Data Center Impacts in the West: Policy Solutions for Water and Energy Use

Western Resource Advocates wra

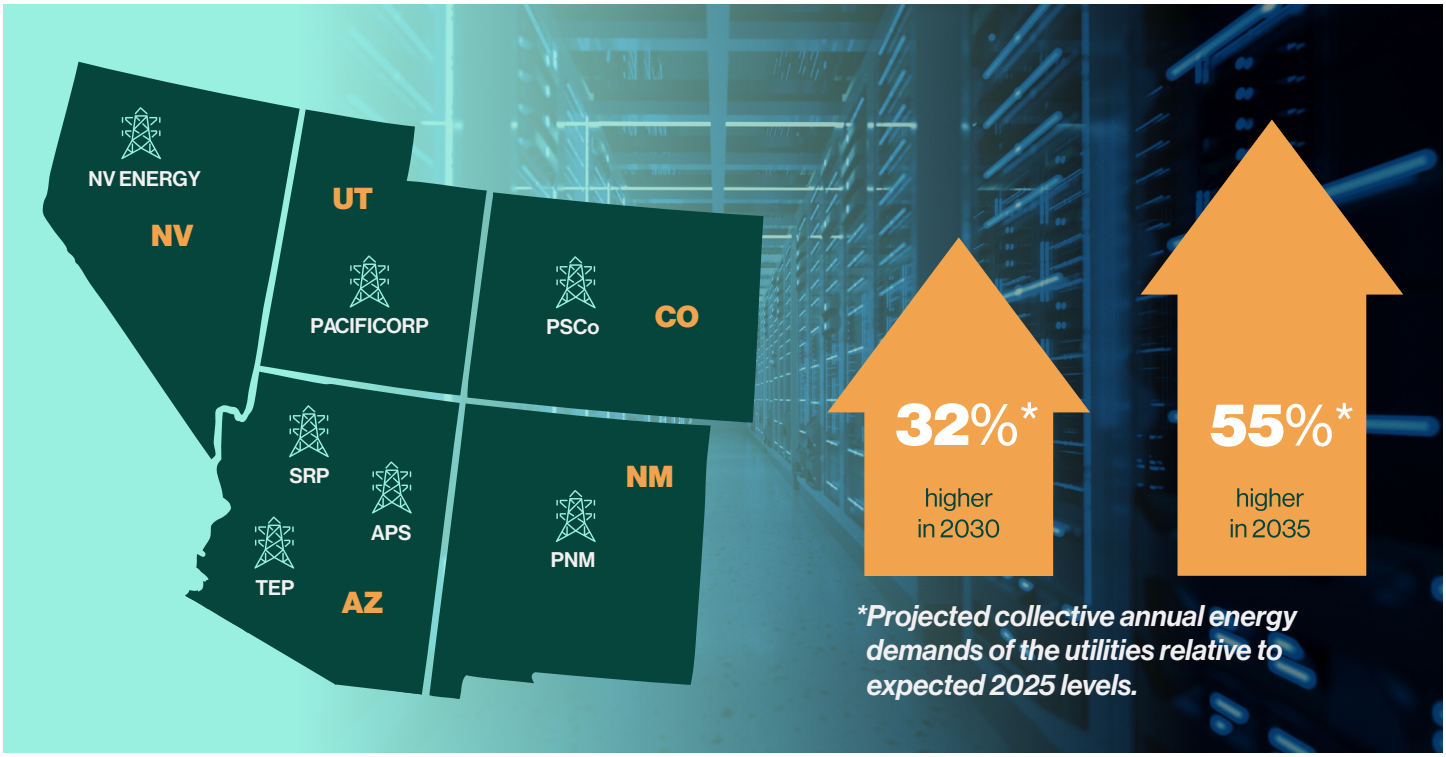
THE ISSUE

Seemingly overnight, artificial intelligence is now built into everything from iPhones and Google searches to online services like Amazon. As entire industries work to adapt to the sweeping change of artificial intelligence, data centers — the buildings that serve as the engines of AI and cloud computing — pose unprecedented demands on energy and water.

Over just the past few years, electric utilities in the Interior West — where WRA works to decarbonize the power sector — have seen the predicted amount of future electricity demand increase at an extraordinary rate, largely due to the projected electricity demands of data centers.

Data centers also have vast cooling needs to protect the computer hardware contained within. If projections of data center load growth become reality, new data centers in the Interior West could have an annual on-site water use of 21,600 acre-feet (7 billion gallons) in 2035. This amount of water can serve the annual needs of 82,000-194,000 individuals. In the arid Interior West, where water supplies are already scarce, and becoming more so, this level of increased demand poses risks and challenges.

The collective annual energy demands of the utilities in WRA's region are projected to be 32% higher in 2030, and 55% higher in 2035. Over the 2025-2035 timeframe, that equates to an annual growth rate of 4.5%. This forecast is significantly higher than what utilities were projecting just a few years ago and this unprecedented growth is straining the reliability and affordability of our energy system.



Last updated: July 2025

OUR POLICY SOLUTIONS

Clean Energy Tariffs: Under these programs a utility may develop and finance clean energy resources, and data centers will pay any incremental additional cost of that resource.

Require Water Efficiency and Water Use Reporting: While water-efficient cooling systems are available for data centers, they have higher energy demands. To better inform decision making, state agencies should require data centers to report annually on both the cooling systems deployed and the annual water demands of their facilities to better plan for the potential impacts of significant industry growth. Locally, water providers should require new data centers to minimize their demands through efficiency measures and water reuse.

Restructure Economic Development Rates: Discounted electricity rates, known as economic development rates, are provided on the assumption of associated economic growth. These discounted rates should only be available to data centers powered with clean, zero-carbon energy and which support significant, permanent employment. The utility must demonstrate that other utility customers will not bear additional costs due to these rates.

Enable Behind-the-Meter Clean Resources: With behind-the-meter clean resources — systems that enable customers to generate electricity on their own property — data centers could develop, own, and operate energy resources directly. Such a program should be limited to clean resources like solar, not gas or diesel generators, which would undermine states' and utilities' climate goals and degrade local air quality.

Require Energy Efficiency and Load Shifting: Some data centers may be able to shift their electricity consumption away from times of peak electricity demand, thereby reducing costs and strain on the broader grid and utilities' reliance on polluting resources to supply power during spikes in demand.

Resource Planning and Acquisitions: Utility regulators should establish best practices and requirements for utility forecasts of future electricity demands and consider revamping their Integrated Resource Planning processes to ensure that other customers are protected from financial risks if utilities over invest in resources to serve data centers that are never built.

Follow Best Practices in Ratemaking: The magnitude and characteristics of data centers' energy usage may require tailored considerations to ensure these new large customers are paying their fair share.

Establish Contract Provisions: There is uncertainty in the energy demand that data centers are projecting. If a utility expands its transmission or generation system for this potential growth and then it does not materialize, those investments may increase other costs for customers. To mitigate this risk, data center contracts should be multiyear with early termination penalties and include financial security assurances and minimum billing provisions.

Left unaddressed, data centers' loads threaten Western states' air quality, climate, and water supplies, while risking utilities' ability to meet statutory, corporate, and science-based emissions reductions goals. With the right policies in place, however, data centers can catalyze investments in innovative clean energy resources while driving broader system transformation.

For more information

Deborah Kapiloff
Policy Advisor
deborah.kapiloff@westernresources.org

Lindsay Rogers
Policy Manager for Municipal Conservation
lindsay.rogers@westernresources.org

Access WRA's full report.