NARUC
National Association of Regulatory Utility Commissioners

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Essential Guide to NARUC Electric Vehicle Resources

Overview

National Association of Regulatory Utility Commissioners (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 Danielle Sass Byrnett, dbyrnett@naruc.org.

Foundational NARUC publications on EVs and the Role of PUCs

- Electric Vehicle Case Study Catalog

  The Case Study Catalog connects commissioners and staff to reports on new utility regulatory approaches related to EVs, addressing complex decisions about utilities' roles in areas like infrastructure upgrades and rate design. It serves as a resource to understand how various states have addressed these issues through approved programs, pilot initiatives, and commission decisions supporting transportation electrification.

- Electric Vehicles: Key Trends, Issues, and Considerations for State Regulators, October 2019

  This brief examines trends in EV adoption, provides a synopsis of the types of decisions commissions are facing, and offers examples of state regulatory approaches to EV questions. It outlines the key issues and perspectives that commissions are likely to hear from stakeholders.

About the NARUC Center for Partnerships & Innovation

NARUC CPI 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.

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.

EV Planning and PUC Roles in Transportation Electrification and Grid Readiness

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.

- Webinar: Energizing Chargers Faster, October 2024

  During the October meeting of the EV SWG, members heard from DJ Anand, Joint Office of Energy and Transportation (JOET); Britta Gross, Electric Power Research Institute (EPRI); and Paul De Martini, Newport Consulting, about new research and tools on flexible interconnection and reducing energization timelines.

- Webinar: Air Quality and Regulator Collaboration, August 2024

  During the August 2024 meeting of the EV SWG, members heard Zoltan Jung, U.S. Environmental Protection Agency; Megan O'Toole, Northeast States for Coordinated Air Use Management; and Peg Hanna, New Jersey Department of Environmental Protection discuss opportunities for collaboration between PUCs and air quality agencies to support the implementation of zero-emission vehicle regulations.

- Webinar: Forecasting Distribution Upgrade Needs Under Uncertainty, June 2024

  During the June meeting of the EV SWG, members heard from Paige Jadun, National Renewable Energy Laboratory; Sean Morash, Telos Energy; and Sanem Sergici, The Brattle Group, on recent studies/examples of how to reduce uncertainty in planning investments.

- Webinar: Distribution Upgrades and Investments, May 2024

  During the May meeting of the EV SWG, members heard from Jeff Smith, EPRI; Anthony Sandonato, Lawrence Berkely National Lab; and Cyril Brunner, Vermont Electric Cooperative, on successful programs and research on how utilities can assess needed infrastructure upgrades and investments for EV charging.

- Webinar: EV Hosting Capacity, November 2023

  During the November 2023 meeting of the EV SWG, members heard from Sejal Shah and Kara Podkamminer of the Joint Office of Energy and Transportation and the Department of Energy, as well as Alex Young of National Grid, about the value that hosting capacity maps can bring to EV planning.

- Workshop: Transmission Electrification Planning, November 2023

  NARUC members gathered in person to identify lessons learned from practical examples of transportation electrification planning and develop promising approaches for active transportation electrification planning processes across states.

Equity and Underserved Communities in EV Planning

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.

- Webinar: Equity and Access to Charging, July 2024

  During the July meeting of the EV SWG, members heard from Dr. Margaret Taylor, Lawrence Berkeley National Laboratory, Komal Doshi, Walker-Miller Energy Services, and Dr. Shelley Francis, EVNoire to discuss new strategies for expanding access to charging for LMI, rural, and urban areas.

EV Interoperability

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.

- NARUC Smart Grid Interoperability Learning Modules

  These short (generally less than 15-minute) videos for state utility commissions present the economics of interoperability, operational considerations for interoperability, and roles and responsibilities of state utility regulators. The modules include a section on EV-specific utility interoperability topics.

EV Charging Infrastructure and Vehicle-to-Grid (V2G)

National Electric Vehicle Infrastructure Formula Program (NEVI) Brief for State Public Utility Commissions, February 2024

PUCs will play a critical role in NEVI as they oversee utility investments in this new national charging network, ideally ensuring that utilities deploy infrastructure and technology that is efficient, reliable, safe, and supports the scale and timeframe required to benefit consumers. This NEVI Brief provides essential information on NEVI along with considerations and potential roles for PUCs.

- Webinar: Innovative Charging Solutions, December 2024

  During the December meeting of the EV SWG, members heard from Debs Schrimmer, JOET; Stefan Tongur, Electreon; and Dean Spacht, EVSE LLC; about innovative charging technologies like "Bring Your Own Cord," inductive charging, and "street light/utility pole charging."

- Webinar: Vehicle to Grid (V2G), October 2024

  During the October meeting of the EV SWG, members heard from Christa Heavey, Energy & Environmental Economics; Jonathan Levy, Kaluza, and Jordan Smith, Southern California Edison, about V2G charging solutions.

- Webinar: Uptime and Reliability for Public Charging/Chargers, March 2024

  During the March meeting of the EV SWG, members heard from Brett Steudle, ChargerHelp, Jacob Matthews, Joint Office of Energy and Transportation, and Jessie Lund, National Association of State Energy Officials, on how to reduce common reliability issues for EV charging, and to get clarification on federal requirements.

- Webinar: EV Battery Myth Busting, January, January 2024

  During the January 2024 meeting of the EV SWG, members heard from Patrick Walsh of the DOE Vehicle Technologies Office, to bust common misconceptions, misinformation, and myths about EV batteries and charging.

EV Rate Design and Pilots

- Webinar: Managed Charging/Rate Design, April 2024

  During the April meeting of the EV SWG, members heard from Noel Crisostomo, Department of Energy, Brennan Borlaug, National Renewable Energy Laboratory, Chuck Moran, Kevala, Mathias Bell, WeaveGrid, and Erin Monroe Nye, Madison Gas and Electric, about successful managed charging platforms, data, and practices.

- Webinar: EV Rate Impacts, May 2023

  During the May 2023 meeting of the EV SWG, 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 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 2023

  During the April 2023 meeting of the EV SWG, Peter Cappers from Lawrence Berkeley National Lab gave an overview of a national review of EV rate designs by investor-owned utilities.

Medium and Heavy-Duty Vehicles

- Workshop: How Can the Grid Meet Medium-Heavy Duty Vehicle Charging Needs in 2024 and in 2030s?, February 2024

  This workshop explored near-term challenges and promising approaches to medium and heavy-duty charging infrastructure needs.

- Webinar: Medium and Heavy-Duty EV Charging Part 2, October 2023

  During the October 2023 meeting of the EV SWG, members heard from Britta Gross, Director of Transportation, EPRI, Pamela MacDougall, Director Grid Modernization Strategy, EDF and Jacqueline Piero, US Head of Policy & Regulatory, The Mobility Project. The speakers discussed medium and heavy-duty vehicle charging issues such as load forecasting, fleet electrification, and infrastructure needs.

- Webinar: Medium and Heavy-Duty EV Charging Part 1, August 2023

  During the August 2023 meeting of the EV SWG, our members heard from Kara Podkaminer from DOE, Ray Minjares from International Council on Clean Transportation, Jed Proctor from Daimler Truck North America, and Adam Raphael from Amazon. The speakers discussed medium and heavy-duty vehicle charging issues such as load forecasting, fleet electrification, and infrastructure needs.

- Webinar: Planning for Current and Future Fleet Electrification Needs, February 2023

  During the February 2023 meeting of the EV SWG, speakers from North American Council for Freight Efficiency and Oncor Electric Delivery discussed electrifying fleets and heavy-duty vehicles.

Non-NARUC EV Resources

- EV States Clearinghouse, Atlas Public Policy, NASEO

  This is a repository for EV program documents from the states including current state-level EV roadmaps, EV infrastructure siting and assessment tools, and other resources. It has particularly helpful information for NEVI Programs.

- 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.