

Net Metering

Prepared by ODOE for the Oregon Renewable Energy Working Group

What is net metering?

Net metering is a utility interconnection model that enables customers to offset some or all of their energy use with onsite renewable energy generation (and, in Oregon, fuel cells) and be billed for only the net energy that is consumed. The simplest form of net metering uses an analog meter that can spin and record energy flow in both directions. The meter spins forwards when a customer-generator is using more energy than he/she is producing, and spins backwards when a customer-generator is using less energy than he/she is producing. The customer is then only billed for his/her **net energy** use.

Three reasons for net metering

- It provides a simple, standardized protocol for connecting systems to the electricity grid while ensuring safety and power quality.
- Net metering allows the energy generated at one time as the resource is available to be credited towards onsite consumption at another time without the use of batteries.
- Net metering is the lowest cost way to encourage the use of small-scale distributed and community based renewable energy systems.

OPUC net metering rulemaking issues

The Oregon Public Utility Commission staff has begun the process of developing net metering rules for PGE and PacifiCorp. These rules will establish precedent for the state's customer-owned utilities. Most of the proposed rules are supported by all parties and OPUC staff. Two issues that the Oregon Renewable Energy Working Group may wish to comment on are as follows:

Annualized Net Metering

Annualized net metering means that any surplus kWh generated in a monthly billing period are carried forward to successive billing periods throughout the year. Under Oregon's net metering law, if at the end of the year a customer-generator has a net surplus of kWh credits, the customer-generator can receive credit for those kWh at the utility's avoided cost for energy. The surplus kWh can be used for the benefit of the utility's low-income customers, or the governing body can determine another use for the funds. This approach would effectively limit the size of customer-generators by providing no financial incentive for generating more than their annual energy needs.

Annualized net metering provides the largest benefit to resources with seasonal variability such as wind, hydro and solar, or systems with seasonally variable loads such as agricultural applications. For net-metered systems that generate surplus kWh during a billing period, annual net metering represents a net utility revenue loss, because the utility is providing distribution and transmission services for the customer without being compensated. This cost, however, may be less than the cost of tracking and paying or crediting the surplus kWh at avoided cost rates for small systems or systems that are well matched to the customer's seasonal load.

Maximum Allowable System Size

Oregon's current law requires net metering for systems up to 25 kW, but allows the OPUC to set higher limits for PGE and PacifiCorp. OPUC staff's initial proposal is to increase this minimum to 200 kW. This will open new opportunities for technologies and customer classes. It is more

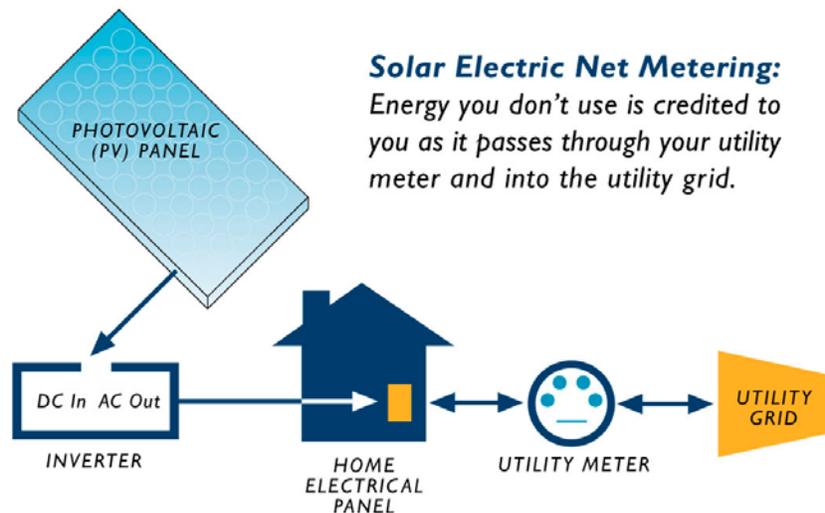
aggressive than most states, but not as large as the limits in California, New Jersey, Colorado and Nevada which are all 1 MW or larger for at least some eligible resources.

Two key reasons for increasing eligible facility size beyond 200 kW: 1) It enables some technologies that are commonly larger than 200 kW to more effectively use net metering. 2) It opens opportunities for large investors who can use the federal tax credits and depreciation allowances to become project partners. According to several project developers, the transactional cost of systems less than 300 kW is insufficient to interest large investment partners.

Among the reasons for limiting eligible facility size: 1) 200 kW is consistent with the Oregon Commission's current exemption for liability insurance requirements for PURPA power purchase agreements for "qualifying facilities." 2) 200 kW provides a reasonable threshold below which customer-generators would not be required to pay for interconnection studies or upgrades to the utility distribution system. 3) On-site generators 1 MW or larger are required under PGE and Pacific Power tariffs to pay standby charges. 4) The OPUC can limit net metering when the total facility capacity reaches 0.5 percent of the utility's peak load. While the OPUC is not required to do so, raising the net metering threshold may limit the number of net-metered systems that can be installed in the future.

Oregon's Net Metering Law (HB 3219 in 1999 and SB 84 in 2005)

- Is intended for biomass, biofuels, geothermal, fuel cells, wind, micro-hydro and solar technologies.
- Applies to all types of customers.
- Is not intended for use by customers who wish to produce more energy than they need on an annual basis.
- Requires approved interconnection equipment, and a signed net metering agreement
- Net metering can be limited when total net metered capacity reaches 0.5 percent of the utility's peak capacity (e.g. about 100 MW for PGE, 70 MW for PacifiCorp and 3.6 MW for Salem Electric).
- Allows utilities to recover costs and requires customers to meet safety standards for the net metering facility and pay a standard monthly service charge.
- Prevents utilities from charging standby charges, require liability insurance or pay non-standard customer charges.



Also applies to biomass, bio-fuels, geothermal, fuel cells, wind and micro-hydro technologies