NARUC Electric Vehicles State Working Group

EV RATE DESIGN: DEMAND CHARGES

JUNE 16, 3:00 - 4:30 PM ET

Welcome

EV SWG Chair

Commissioner Staci Rubin, Massachusetts Department of Public Utilities

EV SWG Vice Chair

Commissioner Milt Doumit, Washington Utilities and Transportation Commission

EV Commission Staff Leads

Benjamin Baker, Maryland Public Service Commission

Steve Olea, Arizona Corporate Commission

NARUC Staff

Margerie Snider

Danielle Sass Byrnett

Agenda

Feel free to enter questions into chat at any time

3:00 PM	**Welcome and Announcements: Commissioner Rubin** • Agenda review
3:05 PM	**Speakers:** • **Brittany Speetles**, National Laboratory of the Rockies • **Phil Jones,** Alliance for Transportation Electrification
4:05 PM	**Member Discussion**
4:30 PM	**Adjourn**

Next EV SWG Meetings:

Tues, July 21 at 11am at NARUC Summer Policy Summit: Unlocking VGI: A Multi-State Blueprint for (Electric) Vehicle-Grid Integration

Tues, Aug 18 at 3pm ET (virtual): National Outlook on EV Status, Trends, Programs

Today's Speakers

- **Brittany Speetles**, National Laboratory of the Rockies
- **Phil Jones**, Alliance for Transportation Electrification

National Laboratory of the Rockies

The Evolving Role of Demand Charges in Retail Electricity Rates

Brittany Speetles

National Laboratory of the Rockies

June 16, 2026

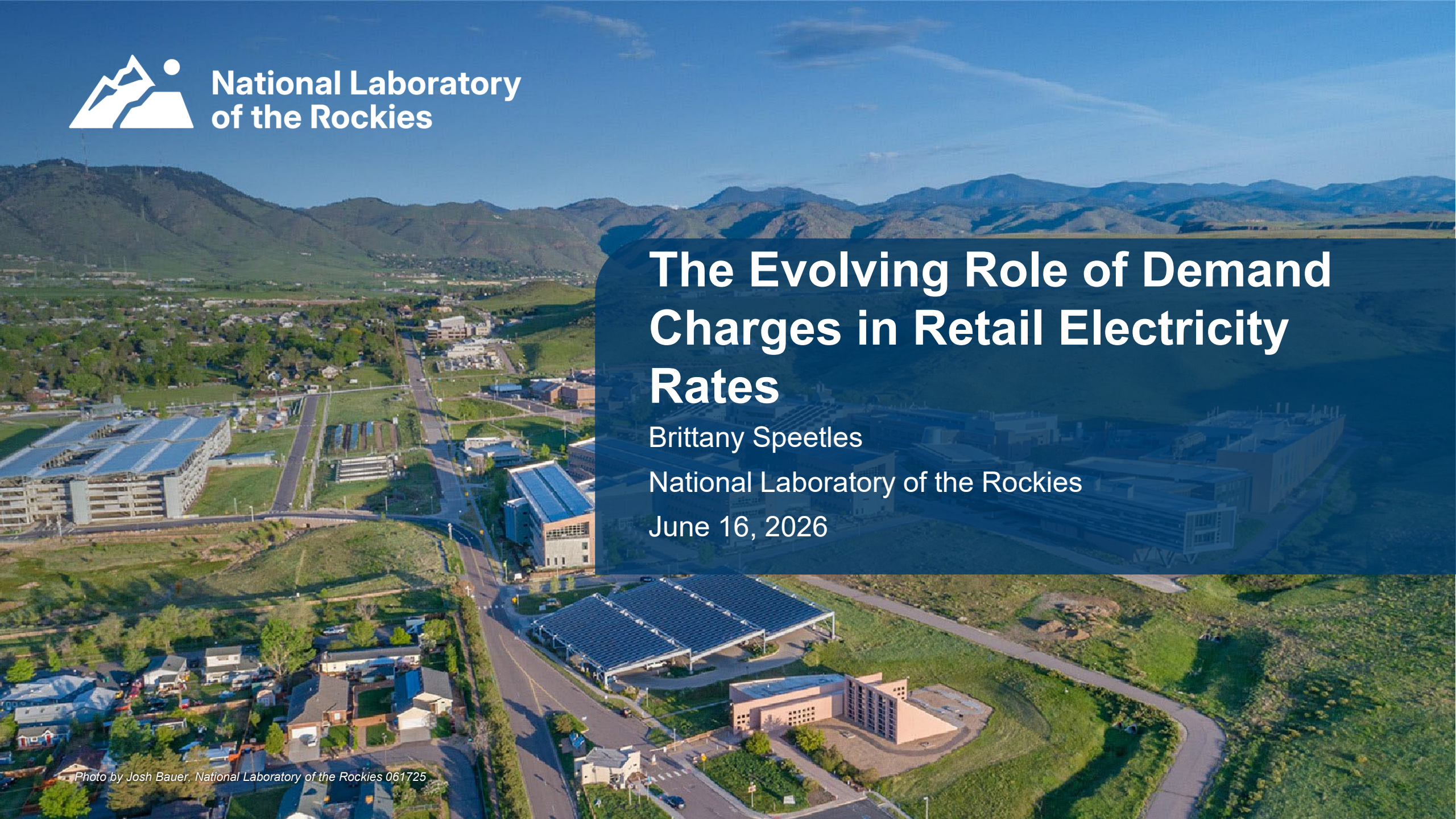


Photo by Josh Bauer, National Laboratory of the Rockies 061725

Demand Charges Project Overview

Analyzed demand charge variation throughout the U.S. using the URDB and Tableau

Synthesized historical context and implementation of demand charges in retail rates

Conducted interviews with rate design experts

Explored how demand charges relate to widely-accepted rate making principles and current and future electricity system topics

Demand charges may be calculated in a variety of ways

What category of costs are recovered?

- Transmission
- Generation
- Distribution

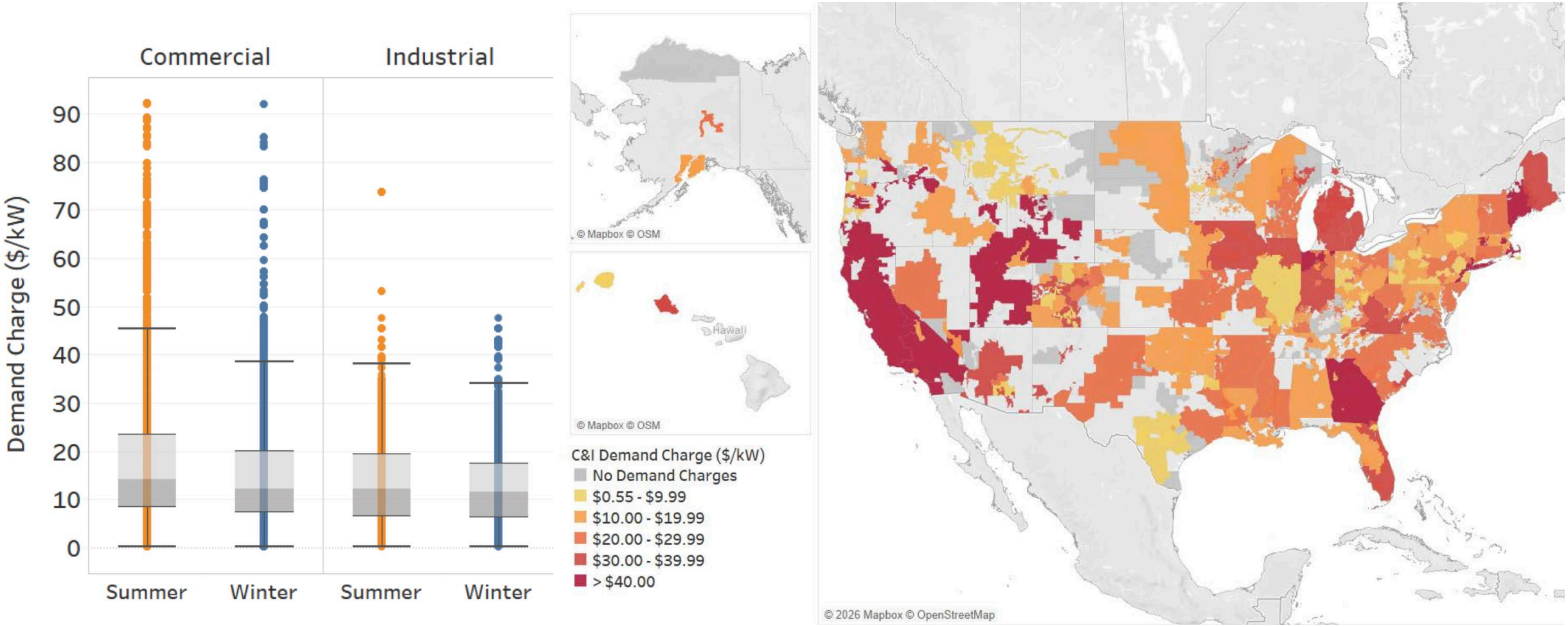
How is the demand charge measured?

- Seasonal: highest kW use during a season
- Monthly/Billing period
- Peak window demand charge
- Ratcheted: highest demand over 11-month period
- Contractual: demand billed for is predefined by agreement vs. measured at the meter

What time duration is observed to define highest demand?

- Highest average over 15 minutes
- Highest average over 30 minutes
- Highest average over 60 minutes
- Different options available with advanced metering

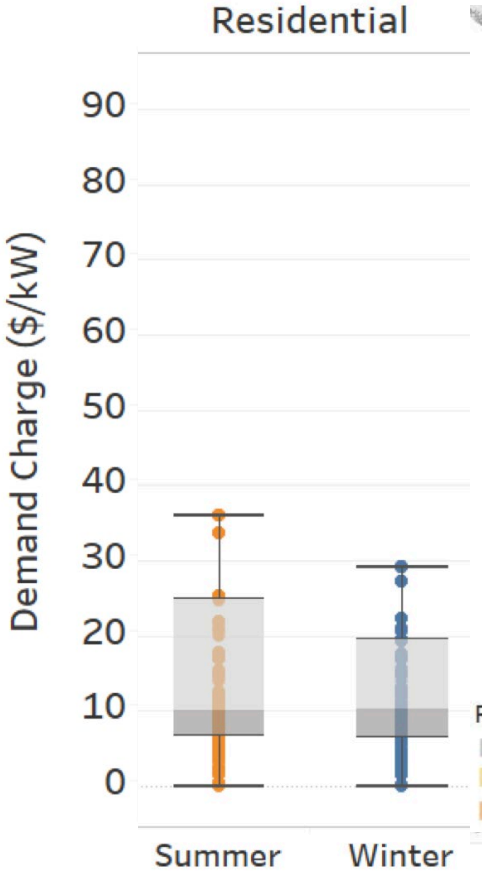
Demand charges are widely used in the C&I sectors and are significant in cost recovery

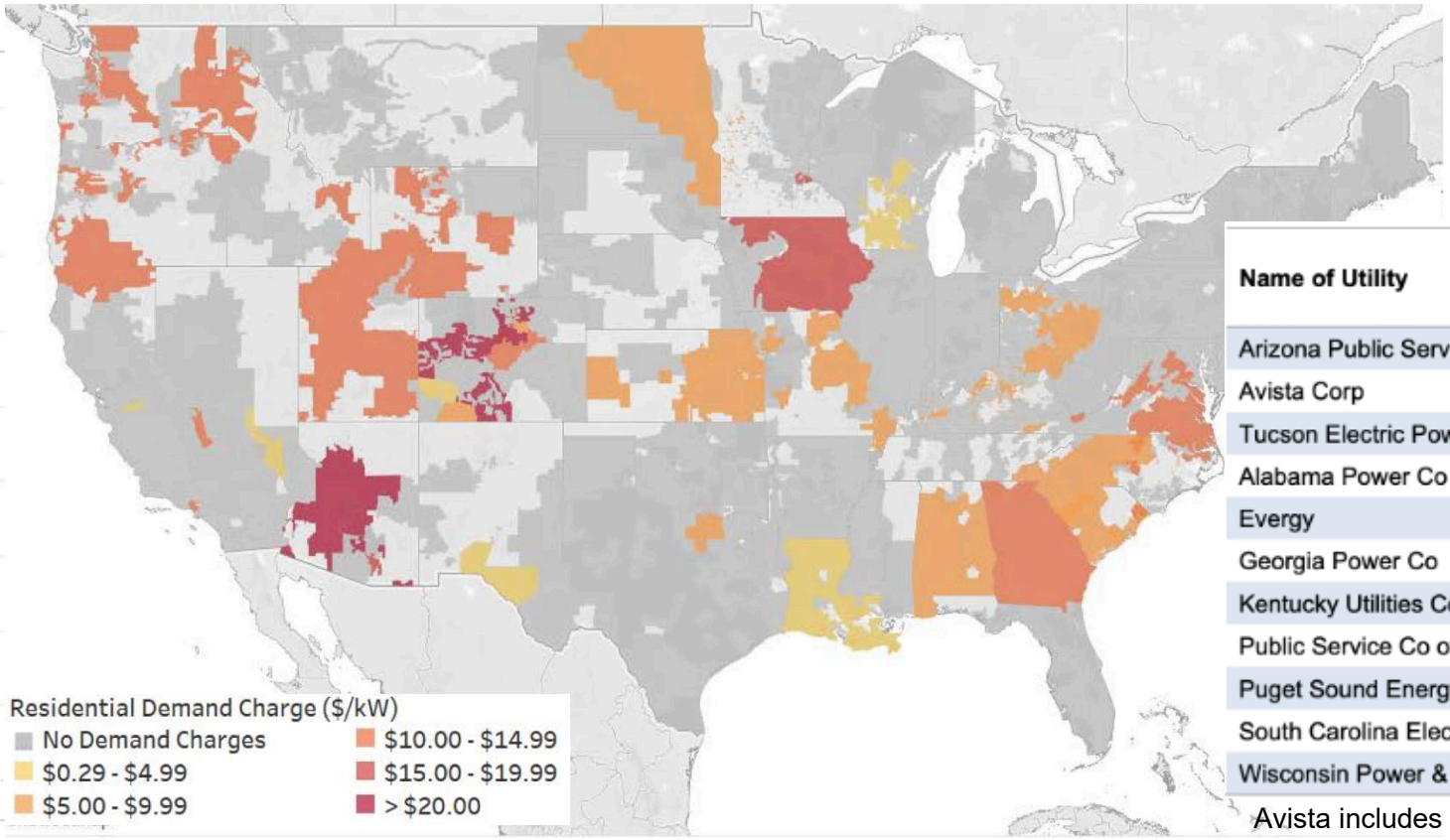


Commercial & Industrial Demand Charges, Summer Months.
This map displays maximum peak period demand charges for commercial and industrial customers in utility territories updated in NLR's URDB, which collectively account for ~70% of total U.S. electricity load.

Speetles, Brittany, Mark LeBel, Ron Nelson, Joyce McLaren, Daniel Zimny-Schmitt, and Dana Stright. 2026. *The Evolving Role of Demand Charges in Retail Electricity Rates*. Golden, CO: National Laboratory of the Rockies. NLR/TP-7A40-90964. https://www.nlr.gov/docs/fy26osti/90964.pdf.

Residential demand charges are less common than C&I demand charges, and associated opt-in rates are low





Residential Demand Charges, Summer Months.
This map displays maximum peak period demand charges for commercial and industrial customers in utility territories updated in NLR's URDB, which collectively account for ~70% of total U.S. electricity load.

Name of Utility	Percent of Residential Customers With Demand Charges
Arizona Public Service Co	17.6%
Avista Corp	4.5%
Tucson Electric Power Co	1.6%
Alabama Power Co	<1%
Evergy	<1%
Georgia Power Co	<1%
Kentucky Utilities Co	<1%
Public Service Co of Colorado	<1%
Puget Sound Energy Inc	<1%
South Carolina Electric & Gas Co	<1%
Wisconsin Power & Light Co	<1%

Avista includes approximately 16,000 customers on a "Residential and Farm General Service" rate. It is unclear if these customers would be categorized in the residential service class in other jurisdictions.

Speetles, Brittany, Mark LeBel, Ron Nelson, Joyce McLaren, Daniel Zimny-Schmitt, and Dana Stright. 2026. *The Evolving Role of Demand Charges in Retail Electricity Rates*. Golden, CO: National Laboratory of the Rockies. NLR/TP-7A40-90964. https://www.nlr.gov/docs/fy26osti/90964.pdf.

Demand Charges and Transportation

Challenges of demand charges for direct-current fast charging

A default C&I tariff may be applied to electric vehicle (EV) charging without an electric vehicle-specific rate, though EV-specific rates are becoming more common.[1]

Most vehicle chargers have low utilization rates. Direct-current fast charging (DCFC) during short time intervals can result in electricity spikes.

When applied at stations with low utilization rates, demand charges can make up most of the electricity bill, and costs at DCFC stations can outpace revenue.[2]

1. Cappers et al., ”Snapshot of EV-Specific Rate Designs Among U.S. Investor-Owned Electric Utilities,” LBL (2023).
2. McFarlane et al., “Overcoming Barriers to Expanding Fast Charging Infrastructure in the Midcontinent Region," Great Plains Institute (2019).

Typical strategies used for DCFC demand charge relief

Incorporate temporary demand charge discounts, demand charge holidays, or discounts based on utilization.[1]

Embed demand charges into monthly subscription charges based on customer load characteristics.[1]

Shift EV charging to low-cost periods by encouraging customer response to price signals.[2]

Use on-site batteries to avoid demand charges and high initial electric service installation costs.[3]

1. “Rate Design for EV Fast Charging: Demand Charges,” Alliance for Transportation Electrification (2022).
2. Cappers et al., ”Snapshot of EV-Specific Rate Designs Among U.S. Investor-Owned Electric Utilities,” LBL (2023).
3. Edelstein, S., “Battery Storage Allows More Flexibility for DCFC Station Locations,” Green Car Reports (2021).

Insights About Demand Charges

Demand Charges Insights

We summarized the results of expert interviews in terms of four widely accepted rate principles.

Effective Cost Recovery	Customer Understanding & Acceptance	Fair Cost Allocation	Efficient Customer Behavior
• Demand charges support cost recovery but may give less incentive for customer load shifting than other time varying rates. • Increased adoption of technologies that help customers reduce or avoid demand charges (e.g., BESS) may lower utility cost recovery from demand charges.	• Large C&I customers may use energy management systems to respond to price signals. Less common in residential sector. • Experts and studies have cited limited understanding of demand charges among residential and small commercial customers.	• Fair cost allocation may depend on the number of customers on each transformer and coincidence of customer load patterns with the demand charge.	• Customer response depends on the magnitude of demand charge and ability to shift load. • Non-coincident peak demand charges may not incentivize customers to reduce loads at system peak. • Load-controlling devices have not yet been widely adopted by residential customers.

Speetles, Brittany, Mark LeBel, Ron Nelson, Joyce McLaren, Daniel Zimny-Schmitt, and Dana Stright. 2026. *The Evolving Role of Demand Charges in Retail Electricity Rates*. Golden, CO: National Laboratory of the Rockies. NLR/TP-7A40-90964. https://www.nlr.gov/docs/fy26osti/90964.pdf.

Relevant Publications

- Speetles, Brittany, Mark LeBel, Ron Nelson, Joyce McLaren, Daniel Zimny-Schmitt, and Dana Stright. 2026. *The Evolving Role of Demand Charges in Retail Electricity Rates*. Golden, CO: National Laboratory of the Rockies. NLR/TP-7A40-90964. https://www.nlr.gov/docs/fy26osti/90964.pdf.
- McClaren, Joyce, Brittany Speetles, and Dana Stright. *Maximum Demand Charge Rates for Residential, Commercial and Industrial Electricity Tariffs in the United States*. National Laboratory of the Rockies (NLR), May 4, 2026. Distributed by Open Energy Data Initiative (OEDI). https://data.openei.org/submissions/8685

Transportation References

- ATE. 2022. *Rate Design for EV Fast Charging: Demand Charges*. White Paper. Alliance for Transportation Electrification. https://evtransportationalliance.org/wp-content/uploads/2022/06/Rate.Design.TF_.Demand-Charge-Paper-Final-5.25.22.pdf.
- Cappers, Peter, Andrew Satchwell, Cameron Brooks, and Sam Kozel. 2023. *Snapshot of EV-Specific Rate Designs Among U.S. Investor-Owned Electric Utilities*. Electricity Markets & Policy Energy Analysis & Environmental Impacts Division. Lawrence Berkeley National Laboratory.
- McFarlane, Dane, Matt Prorok, Brendan Jordan, and Tam Kemabonta. 2019. *Analytical White Paper: Overcoming Barriers to Expanding Fast Charging Infrastructure in the Midcontinent Region*. The Great Plains Institute.
- Edelstein, Stephen. 2021. “Battery Storage Allows More Flexibility for DC Fast-Charging Station Locations.” *Green Car Reports*, December 6. https://www.greencarreports.com/news/1134357_battery-storage-allows-more-flexibility-for-dc-fast-charging-station-locations.

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Questions?

www.nlr.gov

National Laboratory of the Rockies

Photo from Getty Images 181828180

Speaker Q & A

- **Brittany Speetles**, National Laboratory of the Rockies

Demand Charge Considerations

- **Phil Jones**, Alliance for Transportation Electrification

Speaker Q & A

- **Brittany Speetles**, National Laboratory of the Rockies
- **Phil Jones**, Alliance for Transportation Electrification

Member Discussion Questions

1. Are there any EV rate design options for public chargers / commercial sites that do not include demand charges in your state?
2. Did your state implement a demand charge holiday or temporarily discount demand charges at any point?
   - If so, how long was (has it been) in place?
   - Are there milestones or triggers to evaluate effectiveness and impact on other rate classes?

Next EV SWG Meetings & Events

July 21 in person at NARUC Summer Policy Summit: Unlocking VGI: A Multi-State Blueprint for (Electric) Vehicle-Grid Integration

Aug 18: National Outlook on EV Status, Trends, Programs

Join us for an in-person meet up in Minneapolis during the NARUC Summer Policy Summit!

Tuesday, July 21 at the EEI reception. Details to follow.

FIND PAST RECORDINGS AND PRESENTATIONS: WWW.NARUC.ORG/CORE-SECTORS/ENERGY-RESOURCES-AND-THE-ENVIRONMENT/ELECTRIC-VEHICLES/