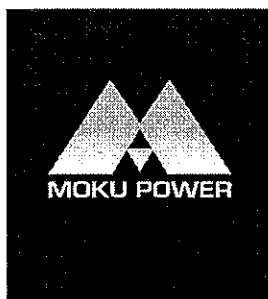
Another practical difficulty in the proposed bill language is the requirement that all meters on the Big Island receive a 10% geothermal energy credit. It is not clear if the 10% credit refers to a 10% reduction in electric bills, but if so, this assumes that the cost of new geothermal will come in at a price point low enough to support such a bill reduction. Again, this is speculative prior to understanding what the geothermal resource is, what can be developed, and at what cost. If the actual cost of new geothermal does not support such a credit, then it is unclear who will pay for providing the credit to all customers.

We continue to be supportive of geothermal energy, as evidenced by our current power purchase agreement with Puna Geothermal Venture and our negotiations for additional power from their facility. HELCO also participated on the geothermal development group that was established by Senate Concurrent Resolution 99 that was adopted by the 2010 Legislature.

We believe it is worthwhile to start the process of understanding what the potential is for further development in Hawaii. Our energy planners are evaluating various approaches to doing this, but all of them have to start with the geothermal resource characterization step.

Given the above, we believe the geothermal pilot program and other provisions in the proposed legislation are not practical at this time.

Thank you for the opportunity to testify.



EEN/CPN

02-03-11

2:45PM

RM 225

SB 1397 - Support with Comments and Amendment

Aloha Senator Gabbard, Senator Baker and Members of the Committees,

Moku Power represents the novel Power Tube clean geothermal technology in the Hawaiian Islands. We offer our support, comments and proposed amendment to SB 1379, Relating to Geothermal Energy:

- During this second big wave or push for geothermal energy development in Hawai`i, we ask that you recognize and understand that there is now a difference in the technologies available.
- Unlike the type of power plants seen in Hawai`i to date, the Power Tube is a cutting-edge, low temperature, downhole heat exchanger technology that does not capture and extract toxic steam or super heated brine water to drive a turbine and turbo generator. Our clean geothermal system uses only low temperature, ambient heat in a closed-loop system which works much like a thermometer, only bigger.
- Our geological requirements are such that we can deploy the Power Tube not just on Hawai`i Island and Maui, but on O`ahu and Kaua`i potentially as well. The lower temperature we can use expands our range outside of historically designated geothermal resource subzone "hot spots."
- If the committees should choose to pass SB1397, we ask that you amend it so that the location of such a geothermal development pilot program is not restricted to "the county with the largest continuous land mass," as geothermal potential, and the need for electricity, exists throughout the islands.

Mahalo nui loa,
Shawn James Leavey
Moku Power, LLC
(808) 769-8324
shawn@mokupower.com