



NARUC

National Association of Regulatory Utility Commissioners

Essential Guide to NARUC Electric Vehicle Resources



Overview

NARUC members are increasingly seeking more information about electric vehicle (EV) infrastructure needs, impacts, and the role of Public Utility Commissions (PUCs). This guide connects commissioners and commission staff to essential EV resources that the NARUC Center for Partnerships & Innovation (CPI) has developed. All of these resources can be found on the [NARUC EV webpage](#).

NARUC CPI hosts an Electric Vehicles State Working Group (EV SWG), which is open to all NARUC members and holds monthly meetings on utility regulatory topics related to transportation electrification. For more information, or to join the working group, please contact Robert Bennett, rbennett@naruc.org, or Danielle Sass Byrnett, dbyrnett@naruc.org.

Foundational NARUC publications on EVs and the Role of PUCs

- [Mini Guide on Transportation Electrification: State-Level Roles and Collaboration among Public Utility Commissions, State Energy Offices, and Departments of Transportation](#), Summer 2022

This mini guide describes the unique and vital roles State Energy Offices, Public Utility Commissions (PUCs), and Departments of Transportation (DOTs), as well as State Environmental Agencies, Consumer Advocates, and other important state-level partners play in transportation electrification.

- [Electric Vehicles: Key Trends, Issues, and Considerations for State Regulators](#), October 2019

NARUC developed a synopsis of the types of decisions commissions are facing and offers examples of recent state regulatory approaches to EV questions. The issue brief outlines the key issues and perspectives that commissions are likely to hear from stakeholders. Topics include who may own charging infrastructure, how to encourage charging during off-peak hours through rate design and managed charging, and an overview of emerging issues.

About the NARUC Center for Partnerships & Innovation

The NARUC Center for Partnerships & Innovation identifies emerging challenges and connects state commissions with expertise and strategies to navigate 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 across five key energy topics: generation; transmission; distribution; customers; and critical infrastructure preparedness, cybersecurity, and resilience. Find all resources and upcoming events at: <https://www.naruc.org/cpi/cpi-home>.

Publications and Webinars on Key Topics in Transportation Electrification

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

Equity and Underserved Communities in EV planning

- [Webinar: Incorporating Equity in Transportation Electrification Decision-Making](#), January 2022

During the January 2022 meeting of NARUC's EV State Working Group, speakers from EVNoire, the Smart Electric Power Alliance, and Francis Energy discussed ways that state public utility regulators can support equity in transportation electrification via stakeholder engagement, rural electrification, and more.

- [Webinar: Ensuring Equity in EV Programs](#), May 2020

The May 2020 meeting of NARUC's EV SWG covered how Commissions can ensure that transportation electrification programs and investments reach underserved communities, including low-income customers and those who live in multi-unit dwellings, while minimizing rate increases. Members heard presentations from the National Consumer Law Center and Pacific Gas and Electric.

[Models for Incorporating Equity in Transportation Electrification Considerations for Public Utility Regulators](#), Summer 2022

This report provides an overview of the utility programs and business models that are intended to center equity and captures key considerations for state utility regulators around these models.

EV Statewide Planning and PUC Roles in Transportation Electrification

- [Webinar: The Role of Pilot Programs and Pilot Evolutions for Transportation Electrification](#), April 26, 2022

This webinar provides insights on how utilities and commissions measure success for EV pilot programs and directions for future pilots, and discussed key considerations for regulators as they review utility pilot proposals.

- [Webinar: PUC-Local Government Coordination for Transportation Electrification](#), August 31, 2021

During the August meeting of NARUC's EV State Working Group, speakers from the Electrification Coalition, and the cities of Orlando, Florida and Portland, Oregon presented on the efforts of municipal governments to facilitate transportation electrification in their jurisdictions and discussed opportunities for regulators to better enable the transition.

- [Webinar: PUC-State Legislative Relationships Related to Transportation Electrification](#), October 27, 2020

During the October 2020 meeting of NARUC's EV State Working Group, speakers discussed state legislative trends and how PUCs and state legislatures can coordinate to advance transportation electrification. Members heard presentations from the Atlas Public Policy, the Electrification Coalition, Plug in America, and the National Conference of State Legislatures.

- [State Approaches to Electric Vehicle Proceedings](#), February 9, 2020, Washington, DC

In this session, organized by the NARUC Electric Vehicles State Working Group, members heard from three Commissions who have recently completed EV proceedings on topics including charging infrastructure proposals, rates to encourage off-peak charging, and charger rebate programs. Staff from Maryland, Michigan, and Minnesota each shared a case study of their proceeding(s) and highlighted how they scoped the issues, how they approached pilot proposals, what decisions their commissions eventually made, and the rationales for those decisions.

EV Interoperability

- [NARUC Smart Grid Interoperability Learning Modules](#)

The Smart Grid Learning Module series includes short (generally less than 15-minute) videos for state utility commissions on the economics of interoperability, operational considerations for interoperability, and roles and responsibilities of state regulators. The modules include a section on EV specific interoperability topics and an Interoperability Glossary is available for reference.

- [Webinar: Interoperability of EV Charging Infrastructure](#), November 30, 2021

During the November 2021 meeting of NARUC's EV State Working Group, speakers from the National Institute of Standards and Technology, Greenlots, and Baltimore Gas and Electric discussed opportunities to advance interoperability for electric vehicle charging infrastructure.

- [Webinar: Interoperability and Standards for EV](#), August 25, 2020

The August 2020 meeting of NARUC's EV SWG covered the landscape of interoperability issues, industry perspectives, and progress towards interoperability of EV Charging. Members heard presentations from the Electric Power Research Institute, Greenlots, and EPA ENERGY STAR.

[Electric Vehicle Interoperability Considerations for Public Utility Regulators](#), Summer 2022

This issue brief provides an overview of EV interoperability benefits and opportunities, describes where in the charging ecosystem interoperability is relevant and what standards are available, and includes a snapshot of recent state public utility commission actions to ensure interoperability in charging infrastructure.

[Considering Interoperability for Electric Vehicle Charging: A Commission Case Study](#), Fall 2022

This case study report summarizes the process and findings from a stakeholder workshop series on EV interoperability in Connecticut.

EV Charging Infrastructure and Vehicle to Grid

- [Webinar: Vehicle to Grid, Interoperability and Smart Charging](#), March 28, 2023

During the March 2023 meeting of the EV State Working Group, speakers from DOE OE, Ford Pro Charging, and Nuvve Holding Corporation discussed impacts of vehicle to grid (V2G), and smart charging (V1G).

- [Webinar: Driving Forces Accelerating Transportation Electrification](#), January 31, 2023

During the January 2023 meeting of the EV State Working Group, speakers from DOE Office of Energy Efficiency and Renewable Energy and General Motors discussed the evolving EV landscape and topics such as decarbonization, federal EV funding from the Infrastructure Investments and Jobs Act and Inflation Reduction Act, and EV infrastructure and charging.

- [Webinar: Reducing EV Charging Infrastructure Costs](#), June 23, 2020

The June 2020 meeting of NARUC's EV SWG were given an overview of the siting and permitting process for public charging stations by a speaker from Tesla. Members were also briefed on a 2019 RMI report, "Reducing EV Charging Infrastructure Costs."

- [Webinar: Managed Charging and Vehicle-to-Grid](#), April 28, 2020

The April 2020 meeting of NARUC's EV SWG covered managed charging and V2G. Members heard presentations from the Brattle Group, Avista Utilities, and the Electric Power Research Institute.

EV Rate Design and Pilots

- [Webinar: EV Rate Impacts](#), May 30, 2023
During the May 2023 meeting of the EV State Working Group, Andy Satchwell from Lawrence Berkeley National Lab, Scott Drake from Eastern Kentucky Power, and Stephanie Leach of Baltimore Gas and Electric spoke about the impact EVs can have on electricity rates and ways to mitigate their impact on the grid.
- [Webinar: Building Rate Design for EVs from the Ground Up](#), May 9, 2023
During the May 2023 meeting of the NARUC Staff Subcommittee on Rate Design, Mark LeBel, senior associate from the Regulatory Assistance Project, gave an overview of building rate design for electric vehicles.
- [Webinar: EV Rate Designs](#), April 25, 2023
During the April 2023 meeting of the EV State Working Group, Peter Cappers from Lawrence Berkeley National Lab gave an overview of a national review of EV rate designs by investor-owned utilities.
- [Webinar: Performance-Based Regulation Related to Transportation Electrification](#), December 15, 2020
During this joint webinar between the Electric Vehicles and the Performance-Based Regulation State Working Groups, panelists from the Regulatory Assistance Project, Strategen Consulting, and Con Edison provided an overview of opportunities, lessons learned, and insights for regulators, and experiences from the utility perspective for performance-based regulation in transportation electrification.

Medium and Heavy-Duty Vehicles

- [Webinar: Planning for Current and Future Fleet Electrification Needs](#), February 28, 2023
During the February 2023 meeting of the EV State Working Group, speakers from North American Council for Freight Efficiency and Onco Electric Delivery discussed electrifying fleets and heavy-duty vehicles.
- [Webinar: Heavy-Duty Truck Charging](#), May 25, 2021
During the May meeting of NARUC's EV State Working Group, speakers from the Environmental Defense Fund discussed heavy duty charging, electric vehicles as a grid asset and transportation electrification planning.

Non-NARUC EV Resources

- [EV States Clearinghouse](#), Atlas Public Policy, NASEO
This is a repository for EV program documents from the states – such as model RFPs, staffing and budgetary models, and sample contracts – as well as current state-level EV roadmaps, EV infrastructure siting and assessment tools, and other resources. It has particularly helpful information regarding the National Electric Vehicle Infrastructure (NEVI) Formula Program.
- [The Alternative Fuels Data Center \(AFDC\) Tools](#)
This resource offers a large collection of helpful tools. These calculators, interactive maps, and data searches can assist fleets, fuel providers, and other transportation decision makers in their efforts to advance alternative fuels and energy-efficient vehicle technologies and search for EV laws, policies, and regulations.
- [DOE EV Grid Assist Webinars](#)
The DOE EV Grid Assist provides technical assistance and research and development on vehicle-grid integration (VGI) to facilitate the rapid deployment of electric vehicles and the associated charging infrastructure by minimizing the impacts to the electric grid and helping electric utilities and regulators make planning and policy decisions. They have multiple webinars and resources on the topic of electrification and VGI, including 101s on advanced EV topics.