



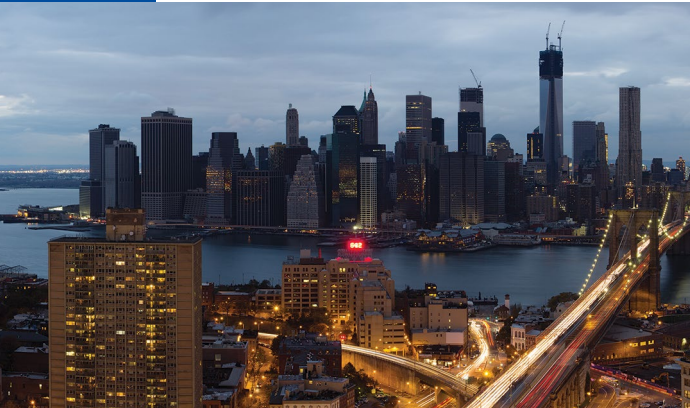
NARUC

National Association of Regulatory Utility Commissioners

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Essential Guide to NARUC Microgrids Resources



Overview

National Association of Regulatory Utility Commissioners (NARUC) members are increasingly seeking more information about microgrids' infrastructure needs, impacts, and the role of public utility commissions (PUCs). This guide connects commissioners and commission staff to essential microgrids resources that NARUC has developed in partnership with the National Association of State Energy Officials (NASEO). All of these resources can be found on the [NARUC Microgrids webpage](#).

The NARUC Center for Partnerships & Innovation (CPI) collaborates with the U.S. Department of Energy (DOE) and NASEO to maintain

a Microgrids State working group (SWG) to improve the ability of states to plan for and develop microgrid projects, regulations, and policies. The working group convenes state regulators, state energy officials, and other stakeholders to explore the costs and benefits of microgrids; understand the value of resilience from microgrids; and identify and address barriers to microgrid development. For more information, contact Kiera Zitelman, kzitelman@naruc.org.

Foundational NARUC Resources on Microgrids and the Role of PUCs

The resources below provide a starting point for further exploration of microgrids.

[State Microgrid Policy, Programmatic, and Regulatory Framework](#), August 2023

NARUC and NASEO released this framework that provides relevant microgrid background information for consideration by State Energy Offices and PUCs, regardless of their state's microgrid landscape, through examples from peers who have implemented varying strategies to enable microgrids.

- [Webinar: State Microgrid Policy, Programmatic, and Regulatory Framework](#), September 2023

[Clean Energy Microgrids: Considerations for State Energy Offices and Public Utility Commissions to Increase Resilience, Reduce Emissions, and Improve Affordability](#), June 2023

This report examines the benefits, challenges, economic aspects, technological components, and evolving cost-effectiveness of clean energy microgrids, and concludes with policy and regulatory recommendations for their deployment.

About the NARUC Center for Partnerships & Innovation

NARUC CPI identifies emerging challenges and connects state commissions with expertise and strategies to navigate their complex decision-making. CPI accomplishes this goal by building relationships, developing resources, and delivering training that provides answers to state commissions' questions.

NARUC CPI conducts work in five key energy topics: generation; transmission; distribution; customers; and critical infrastructure, cybersecurity, and resilience. Find all resources and upcoming events at: www.naruc.org/cpi.

Publications and Activities on Key Microgrids Topics

The following resources can be found on the [NARUC Microgrids webpage](#). Hyperlinks lead to PDFs of the publications or webinar presentations. To view recordings of past webinars, visit the Microgrids webpage or [NARUC's YouTube channel](#).

Microgrids and Resilience

[Valuing Resilience for Microgrids: Challenges, Innovative Approaches, and State Needs](#), February 2022

This paper summarizes five resilience valuation approaches developed by Lawrence Berkeley National Laboratory (Berkeley Lab), the Edison Electric Institute and Commonwealth Edison; the National Renewable Energy Laboratory; Sandia National Laboratories and the University of Buffalo; and the Federal Emergency Management Agency.

- [NARUC-NASEO Microgrids State Working Group and NASEO Rural Working Group Webinar: Improving Energy Resilience with Rural and Remote Microgrids](#), May 2024

This webinar explored the role of microgrids in enhancing resilience, reliability, and decarbonization in rural and remote areas, highlighting state-led RD&D efforts, coordination with rural electric cooperatives, and ongoing projects.

- [Webinar: Microgrids for Community and City Resilience Planning](#), June 2022

This webinar highlights how State Energy Offices and PUCs can support local energy resilience and decarbonization goals through microgrid integration and public-private partnerships.

- [Webinar: Valuing Resilience and Supporting Renewable Energy Microgrids](#), March 2022

NARUC and NASEO staff and partners shared overviews of two reports published in spring 2022, *Valuing Resilience for Microgrids* and *Clean Energy Microgrids*, under the NASEO-NARUC Microgrids State Working Group and answered questions from the audience.

- [Webinar: Microgrid State Working Group IIJA Briefing and State Roundtable](#), December 2021

NARUC and NASEO welcomed Cameron Brooks, executive director of Think Microgrid, for a briefing on provisions of the Infrastructure Investment and Jobs Act related to microgrids and resilience. Following the briefing, members of the Microgrids SWG shared updates on microgrid programs and challenges in their states.

- [Webinar: Microgrid Tariff Development in Hawaii and California](#), September 2021

In early 2021, California and Hawaii approved microgrid tariffs to ensure fair compensation and reduce barriers for microgrid development. This webinar covers the objectives, development process, and next steps of these tariffs, offering insights for other states.

- [Webinar: Microgrids for Low- to Moderate-Income Communities](#), June 2021

This webinar explored microgrid projects targeting low- to moderate-income communities, addressing their unique challenges and considerations for state regulators. It also included an update from the Rhode Island Office of Energy Resources.

- [Webinar: Strategies for Resilient Microgrid Deployment](#), April 2021

This webinar featured findings from a Smart Electric Power Alliance (SEPA) and Kentucky Office of Energy Policy study on deploying microgrids to boost grid resilience, with insights on replicating these strategies in other states.

- [Webinar: Achieving Community Resilience through Microgrids](#), January 2021

This webinar highlighted successful community microgrid projects that enhance reliability and resilience, addressing community input, funding, ownership, operations, revenue streams, and the valuation of resilience services.

Microgrids Development: Planning and Implementation

[User Objectives and Design Approaches for Microgrids: Options for Delivering Reliability and Resilience, Clean Energy, Energy Savings, and Other Priorities](#), January 2021

This report explores funding options for microgrid development, addressing high upfront costs and unclear benefits, and suggests leveraging various value streams to attract investment and reduce financial risk.

[Private, State, and Federal Funding and Financing Options to Enable Resilient, Affordable, and Clean Microgrids](#), January 2021

This report delves into funding and financing options for microgrid development, addressing challenges like high upfront costs and unclear benefits while highlighting potential value streams to attract investment and reduce financial risk.

- [Webinar: Powering Data Centers with Microgrids](#), December 2024
Due largely to the expansion of artificial intelligence, need for energy intensive data centers is growing. This growth has prompted more interest in microgrids to meet electricity demand, accelerate decarbonization and ensure reliability. This webinar explored some of the considerations and questions around resilience, affordability, cost and potential policy and regulatory barriers for installing microgrids at data centers. It also provided State Energy Offices and PUCs with expert information from industry, NGOs, and state officials involved in the process.
- [Webinar: Innovative Microgrid Project Designs](#), March 2023
This webinar discussed innovative microgrid projects in California and Iowa, focusing on their technology, financing models, state roles, and objectives to enhance resilience and use clean energy.
- [Webinar: Risk-controlled Expansion Planning With Distributed Resources \(REPAIR\)](#), November 2022
During this webinar, Miguel Heleno from Berkeley Lab presented on the REPAIR grid planning tool, which optimizes utility investments by assessing risks from routine failures and extreme events, and SWG members discussed its application and valuation challenges in regulatory and programmatic contexts.
- [Webinar: NARUC-NASEO Reports Briefing on Microgrid Financing and Use Cases](#), March 2021
NARUC and NASEO released two reports on microgrid design approaches and funding options: *User Objectives and Design Approaches for Microgrids* and *Private, State, and Federal Funding and Financing Options to Enable Resilient, Affordable, and Clean Microgrids*. During this webinar, staff presented key insights and answer questions on customer motivations, design impacts, and financing strategies.
- [Webinar: Utility Microgrid Procurement](#), August 2020
This webinar featured regulated utilities discussing successful microgrid projects, lessons learned, and challenges related to procurement models, ownership structures, and operational issues.
- [Webinar: Getting Microgrids to Market - Regulatory and Business Models for Resilience](#), July 2020
During this webinar, two leading distributed energy installers discussed regulatory and business models for microgrid investments, focusing on energy-as-a-service and neighborhood microgrids.
- [Webinar: Microgrid Planning and Deployment for Community Resilience](#), May 2020
This webinar discussed how planning microgrid projects positioned throughout the community to provide resilient power can act as a key component of a holistic resilience strategy.

NARUC and NASEO Microgrids State Working Group Activities and Resources

NARUC and NASEO have hosted various learning opportunities surrounding microgrids through the NARUC-NASEO Microgrids SWG. These activities include:

Engaging States in the Development of the U.S. Department of Energy's Microgrid Multi-Year Program Plan, virtual, July 2024

NASEO and NARUC members participated in a two-day virtual workshop to help inform the development of the DOE Office of Electricity's Microgrid Multi-Year Program Plan (MYPP). The MYPP is a comprehensive roadmap of the actions and activities DOE will engage in over the next five years to support states, industry, utilities, and other stakeholders in accelerating microgrid RD&D. Additionally, the MYPP identifies policy and regulatory barriers, opportunities for stronger state-federal coordination, and necessary tools and actions to streamline the process for deploying microgrids across the country. During this workshop, states provided direct feedback to DOE on the MYPP's structure and priorities and shared their biggest needs and priorities.

Microgrid Action Planning Workshop, Bethesda, MD, October 2023

NASEO and NARUC held a 1½-day, in-person workshop and site visit that convened state policymakers, industry, the federal government, local governments, and other key stakeholders to discuss how state policies, programs, and regulations can accelerate the deployment of microgrid technologies.

- [View agenda](#)
- [View day 1 presentations](#)
- [View day 2 presentations](#)

Microgrids State Working Group Workshop, March 2022

NARUC and NASEO invited members of the Microgrids SWG to a two-day, virtual workshop designed to enable State Energy Offices and PUCs to engage with peers across the country regarding successful microgrid programs and regulatory efforts. SEPA supported NARUC and NASEO in planning and facilitating this workshop.

- [View summary](#)

Enhancing Microgrid Deployment across the States: A NARUC-NASEO Microgrid State Working Group Roundtable, Washington, D.C., February 2020

At an interactive roundtable sponsored by the DOE Office of Electricity, PUCs, State Energy Officials, and other stakeholders discussed microgrid deployment, sharing lessons from various states and exploring challenges, ownership models, financing, utility roles, and resilience benefits, with input from federal experts and resources.

- [View workshop summary](#)
- [View presentations](#)
- [Day 1 recordings](#)
- [Day 2 recordings](#)

You can find more Microgrids State Working Group resources on the [Microgrids State Working Group Resource Repository page](#).

Non-NARUC Microgrids Resources

- [DOE Microgrid Installation Database](#)

This database shares information about existing microgrid installations in all 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands

- [SEPA Microgrids Working Group](#)

This working group seeks to identify new business models, explore regulatory and financial innovations, address gaps in standards, define use cases that drive new system requirements and share experiences and best practices to help the energy industry stakeholders assess and implement microgrids.

- [White Paper: Enabling Regulatory and Business Models for Broad Microgrid Deployment](#)

This paper, authored by staff from multiple national laboratories, outlines regulatory and market challenges to microgrid deployment and makes recommendations to NARUC, NASEO, and other stakeholders regarding activities to overcome barriers.