
A BILL FOR AN ACT

RELATING TO NET ENERGY METERING.

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

1 SECTION 1. Dependence on imported oil for more than three-
2 quarters of its electricity needs makes Hawaii vulnerable to any
3 disruption in its supply of oil. Hawaii's continued reliance on
4 imported oil for electric power production also harms its
5 environment.

6 Hawaii's utility-supplied electricity, which is generated
7 predominantly from imported oil, now costs more than commercial
8 forms of renewable electricity generation, such as geothermal,
9 wind, biomass, concentrating solar power, and photovoltaic solar
10 power. Furthermore, the increased use of Hawaii's renewable
11 energy resources for electricity production would reduce
12 Hawaii's energy costs and its vulnerability to oil supply
13 disruptions and would enhance Hawaii's natural environment.

14 The legislature enacted net energy metering "to lessen
15 Hawaii's dependence on imported oil by encouraging the greater
16 use of renewable energy." Net energy metering has been an
17 effective incentive for the rapid development of renewable



1 electricity self-generation at low cost to the public, but its
2 effectiveness has been restricted by customer capacity and total
3 capacity limits that were established when net energy metering
4 was first enacted.

5 When the legislature first enacted net energy metering, it
6 also established a customer capacity limit, because distributed
7 generation interconnection procedures to ensure the safety and
8 reliability of the grid had not yet been clearly established.
9 Since that time, the public utilities commission has clearly
10 established such procedures, and the customer capacity limit no
11 longer serves a useful purpose. On the contrary, it reduces the
12 size, slows the speed, and increases the cost to the public of
13 renewable electricity development in Hawaii.

14 In addition, when the legislature first enacted net energy
15 metering, it also enacted a total capacity limit out of a
16 concern that net energy metering benefits for some ratepayers
17 might someday become costs for all other ratepayers. Since that
18 time, some net energy metering benefits for some ratepayers have
19 indeed become costs of all other ratepayers. That these
20 benefits for some have become costs for others arises from
21 valuing excess energy (delivered by the net energy metering



1 generator to the utility) at the retail rate for electricity
2 that exceeds the value of that electricity to all other
3 ratepayers. This inequitable situation can be remedied by
4 valuing such excess energy at a rate based on its value to the
5 utility, ratepayers, and the public measured in avoided capacity
6 costs, avoided operating and maintenance costs, avoided fuel
7 costs, and avoided environmental costs. As a result, the total
8 capacity limit can be increased, without causing these benefits
9 for some to become costs for others. The aggregate amount of
10 such generating capacity could be interconnected with the
11 utility's electric system without substantial expenditure by the
12 utility for new mitigation facilities to maintain reliability of
13 electric service.

14 The purpose of this Act is to encourage the development of
15 renewable electricity self-generation in Hawaii, to reduce
16 Hawaii's dependence on imported oil, to secure and reduce the
17 cost of Hawaii's electricity supply, and to protect Hawaii's
18 environment by, among other things:

19 (1) Increasing the customer capacity limit on net energy
20 metering to one megawatt;



1 (2) Increasing the total capacity limit on net energy
2 metering to the aggregate amount of such generating
3 capacity that could be interconnected with the
4 utility's electric system without substantial
5 expenditure by the utility for new mitigation
6 facilities to maintain reliability of electric
7 service; and

8 (3) Valuing excess energy at a rate based on its value to
9 the utility, ratepayers, and the public measured in
10 terms of avoided capacity costs, avoided operating and
11 maintenance costs, avoided fuel costs, and avoided
12 environmental costs.

13 SECTION 2. Section 269-101, Hawaii Revised Statutes, is
14 amended to read as follows:

15 "**§269-101 Definitions.** As used in this part:

16 "Eligible customer-generator" means a metered residential
17 or commercial customer, including a government entity, of an
18 electric utility who owns and operates, leases, or purchases
19 electricity from a solar, wind turbine, biomass, or
20 hydroelectric energy generating facility, or a hybrid system
21 consisting of two or more of these facilities, that is:



- 1 (1) Located on the customer's premises;
- 2 (2) Operated in parallel and interconnected with the
- 3 utility's transmission and distribution facilities;
- 4 (3) In conformance with the utility's interconnection
- 5 requirements; and
- 6 (4) Intended primarily to offset part or all of the
- 7 customer's own electrical requirements.

8 "Net energy metering" means measuring the difference
9 between the electricity supplied through the electric grid and
10 the electricity generated by an eligible customer-generator and
11 fed back to the electric grid [~~over a monthly billing period~~];
12 provided that:

- 13 (1) Net energy metering shall be accomplished using a
- 14 single meter capable of registering the flow of
- 15 electricity in two directions;
- 16 (2) An additional meter or meters to monitor the flow of
- 17 electricity in each direction may be installed with
- 18 the consent of the customer-generator, at the expense
- 19 of the electric utility, and the additional metering
- 20 shall be used only to provide the information
- 21 necessary to accurately bill or credit the customer-



H.B. NO. 1823

1 generator, or to collect solar, wind turbine, biomass,
2 or hydroelectric energy generating system performance
3 information for research purposes;

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

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

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

19 (6) The electric utility shall not unreasonably deny,
20 burden, or delay net energy metering service upon a



1 request for the service by a retail customer of the
2 electric utility."

3 SECTION 3. Section 269-101.5, Hawaii Revised Statutes, is
4 amended to read as follows:

5 "~~[+]§269-101.5[+] Maximum capacity of eligible customer-~~
6 **generator.** The eligible customer-generator shall have a rated
7 AC generating capacity of not more than ~~[fifty kilowatts,~~
8 ~~provided that the public utilities commission may increase the~~
9 ~~maximum allowable capacity that eligible customer-generators may~~
10 ~~have to an amount greater than fifty kilowatts by rule or~~
11 ~~order.]~~ one megawatt."

12 SECTION 4. Section 269-102, Hawaii Revised Statutes, is
13 amended to read as follows:

14 "**§269-102 Standard contract or tariff; rate structure.** (a)
15 Every electric utility shall develop a ~~[standard contract or~~
16 ~~tariff]~~ set of standard contracts or tariffs providing for net
17 energy metering and shall make ~~[this contract]~~ these contracts
18 or tariffs available to eligible customer-generators, upon
19 request, on a first-come-first-served basis ~~[until the time that~~
20 ~~the total rated generating capacity produced by eligible~~
21 ~~customer-generators equals .5 per cent of the electric utility's~~



1 ~~system peak demand; provided that the~~. The public utilities
2 ~~commission may [modify,]~~ specify, by rule or order, the total
3 rated generating capacity [produced] that may be interconnected
4 with the electric utility's system by eligible customer-
5 generators; provided that, as may be determined by the
6 commission, the total rated generating capacity shall be equal
7 to the aggregate amount of the generating capacity that could be
8 interconnected with the utility's electric system without
9 substantial expenditure by the utility for new mitigation
10 facilities to maintain reliability of electric service; provided
11 further that the public utilities commission ~~[shall]~~ may ensure
12 that a percentage of the total rated generating capacity
13 produced by eligible customer-generators shall be reserved for
14 electricity produced by eligible residential or small commercial
15 customer-generators. The public utilities commission may
16 define, by rule or order, the maximum allowable rated AC
17 generating capacity for eligible residential or small commercial
18 customer-generators. Notwithstanding ~~[the]~~ any total generating
19 capacity requirements of this subsection, the public utilities
20 commission may evaluate, on an island-by-island basis, the
21 applicability of the generating capacity requirements of this



1 subsection and, in its discretion, may exempt an island or a
2 utility grid system from the generating capacity requirements.

3 (b) [Each] For an eligible customer-generator whose
4 generating facility or hybrid system is interconnected with the
5 utility's transmission and distribution facilities on or before
6 June 30, 2016, each net energy metering contract or tariff shall
7 be identical, with respect to rate structure, to the contract or
8 tariff to which the same customer would be assigned if the
9 customer was not an eligible customer-generator. The charges
10 for all retail rate components for eligible customer-generators
11 shall be based exclusively on the eligible customer-generator's
12 net kilowatt-hour consumption over a monthly billing period.

13 (c) For an eligible customer-generator whose generating
14 facility or hybrid system is first interconnected with the
15 utility's transmission and distribution facilities after June
16 30, 2016, each net energy metering contract or tariff shall:

17 (1) Value the electricity supplied by the electric utility
18 to the eligible customer-generator at the retail rate
19 of the rate class that the customer is normally
20 assigned to; and



1 (2) Value the electricity generated by the eligible
2 customer-generator and fed back to the electric grid
3 at a rate, to be determined for each calendar year by
4 the public utilities commission, that reflects the
5 value of such electricity to the utility, ratepayers,
6 and the public as measured by avoided capacity costs,
7 avoided operating and maintenance costs, avoided fuel
8 costs, and avoided environmental costs.

9 (d) Any new or additional demand charge, standby charge,
10 customer charge, minimum monthly charge, interconnection charge,
11 interconnection requirements study charge, supplemental review
12 charge, or other charge that would increase an eligible
13 customer-generator's costs beyond those of other customers in
14 the rate class to which the eligible customer-generator would
15 otherwise be assigned are contrary to the intent of this
16 section, and shall not form a part of net energy metering
17 contracts or tariffs.

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

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



1 **"§269-104 Additional customer-generators.** Notwithstanding
2 section 269-102, an electric utility is not obligated to provide
3 net energy metering to additional customer-generators in its
4 service area when the combined total peak generating capacity of
5 all eligible customer-generators served by all the electric
6 utilities in that service area furnishing net energy metering to
7 eligible customer-generators equals [~~.5 per cent of the system~~
8 ~~peak demand of those electric utilities;~~] or exceeds the total
9 rated generating capacity of such customer-generators that the
10 public utilities commission, by rule or order, specifies may be
11 interconnected with the electric utility's system; provided that
12 the public utilities commission may increase, by rule or order,
13 the allowable [~~percentage of the electric utility's system peak~~
14 ~~demand produced from eligible customer-generators in the~~
15 ~~electric utility's service area;~~] total rated generating
16 capacity of all such customer-generators, whereupon the electric
17 utility will be obligated to provide net energy metering to
18 additional eligible customer-generators in that electric
19 utility's service area up to the increased [~~percentage amount.~~]
20 allowable total rated generating capacity of all such customer-
21 generators."



1 SECTION 6. Section 269-105, Hawaii Revised Statutes, is
2 amended to read as follows:

3 **"§269-105 Calculation.** [~~The~~] For an eligible customer-
4 generator whose generating facility or hybrid system is
5 interconnected with the utility's transmission and distribution
6 facilities on or before June 30, 2016, the net energy metering
7 calculation shall be made by measuring the difference between
8 the electricity supplied to the eligible customer-generator and:

- 9 (1) The electricity generated by the eligible customer-
10 generator and fed back to the electric grid over a
11 monthly billing period; and
12 (2) Any unused credits for excess electricity from the
13 eligible customer-generator carried over from previous
14 months since the last twelve-month reconciliation
15 period."

16 SECTION 7. Section 269-106, Hawaii Revised Statutes, is
17 amended to read as follows:

18 **"§269-106 Billing periods; twelve-month reconciliation.**

19 (a) [~~Billing~~] For an eligible customer-generator whose
20 generating facility or hybrid system is interconnected with the
21 utility's transmission and distribution facilities on or before



1 June 30, 2016, billing of net energy metering customers shall be
2 on a monthly basis; provided that the last monthly bill for each
3 twelve-month period shall reconcile for that twelve-month period
4 the net electricity provided by the electric utility with:

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

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

12 (b) Credits for excess electricity from the eligible
13 customer-generator that remain unused after each twelve-month
14 reconciliation period may not be carried over to the next
15 twelve-month period."

16 SECTION 8. Section 269-107, Hawaii Revised Statutes, is
17 amended to read as follows:

18 "**§269-107 Net electricity consumers.** [~~A~~] For an eligible
19 customer-generator whose generating facility or hybrid system is
20 interconnected with the utility's transmission and distribution
21 facilities on or before June 30, 2016, at the end of each



1 monthly billing period, where the electricity supplied during
2 the period by the electric utility exceeds:

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

5 (2) Any unused credits for excess electricity from the
6 eligible customer-generator carried over from prior
7 months since the last twelve-month reconciliation
8 period,

9 the eligible customer-generator is a net electricity consumer
10 and the electric utility shall be owed compensation for the
11 eligible customer-generator's net kilowatt-hour consumption over
12 that same period. The compensation owed for the eligible
13 customer-generator's net monthly kilowatt-hour consumption shall
14 be calculated at the retail rate of the rate class the customer
15 is normally assigned to."

16 SECTION 9. Section 269-108, Hawaii Revised Statutes, is
17 amended to read as follows:

18 **"§269-108 Net electricity producers; excess electricity**
19 **credits and credit carry over.** [A~~t~~] For an eligible customer-
20 generator whose generating facility or hybrid system is
21 interconnected with the utility's transmission and distribution



1 facilities on or before June 30, 2016, at the end of each
2 monthly billing period, where the electricity generated by the
3 eligible customer-generator during the month exceeds the
4 electricity supplied by the electric utility during that same
5 period, the eligible customer-generator is a net electricity
6 producer and the electric utility shall retain any excess
7 kilowatt-hours generated during the prior monthly billing
8 period; provided that the excess electricity generated by the
9 customer-generator, if any, in each monthly billing period shall
10 be carried over to the next month as a monetary value to the
11 credit of the eligible customer-generator, which credit may
12 accumulate and be used to offset the compensation owed the
13 electric utility for the eligible customer-generator's net
14 kilowatt-hour consumption for succeeding months within each
15 twelve-month period; provided further that the electric utility
16 shall reconcile the eligible customer-generator's electricity
17 production and consumption for each twelve-month period as set
18 forth in section 269-106[.—The]; and provided further that the
19 eligible customer-generator shall not be owed any compensation
20 for excess kilowatt-hours unless the electric utility enters



1 into a purchase agreement with the eligible customer-generator
2 for those excess kilowatt-hours."

3 SECTION 10. Section 269-109, Hawaii Revised Statutes, is
4 amended to read as follows:

5 **"§269-109 Net electricity consumption or production**
6 **information.** [~~The~~] For an eligible customer-generator whose
7 generating facility or hybrid system is interconnected with the
8 utility's transmission and distribution facilities on or before
9 June 30, 2016, the electric utility shall provide [~~every~~] such
10 eligible customer-generator with net electricity consumption or
11 production information with each regular monthly bill, which
12 shall include:

- 13 (1) The current monetary balance owed the electric utility
14 for net electricity consumed;
- 15 (2) The net electricity produced since the end of the last
16 monthly billing period; and
- 17 (3) An accounting of the credits for excess electricity
18 produced by the eligible customer-generator since the
19 last twelve-month reconciliation period that shows
20 credits applied to the monthly billing period and the
21 balance of unused credits, if any."



H.B. NO. 1823

1 SECTION 11. Section 269-110, Hawaii Revised Statutes, is
2 amended to read as follows:

3 **"§269-110 Termination by eligible customer-generators.**

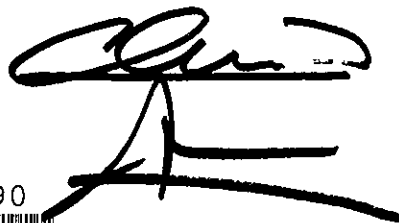
4 ~~[¶]~~ For an eligible customer-generator whose generating
5 facility or hybrid system is interconnected with the utility's
6 transmission and distribution facilities on or before June 30,
7 2016, if an eligible customer-generator terminates the customer
8 relationship with the electric utility, the electric utility
9 shall reconcile the eligible customer-generator's consumption
10 and production of electricity, including any unused credits for
11 excess electricity from the eligible customer-generator carried
12 over from prior months, for the period following the last
13 twelve-month reconciliation period to the date of termination of
14 the relationship, according to the requirements set forth in
15 this part."

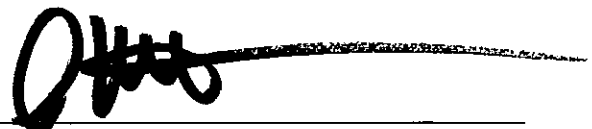
16 SECTION 12. Statutory material to be repealed is bracketed
17 and stricken. New statutory material is underscored.

18 SECTION 13. This Act shall take effect on July 1, 2016.

19

INTRODUCED BY:













H.B. NO. 1823

Report Title:

Net Energy Metering

Description:

Increases capacity limits on net energy metering and establishes excess energy volumes for systems installed after June 30, 2016.

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