

When customers choose to operate a generating system, their electricity is monitored by a special meter, which measures the electricity the customer consumes from the utility and the electricity the customer generates to the utility using their own solar, wind or other acceptable renewable generating equipment.

The following material provides detailed information on customer-owned generation systems.



Our voluntary Blue Skysm renewable energy option

Whether you're ready to take steps toward a customer-owned generation system or not, Rocky Mountain Power has an easy way for you to reduce your environmental footprint and help grow a sustainable energy future. Our voluntary Blue Sky renewable energy program gives you the option to support renewable energy in addition to the renewable energy included in our diverse mix of resources used to generate electricity for all our customers.

For as little as \$1.95 more each month you can buy one 100-kwh block of Blue Sky. Supporting renewable energy through the Blue Sky program is easy – all you have to do is sign up.

For more information about Blue Sky, please call us at 1-800-769-3717, email us at bluesky@rockymountainpower.net or visit www.rockymountainpower.net/savings-energy-choices/blue-sky-renewable-energy.html



Let's turn the answers on.

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Understanding customer-owned generation systems.



Let's turn the answers on.

Overview

Rocky Mountain Power recognizes that customers may be interested in purchasing and operating customer-owned generation systems to provide electricity to their home or business. However, there are formal rules and schedules for interconnections between small customer-owned generators and electric utility providers. Under these rules and schedules, or "tariffs," customers generate all or part of their electricity using renewable resources. Customers are charged for the amount of energy they purchase from the utility company and earn a credit for the energy they provide to the utility company. The tariffs clarify that the customer is responsible for all costs associated with any modification to the generating facility and utility distribution system that may be required to connect it to the larger utility system.





Generator technology

Customer-owned generation systems include solar photovoltaic panels, wind turbines and other renewable generators. Many customer-owned generating systems are easily available and environmentally sound.

When considering the purchase of energy generation equipment, ask the dealer which agencies have tested, qualified, or otherwise approved a unit. Underwriters Laboratories (UL) organizations and the Institute of Electrical and Electronic Engineers (IEEE) certify the safety and performance of renewable products. Every customer generation project must meet specific safety and engineering standards to qualify for interconnection to the utility grid.

	Photo-voltaic	Fuel cell	Small wind
Commercial availability	Well established	Limited	Well established
Size	0.30 kw – 2 MW	1 kw – 200 kw	600 watts – 40 kw
Installed costs per kw	\$3,500 – \$5,500	\$8,000	\$3,000 – \$7,500
O&M Costs (cents/kwh)	Varies	0.13 – 1.5	Varies
Fuel type	Solar	Hydrogen, biogas and methane	Wind

This table compares size, cost and other aspects of various electric generators.

Solar photovoltaic panels

Solar photovoltaic panels (PV) generate direct current electricity. These solar cells consist of positive and negative layers on a silicon wafer. Sunlight striking the panels is absorbed, freeing electrons in the silicon crystal. Electrons activated by the sunlight move through the crystal and out to the load or battery. With this type of electric generation, typically 12 to 18 percent of the energy striking the panels is converted to electricity. Research advancements continue to increase this efficiency.

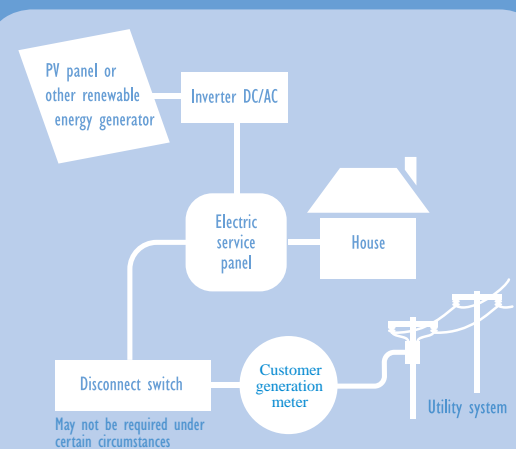
Fuel cell

Fuel cells are similar to batteries in that they produce electricity using an electro-chemical reaction. Unlike a battery, which must be recharged, a fuel cell produces electricity continuously when supplied by fuel. These units are available commercially in 250-kw sizes. Smaller residential units also are being produced and field-tested at this time.



Wind

Wind turns a propeller connected to a generator. A direct current wind generator will provide its energy to direct current loads. Alternating current for refrigerators, computers, TV, etc., would have to be provided by an inverter. If the wind turbine-generator produces 60-cycle alternating current, the generator could serve AC loads directly.



This illustration shows a customer owned generation system's major components and its connections to Rocky Mountain Power's system.

What is net billing?

Net billing is a method of billing used for customers who produce their own electricity. Customers are billed for the electricity they consume, and they are given a credit for the value of energy their system sends back to the grid using their own solar, wind or other acceptable renewable generating equipment. The credit is used to offset energy charges. A special meter is programmed to keep track of the electricity sent to the grid and the electricity taken from the grid.

If at any time you generate more electricity than you use, the excess goes through your electric meter and onto the grid. Your meter shows the electricity you sent onto the grid and the electricity you purchase from your utility.

What are the benefits?

Net billing is a simple way to get a present and future benefit for the electricity you generate. For example, if you are a residential customer, you may not be home during the day when your system generates electricity. Net billing allows you to use your exported energy credit to reduce or offset the electricity you would otherwise have to purchase.

For more information on customer generation, **please call toll free 1-800-625-6078**. You can find the net billing tariff for your state on our website at www.rockymountainpower.net/savings-energy-choices/customer-generation.html