

# How Electric Vehicles Can Support Load Growth and Affordability

Sunday, February 8<sup>th</sup> 2:00-5:00pm

# Hon. Katherine Peretick

Michigan Public Service Commission

Chair, NARUC EV State Working Group

# Workshop Objectives

- **Identify opportunities and barriers to the increased use of EVs as flexible resources**
- **Highlight real-world examples of utilizing EVs for flexibility**
- **Develop key takeaways informed through participant discussions**

**Output: Top 10 Actions  
State PUCs Can Take to  
Enable Flexibility**

# Agenda

## Time

2:00 – 2:20 PM

2:20 – 2:50 PM

2:50 – 3:15 PM

3:15 – 3:25 PM

3:25 – 3:55 PM

3:55 – 4:10 PM

4:10 – 4:40 PM

4:40 – 4:55 PM

4:55 – 5:00 PM

## Description

**Welcome & Setting the Stage**

**Panel 1: Flexibility from Commercial Fleets**

**Table Discussions: Actions PUCs Can Take to Support Flexibility**

Break

**Panel 2: Flexibility from Residential Vehicles**

**Table Discussions: Actions PUCs Can Take to Support Flexibility**

**Panel 3: Including All Customers**

**Room Discussion: Actions PUCs Can Take to Include All Customers**

**Wrap Up & Adjourn**

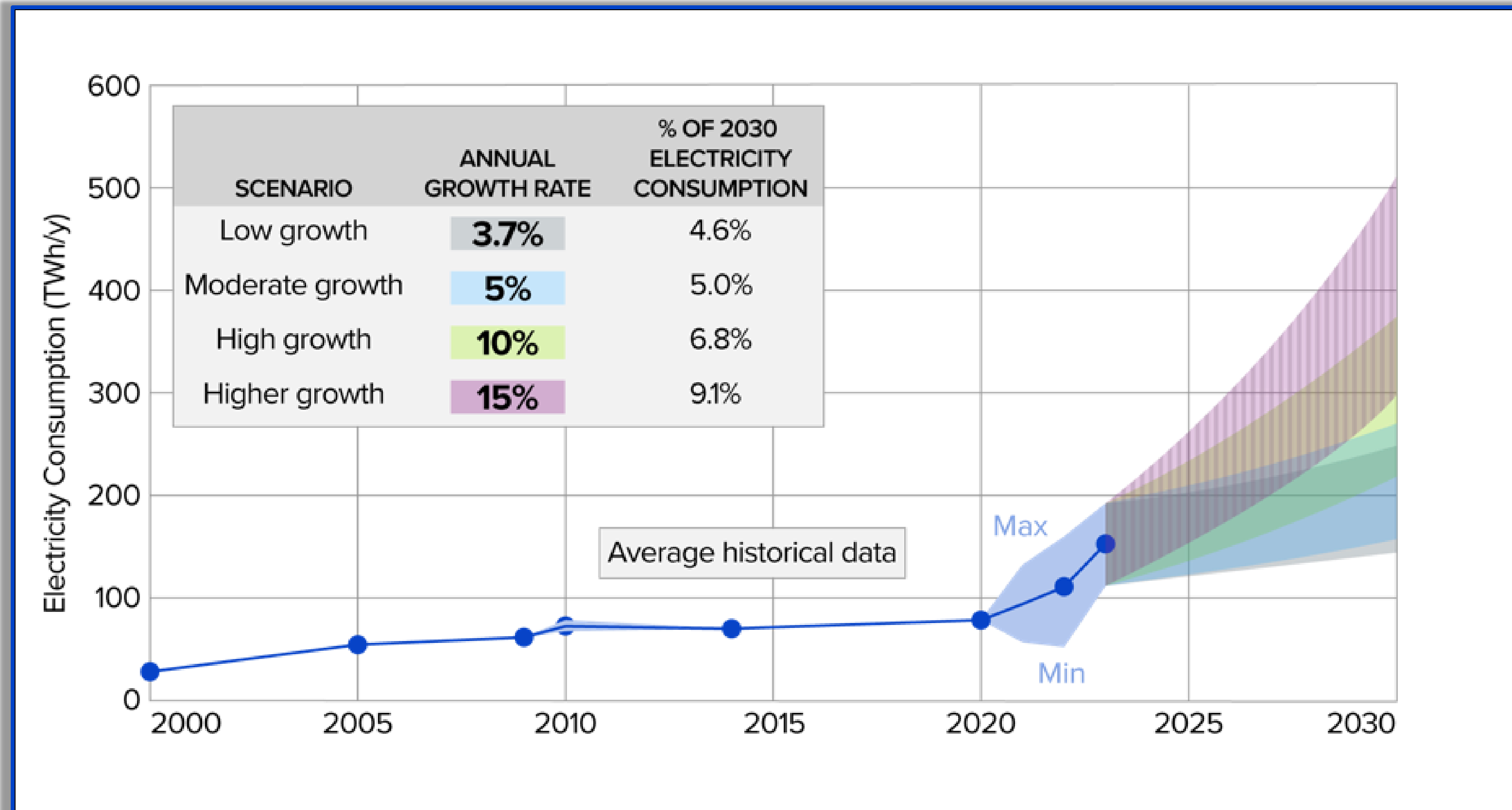
# EV Support for Load Growth & Affordability



David Porter  
*Vice President, Electrification & Sustainability Energy Strategy*

NARUC  
Winter Policy Summit  
February 8, 2026

# U.S. Data Center Power Demand Growth

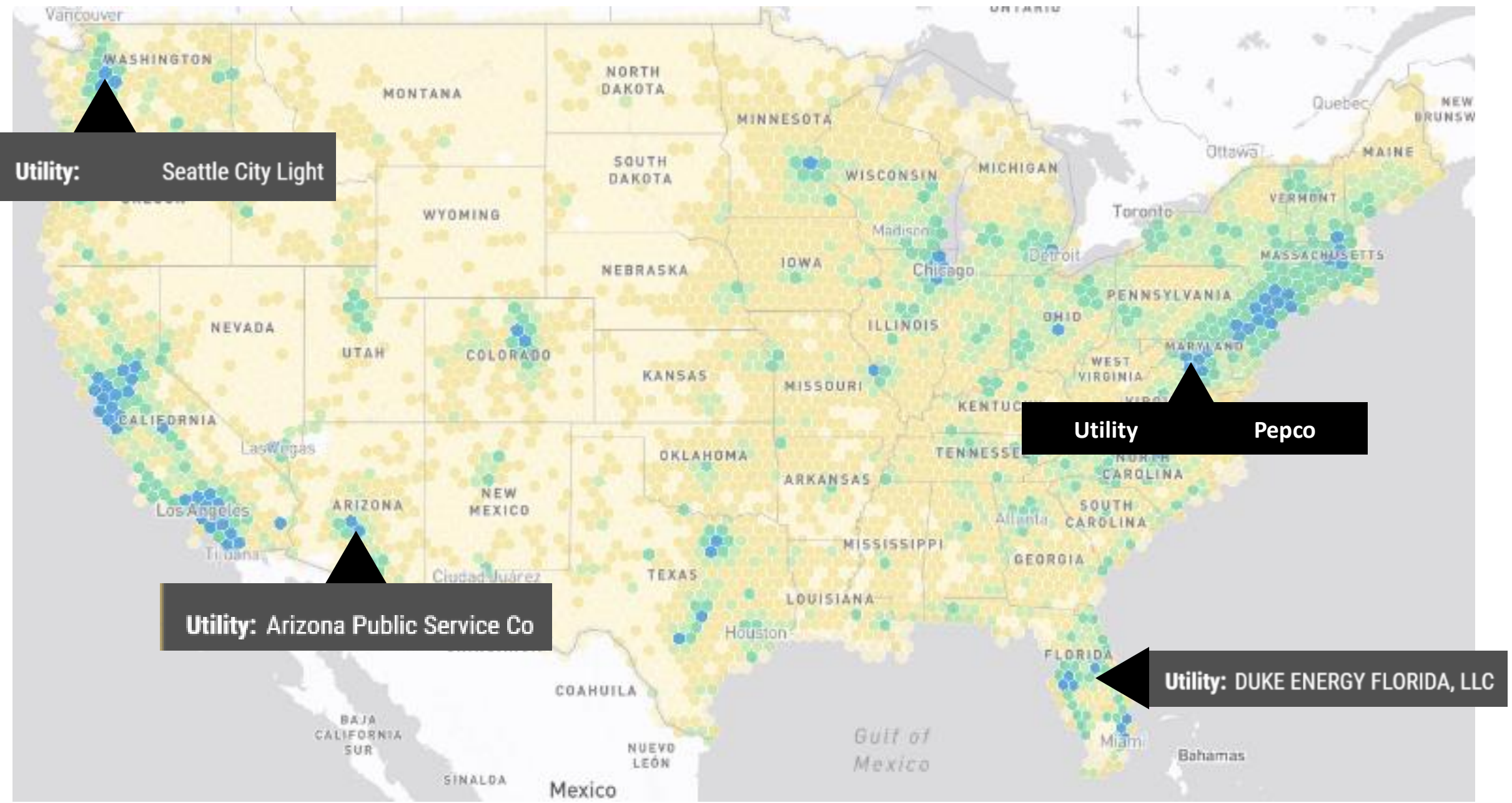


Source: EPRI Technology Innovation, [Powering Intelligence](#), May 2024

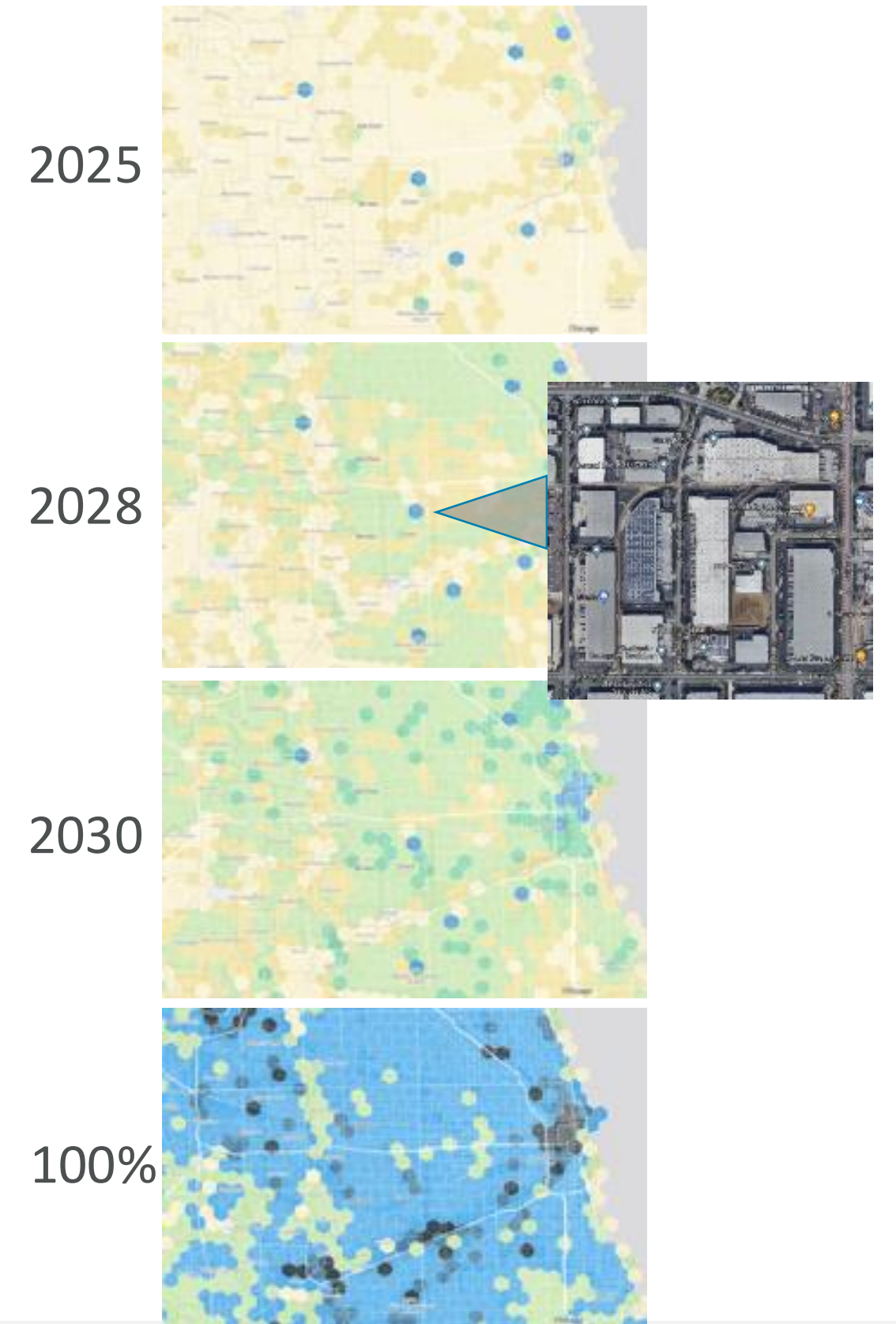
# Publicly-available and Interactive Load Map

(Down to Hex8 Resolution = 0.28 mi<sup>2</sup>)

eRoadMAP | When and where loads are likely to appear on the grid

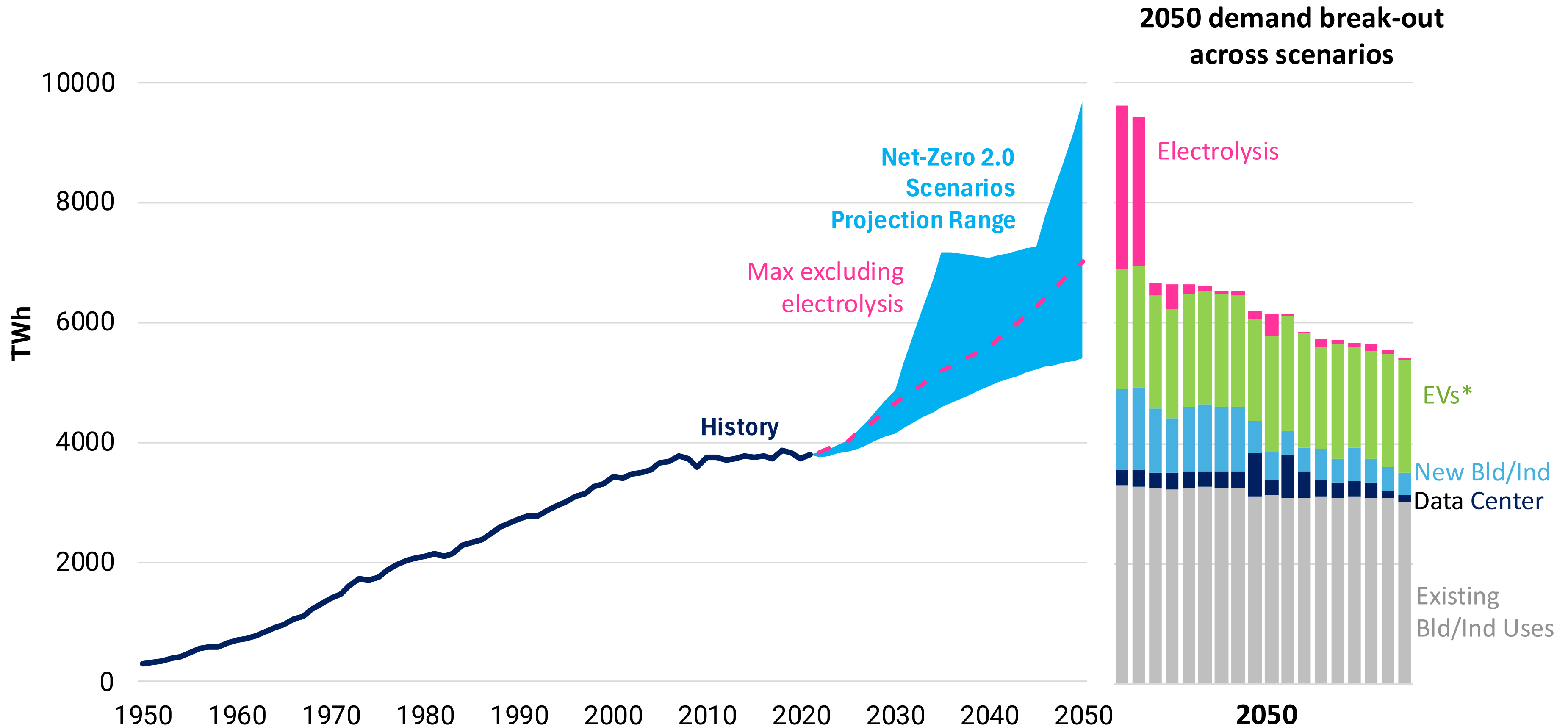


EV Loads Over Time  
(Chicago area)



<https://eroadmap.epri.com/>

# Electricity Demand Grows in All Scenarios

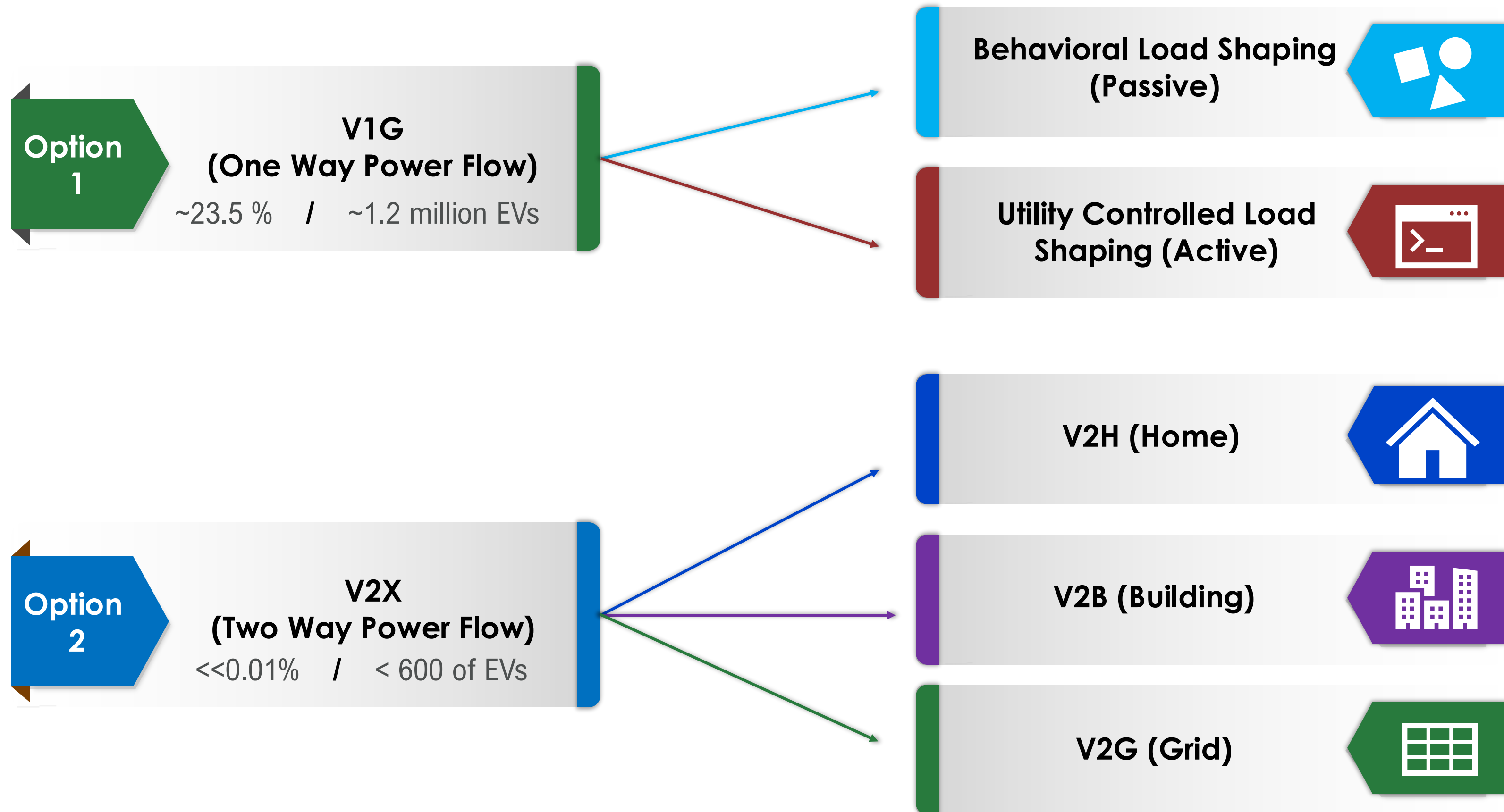


Source: LCRI Net-Zero Scenarios 2.0 Report, [lcri-netzero.epri.com](http://lcri-netzero.epri.com)

\* Does not reflect full range of uncertainty for EV adoption and efficiency. See EPRI report [Valuing Improvements in EV Efficiency](#) for more details.



# Current State of EV Managed Charging



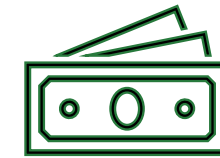
# Transportation Electrification is Crucial to Affordability

Key challenges to ensure success



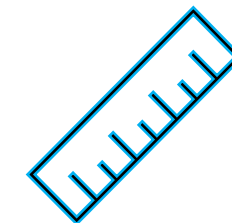
01

**Operational costs & data exchange**



02

**Scalability/standardization**



03

**Utility operations & planning confidence**





**TOGETHER...SHAPING THE FUTURE OF ENERGY®**

# Session 1: Flexibility from Commercial Fleets

## Moderator:

Hon. Milt Doumit, Washington UTC  
and Vice Chair, NARUC EV State  
Working Group

## Speakers:

Rachel Aland, Transportation Director, ACEEE  
Bryan Zulberti, Regional Interconnection  
Account Manager, Duke Energy

# How Electric Vehicles Can Support Load Growth and Affordability: Flexibility for Commercial Fleets

Rachel Aland

February 8, 2026



## About ACEEE:

The American Council for an Energy-Efficient Economy (ACEEE), is a nonprofit research organization that develops policies to reduce energy waste and combat climate change. Its independent analysis advances investments, programs, and behaviors that use energy more effectively and help build an equitable clean energy future.

*Learn more at [aceee.org](https://aceee.org)*





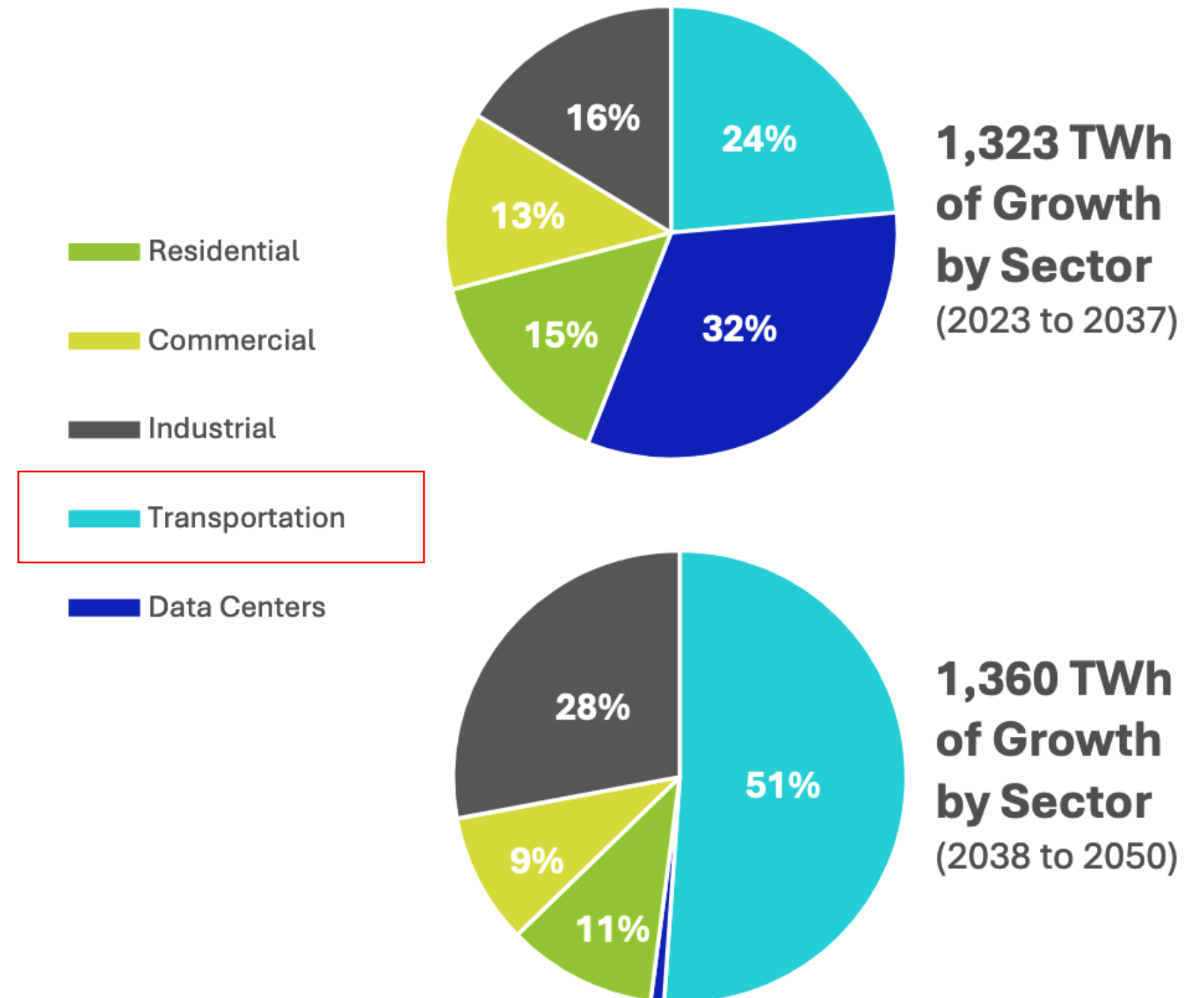
## **Rachel Aland, Transportation Director, ACEEE**

Rachel Aland leads ACEEE's Transportation Program. In this role she oversees transportation-related research and the development of policy priorities focused on transforming freight and passenger transportation systems to be more efficient, sustainable, and equitable.

# Why Commercial Fleets Matter

- Transportation represents an entirely **new source of load** growth in new locations.
- Though the vast majority of total load will be personal vehicles, **truck demand will be concentrated** and will have a higher percentage of fast charging sites.
- Fleets are an **ideal customer for managed charging and vehicle to grid** programs which help support grid resiliency and reduce distribution costs.

U.S. Net Electricity Consumption Projections

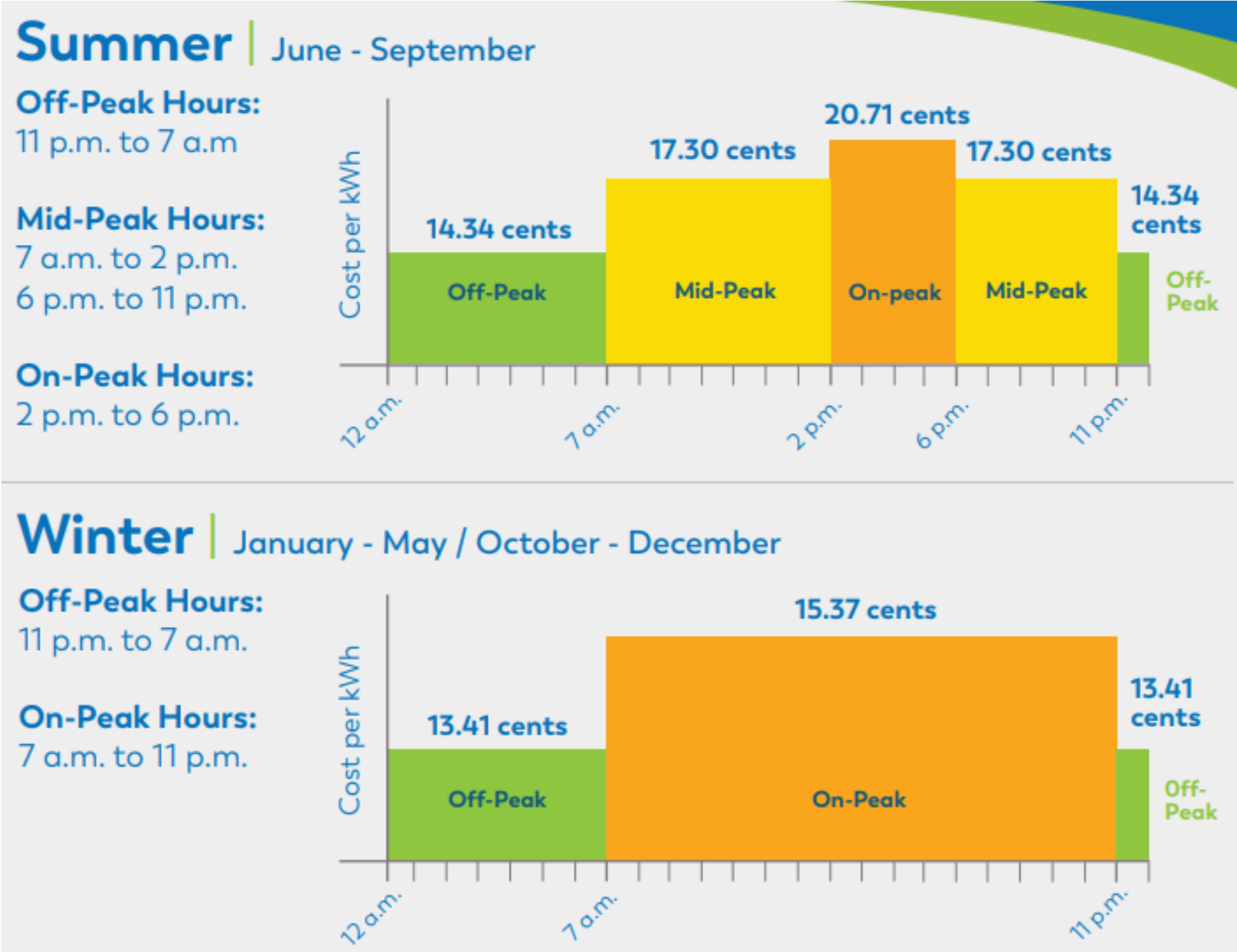


Source: NEMA Grid Reliability Study, 2025

# Managed Charging

## Case study: Consumers Energy PowerMIFleet

- Fleet TOU + incentives program
- Resulted in 85%+ off-peak charging 2022–23, ~91% off-peak charging 2024
- AMI-enabled monitoring allowed automated compliance
- Supporting 240 vehicles at 148 charging ports as of June 2025
- Initial \$1.6M to support 12 fleets that serve an income-qualified communities, granted an additional \$3M in 2025

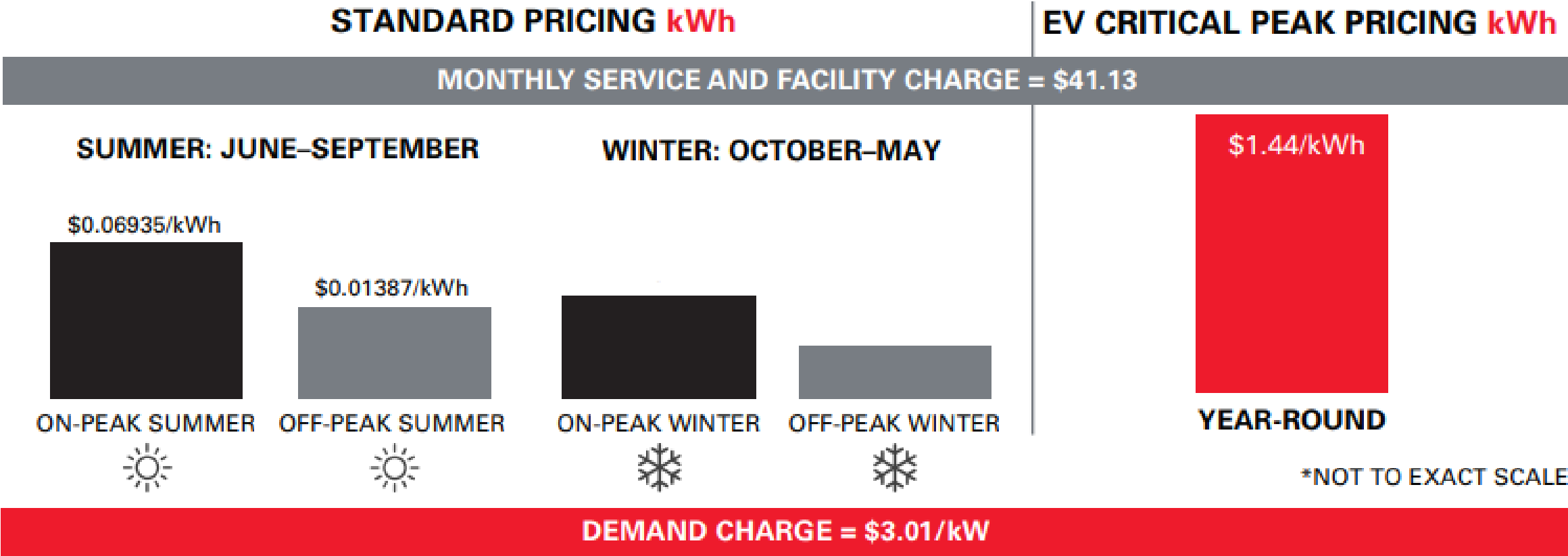


Source: Consumers Energy

# Peak Load Shaving

## Case study: Xcel Energy EV Critical Peak Pricing

- Fleet operations pay less for energy to charge EVs during off-peak hours
- Critical peak pricing events last four hours in duration and occur less than 15 times a year and no more than once per day
- Customers receive digital tools for near real-time energy monitoring at no additional cost, providing greater visibility and control over charging patterns.
- Customers are notified a day in advance



Source: Xcel Energy

# Vehicle to Grid

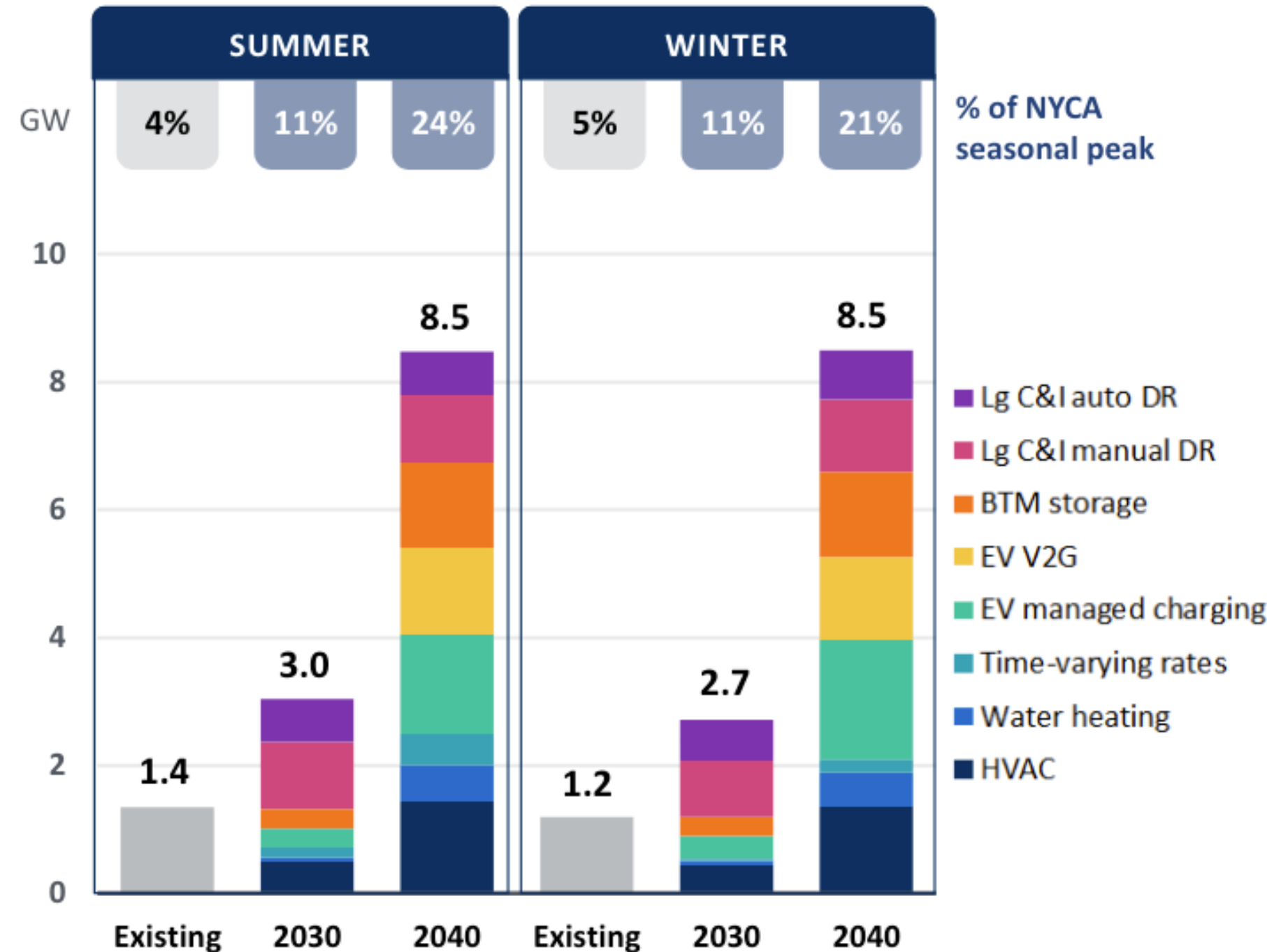
## Case study: Revel V2G Pilot

- Revel wanted to understand potential revenue + interconnection process
- Used a variation of ConEd's stationary storage process for 3 vehicles
- ConEd's VDER tariff required participation every day for the summer, tough for rideshare vehicles
- Earned approximately \$10,000 over a summer



Source: SEPA, Case Study: Revel Rideshare, 2023

## Grid Flexibility Potential in New York (GW)



Source: The Brattle Group for NYSERDA and The New York Department of Public Service, 2025

# Key Takeaways for Scaling Fleet Flexibility



**Design simple, fleet-friendly TOU rates**



**Pair managed charging with targeted incentives**



**Establish clear and streamlined V2G interconnection pathways**



**Move successful pilots quickly into permanent programs**



**Support proactive utility–fleet engagement and outreach**



**Embed managed charging and V2G into long-term planning**

# Contact

Rachel Aland  
raland@aceee.org

**ACEEE**



# Transportation Electrification Grid Readiness

Bryan Zulberti – Senior Interconnection Account Manager



# Transportation Electrification Grid Readiness (TEGR)

TEGR is a mix of technical planning, project management, customer engagement, strategic coordination, interconnection, and policy alignment.

Bridging electrification goals and grid reliability, ensuring Duke can support the growing EV demand with the focus on innovation and affordability.

- Major C&I Customer support helping to provide guidance, incentives, and project coordination for charging infrastructure needs
- Electrification advisory services
- Work with Public Fast Charging providers
- Proactive customer outreach to understand EV demand and forecasted projects
  - Identify Fleet Load Clusters
  - File for T&D Pre-investment
- Engage with external parties on utility position and industry needs
- Assist with education and awareness of internal departments
- Program development to support fleet and public charging operators

## **Enterprise**

Jay Oliver (Vice President)  
Jason Haines (Manager)  
Jinnah Bacchus (Sr. Engineer)

## **Sr. Interconnection Managers:**

### **Carolinas**

Tom DelViscio

### **Florida**

Bryan Zulberti

### **Midwest**

Claudio Troncoso



Duke Energy is driving EV innovation by partnering with industry leaders and customers to support load growth while keeping a focus on affordability.

- Interconnection Approaches
  - Proactive work with commercial customers electrifying fleets.
  - Identifying areas with capacity to meet customer need and avoid infrastructure costs.
  - Identify and learn customer manage charging programs.
- Manage Charging/Attractive Rates for EVs (Fluctuate by Jurisdiction)
  - TOU with Critical Peak Pricing.
  - TOU Demand.
  - Hourly Pricing.
- Additional Work
  - Microgrid-Powered Charging.
  - Vehicle-to-grid integration.
  - Software Optimization.

## **Enterprise**

Jay Oliver (Vice President)  
Jason Haines (Manager)  
Jinnah Bacchus (Sr. Engineer)

## **Sr. Interconnection Managers:**

### **Carolinas**

Tom DelViscio

### **Florida**

Bryan Zulberti

### **Midwest**

Claudio Troncoso





Questions?



# Session 1: Flexibility from Commercial Fleets Q&A

## Speakers:

Rachel Aland, Transportation Director, ACEEE

Bryan Zulberti, Regional Interconnection Account Manager, Duke Energy

# Facilitation Instructions

Question: What is one key action PUCs can take to enable flexibility from commercial fleets to support affordability?

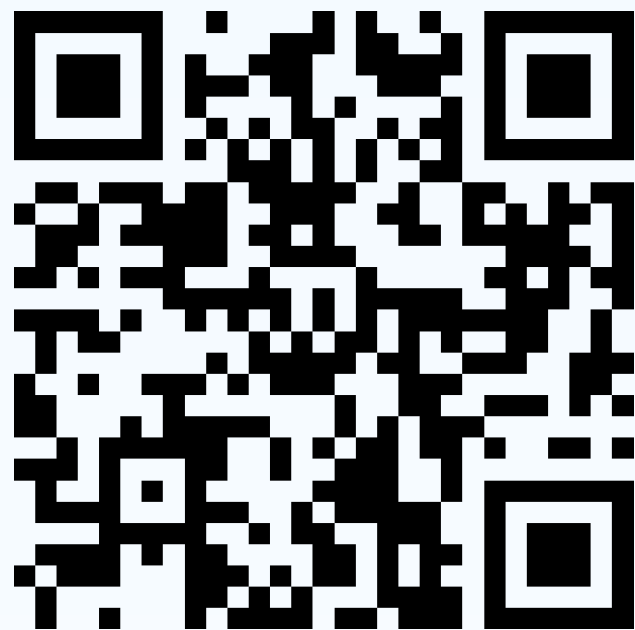
## **Discussion Activity: 1 - 2 - 4**

1. Each 1 person, write down one great idea for a PUC action.
2. Pair up with someone nearby (2 people). Share both ideas, then modify into a single stronger idea.
3. Each pair finds another pair (4 people). Share your two ideas and then modify into a single strongest idea.

At 3:10 pm: The group of 4 submits 1 idea through Slido to populate our 'top 10' list.

# Facilitation Question 1

**What is one key action PUCs can take to enable flexibility from commercial fleets to support affordability?**



**Slido.com code: 2170574**

**Discussion 1**

# Session 2: Flexibility from Residential Vehicles

## Moderator:

Benjamin Baker, Senior  
Commission Advisor, Maryland  
PSC and Staff Lead, NARUC EV  
State Working Group

## Speakers:

Emma Rodvien, Senior Manager, U.S. Regulatory  
Affairs and Market Development, Kraken  
Rachael Nealer, Director, Atlas

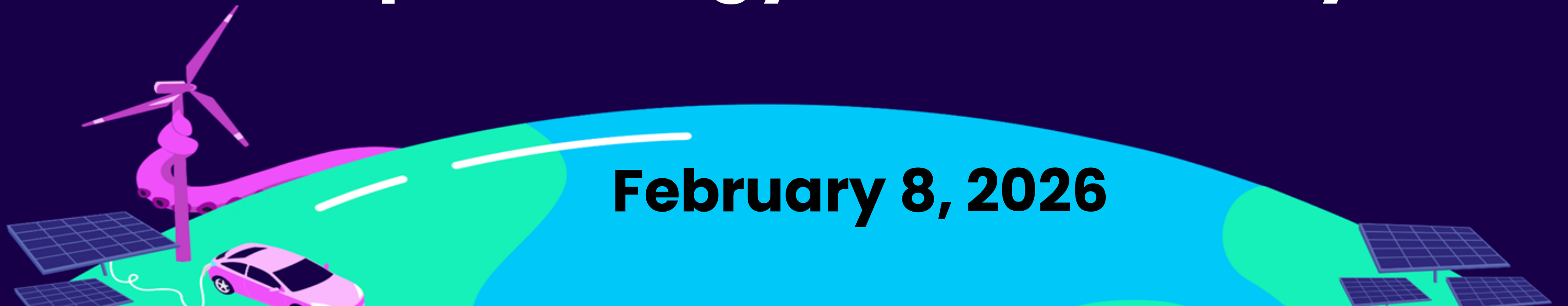


# KRAKEN

PART OF THE **octopus**energy GROUP

## Managing EV load flexibility at Scale: Octopus Energy UK case study

**February 8, 2026**



# Background



## Octopus Energy UK

- UK's largest retail electric supplier
- 7.5 million electric customers
- “Prosumer” rates & programs
  - Dynamic rates
  - V2G pricing
  - “Zero bills” homes
  - Managed EV charging



## Kraken Technologies

- Enterprise software developer
- End-to-end solutions to manage the energy transition
- Global customer base
  - 70m customer accounts
  - 400,000 DERs under flexible management

# Case Study:

## OE UK “Intelligent Octopus Go” tariff

- First launched in 2022
- Problem statement = OE UK customer base has >750,000 EVs; how to control the cost-to-serve?
- How it works:
  1. Customer enables OE control of EV and/or charger
  2. Customer sets charging preferences (SoC, timing)
  3. OE uniquely optimizes charging for prices and preferences
  4. In return, customer offered a fixed whole-home rate →  
**7 p/kWh, or 9.52 ¢/kWh**

# Case Study:

## OE UK “Intelligent Octopus Go” tariff

### How value is created:

- Currently-effective Ofgem price cap = **27.69 p/kWh (36 ¢/kWh)**
- ‘Intelligent Octopus Go’ fixed price is **>70% lower** than price cap
- Cost categories included in price cap:
  - 39% wholesale electricity costs → *Kraken optimizes for these*
  - 23% T&D network costs → *Kraken optimizes for these*
  - 16% retail supplier operating costs
  - 13% government policies/programs
  - 5% taxes

# How UK **time-varying network prices** enable flexible resources to deliver & realize value

## Annex 1 - Schedule of Charges for use of the Distribution System by LV and HV Designated Properties

London Power Networks - Effective from 1 April 2023 - Final LV and HV charges

### Time Bands for LV and HV Designated Properties

Time periods	Red Time Band	Amber Time Band	Green Time Band
Monday to Friday (Including Bank Holidays) All Year	11:00 - 14:00 16:00 - 19:00	07:00 - 11:00 14:00 - 16:00 19:00 - 23:00	00:00 - 07:00 23:00 - 24:00
Saturday and Sunday All Year			00:00 - 24:00
Notes	All the above times are in UK Clock time		

### Time Bands for Unmetered Properties

	Black Time Band	Yellow Time Band	Green Time Band
Monday to Friday (Including Bank Holidays) June to August Inclusive	11:00 - 14:00	07:00 - 11:00 14:00 - 23:00	00:00 - 07:00 23:00 - 24:00
Monday to Friday (Including Bank Holidays) November to February Inclusive	16:00 - 19:00	07:00 - 16:00 19:00 - 23:00	00:00 - 07:00 23:00 - 24:00
Monday to Friday (Including Bank Holidays) March, April, May and September, October		07:00 - 23:00	00:00 - 07:00 23:00 - 24:00
Saturday and Sunday All year			00:00 - 24:00
Notes	All the above times are in UK Clock time		

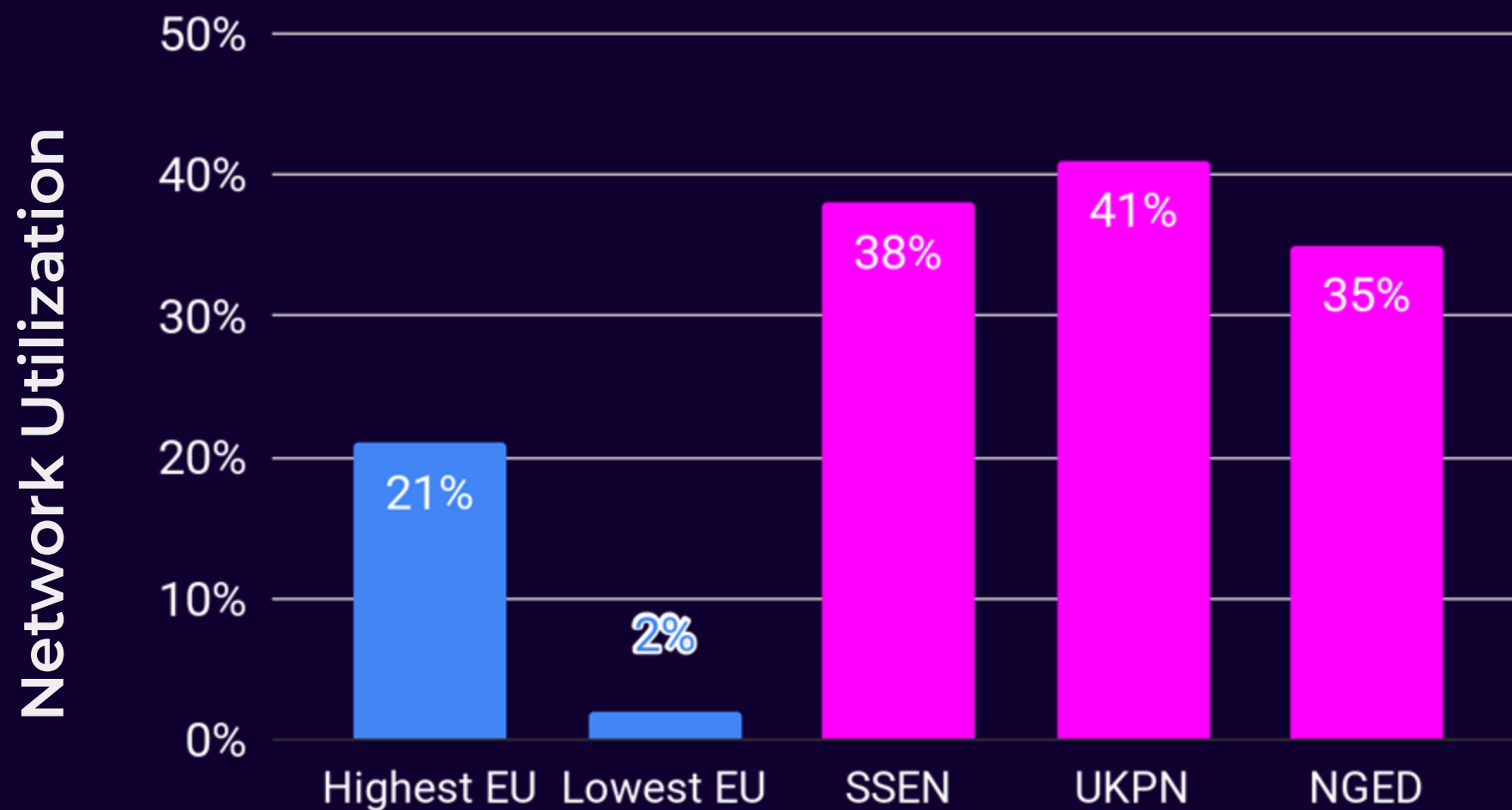
Tariff name	Open LLFCs	PCs	Red/black unit charge p/kWh	Amber/yellow unit charge p/kWh	Green unit charge p/kWh	Fixed charge p/MPAN/day	Capacity charge p/kVA/day	Exceeded capacity charge p/kVA/day	Reactive power charge p/kVArh	Closed LLFCs
Domestic Aggregated with Residual	1	0, 1, 2	9.557	0.988	0.000	2.59				902, 903, 906, 907, 910

- 6 Distribution Network Operators (DNOs)
- Red, amber, green pricing scheme → corresponds to on vs. off peak
- Peak prices are 10x higher than off-peak
- DNOs set their network prices annually

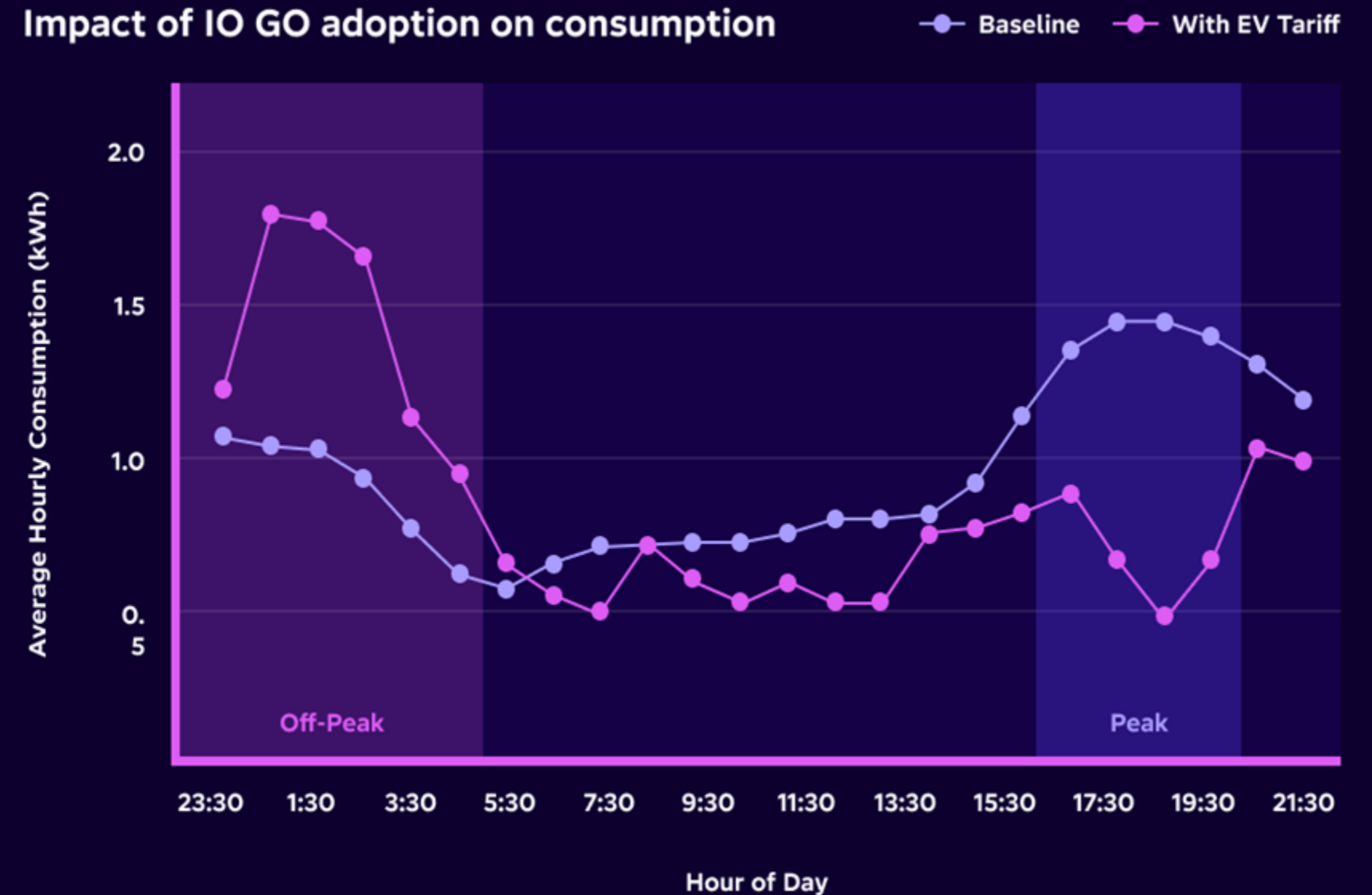
# Case Study: OE UK “Intelligent Octopus Go” tariff

## Results

- 350,000+ participants (50% of eligible customers)
- 42% reduction in peak load



Impact of IO GO adoption on consumption



# Lessons learned for PUCs

1. Scaling EV flexibility requires sophisticated **customer analytics capabilities**

Recommendation: Direct your utilities to report on current customer analytics capabilities (e.g. load profile analysis.); establish funding pathways for analytics improvements to support system efficiency and/or policy goals

1. Most cost-effective time to enroll is when **customers are new** → friction increases over lifecycle

Recommendation: require your utilities to proactively enroll new (eligible) customers in existing EV flexibility programs/offerings

1. Flexible EV loads can be managed for the benefit of the distribution network, not just the bulk system → but require **efficient economic signals** to do so

Recommendation: Direct your utility to study the feasibility of time-varying distribution rates

# INTEGRATING ELECTRIC VEHICLES ON THE GRID: FLEXIBILITY FOR RESIDENTIAL VEHICLES

NARUC Winter Policy Summit

February 2026

Rachael Nealer, PhD

Atlas Public Policy



ATLAS  
PUBLIC POLICY



A policy and data research firm established in 2015

Atlas Public Policy equips businesses and policymakers to make **strategic, informed decisions that serve the public interest**. We build analytical tools and dashboards using powerful, accessible technology, and offer expert advisory services to tackle a wide range of current and future pressing issues.

Transportation

Manufacturing

Buildings

Climate

Industry

Water

Disinformation

# THE OPPORTUNITY

## **EVs as Grid Assets**

Electric vehicles serve as controllable loads and distributed storage, enhancing grid flexibility and stability.

## **Charging Strategies**

Time-of-use pricing and behavioral incentives encourage charging during off-peak hours to reduce grid stress.

## **Demand Response and V2G**

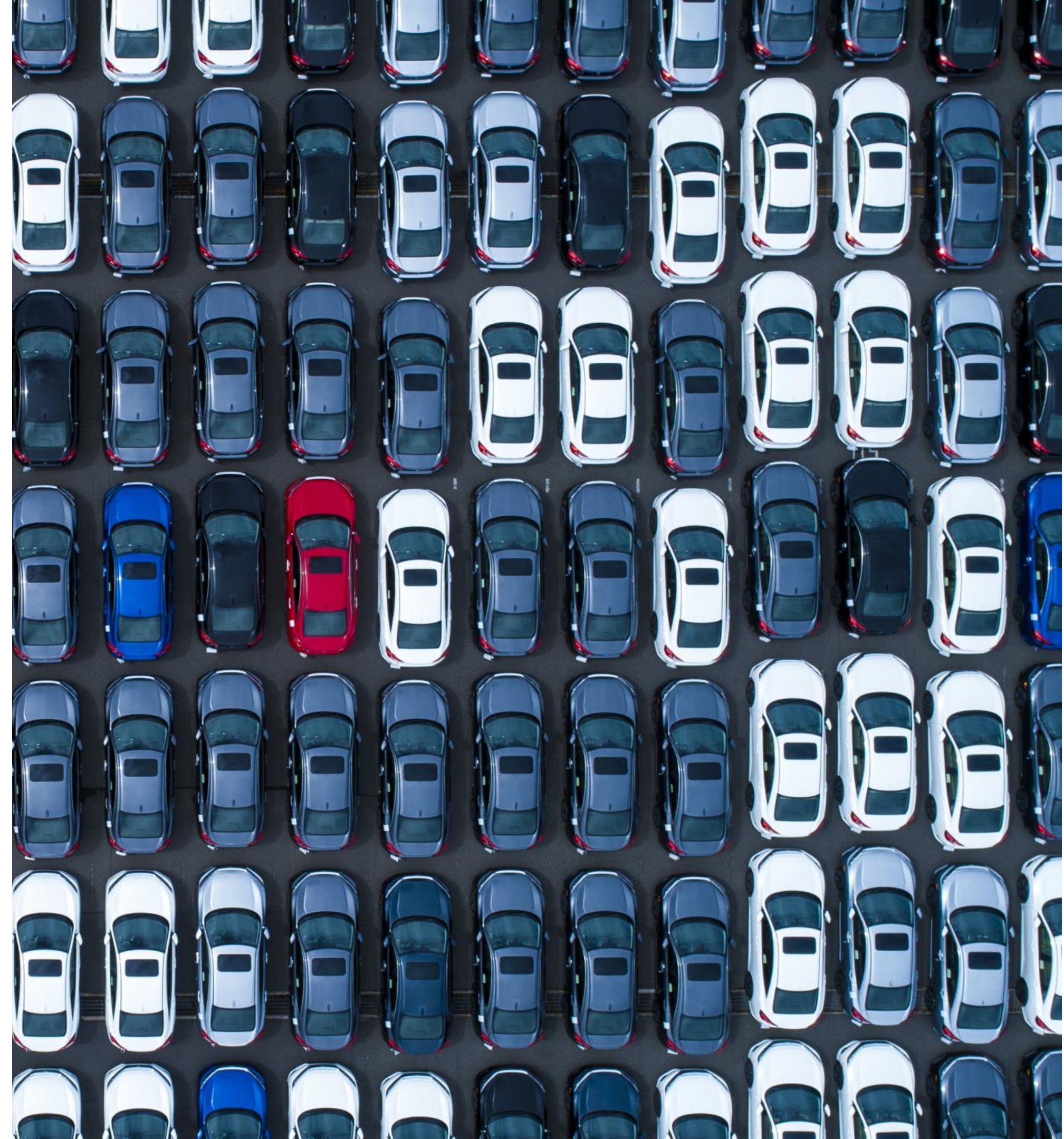
Demand response and vehicle-to-grid programs enable bidirectional energy flow and critical load management.

## **Benefits and Incentives**

Potential to reduce infrastructure costs, optimize renewables, enhance reliability, and offer owner and grid savings.

## **Potential Downward Pressure on Rates**

EV charging programs can generate more utility revenue than they cost, creating potential downward pressure on rates for all customers.



# EXAMPLES OF EV INTEGRATION PROGRAMS

STATE	UTILITY	PROGRAM TYPE	KEY OUTCOME
Colorado	Xcel Energy	Dynamic Pricing	Aligned charging with renewable availability & response to grid demand
Maryland	BGE	Managed Charging	Evolved to virtual power plant optimization
North Carolina	Duke Energy	Managed Charging	Opt-in active managed charging with a flat monthly electricity fee
California	PG&E	V2G Pilots	Demonstrated bidirectional charging benefits
Massachusetts	National Grid	Off-Peak Rebates	Increased participation via app-based enrollment



## BARRIERS TO OVERCOME

- Equipment and Communications Standardization and Costs
- Distribution and Interconnection Challenges
- Scaling Customer Participation
- Utility Planning Integration

# PUC ACTIONS TO ENABLE EV INTEGRATION

STATE	PUC ACTION	IMPACT
California	DR Framework	Enables bidirectional capability and resource adequacy
Maryland	TOU Rates	Facilitates managed charging and V2G interconnection
Minnesota	Integrated Planning Mandate	Ensures EV flexibility in grid planning
New York	Expanded VDER Tariffs	Creates compensation for V2G projects
Nevada	PUCN approval of plans	Requires transportation electrification plans & EV rates and management programs
Illinois	ICC approval of plans	Requires utilities to file triennial demand response plans

# MORE INFORMATION

## HOSTING CAPACITY MAPS FOR EV CHARGING

Lessons Learned in Implementing Utility Hosting Capacity Maps to Support Electric Vehicle Charging

By Nicole Lepre, Moe Khatib and Lucy McKenzie

December 2024



## SUPPORTING THE EV CHARGING NETWORK OF THE FUTURE

A review of policy interventions to spur increased electric vehicle charging buildout at lower cost

By Lucy McKenzie, James Di Filippo, and Ben Sharpe

September 2024



## INTEGRATING ELECTRIC VEHICLES ON THE GRID

By Lucy McKenzie and Rachel Reolfi

January 2026



Utilities and system operators can implement strategies that use EVs as grid assets to benefit grid operations, lower costs, and support the integration of renewable energy.

Electric vehicles (EVs) are essentially large batteries on wheels, and often sit idle for most of the day. That makes them potential grid assets that can, with the right strategies, help to [lower costs](#) for all consumers and improve [renewable energy](#) integration. Such strategies are designed to shift EV charging away from system peak hours or to enable vehicles to strategically discharge electricity to the grid. They include:

- **Electricity Pricing.** To motivate EV owners to avoid charging when the grid is most heavily loaded, many utilities offer electricity prices that are higher during peak demand hours and lower during off-peak hours (known as “time-of-use” pricing). In areas where renewables are a large share of the energy mix, utilities may also offer lower prices during hours of abundant renewable generation.
- **Other Behavioral Incentives.** Some utilities partner with charging app providers or use telematics data to encourage EV owners to charge during off-peak or high-renewables hours. These programs rely on information and light nudges via app or email to push drivers to shift their charging in a consistent way.
- **Demand Response (DR) Programs.** Some utilities and system operators run opt-in programs that incentivize EV owners to temporarily curtail charging in real time when the grid is capacity constrained or costs are particularly high. In some programs, the utility sends a signal to participating drivers during a grid event and asks them to curtail; in others, the utility can directly modulate charging through a connected charger or vehicle telematics. Utilities or system operators may also contract with EV load aggregators, which pool many participants and deliver a single, reliable demand response resource to the grid.
- **Vehicle-to-Grid (V2G) Programs.** V2G programs allow EVs to become bidirectional grid resources. Similar to DR programs, EVs can adjust when they charge in response to grid needs, but they can also go a step further by discharging stored energy back to the grid during



**ATLAS**  
PUBLIC POLICY

[WWW.ATLSPOLICY.COM](http://WWW.ATLSPOLICY.COM)  
WASHINGTON, DC USA

Rachael Nealer, PhD  
[rachael.nealer@atlaspolicy.com](mailto:rachael.nealer@atlaspolicy.com)

# Session 2: Flexibility from Residential Vehicles Q&A

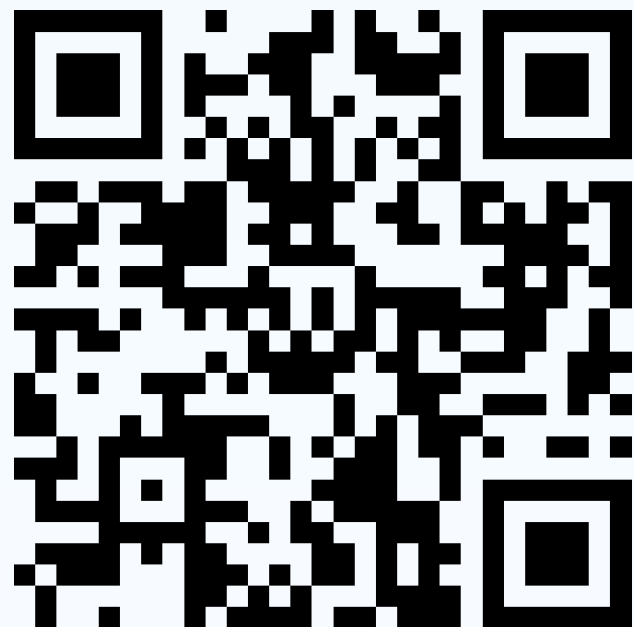
## Speakers:

Emma Rodvien, Senior Manager, Kraken

Rachael Nealer, Director, Atlas

## Facilitation Question 2

**What is one key action PUCs can take to enable flexibility from residential fleets to support affordability?**



**Slido.com code: 2170574**

**Discussion 2**

# Session 3: Including All Customers

## Moderator:

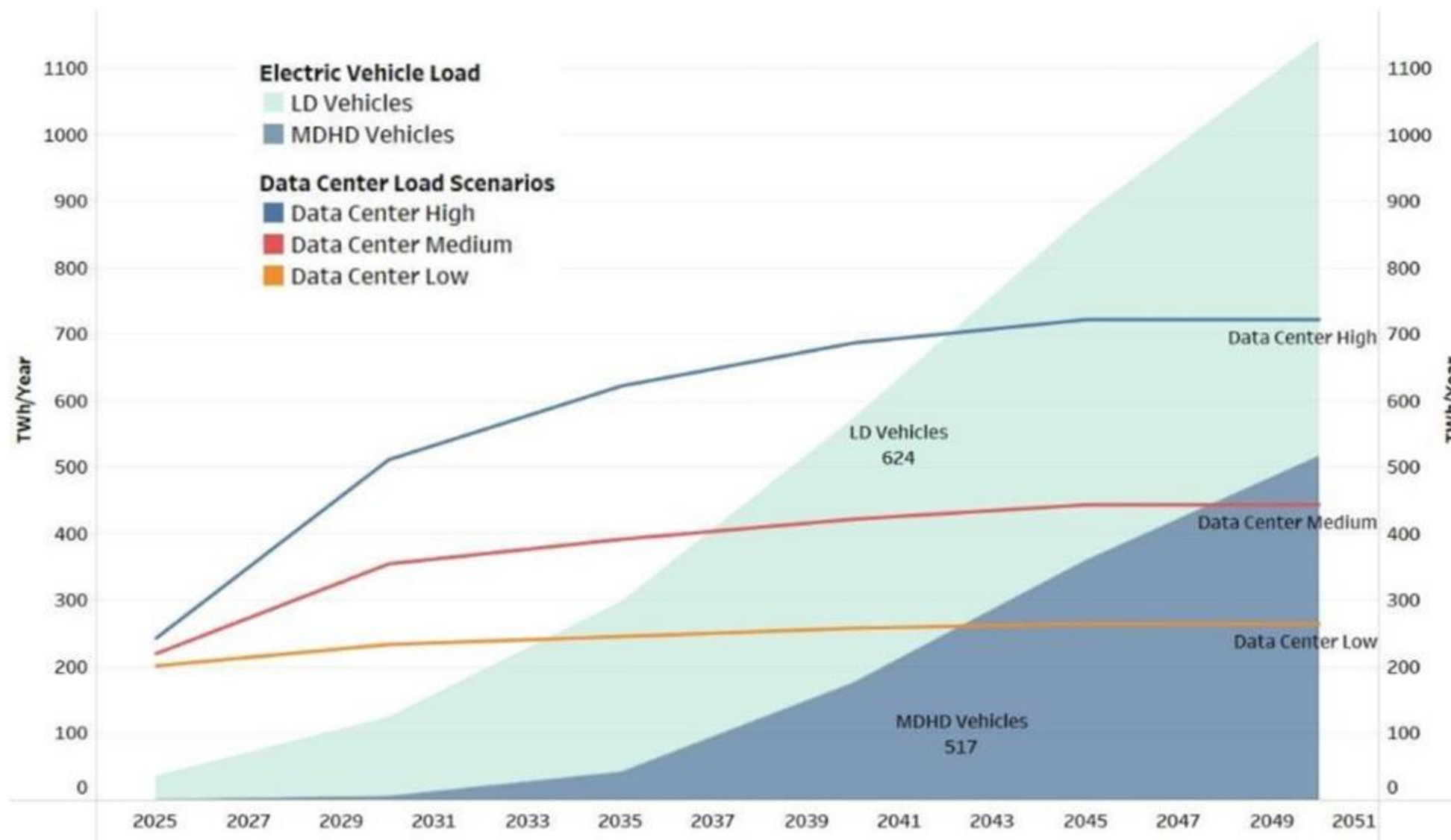
Steve Olea, Special Advisor to the  
Commission, Arizona Corporate  
Commission and Staff Lead, NARUC  
EV State Working Group

## Speakers:

Jeff Allen, Executive Director, Forth  
Danielle Kievit, Senior Clean Energy  
Product Manager, Puget Sound Energy



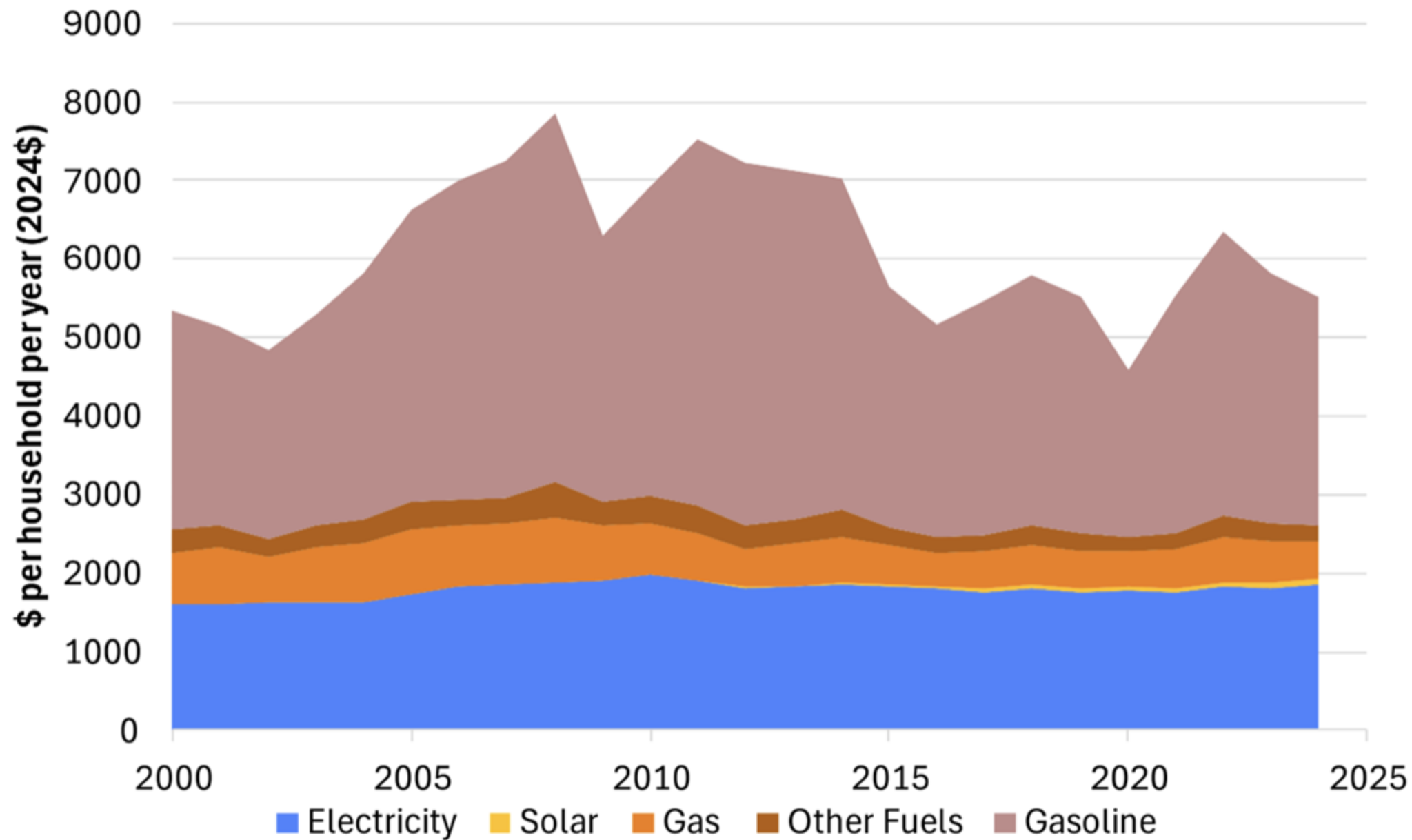
Nationwide eRoadMAP Load Growth together with Data Center Load Scenarios



## Electric Transportation Benefits Utilities

- Largest load growth is also most flexible
- Naturally trends off peak
- Downward pressure on rates
- With or without managed charging!

Source: EPRI. Electric Vehicle Load: [eRoadMAP](#); Data Center Load: [Powering Data Centers 2024](#)



## Electric Transportation Benefits LMI Customers

- Lower utility bills
- Lower energy costs
- Lower air pollution
- Greater resilience
- With or without managed charging!

# Inclusive Design

- “Curb cut theory”
- Nothing about us without us
- Engagement requires information
- Center people and their needs, not technology
- Keep it simple



## Thoughts for Regulators

- Encourage robust programs
- Support portfolio approach
- Consider all customer benefits
- Encourage experiments and learning
- Require informed community engagement
- Build in outreach and technical assistance
  
- Keep it simple!





# **FORTH ROADMAP CONFERENCE**

September 13-15, 2026 | [roadmapforth.org](http://roadmapforth.org) | Seattle Convention Center

**1**

The nation's **leading** electric transportation **conference**

**1,000**

Over **1,000** attendees from **10 countries** and **40+ U.S. states**



In **Seattle**, a **hub** for clean energy innovation and sustainable mobility



Unmatched opportunities for **networking, collaboration, and sponsorship**

In a time of **rapid policy shifts** and evolving transportation priorities, staying connected has **never been more essential.**

# Discussion

**Jeff Allen, Executive Director, Forth**

**[jeffa@forthmobility.org](mailto:jeffa@forthmobility.org)**

**[www.forthmobility.org](http://www.forthmobility.org)**

# Managed Charging

## Demonstrations and Plans

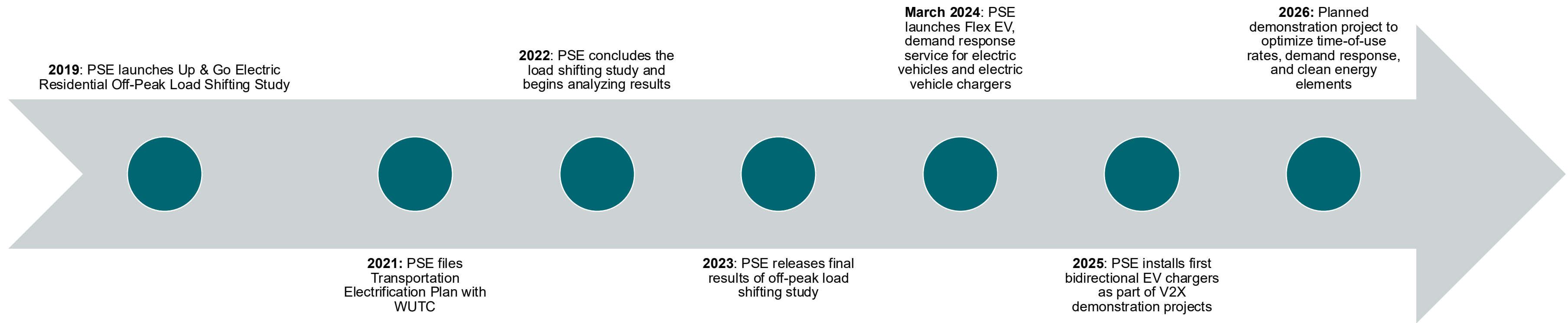
February 8, 2026



# Who is Puget Sound Energy?

- ◆ Washington's largest and oldest utility, **servicing 1.5 million customers** in 10 counties.
- ◆ Our service area spans **6,000 square miles**
- ◆ We share our customers' **concern for the environment**, balanced with their expectations for uncompromised **reliability, affordability and safety.**

# PSE's Managed Charging Timeline

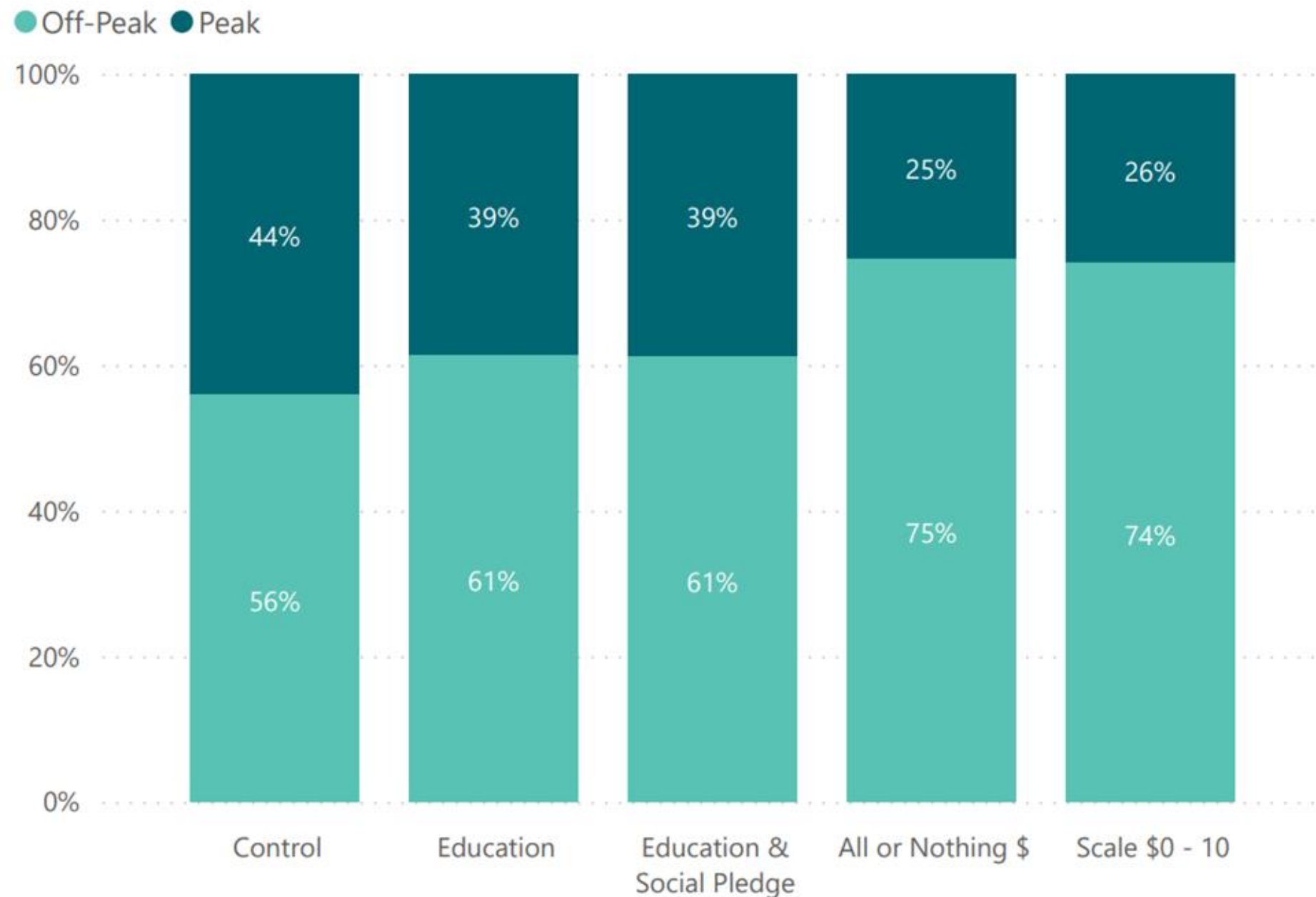


# PSE Up & Go Electric: Off-Peak Load Shifting Study



Between 2019 and 2020, PSE installed Level 2 EV chargers in 500 residential electric customer homes

- Each enrolled participant was sorted into 1 of 5 reinforcement groups
- Analyzed how customers responded to shifting load based on the reinforcement group
- The study concluded at the end of 2022 and results were published in a biannual report
  - Financial incentives yielded the best results
  - Education also resulted in a higher propensity to charge off peak



# Flex EV and PSE's Home Charging Rebate

PSE

PSE simultaneously launched Flex EV and the Home Charging Rebate in 2024.

- **Customers can participate in Flex EV via vehicle telematics or their EV charger**
- **Home Charging Rebate provides an affordable way for customers to participate if telematics are not an option**
  - **Enhanced rebates are available for income eligible customers making 80% AMI or 200% FPL**
  - **Customers can be automatically pre-enrolled into Flex EV and receive communication about completing their enrollment**



# Opportunities and Challenges

Utilities can't implement these programs on their own – we need support from OEMs, regulatory agencies, and our customers.

- **Comprehensive community engagement helps inform what barriers to participation exist and how utilities can mitigate**
- **Demonstration projects help to test the technology before launching at scale**
- **The market is nascent – there is constant changes to available technology which may also be new to implementation partners**
- **Flexibility is critical – one size does not fit all**



# Questions



# Session 3: Including All Customers Q&A

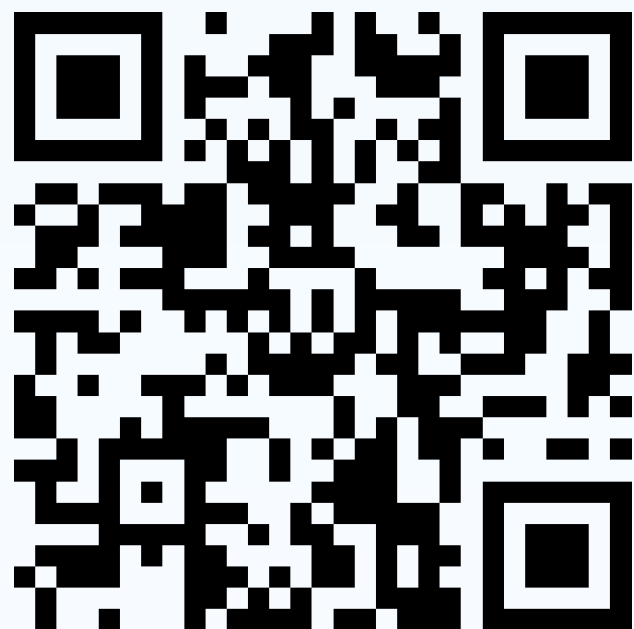
## Speakers:

Jeff Allen, Executive Director, Forth

Danielle Kievit, Senior Clean Energy Product Manager, Puget Sound Energy

## Facilitation Question 3

**What should we add towards building our Top 10 Actions PUCs can take to enable flexibility to support affordability?**



**Slido.com code: 2170574**

**Discussion 3**

# Closing

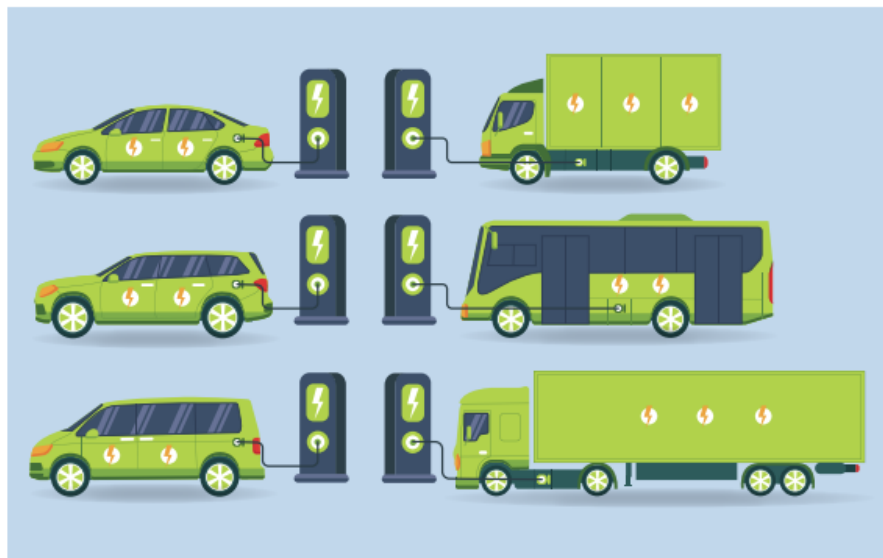
## **Next Steps:**

- **NARUC will share PPTs from today**
- **SEPA will summarize the discussion**
- **Join us for future learning opportunities**

# NARUC Resources

## **New:** Proactive Distribution System Investment Strategies that Support Transportation Electrification

### Proactive Distribution System Investment Strategies that Support Transportation Electrification



Prepared by Regulatory Assistance Project (RAP)<sup>®</sup> for NARUC  
December 2025



## NARUC EV State Working Group

- Members-only monthly webinars + peer sharing discussions
- Wide range of topics, prioritized by members
- Email Margerie at [msnider@naruc.org](mailto:msnider@naruc.org) for more info / to join
- Recordings and past presentations:

