

## 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 plus appropriate monthly charges.

### 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~~ during one period as the resource is available to be credited towards onsite consumption ~~at during other periods~~ another time without the use of batteries.

- Net metering is a comparatively simple ~~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 Pacific Power Corp. 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 ~~credited~~ 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 payment for those ~~kWh~~ credits at the utility's avoided cost for energy. The surplus ~~kWh~~ credits also can be used for the benefit of the ~~utility's~~ 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.

**Comment [KLD1]:** I y Oregon law the net metering system must be "located on the customer-generator's premises" so to say "community-based" systems are somewhat misleading.

**Comment [KLD2]:** I y Oregon law excess kWh may be valued at the utility's avoided cost rather than simply carried forward on a kWh basis.

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**Comment [KLD3]:** I eaders should recognize the following three sentences are ODOE assumptions only.

### 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 Pacific Power Corp. OPUC staff is's considering an increase in the maximum allowable size of net metering installations. ~~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~~ up to 100 kW: 1) ~~it~~ enables some technologies that are commonly larger than ~~200-25~~ 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 ~~1300~~ kW is insufficient to interest large investment partners.

Among the reasons for limiting eligible facility size: 1) ~~1200~~ kW is consistent with the Oregon Commission's current exemption for liability insurance requirements for PURPA power purchase agreements for "qualifying facilities." 2) a smaller maximum of 100 ~~200~~ kW or less more frequently entails ~~provides~~ a reasonable threshold below which customer-generators ~~may would~~ not be required to pay for interconnection studies or upgrades to the utility distribution system. 3) On-site generators 1 MW or larger ~~may be are~~ required under PGE and Pacific Power tariffs to pay standby charges. 4) The OPUC can limit net metering when the ~~aggregate of statewide net metering total~~ facilities'y generating capacity reaches 0.5 percent of the utility's peak load. While the OPUC is not required to do so, raising the project-specific 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, adherence to safety standards 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, ~~70-15~~ 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, requir ~~ing~~ liability insurance or from ~~requiring pay~~ nonstandard customer charges.

**Comment [KLD4]:** OPUC staff has not developed nor proffered an "initial proposal" though various options have been discussed in OPUC workshops.

**Comment [KLD5]:** Pacific Power supports a threshold up to 100 kW. We oppose anything greater. This seems to be a rehash of the recent SB 84 legislative debates. Anything beyond 100 kW really starts blurring the line between what is net metering and what is a QF under PURPA.

**Comment [KLD6]:** DOE should re-check this PGE interpolation for accuracy

**Comment [KLD7]:** There is a problem with the estimated capacity limit. The original reference shows Pacific Power with a limit of 70 MW. Pacific's current Oregon tariff, however, limits net metering generation capacity to about 15 MW. This number was calculated from the company's peak Oregon demand from 1998. If we were to update this based on peak Oregon demand of 2,500 MW in 2005, the capacity limit would actually be reduced to 12.5 MW. Even if we were to use a total system load instead of the Oregon jurisdictional load, the 2005 peak of 8,937 MW would yield a limit of 45 MW, well below the 70 MW shown by ODOE. Since the Commission approved the limit in the tariff, thus approving our interpretation of the statute basing the limit on the Oregon jurisdictional load, I think the current tariff number of 15 M... [1]

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