
A BILL FOR AN ACT

RELATING TO ENERGY.

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

1 SECTION 1. There have been several recent economic studies
2 on the benefits of increasing energy efficiency and indigenous
3 renewable energy resources as a method of stimulating local
4 economic growth. These studies include Black and Veatch,
5 Assessment of the Potential Impacts of a Renewable Portfolio
6 Standard in Pennsylvania; a University of Nevada report, The
7 Potential Economic Impact of Nevada's Renewable Energy
8 Resources; University of Illinois, Regional Economic
9 Applications Laboratory Report, Job Jolt: The Economic Impact
10 of Repowering the Midwest; and Howard Geller, Energy Efficiency
11 and Job Creation.

12 An energy efficiency utility is an entity that provides a
13 comprehensive and consistent set of energy efficiency programs
14 to electric consumers. This innovation would significantly
15 improve upon the energy efficiency programs delivered by
16 individual electric utilities operating in the State. This
17 concept takes advantage of the fact that installing energy
18 efficiency measures can cost much less per kilowatt-hour than



1 installing new generation capacity. For example, Efficiency
2 Vermont is an independent entity whose sole mission is energy
3 efficiency. It provides technical advice, financial assistance,
4 and design guidance to help make Vermont homes and businesses
5 more energy efficient. Efficiency Vermont is funded by an
6 "energy efficiency charge" that appears on consumers' electric
7 bills. Efficiency Vermont was a 2003 winner of Harvard
8 University's Kennedy School of Government's Innovations in
9 American Government Award.

10 Under the current electricity rate structure, an electric
11 utility company operates under conflicting objectives. An
12 electric utility must sell electrons to earn a profit; however,
13 public utility commission regulation also requires the electric
14 utility to provide customers with energy efficiency devices
15 designed to reduce their electricity usage.

16 Furthermore, electric utilities are guaranteed cost
17 recovery plus profits for building infrastructure to meet peak
18 demand. There are no adequate financial incentives to increase
19 system utilization, that is, for an electric utility to flatten
20 or level its load, which tend to be more beneficial to the rate-
21 payer. Such a model tends to be inefficient as it overly



1 focuses on meeting peak load rather than average load at the
2 rate-payer's expense.

3 The purpose of this Act is to authorize the public
4 utilities commission to establish an energy efficient utility
5 and energy efficiency portfolio standard.

6 SECTION 2. Section 269-91, Hawaii Revised Statutes, is
7 amended as follows:

8 1. By adding fifteen new definitions to be appropriately
9 inserted and to read:

10 "Energy efficiency" means energy savings brought about by
11 the use of solar and heat pump water heating, seawater air
12 conditioning district cooling systems, solar air conditioning
13 and ice storage, and other energy saving devices and systems
14 approved by the commission.

15 "Energy efficiency portfolio standard" means a requirement
16 of a utility to achieve a target energy efficiency ratio in a
17 specific year.

18 "Energy efficiency ratio" means the ratio of negative watts
19 to total demand.

20 "Energy efficiency utility" means a public utility, as
21 defined under section 269-1, for the reduction in needed



1 production, conveyance, transmission, delivery, or furnishing of
2 power.

3 "Indigenous watts" means the total watts generated from
4 indigenous energy sources.

5 "Load ratio" means the ratio of maximum demand to minimum
6 demand for a utility grid in a specific year.

7 "Load ratio standard" means a requirement of a utility to
8 achieve a target load ratio in a specific year.

9 "Maximum demand" means the highest demand for watts on a
10 utility grid in a specific year.

11 "Minimum demand" means the lowest demand for watts on a
12 utility grid for a specific year.

13 "Negative watts" means the watts of energy saved by
14 installing energy efficiency devices.

15 "Positive watts" means the total watts of energy consumed
16 by loads on a utility grid.

17 "Renewable energy portfolio standard" means a requirement
18 of a utility to achieve a specific renewable energy ratio in a
19 specific year.

20 "Renewable energy ratio" means the ratio of indigenous
21 watts to total demand.

1 "System benefits charge" means a charge on electric bills
2 designed to fund certain public benefits that are placed at risk
3 in a more competitive industry. Traditionally, these benefits
4 include but are not limited to assistance to utilities to cover
5 integrated resource planning costs, assistance for low-income
6 consumers, and funding renewable energy and energy efficiency
7 research and development.

8 "Total demand" means the sum of negative watts and positive
9 watts."

10 2. By amending the definition of "cost effective" to read:

11 "Cost-effective" means the ability to produce or purchase
12 electric energy or firm capacity, or both, from renewable energy
13 resources at or below avoided costs[-], including any
14 adjustments for external forces, taxes associated with climate
15 change policies, and renewable energy credits."

16 3. By amending the definition of "renewable energy" to
17 read:

18 "Renewable energy" means electrical energy produced by
19 wind, solar energy, hydropower, landfill gas, waste to energy,
20 geothermal resources, ocean thermal energy conversion, wave
21 energy, biomass, including municipal solid waste, biofuels, or
22 fuels derived from organic sources, hydrogen fuels derived from



1 renewable energy, or fuel cells where the fuel is derived from
2 renewable sources. Where biofuels, hydrogen, or fuel cell fuels
3 are produced by a combination of renewable and nonrenewable
4 means, the proportion attributable to the renewable means shall
5 be credited as renewable energy. Where fossil and renewable
6 fuels are co-fired in the same generating unit, the unit shall
7 be considered to produce renewable electricity in direct
8 proportion to the percentage of the total heat value represented
9 by the heat value of the renewable fuels. [~~"Renewable energy"
10 also means electrical energy savings brought about by the use of
11 solar and heat pump water heating, seawater air-conditioning
12 district cooling systems, solar air-conditioning and ice
13 storage, quantifiable energy conservation measures, use of
14 rejected heat from co-generation and combined heat and power
15 systems excluding fossil-fueled qualifying facilities that sell
16 electricity to electric utility companies, and central station
17 power projects.]"~~

18 SECTION 3. Chapter 269, Hawaii Revised Statutes, is
19 amended by adding two new sections to be appropriately
20 designated and to read as follows:

21 "§269- Energy efficiency utility. The commission shall
22 publish a request for proposals for the establishment of a



1 statewide energy efficiency utility. The commission shall have
2 the right to determine which applicant shall establish the
3 energy efficiency utility.

4 §269- Energy efficiency portfolio standards. The
5 energy efficiency utility shall achieve a statewide energy
6 efficiency portfolio standard of:

- 7 (1) Ten per cent by December 31, 2010;
- 8 (2) Fifteen per cent by December 31, 2015; and
- 9 (3) Twenty peer cent by December 31, 2020.

10 SECTION 4. Section 269-92, Hawaii Revised Statutes, is
11 amended to read as follows:

12 **"§269-92 Renewable portfolio standards.** Each electric
13 utility company that sells electricity for consumption in the
14 State shall establish a renewable portfolio standard of:

- 15 (1) Seven per cent of its net electricity sales by
16 December 31, 2003;
- 17 (2) Eight per cent of its net electricity sales by
18 December 31, 2005;
- 19 (3) Ten per cent of its net electricity sales by December
20 31, 2010;
- 21 (4) Fifteen per cent of its net electricity sales by
22 December 31, 2015; and

1 (5) Twenty per cent of its net electricity sales by
2 December 31, 2020.

3 ~~[The public utilities commission shall determine if an~~
4 ~~electric utility company is unable to meet the renewable~~
5 ~~portfolio standards in a cost-effective manner, or as a result~~
6 ~~of circumstances beyond its control which could not have been~~
7 ~~reasonably anticipated or ameliorated. If this determination is~~
8 ~~made, the electric utility company shall be relieved of~~
9 ~~responsibility for meeting the renewable portfolio standard for~~
10 ~~the period of time that it is unable to meet the standard.]"~~

11 SECTION 5. Section 269-95, Hawaii Revised Statutes, is
12 amended to read as follows:

13 "~~{~~§269-95~~}~~ **Renewable portfolio standards study.** The
14 public utilities commission shall:

15 (1) By December 31, 2006, develop and implement a utility
16 ratemaking structure which may include but is not
17 limited to performance-based ratemaking, to provide
18 incentives that encourage Hawaii's electric utility
19 companies to use cost-effective renewable energy
20 resources found in Hawaii to meet the renewable
21 portfolio standards established in section 269-92,
22 while allowing for deviation from the standards in the



1 event that the standards cannot be met in a cost-
2 effective manner, or as a result of circumstances
3 beyond the control of the utility which could not have
4 been reasonably anticipated or ameliorated;

- 5 (2) Gather, review, and analyze empirical data to
6 determine the extent to which any proposed utility
7 ratemaking structure would impact electric utility
8 companies' profit margins, and to ensure that [~~these~~
9 ~~profit margins do not decrease as a result of the~~
10 ~~implementation of the proposed ratemaking structure;~~]
11 the electric utility companies' opportunity to earn a
12 fair rate of return is not diminished;

- 13 (3) Using funds from the public utilities special fund,
14 contract with the Hawaii natural energy institute of
15 the University of Hawaii to conduct independent
16 studies to be reviewed by a panel of experts from
17 entities such as the United States Department of
18 Energy, National Renewable Energy Laboratory, Electric
19 Power Research Institute, Hawaii electric utility
20 companies, environmental groups, and other similar
21 institutions with the required expertise. These



1 studies shall include findings and recommendations
2 regarding:

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

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

18 (4) Revise the standards based on the best information
19 available at the time if the results of the studies
20 conflict with the renewable portfolio standards
21 established by section 269-92; and



1 (5) Report its findings and revisions to the renewable
 2 portfolio standards based on its own studies and those
 3 contracted under paragraph (3), to the legislature no
 4 later than twenty days before the convening of the
 5 regular session of 2009, and every five years
 6 thereafter."

7 SECTION 6. Statutory material to be repealed is bracketed
 8 and stricken. New statutory material is underscored.

9 SECTION 7. This Act shall take effect upon its approval.

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HB 3049

Report Title:

Public Utilities Commission; Energy

Description:

Establishes a statewide energy efficiency utility and energy efficiency portfolio standards.

