

# Net Energy Metering in Hawaii



Hawaiian Electric Company, Inc.  
Hawaii Electric Light Company, Inc.  
Maui Electric Company, Ltd.



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**Net energy metering** is a way to encourage the use of eligible renewable energy electricity generators by residential and commercial customers. Hawaiian Electric Company, Hawaii Electric Light Company and Maui Electric Company support net energy metering as mandated by Hawaii state law. Here is information that we hope will be helpful.

### 1. What is net energy metering?

If you own or lease an eligible renewable energy generator, you may enter into an agreement with your utility to connect your generator to the utility grid, allowing it to send surplus electricity to the grid.

Net energy metering means that any kilowatt-hours your renewable energy generator sends to the grid will be subtracted from the kilowatt-hours of electricity you obtain from your utility to determine the **net** number of kilowatt-hours. You will be billed only on the **net** kilowatt-hours. Here is the formula:

**Kilowatt-hours from utility**

– **Kilowatt-hours self-generated and fed to the grid**

**Net kilowatt-hours**

### 2. What's the value of net energy metering?

Net energy metering allows you to get more value from the electricity you generate with your renewable system. It allows you to offset the purchase of electricity from your utility with excess electricity produced by your renewable system at the **retail rate**.

Normally, you use the electricity generated by your system to supply your own needs and purchase any additional power you need at the regular retail rate. At certain times, your system may generate excess power that it sends to the grid. If you had a power-purchase agreement with your electric utility, you would be compensated for that power only at the

lower **wholesale rate**. With net metering, excess electricity from your renewable system above your own needs sent to the grid is worth more.

### 3. What type of generators are eligible?

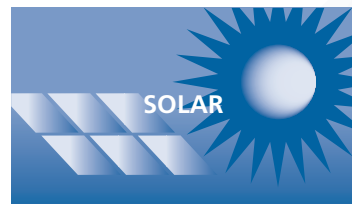
Hawaii law specifies that net energy metering applies to solar, wind, biomass or hydroelectric generating facilities, or a hybrid system of two or more of these technologies, with a capacity up to 50 kilowatts. (For more information about these technologies, see the website of the State of Hawaii, Department of Business, Economic Development and Tourism, Strategic Industries Division, Energy Branch: [www.hawaii.gov/dbedt/ert/energy.html](http://www.hawaii.gov/dbedt/ert/energy.html)) The Public Utilities Commission (PUC) can increase the maximum allowable capacity beyond 50 kW.

### 4. Does my solar water-heating system qualify for net energy metering?

No. Net energy metering applies only to systems that generate electricity. Solar electric systems, known as **photovoltaics**, use solar cells to convert the sun's light into electricity. By contrast, **solar water-heating systems** use heat from the sun directly to heat water for your use. Since solar water-heating systems do not produce electricity, they can not send power to the grid and do not qualify for net energy metering.

### 5. How many customers can sign up?

Under the law, the cap on the total power producing capacity of generators signed up to take



advantage of net energy metering is set at 0.5 percent of each electric utility's system peak demand. The PUC can increase this percentage. The actual number of customers who can sign up before this cap is reached depends on the combined size of the individual renewable energy systems.

### 6. Why is the number of customers who may sign up limited?

The cap is provided in the law. When customers use net energy metering, they are getting credit at the retail rate for self-produced electricity. The retail electric rate that the utility charges includes recovery not only of the cost of producing electricity, but also of the cost of facilities (e.g., lines, substations, etc.) to

deliver power to customers, as well as the cost of maintaining and operating these facilities, and administrative and other operating costs, such as billing.

Those who produce their own electricity on site only incur the cost of generating the electricity, not additional delivery and other costs. By receiving credit at the higher retail rate, the customer who net meters, in essence, is receiving a subsidy from all remaining customers. By providing a cap in the law, the subsidy can be kept to a reasonable level and still help to support small renewable energy producers.

### 7. Do I need a new meter and, if so, do I need to pay for it?

New and existing net metering systems will require new meters able to track the amounts of electricity sent to the grid. Your electric utility will provide the new meters at no cost to you. You may be required to provide space for additional metering sockets if added meters are required.

### 8. What happens to my electric bill if I generate more electricity than I use from the utility?

Billing is on a monthly basis and you are responsible for a minimum charge even if you generate more electricity than you use from the utility. The minimum charge you will pay covers some of the fixed costs of maintaining your electric account, including reading your meter and billing.

The net energy metering law now specifies a 12-month reconciliation period and allows monthly carry-over of unused credits (excess net generation expressed as a monetary value) since the last 12-month reconciliation. Unused credits left at the end of each 12-month reconciliation period may not be carried over to the next period.

According to the law, only if you have a purchase power

agreement (a contract different from the net energy metering agreement) with the utility, can you be paid for such excess kilowatt-hours, and then only at wholesale rates.

### 9. What do I have to do to sign up?

Forms are available from your electric utility or on-line at [www.heco.com](http://www.heco.com).

In general, for systems up to 10 kilowatts, you will need to enter into a simple customer agreement with the utility which may be completed after your system is installed. And you must obtain an inspection by a licensed electrical contractor to certify your renewable system meets the necessary safety standards.

For systems over 10 kilowatts and up to 50 kilowatts, your electric utility will perform an interconnection review. Unless more detailed study is needed, this review will be at no charge. It is highly recommended that you contact your utility early in your planning process. Additional costs for facilities needed to complete the interconnection are the responsibility of the customer. Of course, you must obtain any building permits needed in your county.

Also for systems over 10 kilowatts and up to 50 kilowatts, you must enter into a more detailed customer agreement that specifies the technical requirements necessary to ensure your system can safely connect to the utility grid. You will also need to provide proof of a commercial general liability policy. This agreement will also require you to obtain an inspection by a licensed electrical contractor to certify your renewable system meets the necessary safety standards.

For photovoltaic systems up to 50 kilowatts, the interconnection process is more streamlined if your system has an approved DC-AC inverter. For a list of approved inverters,

visit: [http://www.consumerenergycenter.org/cgi-bin/eligible\\_inverters.cgi](http://www.consumerenergycenter.org/cgi-bin/eligible_inverters.cgi).

### 10. Why are these requirements necessary?

If your generator mistakenly back-feeds power into an electric line that utility crews think is de-energized, the crews can be seriously injured or even killed. The interconnection study also helps assure that you and other customers continue to receive reliable service and good power quality, avoiding potentially disruptive swings in voltage levels that could damage your equipment and that of your utility.

Whether you are installing a new renewable energy generator or considering net energy metering for an existing generator, compliance with all safety and other codes is required.

### 11. How are requirements established for net energy metering?

The net energy metering law now specifies that the Public Utilities Commission — by order, tariff, or rule — shall set forth safety, performance, and reliability standards and establish qualifications for exemption from requirements for additional controls, tests, or liability insurance for systems greater than 10 kilowatts. The utilities proposed such initial standards, which were approved by order of the Commission and reflected in tariff filings in June 2005.

### 12. How can I get more information about renewable energy systems that might qualify for net energy metering in Hawaii?

Please call for more information: HECO (Oahu) 543-4784 HELCO (Big Island) 969-0127 MECO (Maui) 871-8461 or (toll-free from Molokai and Lanai) 1-877-871-8461

For information on how to obtain a county building permit (if needed), call 523-4505 (Oahu), 961-8331 (Hilo), 327-3520 (Kona), 270-7250 (Maui County).