



[Registration](#) Now Open
Western States Training Webinars on Integrated Distribution System Planning
February-March 2021

The Western Interstate Energy Board, National Association of Regulatory Utility Commissioners (NARUC), and National Association of State Energy Officials (NASEO) invite public utility commissions and state energy offices in Western states to participate in a webinar training series on integrated distribution system planning in February and March 2021. [Registration](#) for the training is now open.

All webinars run from 10 a.m. to 11:30 a.m. Mountain time. Attendees of prior trainings have included commissioners, directors, and staff working on grid modernization and distribution planning issues.

- **Feb. 26, 2021 - Integration, Management and Control of Distributed Energy Resources (DERs)** – Patrick Dalton, ICF, and Mary Ann Piette, Berkeley Lab
The initial training webinar focuses on integration considerations, management strategies, and control capabilities for distributed generation, distributed storage and demand flexibility. Topics include strategies to address bulk power and distribution system issues with DERs, such as smart inverters and ride-through capabilities for distributed solar, interoperability for monitoring and control, advanced distribution management systems, and adoption of state standards. The session also covers harnessing DERs for load shedding and shifting, including automated control strategies, and actions states are taking to advance demand flexibility.
- **March 5, 2021 - Planning for Grid Modernization and Resilience and Investment Economics** – Paul De Martini, Newport Consulting, and Dr. Fritz Kahrl, 3rdRail
The session begins with grid modernization objectives, capabilities, strategies and sequencing of investments. Following that is a primer on resilience planning — critical infrastructure interdependencies, assessing resilience threats, mitigation analysis, investing in a portfolio of resilience solutions, roles and responsibilities, and state efforts to improve resilience. The final segment addresses economic assessment of grid modernization investments, including a framework for planning, deployment and evaluation; evaluation methods for investments; principles for managing costs and risks; and examples of states implementing these principles.
- **March 19, 2021 - Planning for Energy Storage** – Jeremy Twitchell, Pacific Northwest National Laboratory, and Dr. Andrew Mills, Berkeley Lab
This webinar covers storage technologies, services, valuation and state policies; storage in microgrids; using storage to smooth solar output, reduce integration costs and increase solar capacity credit; and hybrid power plants — storage plus solar, wind and natural gas.

Register here

Stay tuned for an announcement for a Western states roundtable, following the training series, with commissioners and state energy office directors discussing hot topics related to planning electricity systems in the context of grid modernization and distributed energy resources.

Check out our infographic explaining distribution system components [here](#)

Listen to presentations from a previous training on NARUC's website [here](#)

Read trainers' bios on the [next page](#)

Resources for More Information

- NARUC YouTube Channel: <https://www.youtube.com/channel/UCYicY7-gIL0op9G5oRJDQGg>
- NARUC Center for Partnerships and Innovation website: www.naruc.org/cpi
- National Council on Electricity Policy, Transmission & Distribution System Coordination Resource Catalog with resources, case studies, and other examples of moving through the T&D coordination transition: <http://electricitypolicy.org/resources/td-resource-catalog/>
- NASEO-NARUC Grid-Interactive Efficient Buildings Work Group: <https://www.naseo.org/issues/buildings/naseo-naruc-geb-working-group>
- NARUC-NASEO Task Force on Comprehensive Electricity Planning: <https://www.naruc.org/taskforce/>
- Berkeley Lab's website on time and locational value of distributed energy resources: <https://emp.lbl.gov/projects/time-value-efficiency>
- Berkeley Lab's Future Electric Utility Regulation series: <https://emp.lbl.gov/projects/feur/>
- Pacific Northwest National Laboratory (PNNL) website with resources for states on distribution system planning topics: https://epe.pnnl.gov/pnnl_psw_spuc.asp
- PNNL report, [High-level Assessment of Tools and Methods for Distribution System Planning with DERs](#)

Berkeley Lab and Pacific Northwest National Laboratory are providing this training with funding from the U.S. Department of Energy's Grid Modernization Laboratory Consortium.

PRESENTER BIOS

Patrick Dalton is a manager of Distributed Energy Resources at ICF, supporting clients in developing solutions to address DER impacts on utility planning and operations. He has 11 years of distribution engineering experience at a major U.S. electric utility, where he led a team responsible for DER integration. He supported revisions to the Minnesota statewide interconnection process and technical standards and participated in MISO working groups to develop IEEE 1547 bulk system implementation guidelines. Patrick is an active member of industry standard working groups related to DER interconnection, interoperability, and energy storage including revisions to the IEEE 1547 series and IEEE 2030. Patrick is a licensed professional engineer in Minnesota.



Paul De Martini is a leading expert on the business, policy, and technology facets of a more distributed and resilient power system. His consulting supports utility, market operator, regulatory and government clients. He has authored or co-authored several widely cited reports, including U.S. Department of Energy (DOE) reports on integrated distribution planning, transmission-distribution operational coordination, and modern distribution grids. Paul was previously Vice President, T&D Advanced Technology, at Southern California Edison. He began his career at Pacific Gas & Electric in electric system operations and T&D engineering and construction. He is a senior IEEE member and was a member of the National Academies of Sciences Committee on T&D Resilience.

Dr. Fredrich Kahl is an independent researcher and consultant. He has worked with North American regulators and utilities on a range of critical issues facing the electricity industry, including grid modernization investment economics, distribution system platforms and markets, wholesale market design and evaluation, resource planning, retail rate design, and resource adequacy program design. Previously, he was a Director at the consulting firm Energy and Environmental Economics (E3). Fritz holds Ph.D. and M.S. degrees in Energy and Resources from the University of California, Berkeley, and a B.A. in Philosophy from the College of William & Mary.



Dr. Andrew Mills is a Research Scientist in Berkeley Lab's Electricity Markets and Policy Department. He conducts research on the integration of variable generation into the electric power system, evaluating the costs, benefits, and institutional needs of renewable energy transmission and other supporting infrastructure. Andrew has a Ph.D. in Energy and Resources from University of California, Berkeley, and a B.S. in Mechanical Engineering from Illinois Institute of Technology.

Mary Ann Piette is a Senior Scientist and Director of the Building Technology and Urban Systems Division at Berkeley Lab. She oversees the lab's building energy research activities with DOE and is Director of the Demand Response Research Center. Mary Ann has authored over 90 peer-reviewed publications related to energy efficiency and demand response. She has an M.S. in Mechanical Engineering from University of California, Berkeley, and a Licentiate in Building Services Engineering from the Chalmers University of Technology in Sweden.



Jeremy Twitchell is an Energy Research Analyst at Pacific Northwest National Laboratory, focusing on energy storage and distribution system planning. Prior to joining the lab, he was an energy policy advisor at the Washington Utilities and Transportation Commission, where he led staff development of a policy statement on the role of energy storage in utility resource planning and a distribution planning rulemaking. He also drafted a report for the Washington State Legislature on best practices in distribution planning and has provided rate case testimony on rate design and resource acquisition.