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INSIGHT

Prospect of a New Western Regional Transmission Organization

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Electric power systems in many western states are under stress with wildfires, persistent drought, and heat waves presenting challenges to reliability, with some seeing climate change as a driver of the West's extreme weather. The growth of population in the region also is increasing demand for electric power, set against the increasing use of renewable sources of electricity and retirements of coal-fired and nuclear power plants in the region. California has set a goal of 60% renewable energy by 2030 in its renewable portfolio standard (RPS). California's is not the only clean energy plan in the region; Arizona, Colorado, Nevada, New Mexico, and Oregon are among the states with RPS requirements for their retail utilities to obtain renewable electricity.

The demand for electricity in California has dominated energy issues in the West for many years, with California utilities reaching out to the Pacific Northwest and neighboring states when needed to import more electricity. But the continuing western drought, combined with recurring region-wide heat waves, have reduced the ability of California's neighbors to provide their excess capacity to the state. Competing RPS requirements have led to regional electricity system inefficiencies in some cases. A lack of transmission capacity, connections, or energy storage has meant that renewable energy sometimes was wasted, as the peak generation from wind and solar power resources does not always match customer demands for electricity.

To address these issues, several utilities in the West led by the California Independent System Operator (ISO) established a voluntary Western Energy Imbalance Market (WEIM) in 2014.The WEIM allows "participants to buy and sell power close to the time electricity is consumed, and gives system operators real-time visibility across neighboring grids. The result improves balancing supply and demand at a lower cost." An extended Day-Ahead Market that competitively serves the expected power demands of the next day is currently under development for the WEIM. Bonneville Power Administration—a federal power marketing administration (PMA)—plans to join the WEIM in 2022. Parts of another PMA, the Western Area Power Administration (WAPA), joined the WEIM in 2021.

The WEIM is not a full regional transmission organization (RTO), which would be established under the regulatory jurisdiction of the Federal Energy Regulatory Commission (FERC). An RTO would have control over daily and long-term functions such as power plant commitment to provide power to the system, system load balancing, transmission planning, and generation resource adequacy—functions that

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mostly remain under the control of WEIM members today. Several RTOs also operate various formal centralized capacity markets using auctions to obtain future generation. Conversely, the California ISO, the Southwest Power Pool (SPP), and the Electric Reliability Council of Texas chose instead to provide market-based and cost-based incentives.

Some observers (including a group of nine past FERC chairs and commissioners) have expressed the opinion that it is time for the West to have a fully fledged RTO, citing the potential planning and competitive "savings and efficiencies of a full RTO (estimated at more than $4 billion/year)." The formal expansion of SPP into an RTO West is another pathway for further RTO formation in the West. A formal study by SPP also cited potential benefits of RTO membership for current and new members. Parts of WAPA are considering full participation in the SPP's RTO West. FERC chair Richard Glick was reported to have expressed his support for the formation of one or more RTOs in the Western states following a FERC technical conference on western resource adequacy.

Other industry observers do not support a formal federal policy of RTO expansion in the West, preferring to leave the "emergent" WEIM to evolve to meet the needs of western states. Former FERC Commissioner Bernard McNamee said that he "does not believe the RTO model is the best way to ensure resource adequacy," referring to past blackouts in California and Texas under organized market structures. Historically, how electricity was generated largely depended on regional resources. RTOs were first adopted in Northeastern and Midwestern U.S. regions that generally had higher energy costs, where competitive markets and centralized planning were expected to deliver lower prices for electricity customers. Whether RTOs have met these goals has been debated, with some saying "a detailed and objective study of the cost of electricity" in RTOs is needed to inform federal policy.

Congress may consider what regulatory mechanisms and market structures best serve the evolving U.S. electricity industry, contemplating how these structures encourage the development of new, cleaner electricity technologies and efficiently use local resources. Harnessing local resources may lead to more electric transmission development with planning focused on meeting regional needs, and avoid overbuilding electric infrastructure. Upgrading links to other regional interconnections may be one option to share resources and improve western resource adequacy. Elements of RTO markets already have been worked into the WEIM. Congress may consider whether a full-fledged RTO is the best way to reliably and affordably meet the current and future needs of western electricity customers. For instance, the "Climate Leadership and Environmental Action for our Nation's Future Act" or the "CLEAN Future Act" (H.R. 1512), which was introduced in the 117th Congress, would compel each public utility (as defined in the Federal Power Act) to place its transmission facilities under the control of an RTO, not later than two years after the date of enactment of the bill. Congress may consider whether furthering RTO formation in the West requires federal guidance, pending a study of costs and benefits considering the needs of states in the region.

Author Information

Richard J. Campbell
Specialist in Energy Policy

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