“Integrating Renewable Energy in the Western United States”

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Abstract
The widespread growth of wind and solar electric generation is changing how electricity systems are planned and operated. Policymakers, planners, and grid operators are working to integrate variable renewable resources while maintaining system reliability and affordability. These actors need to innovate organizationally to achieve both regional integration and decarbonization, which can be difficult. I will present a focused study on an innovative approach in the Western United States on regional governance challenges for renewables integration: the recent CAISO initiative to make energy imbalance market (EIM) services available to balancing authorities throughout the Western Interconnection. The expansion of 23GW of renewable resources in the Western United States has increased pressure on utilities and energy system planners to improve renewable resource integration and system efficiencies, while maintaining reliability, affordability. It has also led some industry leaders and policy makers in the West to explore new approaches for regional electricity system governance. This paper explores the expansion of regional electricity markets in the Western Interconnection to increase efficiency, reduce current and anticipated curtailments, and facilitate renewable resource integration through automated dispatch and access to larger geographic regions. While the EIM will extend the real-time energy market outside of California and allow Western-balancing authorities to maintain a level of autonomy from Federal Energy Regulatory Commission (FERC) jurisdiction and the CAISO market, it will alter the distribution of benefits and burdens among stakeholders and the political and institutional challenges require more coordination, policy innovation, and new institutional paradigms of electricity system governance. This talk is based on a paper co-authored with Stephanie Lenhart (Boise State) and Natalie Nelson Marsh (University of Portland) and David Solan (Boise State)

Bio
Dr. Elizabeth J. Wilson is a Professor of Energy and Environmental Policy and Law at the Humphrey School of Public Affairs at the University of Minnesota. Her research examines policies and institutions supporting energy system transitions. She holds a doctorate in Engineering and Public Policy from Carnegie Mellon University and was selected as a Leopold Leadership Fellow in 2011 and an Andrew Carnegie Fellow in 2015.