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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 5, 2009
9:00 a.m.
State Capitol, Conference Room 325

in consideration of
HB 1843
RELATING TO RENEWABLE ENERGY.

Good afternoon, Chair Morita, Vice Chair Coffman, and Members of the Committees.

House Bill 1843 establishes electric generation and delivery initiatives necessary for and contributing to the achievement of Hawaii Clean Energy Initiative's goal to transition Hawaii's energy sector to 70% renewable energy sources by 2030. The Department of Business, Economic Development, and Tourism (DBEDT) strongly supports this bill, with the exception of sections 2, 7, 8 and 9, where the Department has concerns and would like to respectfully request that the Committee consider suggestions that we would like to offer in these comments. DBEDT also respectfully requests that this bill address some improvements to net metering, and will offer comments and suggestions below to that effect.

The transformation to a clean energy economy and the increased use and development of renewable energy resources will greatly benefit Hawaii's economy, environment, energy security and sustainability in many ways including achieving the following:

1. Energy security through reduced reliance on imported oil supplies and exposure to the volatile prices of the world oil market;
2. Risk management by increased diversification of the electricity generation portfolio;
3. Economic benefits including increased quality job creation, economic development and diversification, and fewer dollars leaving Hawaii's economy;
4. Reduced greenhouse emissions and the attendant negative impact on climate change, global warming, and Hawaii's environment.

On January 28, 2008, the signing of a Memorandum of Understanding between the State of Hawaii and the U.S. Department of Energy launched the Hawaii Clean Energy Initiative. The HCEI utilizes clean, renewable energy technologies, and will enable Hawaii to foster and demonstrate innovation, help build the workforce of the future, and serve as an integrated model and demonstration test bed for the U.S. and other island communities.

The significance of this bill towards achieving Hawaii's energy goals cannot be overstated. Currently, the Hawaii utilities use fossil fuel to generate over ninety per cent of the total electricity they sold, which represents approximately twenty-five per cent of Hawaii's total oil imports. Only about nine per cent of the electricity sold is generated from renewable resources.

Any new fossil fuel-based generation installed in the future will have a useful lifetime of 30 to 50 years or more, which will perpetuate Hawaii's dependence on imported oil, compromising Hawaii's future energy security and sustainability as well as the attendant negative impact on Hawaii's economy and environment. Furthermore, the price risks of Hawaii's heavy dependence on imported fossil fuel for electricity generation are currently borne entirely by Hawaii's consumers. To the extent possible, future requirements for additional energy must be met by electricity generation and biofuel production from renewable resources.

In particular, this bill lays out a number of important and achievable measures which codify elements of the Energy Agreement between the State and Hawaiian Electric (HECO) companies.

The first major area this bill addresses is strengthening the Renewable Portfolio Standard (RPS). In Section 1 the bill amends Section 269-91, Hawaii Revised Statutes, to require that starting in 2015 electrical energy savings and efficiency measures will not count towards the RPS. In Section 2 the bill amends Section 269-92, Hawaii Revised Statutes, to change the amount required to be derived from renewable sources from twenty per cent to twenty-five per cent of net electricity sales by December 31, 2020; and by adding requirements for ten per cent by 2010, fifteen per cent by 2015, and forty per cent by 2030 – doubling the 2030 objective.

Section 2 also supports the achievement of the State's RPS goals, by prohibiting approval by the Public Utilities Commission of any new electric generation units that produce electricity solely from the combustion of fossil fuels. While the Department supports the intent of this section of the bill to help to achieve the RPS objectives by curtailing new fossil-based

generation, we believe that in order to optimally strengthen and accelerate the reaching of the RPS objectives, this prohibition should not be limited to fossil-only generation units. Rather, we believe that for optimal effectiveness in achieving the RPS, the prohibition also needs to extend to any generation units which have fossil fuels components.

Also, we believe that the prohibition should apply only to electric generation with a rated capacity greater than two megawatts, because most distributed generation facilities -- which help the system to preserve a stable electric grid to minimize disruption to service quality and reliability -- are under two megawatts, as opposed to the large central-station generation units which are typically two megawatts and above. As Hawaii moves from central-station, oil-based firm power to a much more renewable and distributed and intermittent powered system, there is a need to assure that Hawaii preserves a stable electric grid to minimize disruption to service quality and reliability.

DBEDT also opposes the following segment in Section 2: "provided that, under extraordinary circumstances, as determined by the commission, a permit may be issued." Allowing the Public Utilities Commission this ability to make exceptions for some fossil-based generation units would potentially decrease the effectiveness of Section 2. Thus, we believe that this phrase should be dropped from the bill.

The Department would respectfully request and support the inclusion of language in Section 2 to these effects, such as that provided for in the Hawaii Clean Energy Initiative electric generation and delivery bill, H.B. 1052.

These measures to enhance the RPS have already been agreed to in the Energy Agreement between the State and the HECO companies, and will significantly accelerate the mandated replacement rate of fossil-based electrical generation by renewable sources of generation, thereby enabling significant progress towards reducing Hawaii's current ninety per cent dependency upon petroleum-based products for electricity generation, and moving the State towards the goal of seventy per cent reliance upon renewable sources for generation.

A second major area which this bill enhances, in Section 4, in order to contribute to the goals of the Hawaii Clean Energy Initiative, is the creation and designation of renewable energy zones to increase the use and development of renewable energy resources, as well as the identification and qualification of transmission projects and infrastructure crucial to the development of renewable energy resources, and which should receive assistance in accessing the use of special purpose revenue bonds for financing. We believe that the functions of creating and designating renewable energy zones, and identifying, qualifying, and assisting access to the use of special purpose revenue bonds to finance, transmission projects and infrastructure, are best served and incorporated in the Energy Resources Coordinator's statutory roles and functions as established in Section 196-4, Hawaii Revised Statutes.

The creation of renewable energy zones and construction of transmission projects and infrastructure are vital elements in the transformation of Hawaii's economy from one that is heavily dependent on imported fossil fuel for over 90 per cent of its energy to one that is 70 percent powered by clean indigenous renewable energy.

The statutory functions and activities of the Energy Resources Coordinator already include preparing energy studies and analysis, including the collection, development and management of energy data. The Energy Resources Coordinator's relationships and partnerships with federal entities and national laboratories such as the US Department of Energy and the National Renewable Energy Laboratory will effectively enable the collection and analysis of data and information necessary in identifying geographic areas that are rich with renewable energy resource potential that may be designated as renewable energy zones. Likewise, these links will also enable the Energy Resource Coordinator to most effectively identify and qualify transmission projects and infrastructure crucial to the development of renewable energy resources, and to assist them with access to the use of special purpose revenue bonds for financing.

We believe that these are vitally important elements in Hawaii's energy transformation and that such functions are best served by the Energy Resources Coordinator and incorporated in the Energy Resources Coordinator's statutory functions specified in Section 196-4, Hawaii Revised Statutes.

Thirdly, in Section 5 this bill amends and expands the definition of "qualified business" in Section 209E-2, Hawaii Revised Statutes, to include enterprises engaged development or production of various types of renewable energy which may qualify for State enterprise zone tax incentives and regulatory flexibility which stimulate business, agricultural, and industrial growth in areas that would result in neighborhood revitalization. Adding other forms of alternative energy from renewable resources including sun, falling water, biogas, geothermal, ocean water, currents, and waves, biomass, biofuels and hydrogen production from renewable energy sources

into the Enterprise Zone (EZ) program is a good fit with the current approved business activities which presently includes wind energy production. The incentives provided for in the EZ program such as the construction GET exemption and various county benefits will provide the impetus to help attract these businesses to Hawaii. The need to move forward on alternative energy development is imperative to Hawaii's future energy security, and the addition of alternative energy activities into the EZ program will help to add further impetus to the progress we are pursuing.

The fourth major issue addressed by this bill is renewable energy permitting and facilitation. DBEDT supports Section 6, which enhances the definition in Section 201-12.5, Hawaii Revised Statutes, of which renewable energy projects are included in the duties of the renewable energy facilitator, by specifying the inclusion of renewable energy facilities' land parcels, production structure or equipment, energy transmission lines, and on-site infrastructure necessary for production of renewable energy.

DBEDT also supports the intent of Section 7, which amends Section 201N-1, Hawaii Revised Statutes, to enable renewable energy facilities between five and two hundred megawatts to apply to the Energy Resource Coordinator for approval to receive permitting process assistance from the renewable energy facilitator. However, we believe the language as proposed, would only include new renewable energy facility projects with capacity between 5 megawatts and 200 megawatts, or new biofuel production facility projects with capacity of exactly one million gallons annually, to qualify to apply to the State Energy Resources Coordinator for designation as renewable energy facilities for the purpose of receiving permitting facilitation process assistance. This proposed language effectively excludes new renewable energy projects

with capacity greater than 200 megawatts, and new biofuel facilities with capacity greater than one million gallons annually. The Department respectfully requests and supports the amending of the language in this section to define “renewable energy facility” or “facility” as new facilities above two hundred megawatts of produced electricity, provided that biofuel production facilities of *at least* one million gallons annually, and electricity production facilities with capacities between five and two hundred megawatts may apply to the Energy Resources Coordinator for designation as renewable energy facilities, with such designation to be at the sole discretion of the Coordinator.

In Section 8, this bill speeds and clarifies the expediting process for renewable energy facilities permitting by amending Section 201N-4, Hawaii Revised Statutes, such that the pertinent permitting agency must provide the Energy Resource Coordinator with the report identifying diligent measures by the agency to process and act upon the permit, within thirty days following the twelfth month after any permit which is part of an approved permit plan has not yet been approved or denied. DBEDT strongly supports this amendment, but believes that there is a strong need for additional language to facilitate the improved speed of permitting, which has often languished at various agencies. We therefore would respectfully request and support inclusion of language to indicate that if no further processing and action are reported by a permitting agency within five months, the permit shall be deemed approved.

In Section 9, we would comment that the language should reflect that the sums appropriated will be expended for the purposes of the fund created in Section 201N-11, Hawaii Revised Statutes.

Finally, the Department believes that there is an outstanding area vital to the development of renewable energy generation and delivery in Hawaii, which this bill does not yet address: net energy metering. We would respectfully request and support the addition of provisions into this bill to enhance in a way such as H.B. 1052 does, the net energy metering provisions of Chapter 269, Hawaii Revised Statutes, by giving the Public Utilities Commission the authority to eliminate the caps and limits on the capacity size for customer-generators and to allow the utilities to assign eligible customer-generators to other applicable tariffs such as Feed-in Tariffs to promote the increased use and development of renewable energy systems and resources. These proposed amendments to the net energy metering statute are also included in the Energy Agreement between the State and HECO, and will serve to increase adoption and integration of customer-sited renewable energy systems and technology.

Hawaii can achieve all of the objectives set by this bill, which will facilitate the development of a secure, renewable energy economy that keeps in Hawaii the billions of dollars annually being lost to fossil fuel sources overseas, and which will deliver strong growth of green, high-quality jobs, businesses, and income, technological innovation and advancement, and reduced greenhouse gas emissions for a cleaner environment, to our people. The islands of Hawaii are blessed by an abundance of renewable energy resources from the sun, wind, ocean, and earth. The sun provides us abundant and free energy resource for solar water heating and for photovoltaic generation of electricity. Assessment of opportunities to harvest our ample wind and bioenergy resources have been identified and continued to be updated. The use of wave energy for electricity generation is being tested and explored, and we possess extensive and as yet untapped geothermal resources on the Big Island.

In conclusion, this bill will go a great distance to substantively enable the achievement of the State's goal of a secure, clean energy future via increasing the use and development of renewable energy resources.

Thank you for the opportunity to offer these comments.

Testimony on
**H.B. NO. 1843 –
RELATING TO RENEWABLE ENERGY**

Before the

House Committee on Energy & Environmental Protection
Thursday, February 5, 2009, 9:00 a.m., Conference Room 325

By

David Rezachek, Consultant
Honolulu Seawater Air Conditioning LLC

WRITTEN TESTIMONY ONLY

Good morning Chair Morita, Vice Chair Coffman, and members of the Committee. My name is David Rezachek and I am testifying on behalf of Honolulu Seawater Air Conditioning, LLC (HSWAC).

HSWAC has previously stated its objection to removing renewable energy electricity displacement technologies from the State's renewable energy portfolio standard.

H.B. 1843 proposes to do just that by 2015 without any guarantee that an energy efficiency portfolio standard would be in place, or that any of the renewable energy electricity displacement technologies, such as SWAC, would be included.

HSWAC has also expressed other concerns about trying to redefine SWAC, solar water heating, and solar air conditioning as something other than renewable technologies.

Therefore, **HSWAC cannot support Part I of this bill as it is currently written.**

Part II of this bill provides a list of methods that the Energy Resources Coordinator can use to assist renewable energy development in Hawaii. It is not clear if this assistance would apply to renewable energy electricity displacement technologies. HSWAC respectfully requests that these technologies be included in this Part.

Part III of this bill adds a variety of renewable energy technologies to the definition of “qualified business” under the State’s enterprise zone program. HSWAC supports the intent of this Part. HSWAC assumes that SWAC is included as thermal energy from a renewable resource (ocean water). HSWAC would appreciate a confirmation of this interpretation.

Parts V and VI, of this bill, facilitate the permitting of renewable energy facilities. HSWAC respectfully requests that these sections be amended to provide similar assistance to renewable energy electricity displacement technologies.

HSWAC respectfully requests that this bill be deferred until:

- (1) there is agreement on consistent definitions of “renewable energy” and “energy efficiency” in proposed legislation and in the Hawaii Revised Statutes;
- (2) any changes in the RPS, and the establishment of an energy efficiency portfolio standard, occur together; and
- (3) economic, siting, and permitting assistance is provided to all renewable energy and energy efficiency technologies on an equitable basis and without regard to technology type and/or project size.

HSWAC would be happy to work with other stakeholders to accomplish these objectives.

Thank you for this opportunity to testify.

Testimony before the House Committee on Energy & Environmental Protection

H.B. 1843 – Relating to Renewable Energy

Thursday, February 5, 2009
9:00 am, Conference Room 325

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

Chair Morita, Vice Chair Coffman and members of the Committee:

My name is Arthur Seki—I am the Director of Technology at Hawaiian Electric Company. I am testifying on behalf of Hawaiian Electric Company (HECO) and its subsidiaries, Maui Electric Company (MECO) and Hawaii Electric Light Company (HELCO) hereinafter collectively referred to as HECO Utilities.

We strongly support H.B. No. 1843, which proposes comprehensive measures for increasing the production and use of renewable energy in Hawaii.

We respectfully offer a few amendments to Part I of the bill on Renewable Portfolio Standards (“RPS”), where the bill proposes to modify the definition of “renewable electrical energy” under Hawaii Revised Statutes (“HRS”) § 269-91. Under the proposed change to section (2) of the definition, electrical energy savings would not count towards RPS starting on January 1, 2015. Those savings include “customer-sited, grid-connected renewable energy systems.” Without clarification, this language could mean that generation of renewable energy using photovoltaic systems would no longer count toward RPS from 2015. Therefore, we suggest that the language be clarified (**in bold**) as follows:

- (2) Electrical energy savings brought about by the use of renewable displacement or off-set technologies, including solar water heating, seawater air-conditioning district cooling systems, solar air-conditioning, and customer-sited grid-connected renewable energy systems; provided that, beginning January 1, 2015, electrical energy savings **brought about by the use of renewable displacement or off-set technologies, except those**

savings brought about by the use of customer-sited, grid-connected photovoltaic systems, shall not count towards renewable energy portfolio standards; or

With this clarification to section (2) of the definition of “renewable electrical energy,” the last sentence of the proposed amendment to section (3) of the definition should be deleted. In addition, we suggest the following clarifying language (in bold) to distinguish the reference to “electrical energy savings” in the new language in section (3) from its reference in section (2):

(3) Electrical energy savings brought about by the use of energy efficiency technologies, including heat pump water heating, ice storage, ratepayer-funded energy efficiency programs, and use of rejected heat from co-generation and combined heat and power systems, excluding fossil-fueled qualifying facilities that sell electricity to electric utility companies and central station power projects[-]; **provided that, beginning in 2015, electrical energy savings brought about by the use of energy efficiency technologies shall not count towards renewable energy portfolio standards.**

In addition, the proposed HRS § 269-92(b)(4) – which would prohibit the Public Utilities Commission from issuing a permit for the construction or operation of a new electric generation unit using fossil fuel, unless under extraordinary circumstances – may need to be modified to reflect the Commission’s properly authority. However, the HECO Utilities defer to the Public Utilities Commission on this provision.

As you are aware, the HECO Utilities are committed to increasing the amount of renewable energy from sustainable resources in order to reduce Hawaii’s dependence on imported oil. There have been a number of renewable energy projects and initiatives related to renewable energy that we have undertaken:

- Integrated wind generated electricity from 3 new wind farms--Hawi (10 MW) and Pakini Nui (20 MW) at South Point on the Big Island and Kaheawa (30 MW) on Maui;
- Negotiating for new contracts related to wind on Maui and Oahu, solar and geothermal on the Big Island and ocean energy for Oahu;
- Short-listed renewable energy projects from the HECO 100 MW RFP for Oahu;
- Installing the 2009 power plant (100 MW) at Campbell Industrial Park to be 100% biofueled;

- Conducting wind integration study on Maui;
- Conducting wind and solar integration study for Big Wind from the neighbor island to Oahu;
- Planning for a 30-day test at Kahe 3 biofuel co-firing demonstration in a steam boiler generating unit for late 2009;
- Provided 2 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 and a 3rd to follow this year; and
- Evaluating micro-algae for biofuels and ocean energy projects.

In conclusion, the HECO Utilities support H.B. No. 1843 with the above amendments.

Passage of this bill would provide further guidance and strong support for our concerted efforts to have continued growth in the use of renewable energy throughout the State.

Thank you for the opportunity to testify.

HAWAII RENEWABLE ENERGY ALLIANCE

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TESTIMONY OF WARREN BOLLMEIER ON BEHALF OF THE HAWAII RENEWABLE ENERGY ALLIANCE BEFORE THE HOUSE COMMITTEE ON ENERGY AND ENVIRONMENTAL PROTECTION

HB 1843, RELATING TO RENEWABLE ENERGY

February 5, 2009

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WSB-Hawaii

Cully Judd
Inter Island Solar Supply

John Crouch
Sunpower

Herbert M. (Monty) Richards
Kahua Ranch Ltd.

Chair Morita, Vice-Chair Coffman and members of the Committee I am Warren Bollmeier, testifying on behalf of the Hawaii Renewable Energy Alliance (HREA). HREA is a nonprofit corporation in Hawaii, established in 1995 by a group of individuals and organizations concerned about the energy future of Hawaii. HREA's mission is to support, through education and advocacy, the use of renewables for a sustainable, energy-efficient, environmentally-friendly, economically-sound future for Hawaii. One of HREA's goals is to support appropriate policy changes in state and local government, the Public Utilities Commission and the electric utilities to encourage increased use of renewables in Hawaii.

The purpose of HB 1843 is to establish comprehensive measures for increasing the production and use of renewable energy in the State. HREA supports the intent of this bill, but **opposes** the bill as written. Specifically:

1. Changes to RPS. HREA agrees there needs to be changes to our RPS law, as we mentioned in our testimony on HB 429 at your committee's hearing on February 3, 2009. We support the proposed language to increase the RPS requirements to 40% by 2030, as that comports with the goals of the Hawaii Clean Energy Initiative. However, we believe additional amendments to RPS are needed in light of the Energy Efficiency Portfolio Standard ("EEPS") as proposed in HB 429;
2. DPS rather than EEPS. HREA believes a demand-side (or "demand-reduction") portfolio standard ("DPS") is a more appropriate companion to RPS. DPS would include those measures a customer could employ to "off-set a portion up to all" of his electrical load. These include the following technologies and measures, which are on the customer(or "retail"-side) of the meter:
 - a. traditional energy efficiency,
 - b. off-set renewables, and
 - c. net metered renewables; and
3. Policy Direction to the Public Utility Commission. In any case, given that the implementation issues implied in HBs 1843 and 429 and our recommendations are substantial, we recommend that the committee direct the Commission to investigate realignment of RPS based on wholesale renewable energy and a new DPS based on retail demand-reduction technologies, such as defined above.

Please see our detailed recommendations in the attachment.

Thank you for this opportunity to testify.

Report Title:

Renewable Energy

Description:

Establishes comprehensive measures for increasing the production and use of renewable energy in the State.

HOUSE OF REPRESENTATIVES
TWENTY-FIFTH LEGISLATURE, 2009
STATE OF HAWAII

H.B. NO. 1843

A BILL FOR AN ACT

RELATING TO RENEWABLE ENERGY.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

PART I. RENEWABLE PORTFOLIO STANDARDS

SECTION 1. Section 269-91, Hawaii Revised Statutes, is amended by amending the definitions of "renewable electrical energy" and "renewable energy" to read as follows:

"Renewable electrical energy" means:

(1) Electrical energy generated using renewable energy as the source; provided that, beginning in January 1, 2015 only wholesale energy using renewable energy as the source will count towards renewable energy portfolio standards, and retail energy using renewable energy as the source will count towards the Demand-Side Portfolio;

(2) Electrical energy savings brought about by the use of renewable displacement or off-set technologies, including solar water heating, seawater air-conditioning district cooling systems, solar air-conditioning, and customer-sited, grid-connected renewable energy systems; provided that, beginning January 1, 2015, electrical energy savings shall not count towards renewable energy portfolio standards but will count towards the Demand-Side Portfolio; or

(3) Electrical energy savings brought about by the use of energy efficiency technologies, including heat pump water heating, ice storage, ratepayer-funded energy efficiency programs, and use of rejected heat from co-generation and combined heat and power systems, excluding fossil-fueled qualifying facilities that sell electricity to electric utility companies and central station power projects[-]; provided that, beginning in 2015, electrical energy savings shall not count towards renewable energy portfolio standards, but will count towards the Demand-Side Portfolio; and

(1) ~~[At] Prior to January 1, 2015, at least fifty per cent of the renewable portfolio standards shall be met by electrical energy generated using renewable energy as the source[;], and after December 31, 2014, the entire renewable portfolio standard shall be met by wholesale electrical generation from renewable energy sources;~~

(2) Where electrical energy is generated or displaced by a combination of renewable and nonrenewable means, the proportion attributable to the renewable means shall be credited as renewable energy; ~~and]~~

(3) Where fossil and renewable fuels are co-fired in the same generating unit, the unit shall be considered to generate renewable electrical energy (electricity) in direct proportion to the percentage of the total heat input value represented by the heat input value of the renewable fuels~~[-]; and~~

~~(4) The public utilities commission shall not issue a permit for the construction or operation of a new electric generation unit that produces electricity solely from the combustion of a fossil fuel; provided that, under extraordinary circumstances, as determined by the commission, a permit may be issued."~~

SECTION 3. Section 269-95, Hawaii Revised Statutes, is amended to read as follows:

"§269-95 Renewable portfolio standards study. The public utilities commission shall:

(1) By December 31, 2007, develop and implement a utility ratemaking structure, which may include performance-based ratemaking, to provide incentives that encourage Hawaii's electric utility companies to use cost-effective renewable energy resources found in Hawaii to meet the renewable portfolio standards established in section 269-92, while allowing for deviation from the standards in the event that the standards cannot be met in a cost-effective manner or as a result of events or circumstances, such as described in section 269-92(d), beyond the control of the utility that could not have been reasonably anticipated or ameliorated;

(2) Gather, review, and analyze empirical data to ~~[determine]:~~

(A) Determine the extent to which any proposed utility ratemaking structure would impact electric utility companies' profit margins ~~[and to ensure]; and~~

(B) Ensure that the electric utility companies' opportunity to earn a fair rate of return is not diminished; ~~and~~

~~(C) Ensure that the electric utility companies' profit margins do not decrease as a result of the~~

implementation of the proposed ratemaking structure;

(3) Using funds from the public utilities special fund, contract with the Hawaii natural energy institute of the University of Hawaii to conduct independent studies to be reviewed by a panel of experts from entities such as the United States Department of Energy, National Renewable Energy Laboratory, Electric Power Research Institute, Hawaii electric utility companies, environmental groups, and other similar institutions with the required expertise. These studies shall include findings and recommendations regarding:

(A) The capability of Hawaii's electric utility companies to achieve renewable portfolio standards in a cost-effective manner and shall assess factors such as the impact on consumer rates[~~7~~]; utility system reliability and stability[~~7~~]; costs and availability of appropriate renewable energy resources and technologies[~~7~~]; permitting approvals[~~7~~]; effects on the economy[~~7~~]; balance of trade, culture, community, environment, land, and water[~~7~~]; climate change policies[~~7~~]; demographics[~~7~~]; and other factors deemed appropriate by the commission; and

(B) Projected renewable portfolio standards to be set five and ten years beyond the then current standards;

(4) [Revise] Evaluate renewable portfolio standards every five years, beginning in 2013, and revise the standards as appropriate based on the best information available at the time [if the results of the studies conflict with] to determine whether the renewable portfolio standards established by section 269-92[;] remain achievable; and

(11) Prepare and submit an annual report and ~~such~~ other reports as may be requested to the governor and to the legislature on the implementation of this chapter and all matters related to energy resources; ~~and~~

(12) Formulate a systematic process, including the development of requirements, in collaboration with the counties, to identify geographic areas that contain renewable energy resource potential that may be developed in a cost-effective and environmentally benign manner and designate these areas as renewable energy zones;

(13) Develop and recommend incentive plans and programs to encourage the development of renewable energy resource projects within the renewable energy zones;

(14) Assist public and private agencies in identifying the utility transmission projects or infrastructure that are required to accommodate and facilitate the development of renewable energy resources;

(15) Assist public and private agencies in coordination with the department of budget and finance in accessing use of special purpose revenue bonds to finance the engineering, design, and construction of transmission projects and infrastructure that are deemed critical to the development of renewable energy resources;

(16) Develop the criteria or requirements for identifying and qualifying specific transmission projects or infrastructure that are critical to the development of renewable energy resources and for which the energy resources coordinator shall assist in accessing the use of special purpose revenue bonds to finance; and

~~[(12)]~~ (17) Adopt rules for the administration of this chapter pursuant to chapter 91, provided that the rules shall be submitted to the legislature for review."

PART III. RENEWABLE ENERGY RESOURCES

SECTION 5. Section 209E-2, Hawaii Revised Statutes, is amended by amending the definition of "qualified business" to read as follows:

"Qualified business" means any corporation, partnership, or sole proprietorship authorized to do business in the State that is qualified under section 209E-9, subject to the state corporate or individual income tax under chapter 235, and is:

(1) Engaged in manufacturing, the wholesale sale of tangible personal property as defined in section 237-4, or a service business as defined in this chapter;

(2) Engaged in producing agricultural products where the business is a producer as defined in section 237-5, or engaged in processing agricultural products, all or some of which were grown within an enterprise zone;

(3) Engaged in research, development, sale, or production of all types of genetically-engineered medical, agricultural, or maritime biotechnology products; or

(4) Engaged in ~~[producing electric power from wind energy for sale primarily to a public utility company for resale to the public,] the development or production of fuels and thermal energy, or generation of electrical energy from renewable resources, including:~~

- (A) Wind;
- (B) The sun;
- (C) Falling water;
- (D) Biogas, including landfill and sewage-based digester gas;
- (E) Geothermal;
- (F) Ocean water, currents, and waves, including ocean thermal energy conversion;
- (G) Biomass, including biomass crops, agriculture and animal residues and wastes, and solid waste;
- (H) Biofuels; and
- (I) Hydrogen produced from renewable energy sources."

PART IV. RENEWABLE ENERGY FACILITATOR

SECTION 6. Section 201-12.5, Hawaii Revised Statutes, is amended by amending subsection (b) to read as follows:

"(b) The renewable energy facilitator shall have the following duties:

- (1) Facilitate the efficient permitting of renewable energy projects[;], including:
 - (A) The land parcel on which the facility is situated;
 - (B) Any renewable energy production structure or equipment;