



Oregon

Kate Brown, Governor



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Joint Interim Committee on ODOE Oversight Follow-up to August 2016 Hearing and Committee Member Questions

Q1 – What is the nameplate capacity of all wind and solar generation that we have in state?

Wind facilities in Oregon have a total capacity of 3153 megawatts (MW). No new wind turbines have come online since 2013.

In contrast, solar is being installed at an accelerating pace in the state, with new facilities being proposed, planned, and installed. Based on assessments of new solar systems that have become operational this year, ODOE estimates Oregon has just over 120 MW of electricity capacity from in-state solar installations. To calculate this number, the department looked at all solar and wind projects registered in ODOE and Oregon Public Utility Commission (PUC) incentive programs as well as a calculated estimate of solar projects built outside of these programs.

Q2-Q3 – What is the actual percentage that is delivered? What percentage of the delivered electricity is sold in state and what percentage is sold out of state?

Wind facilities in Oregon produce between 33 to 38 percent of their capacity – that's their average output compared to if they produced full power for 24 hours a day, 365 days per year. For solar facilities, the range is from the mid-teens on the west side of the state to the mid-twenties on the east side.

ODOE estimates at least two thirds of the wind and solar energy produced in-state serves Oregon electricity load. This number is based on the capacity of facilities registered to produce renewable energy in compliance with the state's Renewable Portfolio Standard as compared to the total capacity of resources described in answer to the previous question.

It is important to note that the amount of solar and wind production that is sold out of state varies per year. The Oregon PUC, Bonneville Power Administration (BPA), Portland General Electric (PGE), and Pacific Power may have more detailed information about solar and wind sales and purchases.

Wind and solar energy can be bought and sold in a variety of ways. For example, many electric customers across Oregon make their own energy with small-scale solar or wind generators. These Oregonians use the energy generated to meet their on-site electric demand while exporting any excess to the utility. The utility compensates the customer for exports of this electricity through a bill credit mechanism. Any excess energy sent to the grid can be used to serve in-state load or sold by the utility.

Wind and solar energy can also be bought and sold on a large scale at wholesale rates. This can be accomplished through the use of a power purchase agreement (PPA) where the utility agrees to purchase wind or solar energy from a project at a pre-negotiated fixed wholesale rate for up to 25 years. Utilities may also choose to build and operate wind or solar plants by themselves to serve their customers. PPA projects and utility-owned generation sources may involve purchases that cross state lines.

Q4 - What is the cost of all solar and wind energy to the Oregon consumer?

Portland General Electric and Pacific Corp both offer voluntary programs through which consumers may purchase power from renewable generation sources. These programs have some of the highest participation rates for voluntary green power programs in the country.

Portland General Electric's Green Source Program: Customers pay a premium of \$0.008 per kWh over the base rate of \$0.685 per kWh. This equates to about \$6.00 per month for an average home. The Green Source mix is currently 98 percent wind, 1 percent solar and 1 percent geothermal.

(Source: <https://www.portlandgeneral.com/residential/power-choices/renewable-power/green-source>)

Pacific Corp's Blue Sky Program: Customers pay a premium of \$1.95 per 100 kilowatt-hour block. This equates to \$10 to \$20 per month for typical homes to displace 100 percent of their annual energy. The Blue Sky Block program is 100 percent wind. Pacific Corp also offers the Blue Sky Habitat program, which is 82 percent wind, 16 percent biomass, and 1 percent each for solar and geothermal

(Source: <https://www.pacificpower.net/bluesky>)

Additionally, many consumer-owned utilities offer premium programs as well. Central Electric Cooperative, for example, offers both a Green Power program, first established in 1998, and a new Shared Solar program. The former charges a 1.8 cents/kWh premium on some or all monthly electricity usage; the funds support community solar construction and maintenance. The Shared Solar program is based on a subscription fee; funds pay to build and maintain the utility's community solar project.

(Source: https://www.cec.coop/wp-content/uploads/CEC_InfographicRuraliteAd.pdf)