



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

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Statement of
THEODORE E. LIU
Director
Department of Business, Economic Development, and Tourism
before the
HOUSE COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION
Thursday, February 4, 2010
9:00 AM
State Capitol, Conference Room 325

in consideration of
HB 2237
RELATING TO RENEWABLE FUELS.

Bill No. 2237
Support Y N
Date 2/3
Time 1251
Cat AF AS AX B-C
Type 1 2 WI

Chair Morita, Vice Chair Coffman, and Members of the Committee.

The Department of Business, Economic Development, and Tourism (DBEDT) has concerns about HB 2237, which would modify the ethanol facility tax incentive to include other liquid biofuels and to enable larger facilities to be eligible for the tax incentive. DBEDT prefers the Administration measure, HB 2519, which does not increase the total credit allowed.

We oppose the increase in the total incentive available, due to budgetary concerns. We recommend that the total amount available remain at the current level.

We would like to recommend some additional modifications.

On page 2, line 9, we recommend that the tax credit be clearly stated as thirty cents per gallon of nameplate capacity.

On page 2, beginning on line 18, we recommend the deletion of the phrase, "during the credit period," since the "credit period" starts when the facility begins production, as stated

beginning on page 4, line 5. Therefore, limiting the investment to the "credit period" would not cover the approximately one to two year construction period of the facility.

It may be possible to provide a clear start date using a mechanism provided in the existing statute. On page 8, beginning on line 8, paragraph (h) requires taxpayers to file a "notice of intent to construct" before they begin construction. It would be reasonable to recognize this as the start of the investment period. This information is already required to be furnished in writing to DBEDT and the Department of Taxation. It is our understanding that investments prior to this date will not be certified by DBEDT. Therefore, the reference to "credit period" on page 2 may be removed.

We also recommend that the definition of biofuel, beginning on page 4, line 1, be amended to read:

"'Biofuel' means ethanol, biodiesel, renewable diesel, jet fuel, or other liquid fuel, which meets the relevant fuel specifications of ASTM International (formerly ASTM, the American Society for Testing and Materials) and is produced from agricultural feedstock."

We also recommend that the description of conversion technologies beginning on page 6, line 4, be amended to read,

"All qualifying production shall be fermented, distilled, transesterified, gasified, pyrolyzed, or produced by other physical, chemical, biochemical, or thermochemical conversion methods."

Finally, we recommend that on page 7, beginning on line 12, section (g), regarding the amount of annual credits, be revised so that the total available incentive does not change.

Thank you for the opportunity to offer these comments.

LINDA LINGLE
Governor



State of Hawaii
DEPARTMENT OF AGRICULTURE
1428 South King Street
Honolulu, Hawaii 96814-2512

SANDRA LEE KUNIMOTO
Chairperson, Board of Agriculture

DUANE K. OKAMOTO
Deputy to the Chairperson

WRITTEN TESTIMONY OF SANDRA LEE KUNIMOTO
CHAIRPERSON, BOARD OF AGRICULTURE

BEFORE THE HOUSE COMMITTEE ON
ENERGY & ENVIRONMENTAL PROTECTION
THURSDAY, FEBRUARY 4, 2010
9:00 AM
ROOM 325

HOUSE BILL NO. 2237
RELATING TO RENEWABLE FUELS

Bill No. 2237

Support Y N X

Date 2/3

Time 1340

Cat AF AS AX B C

Type 1 2 WI

Chairperson Morita and Members of the Committee:

The purpose of this bill is to expand the existing ethanol facility tax credit to include other liquid biofuels and to enable larger facilities to be eligible for the tax incentive, without changing the level of incentive or cap per facility. The Hawaii Department of Agriculture (HDOA) offers comments.

HDOA is a strong supporter of the State's energy diversification efforts and appreciates the intent of this Act to encourage use of agricultural products for biofuel production. However, as Section 1 clearly describes the benefits of locally grown feedstocks, we recommend that this benefit be made part of the qualifications for a biofuel production facility and in the definition of "Agricultural feedstocks".

In Section 2, subpart 3 would be revised to read:

(3) The qualifying biofuel production facility is located within the State and uses agricultural feedstocks grown and harvested in Hawaii for at least seventy-five per cent of its production output;

The definition of "Agricultural feedstocks" would be revised to read:

"Agricultural feedstocks" means oil, fiber, or other materials grown on Hawaii farms and not previously used. Unused byproducts of food, feed, fiber, or other products, or electrical production, produced on Hawaii farms, may be considered agricultural feedstocks. Used cooking oils, or industrial or municipal wastes, shall not be considered agricultural feedstocks.

Thank you for the opportunity to present our testimony.

Bill No. 2237

Support Y N

Date 2/3

Time 921

Cat AF AS AX C

Type 1 2 WI

HB 2237

RELATING TO RENEWABLE FUELS

JOEL K. MATSUNAGA
CHIEF OPERATING OFFICER & EXECUTIVE VP
HAWAII BIOENERGY

FEBRUARY 4, 2010

Chair Morita and Members of the House Committee on Energy & Environmental
Protection:

I am Joel Matsunaga, testifying on behalf of Hawaii BioEnergy on HB 2237, "Relating to
Renewable Fuels."

SUMMARY

Hawaii BioEnergy ("HBE") supports HB 2237 (with amendments) which would revise
Section 235-110.3 of the Hawaii Revised Statutes by expanding the Ethanol Facility Credit to
apply to liquid biofuels, encouraging the utilization of locally produced feedstock, and enabling
facilities greater than 15 million gallons per year of production capacity to also qualify. The
aforementioned amendments to HRS §235-110.3 will help to reduce the state's dependence on
imported fossil fuels as well as provide a needed economic stimulus to the state's agricultural
and industrial sectors.

The amendments to HB 2237 proposed below would change the credit from thirty per
cent of nameplate capacity to \$0.30 per gallon to rationalize the credit with the allotted levels of
funding; allow the credit to apply to the total biofuel investment; clarify and expand the definition
of agricultural feedstocks, biofuels and bioconversion processes; and provide for the gradual
increase in total annual credit levels to support continued biofuel expansion. HBE submits that
the tax dollars allocated for the existing incentive and any subsequent increase would be more
than offset by the direct and indirect tax revenue biofuel facilities would generate. Should
companies take advantage of the total funding in the initial years, a gradual escalation would

help to attract additional investment in the sector and help the state to meet its increasing renewable fuels goals.

HAWAII BENEFITS FROM LOCAL BIOFUELS PRODUCTION

Hawaii BioEnergy is a local company dedicated to strengthening the state's energy future through sustainable biofuel production from locally grown feedstocks. Among its partners are three of the larger land owners in Hawaii controlling over 430,000 acres of land. HBE and its partners would like to use significant portions of their land to address Hawaii's existing and growing energy needs.

One of the biofuel alternatives that HBE is pursuing is the production of jet fuel and other oil derivatives from micro-algae and is already engaged in two Hawaii-based, DARPA-funded algae projects. In addition to providing a local, renewable, and lower-carbon fuel source, algae-based biofuel production benefits the agriculture industry by providing a local source of protein for animal feed, fertilizers and other products. In addition to HBE's on-going algae-based biofuel projects, the company is also considering plans to develop locally produced ethanol and high density fuels from sugar cane, sweet sorghum, and/or other dedicated energy crops. The feedstocks and conversion production pathways under consideration hold tremendous potential to displace fossil fuels imports given their relatively low input requirements, exceptionally high yields, and capacity to produce a portfolio of products including liquid fuels for transport and for power generation, feed, and other bio-based co-products.

Compounding the clear environmental and energy security benefits that local production would bring to bear, expanding Hawaii's biofuel industry would also provide an economic stimulus to the state as such projects would create a significant number of jobs and help to recirculate energy dollars within the Hawaiian economy rather than exporting them overseas. Based on an independent analysis commissioned by HBE, it's projected that a large-scale agricultural operation coupled with an ethanol facility could provide up to 1,400 new jobs, over

\$115 million in value added or new wealth, and over \$17 million in annual tax revenue from combined indirect business and personal income taxes. Such benefits could be multiplied through additional investments in large-scale biofuels facilities supported through a facility tax credit.

While the environmental, energy security and economic benefits are clear, the state's ability to secure the substantial capital required for large-scale commercial facilities requires providing a degree of assurance to private investors that they will be able to recover their investment within a reasonable time horizon. Extending the current Ethanol Facility Tax Credit to incorporate biofuels more broadly would help to attract a wider range of investors and provide the additional support needed to help offset the technology and capital risk inherent in the establishment of new industries, particularly those that require new technology. The credit would also be self-sustaining as the additional business and income tax revenue generated by the industry could be applied to future credits. As such, the legislation directly ties the incentives to the local market, enables the removal of the 40 million gallon cap as proposed in HB 2237, and provides support to a range of advanced and more efficient biofuel production technologies.

PROPOSED AMENDMENTS TO HB 2237

While HBE supports the extension of the Ethanol Facility Credit to include a range of biofuel production facilities, the company would like to propose the following amendments to HB 2237 in order to maximize the credit's reach and impact:

- To revise the credit from "thirty per cent of nameplate capacity" to "thirty cents per gallon of nameplate capacity" to rationalize the credit amount with the funding levels outlined in the legislation;
- To clarify in Section 2 (1) that the credit applies to investment "prior to and during" the credit period by striking the words "during the credit period";

- To incorporate “algae” in the definition of “agricultural feedstock” in Section 5 (b) and to strike the words “grown on farms” in the same section;
- To specify in Section 5 (b) under the “Biofuels” that the reference to diesel means “renewable” diesel;
- To state in Section 5 (b) under “Investment” that “inventory” shall not qualify toward the credit;
- To clarify and expand the eligible conversion pathways in Section 2 (b) by incorporating a clause that “all qualifying production shall be fermented, distilled, transesterified, gasified, pyrolyzed, or produced by other physical, chemical, biochemical, thermochemical conversion methods;
- To state in Section 2 (g) that the total available credit level will escalate each year in accordance with Hawaii’s renewable fuel targets further expand Hawaii’s biofuel production capacity, provided that the base funding has been fully utilized.

CONCLUSION

HBE is moving forward with projects that will help to address Hawaii’s energy future and believes that HB 2237, with the amendments proposed, will help to accelerate and expand Hawaii’s bio-based renewable energy economy.

Based on the aforementioned, Hawaii BioEnergy respectfully requests your support for HB 2237, with the above referenced amendments.

Thank you for the opportunity to testify.

Testimony before the
House Committee on
Energy & Environmental Protection
H.B. 2237 -- Relating Renewable Fuels

Thursday, February 4, 2010

9:00 am, Conference Room 325

By Arthur Seki
Director, Renewable Technology
Hawaiian Electric Company, Inc.

Bill No. 2237
Support Y N X
Date 2/3
Time 1037
Cat AF AS AX **BC**
Type **(1)** 2 WI

Chair Morita, Vice-Chair Coffman and Members of the Committee:

My name is Arthur Seki. I am the Director of Renewable Technology 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), hereby referred to collectively as the HECO Utilities.

We support H.B. 2237 amending the statutes to broaden the original intent from ethanol incentives to biofuel incentives for biofuel development in Hawaii. We respectfully offer a few amendments under Hawaii Revised Statutes ("HRS") § 235-110.3--biofuel facility tax credit--to broaden the statutes another step to include other biofuels that could also be processed or refined and used for electrical generation:

- Under "biofuel" means, page 4, lines 1 to 4 (changes in **bold**)
"Biofuel" means ethanol, biodiesel, diesel, jet fuel, or 2 other liquid fuel meeting the relevant fuel specifications of ASTM International (formerly ASTM, the American Society for Testing and Materials), or specifications for electrical generation and produced from agricultural feedstock.
- Under "qualifying biofuel production", page 6, lines 1 to 7 (changes in **bold**)
"Qualifying [~~ethanol~~] biofuel production" means [~~ethanol~~] biofuel produced from [~~renewable, organic feedstocks, or waste materials, including municipal solid waste.~~]

agricultural feedstock. All qualifying production [~~shall~~] **could** be fermented, distilled, gasified, **processed, refined** or produced by physical **and or** chemical conversion methods such as, **but not limited to**, reformation and catalytic conversion and dehydrated at the facility.

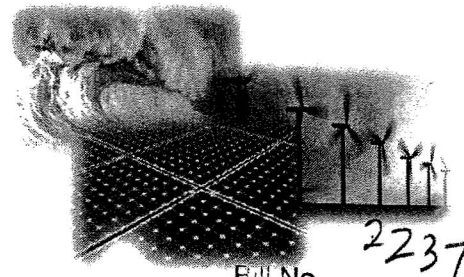
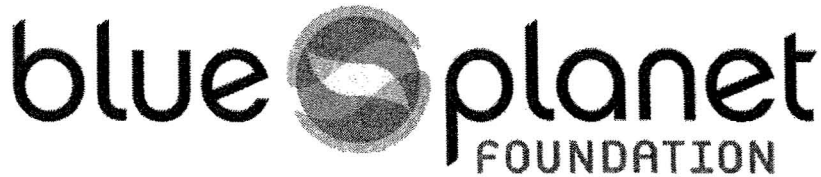
- Under “qualifying biofuel production facility”, page 6, lines 8 to 13 (changes in **bold**) “Qualifying [~~ethanol~~] biofuel production facility” or “facility” means a facility located in Hawaii [~~which~~] that produces [~~motor~~] fuel grade [~~ethanol meeting the minimum specifications by the American Society of Testing and Materials standards D-4806 as amended.~~] biofuel meeting the relevant ASTM specifications for the particular fuel or other specifications for electrical production.

The HECO Utilities are committed to exploring and using biofuels in its existing and planned generating units. The amendments we propose will help biofuel production facility development. The use of biofuels can reduce the State’s dependence on imported oil and increase the amount of renewable energy from sustainable resources. This commitment by the HECO Utilities is demonstrated by the following initiatives:

- Installed a 100 MW power plant in 2009 at Campbell Industrial Park to be 100% biofueled;
- Tested biodiesel in its diesel engines and combustion turbine at MECO’s Maalaea power plant and planning to conduct further tests;
- Planning for a 30-day test at Kahe 3 biofuel co-firing demonstration in a steam boiler generating unit for late 2010;
- Provided 3 years of seed funding to the Hawaii Agriculture Research Center (“HARC”) and the agriculture departments at the University of Hawaii’s Manoa and Hilo campuses to conduct biofuel crop research with a 4th year of funding to follow this year; and
- Evaluating micro-algae for biofuels production using power plant emissions.

In conclusion, HECO Utilities supports H.B. 2237 and our proposed amendments as a way to stimulate the biofuel development.

Thank you for the opportunity to present this testimony.



HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION
 February 4, 2010, 9:00 A.M.
 Room 325

(Testimony is 1 page long)

TESTIMONY IN SUPPORT OF HB 2237, SUGGESTED AMENDMENT

Bill No. 2237
 Support Y N
 Date 2/3
 Time 1315
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 Type 1 2 WI

Chair Morita and members of the Committee:

The Blue Planet Foundation supports House Bill 2237, a measure to expand the existing ethanol facility tax credit to include other liquid biofuels. We respectfully ask this Committee, however, to amend HB 2237 so that any future biofuel tax credits apply only to facilities utilizing Hawaii-grown and produced feedstocks.

Biofuels will likely play a major role in Hawaii's clean energy future—particularly as a substitute for petroleum-based transportation fuels. Hawaii has an existing tax incentive for ethanol production facilities, the Ethanol Facility Tax Credit. Enacted in 2006, this policy is a refundable investment tax credit. The proposed policy would expand the credit to larger facilities as well as facilities that produce any biofuel, not just ethanol.

Transportation fuels in Hawai'i can be made from renewable resources, such as sugarcane, algae, and waste products. These materials are neither as scarce nor as expensive as crude oil. Even more importantly, these materials are available here. Hawai'i should set a clear course for a steady, incremental transition to renewable fuels including locally-produced biofuels.

We do want to ensure that this policy encourages our clean, local, renewable energy industries. We want to avoid a distorted outcome where oil crops are being shipped across the Pacific (from potentially destructive sources, like former rainforest land) for use in Hawai'i. We don't necessarily want to replace one import (oil) with another one (imported oil crops).

Thank you for the opportunity to testify.

WRITTEN TESTIMONY OF DENNIS FURUKAWA
FOUNDER, REALGREEN POWER, INC.
HONOLULU, HAWAII

BEFORE THE HOUSE COMMITTEE ON ENERGY & ENVIRONMENTAL PROTECTION
THURSDAY, FEBRUARY 4, 2010
9:00 A.M.
ROOM 325
HOUSE BILL NO. 2237
RELATING TO RENEWABLE FUELS

Bill No. 2237
Support Y N X
Date 2/3
Time 1327
Cat AF AS AX BC
Type 1 2 WI

TESTIMONY RELATING TO HB 2237

Chairperson Morita and Members of the Committee:

The purpose of this bill is to amend the ethanol facility income tax credit to include other liquid biofuels, and to enable larger facilities to be eligible for the tax incentive.

RGP is concerned with this bill as written, as it creates a bias towards a limited array of liquid fuel types, and excludes other feasible and proven fuel types, such as methane (natural gas), methanol, and hydrogen gas from being defined as "Biofuel". Moreover, there is the possibility that State funds can be used to purchase imported biomass feedstocks, which would circumvent the intent of the Legislature to produce biofuels from locally produced biomass feedstocks. This is made possible by the omission of a requirement that feedstocks be locally sourced.

Specifying the use of agricultural products without a local source requirement will almost certainly result in Hawaii farmers losing out because the lower cost of feedstocks from abroad will significantly undercut Hawaii's farmer's prices. Also, the disqualification of municipal waste would mean that (for example) green wastes diverted from the landfill would not qualify. I feel strongly that diversion of waste from the landfills is one of the most important challenges facing the State, as

the export of waste to the mainland promises to cost the State untold millions for the transportation, handling, and storage of the otherwise useful materials. Moreover, the treatment and use of waste fats oils and grease (FOG) for the purposes of energy production is also of tremendous importance to the State for the same reasons as the green waste.

My primary disagreement with the bill is that it seeks to define "Biofuel" as limited to liquid fuels, omitting other biofuels such as methane or hydrogen, or even ammonia, all of which can be produced using entirely biological processes. These fuels can be liquefied however, although that would not be the form in which they are likely to be sold. In contrast, the gasification process ClearFuels has developed can use non-agricultural and agricultural wastes equally well. They can produce hydrogen, methane, or ethanol, depending upon the economics of the market.

I am not taking sides as to whether ethanol or biodiesel producers should receive the tax incentives, only that the definition of "Biofuels" and "Agricultural Feedstocks" should be revised. The issue of 'Qualification' should be limited in the bill to whatever types of fuels the State wants to fund.

Suggestions:

- 1) Revise the definition of "Agricultural feedstocks" to include only feedstocks which are grown in the State of Hawaii, or change the bill to define "Qualified Agricultural Feedstocks" as being locally grown and harvested.
- 2) Define "Biofuels" to include fuels made from green waste diverted from the landfill and from FOG. "Biofuels" should include methane, hydrogen, methanol, ammonia, as well as

ethanol and biodiesel, in liquid, solid, or gaseous forms, and any other potential fuels derived from biomass or from biological processes.

- 3) Create a new definition of “Qualified Biofuels”, wherein ethanol and biodiesel can be stipulated.
- 4) The heat value of a Biofuel shall be quantified by the number of Btu (British thermal units) as determined by an independent lab licensed by the State to perform such analysis. ASTM data can be used if the testing lab certifies the fuel to conform with ASTM standards.
- 5) Revise “Qualifying biofuel production facility” to mean “a facility located in Hawaii that produces fuel grade biofuel meeting the relevant ASTM specifications for the particular fuel.”
- 6) Strike any stipulation that biofuels be liquid. Many municipal motor pools in the U.S. (San Francisco, Santa Barbara, others), public bus systems (AC Transit) use gaseous fuels (methane, hydrogen (from methane!)) to power their fleets. Cars in Korea and Japan use methane as a preferred fuel. Honda, Ford, GM, Hyundai, Toyota all manufacture cars and trucks that run on methane. In fact no heavy trucks use ethanol because of the low energy content in the fuel, however methane is used widely in industrial powerplants, and is the most efficient fuel for power generation in the U.S. A precedent of limiting biofuel to liquids has unknown consequences for the future, and could have a unforeseen negative impact on future electrical powerplant developments in the State.
- 7) Consider elimination of any minimum volume requirements. Stipulate that in order to qualify for tax incentives the biofuel must have a market comprised of at least one customer purchasing the biofuel at a non-subsidized cost. The customer must be an unrelated company (no self-dealing), although the government could be a customer, for example the DLNR

motor pool or Honolulu Police Dept. The other measures in the bill relating to the nameplate capacity and the sales minimums should suffice to ensure that any party receiving tax incentives are engaged in useful business advancing the goals of the State in regards to reducing dependency on imported fossil fuels.

In closing, the State may grant tax breaks to ethanol and biodiesel producers in this bill, but in doing so please do not marginalize other biofuel producers.

Thank you for the opportunity to testify in this matter.