ENVIRONMENT

Electricity demand could double in Pacific NW over next 2 decades

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Electricity demand in the Pacific Northwest could double over the next two decades as data centers, electric vehicles, homes and businesses clamor for more power, according to a new forecast by the Northwest Power and Conservation Council. AP

By Gosia Wozniacka | The Oregonian/OregonLive

Electricity demand in the Pacific Northwest could double over the next two decades as data centers, electric vehicles, homes and businesses clamor for more power, according to a new forecast released Tuesday by the Northwest Power and Conservation Council.

EVs could rival and ultimately surpass data centers in projected load growth, according to the forecast.

The analysis calculated energy-efficiency measures at the current levels, so the actual growth will likely be smaller once those measures are further developed and instituted. The measures include such things as installing rooftop solar systems and encouraging consumers to shift electricity usage to times when demand is lower or when electricity is more plentiful.

The council, a regional organization based in Portland, is tasked with developing 20-year power plans and updating them every five years to guarantee adequate and reliable energy supply at the lowest economic and environmental cost. Participating states include Oregon, Washington, Idaho and western Montana.

The plans, which identify energy efficiency measures and new resources needed to meet future demand, are required under the Northwest Power Act of 1980.

The Bonneville Power Administration – the region's largest transmission grid operator – must acquire enough power-generating resources such as solar, wind and battery projects consistent with the plan. Utilities and regulators also use it as a guide in planning for future energy needs.

This year's forecast – to be incorporated into the council's upcoming power plan for the region – shows how dramatically power demand has changed. In previous decades, electricity consumption had leveled off and has only started increasing in the past few

years – though the extent of that growth was, until recently, uncertain.

The council's last forecast in 2021 predicted regional power consumption would either see a 7.5% decline or up to a 15% growth. To date, the forecast has matched reality: The Pacific Northwest has consumed 22,000 average megawatts of electricity a year for the last several years, with growth mostly flat due to reductions in electricity consumption through improved efficiency.

Average megawatts represent annual power demand; an average megawatt is equal to one megawatt of electricity delivered continuously for a year, enough to power 811 homes for a year.

The region's power consumption is now predicted to go up sharply.

The new forecast projects annual energy demand to reach between 31,000 and 44,000 average megawatts of electricity per year by 2046, varying by trajectory. That's a range of increase of 40% to 100%, the data shows. The forecast includes several scenarios with different electricity load growth for various sectors – buildings, transportation, data centers, for instance – at different times.

Council staff had to build a new model that takes into account new technologies to provide a more sophisticated forecasting tool.

Overall, the staff said power demand from newly built data centers and semiconductor factories is expected to ramp up quickly and significantly and then level off. Demand from electric vehicles, on the other hand, will increase at a slower rate but eventually outpace the data centers' electricity needs.

But it's unclear if those high EV adoption forecasts will materialize. Oregon recently ratcheted back its EV growth forecast and, given Trump administration priorities, it's unclear whether federal EV tax credits will continue.

Power demand from installing more electric heat pumps, electric water heaters and electric stoves in homes and businesses will also surge toward the end of the forecast horizon.

And hydrogen production – assuming it does take off as planned – could add to the load growth in later years. Hydrogen production probably wouldn't squeeze the regional energy supply, though, because the hydrogen itself would be used for generating electricity.

There could be other new sources of energy, too. A council staff analysis found cumulative rooftop solar potential will surpass 500 average megawatts of electricity in 2031 and could grow to above 4,000 average megawatts by 2046.

In the coming months, council staff will calculate the cost and availability of new energy efficiency, rooftop solar and other conservation in energy use and will update the forecast to account for the impact of those measures. A draft power plan will be available for public review by mid-2026 and the final power plan will be adopted by the end of that year.

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