

JAN 16 2008

A BILL FOR AN ACT

RELATING TO PUBLIC UTILITIES.

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

1 SECTION 1. The purpose of this Act is to enhance Hawaii's
2 energy and economic security and reduce its vulnerability to
3 wildly fluctuating fuel prices related to electricity generation
4 by removing barriers to the development of solar electric
5 resources and increasing the accessibility of net energy
6 metering.

7 SECTION 2. Chapter 269, Hawaii Revised Statutes, is
8 amended by adding a new section to be appropriately designated
9 and to read as follows:

10 "§269- Optional pricing program. (a) Each electric
11 utility shall offer an optional pricing program that allows its
12 customers to choose to purchase electricity derived from
13 renewable energy sources in amounts equivalent to a portion or
14 to all of the customer's electricity consumption.

15 (b) For each kilowatt-hour of electricity that a customer
16 purchases under the optional pricing program, that customer
17 shall receive a credit equal to the utility's average cost of



1 fuel used for the generation of electricity during that billing
2 period.

3 (c) The renewable energy sources used in the optional
4 pricing program shall include a minimum of fifty per cent that
5 are derived from solar photovoltaic generation."

6 SECTION 3. Section 269-1, Hawaii Revised Statutes, is
7 amended by amending the definition of "public utility" to read
8 as follows:

9 "Public utility":

10 (1) Includes every person who may own, control, operate,
11 or manage as owner, lessee, trustee, receiver, or
12 otherwise, whether under a franchise, charter,
13 license, articles of association, or otherwise, any
14 plant or equipment, or any part thereof, directly or
15 indirectly for public use, for the transportation of
16 passengers or freight, or the conveyance or
17 transmission of telecommunications messages, or the
18 furnishing of facilities for the transmission of
19 intelligence by electricity by land or water or air
20 within the State, or between points within the State,
21 or for the production, conveyance, transmission,
22 delivery, or furnishing of light, power, heat, cold,



1 water, gas, or oil, or for the storage or warehousing
2 of goods, or the disposal of sewage; provided that the
3 term shall include:

4 (A) Any person insofar as that person owns or
5 operates a private sewer company or sewer
6 facility; and

7 (B) Any telecommunications carrier or
8 telecommunications common carrier;

9 (2) Shall not include:

10 (A) Any person insofar as that person owns or
11 operates an aerial transportation enterprise;

12 (B) Persons owning or operating taxicabs, as defined
13 in this section;

14 (C) Common carriers transporting only freight on the
15 public highways, unless operating within
16 localities or along routes or between points that
17 the public utilities commission finds to be
18 inadequately serviced without regulation under
19 this chapter;

20 (D) Persons engaged in the business of warehousing or
21 storage unless the commission finds that



1 regulation thereof is necessary in the public
2 interest;

3 (E) The business of any carrier by water to the
4 extent that the carrier enters into private
5 contracts for towage, salvage, hauling, or
6 carriage between points within the State and the
7 carriage is not pursuant to either an established
8 schedule or an undertaking to perform carriage
9 services on behalf of the public generally;

10 (F) The business of any carrier by water,
11 substantially engaged in interstate or foreign
12 commerce, transporting passengers on luxury
13 cruises between points within the State or on
14 luxury round-trip cruises returning to the point
15 of departure;

16 (G) Any person who:
17 (i) Controls, operates, or manages plants or
18 facilities for the production, transmission,
19 or furnishing of power primarily or entirely
20 from nonfossil fuel sources; and
21 (ii) Provides, sells, or transmits all of that
22 power, except such power as is used in its



1 own internal operations, directly to a
2 public utility for transmission to the
3 public;

4 (H) A telecommunications provider only to the extent
5 determined by the commission pursuant to section
6 269-16.9;

7 (I) Any person who controls, operates, or manages
8 plants or facilities developed pursuant to
9 chapter 167 for conveying, distributing, and
10 transmitting water for irrigation and such other
11 purposes that shall be held for public use and
12 purpose;

13 (J) Any person who owns, controls, operates, or
14 manages plants or facilities for the reclamation
15 of wastewater; provided that:

16 (i) The services of the facility shall be
17 provided pursuant to a service contract
18 between the person and a state or county
19 agency and at least ten per cent of the
20 wastewater processed is used directly by the
21 State or county which has entered into the
22 service contract;



- 1 (ii) The primary function of the facility shall
- 2 be the processing of secondary treated
- 3 wastewater that has been produced by a
- 4 municipal wastewater treatment facility that
- 5 is owned by a state or county agency;
- 6 (iii) The facility shall not make sales of water
- 7 to residential customers;
- 8 (iv) The facility may distribute and sell
- 9 recycled or reclaimed water to entities not
- 10 covered by a state or county service
- 11 contract; provided that, in the absence of
- 12 regulatory oversight and direct competition,
- 13 the distribution and sale of recycled or
- 14 reclaimed water shall be voluntary and its
- 15 pricing fair and reasonable. For purposes
- 16 of this subparagraph, "recycled water" and
- 17 "reclaimed water" mean treated wastewater
- 18 that by design is intended or used for a
- 19 beneficial purpose; and
- 20 (v) The facility shall not be engaged, either
- 21 directly or indirectly, in the processing of
- 22 food wastes; [~~and~~]



1 (K) Any person who owns, controls, operates, or
2 manages any seawater air conditioning district
3 cooling project; provided that at least fifty per
4 cent of the energy required for the seawater air
5 conditioning district cooling system is provided
6 by a renewable energy resource, such as cold,
7 deep seawater[-]; and

8 (L) Any person who owns, operates, and maintains
9 electricity generating equipment using solar,
10 wind, biomass, or hydroelectric energy as the
11 sole sources of energy for that person's own
12 electrical consumption, and any person who owns,
13 operates, and maintains electricity generating
14 equipment using only solar, wind, biomass, or
15 hydroelectric energy and sells or otherwise
16 provides that electricity to one or more
17 customers but not for general public use;
18 provided that person does not hold a franchise or
19 charter enacted or granted by the State or have a
20 bona fide operation as a public utility
21 heretofore recognized by the commission.



1 If the application of this chapter is ordered by the
2 commission in any case provided in paragraphs (2)(C), (2)(D),
3 (2)(H), and (2)(I), the business of any public utility that
4 presents evidence of bona fide operation on the date of the
5 commencement of the proceedings resulting in the order shall be
6 presumed to be necessary to public convenience and necessity,
7 but any certificate issued under this proviso shall nevertheless
8 be subject to such terms and conditions as the commission may
9 prescribe, as provided in sections 269-16.9 and 269-20."

10 SECTION 4. Section 269-101, Hawaii Revised Statutes, is
11 amended by amending the definition of "net energy metering" to
12 read as follows:

13 "Net energy metering" means measuring the difference
14 between the electricity supplied through the electric grid and
15 the electricity generated by an eligible customer-generator and
16 fed back to the electric grid over a monthly billing period;
17 provided that:

18 (1) Net energy metering shall be accomplished using a
19 single meter capable of registering the flow of
20 electricity in two directions;

21 (2) An additional meter or meters to monitor the flow of
22 electricity in each direction may be installed with



1 the consent of the customer-generator, at the expense
2 of the electric utility, and the additional metering
3 shall be used only to provide the information
4 necessary to accurately bill or credit the customer-
5 generator, or to collect solar, wind turbine, biomass,
6 or hydroelectric energy generating system performance
7 information for research purposes;

8 (3) If the existing electrical meter of an eligible
9 customer-generator is not capable of measuring the
10 flow of electricity in two directions, the electric
11 utility shall be responsible for all expenses involved
12 in purchasing and installing a meter that is able to
13 measure electricity flow in two directions;

14 (4) If an additional meter or meters are installed, the
15 net energy metering calculation shall yield a result
16 identical to that of a single meter; ~~and~~

17 (5) An eligible customer-generator who already owns an
18 existing solar, wind turbine, biomass, or
19 hydroelectric energy generating facility, or a hybrid
20 system consisting of two or more of these facilities,
21 is eligible to receive net energy metering service in
22 accordance with this part[-]; and



1 (6) The electric utility shall not unreasonably deny,
 2 burden, or delay net energy metering services upon
 3 request by an eligible customer-generator of the
 4 electric utility."

5 SECTION 5. Section 269-101.5, Hawaii Revised Statutes, is
 6 amended to read as follows:

7 "[+]§269-101.5[+] **Maximum capacity of eligible customer-**
 8 **generator.** The eligible customer-generator shall have a
 9 capacity of not more than [~~fifty~~] five hundred kilowatts[+] in
 10 2008, one megawatt in 2009, and two megawatts thereafter;
 11 provided that the public utilities commission may increase the
 12 maximum allowable capacity that eligible customer-generators may
 13 have to an amount greater than [~~fifty kilowatts~~] these amounts
 14 by rule or order."

15 SECTION 6. Section 269-102, Hawaii Revised Statutes, is
 16 amended to read as follows:

17 "§269-102 **Standard contract or tariff; rate structure.**

18 (a) Every electric utility shall develop a standard contract or
 19 tariff providing for net energy metering and shall make this
 20 contract available to eligible customer-generators, upon
 21 request, on a first-come-first-served basis until the time that
 22 the total rated generating capacity produced by eligible



1 customer-generators equals [~~.5~~] one per cent of the electric
2 utility's system peak demand[+] in 2008, two per cent of the
3 electric utility's system peak demand in 2009, five per cent of
4 the electric utility's system peak demand in 2010, and without
5 limitation thereafter; provided that the public utilities
6 commission may increase, by rule or order, the total rated
7 generating capacity produced by eligible customer-generators to
8 an amount above [~~.5 per cent of the electric utility's system~~
9 ~~peak demand.~~] the limitations specified in this section.

10 (b) Each net energy metering contract or tariff shall be
11 identical, with respect to rate structure, to the contract or
12 tariff to which the same customer would be assigned if the
13 customer was not an eligible customer-generator. The charges
14 for all retail rate components for eligible customer-generators
15 shall be based exclusively on the eligible customer-generator's
16 net kilowatt-hour consumption over a monthly billing period.
17 Any new or additional demand charge, standby charge, customer
18 charge, minimum monthly charge, interconnection charge, or other
19 charge that would increase an eligible customer-generator's
20 costs beyond those of other customers in the rate class to which
21 the eligible customer-generator would otherwise be assigned are



1 contrary to the intent of this section, and shall not form a
2 part of net energy metering contracts or tariffs.

3 ~~[(e) The public utilities commission may amend the rate
4 structure or standard contract or tariff by rule or order.]"~~

5 SECTION 7. Section 269-104, Hawaii Revised Statutes, is
6 amended to read as follows:

7 "**§269-104 Additional customer-generators.** Notwithstanding
8 section 269-102, an electric utility ~~[is not obligated]~~ may
9 choose to provide net energy metering to additional customer-
10 generators in its service area when the combined total peak
11 generating capacity of all eligible customer-generators served
12 by all the electric utilities in that service area furnishing
13 net energy metering to eligible customer-generators equals ~~[5~~
14 ~~per cent of the system peak demand of those electric utilities,]~~
15 the limitations specified in section 269-102(a); provided that
16 the public utilities commission may increase, by rule or order,
17 the allowable percentage of the electric utility's system peak
18 demand produced from eligible customer-generators in the
19 electric utility's service area, whereupon the electric utility
20 will be obligated to provide net energy metering to additional
21 eligible customer-generators in that service area up to the
22 increased percentage amount."



1 SECTION 8. Section 269-105, Hawaii Revised Statutes, is
2 amended to read as follows:

3 "§269-105 Calculation. The net energy metering
4 calculation shall be made by measuring the difference between
5 the electricity supplied to the eligible customer-generator and:

6 (1) The electricity generated by the eligible customer-
7 generator and fed back to the electric grid over a
8 monthly billing period; and

9 (2) Any unused kilowatt-hour credits for excess
10 electricity from the eligible customer-generator
11 carried over from previous months since the last
12 twelve-month reconciliation period."

13 SECTION 9. Section 269-106, Hawaii Revised Statutes, is
14 amended to read as follows:

15 "§269-106 Billing periods; twelve-month reconciliation.

16 (a) Billing of net energy metering customers shall be on a
17 monthly basis; provided that the last monthly bill for each
18 twelve-month period shall reconcile for that twelve-month period
19 the net electricity provided by the electric utility with:

20 (1) The electricity generated by the eligible customer-
21 generator and fed back to the electric grid over the
22 monthly billing period; and



1 (2) Any unused kilowatt-hour credits for excess
2 electricity from the eligible customer-generator
3 carried over from prior months since the last twelve-
4 month reconciliation period.

5 (b) Kilowatt-hour credits for excess electricity from the
6 eligible customer-generator that remain unused after each
7 twelve-month reconciliation period [~~may not be carried over to~~
8 ~~the next twelve-month period.~~] shall be compensated at the
9 average fuel cost for the prior twelve-month period."

10 SECTION 10. Section 269-107, Hawaii Revised Statutes, is
11 amended to read as follows:

12 "**§269-107 Net electricity consumers.** At the end of each
13 monthly billing period, where the electricity supplied during
14 the period by the electric utility exceeds:

15 (1) The electricity generated by the eligible customer-
16 generator during that same period; and

17 (2) Any unused kilowatt-hour credits for excess
18 electricity from the eligible customer-generator
19 carried over from prior months since the last twelve-
20 month reconciliation period,

21 the eligible customer-generator is a net electricity consumer
22 and the electric utility shall be owed compensation for the



1 eligible customer-generator's net kilowatt-hour consumption over
2 that same period. The compensation owed for the eligible
3 customer-generator's net monthly kilowatt-hour consumption shall
4 be calculated at the retail rate of the rate class the customer
5 is normally assigned to."

6 SECTION 11. Section 269-108, Hawaii Revised Statutes, is
7 amended to read as follows:

8 "**§269-108 Net electricity producers; excess electricity**
9 **credits and credit carry over.** (a) At the end of each monthly
10 billing period, where the electricity generated by the eligible
11 customer-generator during the month exceeds the electricity
12 supplied by the electric utility during that same period, the
13 eligible customer-generator is a net electricity producer and
14 the electric utility shall retain any excess kilowatt-hours
15 generated during the prior monthly billing period; provided that
16 the excess electricity generated by the customer-generator, if
17 any, in each monthly billing period shall be carried over to the
18 next month as a [~~monetary~~] kilowatt-hour value to the credit of
19 the eligible customer-generator, which credit may accumulate and
20 be used to offset the compensation owed the electric utility for
21 the eligible customer-generator's net kilowatt-hour consumption
22 for succeeding months within each twelve-month period; provided



1 further that the electric utility shall reconcile the eligible
2 customer-generator's electricity production and consumption for
3 each twelve-month period as set forth in section 269-106. [~~The
4 eligible customer-generator shall not be owed any compensation
5 for excess kilowatt-hours unless the electric utility enters
6 into a purchase agreement with the eligible customer-generator
7 for these excess kilowatt-hours.~~]

8 (b) Subject to the limitations of subsection (a) and
9 section 269-106, an eligible customer-generator shall have a
10 transferable ownership interest in any excess electricity
11 credits that the customer-generator may accumulate pursuant to
12 this section."

13 SECTION 12. Section 269-111, Hawaii Revised Statutes, is
14 amended to read as follows:

15 "**§269-111 Safety and performance standards**[-];
16 **interconnection standards.** (a) A solar, wind turbine, biomass,
17 or hydroelectric energy generating system, or a hybrid system
18 consisting of two or more of these facilities, used by an
19 eligible customer-generator shall meet all applicable safety and
20 performance standards established by the National Electrical
21 Code, the Institute of Electrical and Electronics Engineers, and
22 accredited testing laboratories such as the Underwriters



1 Laboratories and, where applicable, rules of the public
2 utilities commission regarding safety and reliability.

3 (b) For systems of ten kilowatts or less, an eligible
4 customer-generator whose solar, wind turbine, biomass, or
5 hydroelectric energy generating system, or whose hybrid system
6 consisting of two or more of these facilities, meets the
7 standards and rules under subsection (a) shall not be required
8 to install additional controls, perform or pay for additional
9 tests, or purchase additional liability insurance.

10 ~~[(c) For eligible customer-generator systems of greater
11 than ten kilowatts, the commission, either through decision and
12 order, by tariff adoption, or by rule, shall:~~

13 ~~(1) Set forth safety, performance, and reliability
14 standards and requirements; and~~

15 ~~(2) Establish the qualifications for exemption from a
16 requirement to install additional controls, perform or
17 pay for additional tests, or purchase additional
18 liability insurance.]~~

19 (c) No later than September 1, 2009, the commission shall
20 adopt rules pursuant to chapter 91 that incorporate best
21 practices interconnection standards. Upon adoption, the
22 standards shall become the interconnection requirements of each



1 utility subject to the authority of the commission. As part of
2 the rulemaking process, the commission shall consider
3 interconnection standards adopted within the previous thirty-six
4 months by other states, standards promulgated by the United
5 States Federal Energy Regulatory Commission, and model standards
6 developed by nonprofit organizations with the primary purpose of
7 promoting renewable energy."

8 SECTION 13. Section 205-4.5, Hawaii Revised Statutes, is
9 amended by amending subsection (c) to read as follows:

10 "(c) Within the agricultural district, all lands with soil
11 classified by the land study bureau's detailed land
12 classification as overall (master) productivity rating class C,
13 D, E, or U shall be restricted to the uses permitted for
14 agricultural districts as set forth in section 205-5(b) [-];
15 provided that it shall be a permissible use of all lands with
16 soil classified by the land study bureau's detailed land
17 classification as overall (master) productivity rating class C
18 and D for photovoltaic energy facilities, including the
19 appurtenances associated with the production and transmission of
20 solar generated energy."

21 SECTION 14. (a) The public utilities commission shall
22 engage an independent consultant to perform an analytical review



1 of increasing penetration levels of distributed solar electric
2 generation in Hawaii; provided that funding for the consultant
3 shall not exceed \$85,000; provided further that funding shall be
4 derived from the existing integrated resource planning surcharge
5 that is collected from all electric ratepayers.

6 (b) The public utilities commission shall establish the
7 following criteria for competitive selection of the consultant:

8 (1) The consultant shall have extensive experience in
9 performing utility photovoltaic value analyses;

10 (2) The consultant shall have been published in the area
11 of photovoltaic value analysis, included capacity
12 credit calculations, and other distributed generation
13 valuation methodologies;

14 (3) The consultant shall demonstrate solid experience in
15 working with utility personnel on value analysis
16 studies; and

17 (4) The consultant shall have access to site and time-
18 specific solar resource data for Hawaii.

19 (c) The consultant shall analyze and report on the following
20 values and costs of distributed photovoltaic generation on the
21 islands of Hawaii, Kauai, Maui, and Oahu at penetration levels



1 of two per cent, five per cent, ten per cent, and twenty per
2 cent:

3 (1) The values including, but not limited to, fuel and
4 maintenance cost reduction value, capacity value, grid
5 support (including voltage and voltage amp reactive
6 support), mitigation of new transmission and
7 distribution facilities and upgrades, and
8 environmental and carbon benefits; and

9 (2) The incremental costs to the utility grid including,
10 but not limited to, additional capital investment in
11 utility infrastructure, fuel and maintenance costs
12 associated with spinning reserves, and costs of
13 equipment and resources required to follow changes in
14 load patterns that result from the deployment of the
15 distributed photovoltaic generation.

16 These analyses shall assume photovoltaic penetration equivalence
17 by major customer type: residential, commercial, and
18 industrial.

19 (d) The public utility companies, Hawaiian Electric
20 Company, Inc., Maui Electric Company, Ltd., Hawaii Electric
21 Light Company, and Kauai Island Utility Co-op, shall provide all



1 data requested by the consultant necessary for the purposes of
2 performing its analyses.

3 (e) The commission shall submit a report of the
4 consultant's findings to the legislature no later than twenty
5 days prior to the convening of the regular session of 2009.

6 SECTION 15. This Act does not affect rights and duties
7 that matured, penalties that were incurred, and proceedings that
8 were begun, before its effective date.

9 SECTION 16. If any provision of this Act, or the
10 application thereof to any person or circumstance is held
11 invalid, the invalidity does not affect other provisions or
12 applications of the Act, which can be given effect without the
13 invalid provision or application, and to this end the provisions
14 of this Act are severable.

15 SECTION 17. Statutory material to be repealed is bracketed
16 and stricken. New statutory material is underscored.

17 SECTION 18. This Act shall take effect upon its approval.

18

INTRODUCED BY:

Jon menon
By Request



Report Title:

Public Utilities; Net Energy Metering

Description:

Requires electric utilities to create an optional pricing program based on a percentage of renewable energy sources used to generate electricity. Increases the total rated generating capacity produced by eligible customer-generators. Establishes a transferable ownership interest in excess electricity credits. Increases the maximum capacity of an eligible customer-generator. Directs the public utilities commission to hire a consultant to perform a review of solar electric generation in the State. Clarifies that development of solar electric resources are an acceptable use of category C and D agricultural lands. Clarifies that persons who generate electricity from renewable sources for their own consumption are not public utilities.

