



— THE EASTERN  
TRANSPORTATION  
COALITION

CONNECTING FOR SOLUTIONS



## Charging the Charge: Peer-to-Peer Workshop

*October 23, 2024*

# Welcome

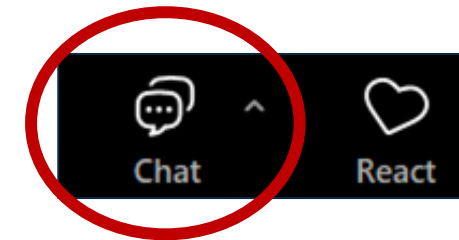
- We are using **Zoom Meeting**
- **VIDEO:** You are welcome to turn on your camera by pressing the camera icon in the bottom left corner of your screen
- **AUDIO:** You should be connecting to the meeting audio either through your computer or phone.
- Please keep your line muted when you are not speaking.
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# Asking Questions in Zoom Meeting

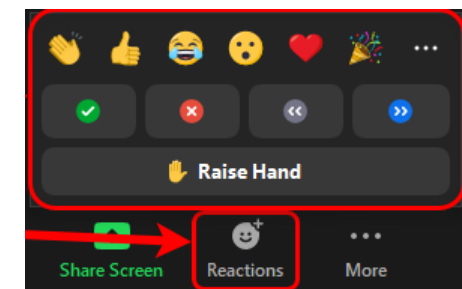
- **IN THE CHAT BOX**

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- The questions in the Chat Box will be monitored and answered during the meeting, as appropriate.



- **VERBALLY**

- Please “raise your hand” to be recognized.
- On a computer - click on the reactions button at the bottom of the screen then select the “Raise Hand” button
- Please give your name and agency before asking your question
- **Please mute yourself when you are finished speaking**



# Overview Presentation:

## An introduction to the current state of play with respect to per-kWh tax policy

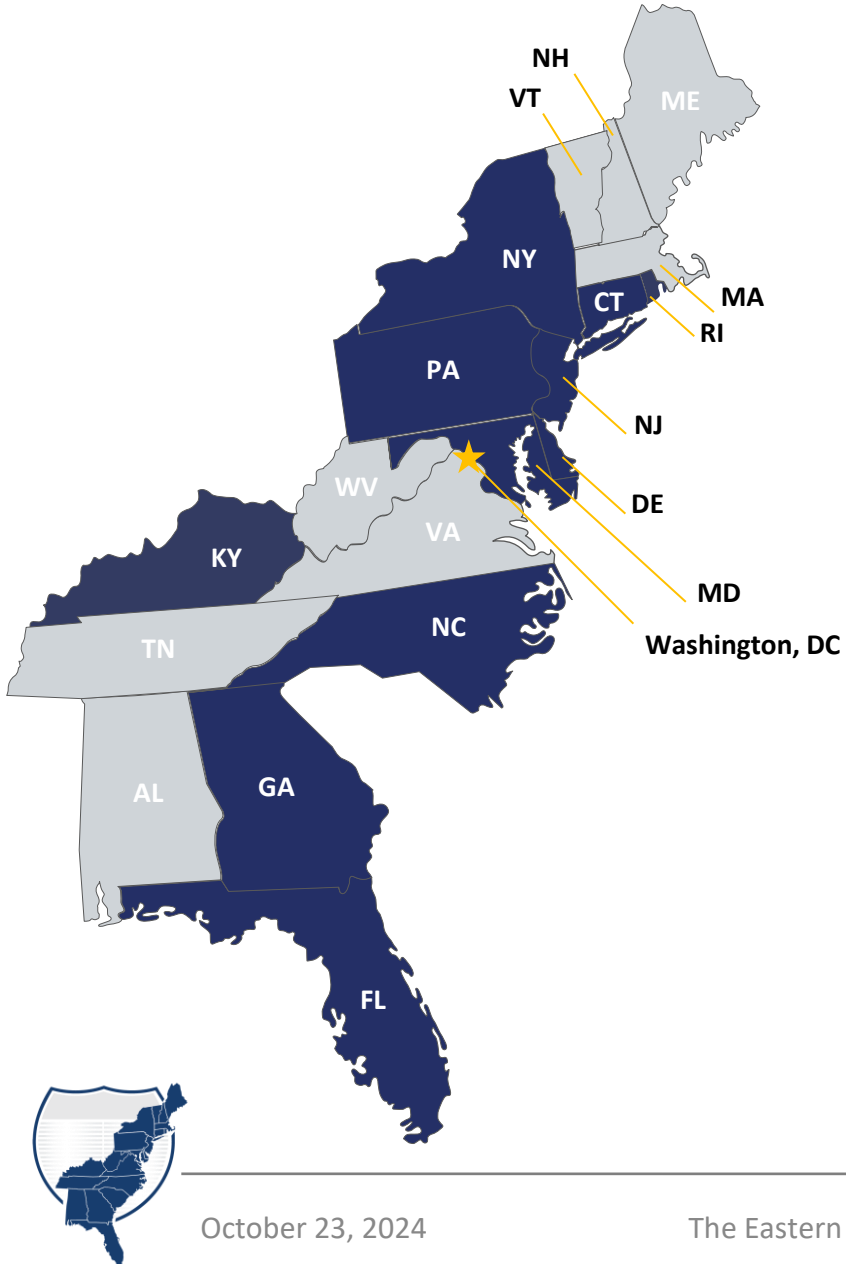


**Ginna Reeder**

Innovation Program Director  
The Eastern Transportation Coalition



# Welcome to the Meeting Participants



Agencies		
Connecticut DOT	Kentucky Transportation Cabinet	Pennsylvania DOT
Delaware DOT	Maryland Transportation Authority	State of Rhode Island – Division of Planning
Florida DOT	New York State DOT	
Georgia DOT	North Carolina DOT	



# Agenda

Topic	Speaker
Overview Presentation: An introduction to the current state of play with respect to per-kWh tax policy	Ginna Reeder, The Eastern Transportation Coalition
Member States Per-kWh Tax Reviews <ul style="list-style-type: none"><li>• <b>Pennsylvania</b></li><li>• <b>Kentucky</b></li><li>• <b>Georgia</b></li></ul>	Shane Rice, Pennsylvania DOT Richard Dobson, Kentucky Department of Revenue Josh Waller, Georgia DOT
Q&A Session	Led by Ginna Reeder, The Eastern Transportation Coalition
Panel Discussion <ul style="list-style-type: none"><li>• <b>Legislation:</b> Ways to better inform/advise legislators considering per-kWh tax policies</li><li>• <b>Implementation:</b> Considerations for ensuring smooth rollout of per-kWh tax policies</li><li>• <b>Communications:</b> Ways to communicate the per-kWh tax to the public for transparency and acceptance</li></ul>	Shane Rice, Pennsylvania DOT Richard Dobson, Kentucky Department of Revenue Josh Waller, Georgia DOT  Facilitated by Ginna Reeder, The Eastern Transportation Coalition
Wrap Up	Ginna Reeder, The Eastern Transportation Coalition



# What is SCOOP?

The Eastern Transportation Coalition saw a growing demand for quick-response projects that address pressing/emerging issues through new and innovative solutions. The Coalition is uniquely suited to oversee this type of work and keep costs manageable. Given these projects would fall outside membership dues activities, a Special Cooperative Projects (SCOOP) fund was created in FY23 to bring this additional value to the corridor.

## WHAT QUALIFIES AS A SCOOP PROJECT?

- The work can be completed within six to twelve months
- The benefits extend beyond one state and support multi-state/cross-border collaboration
- The project has an urgency, but also supports longer range agency initiatives
- The effort is unique and not underway by any other associations
- The project supports Coalition's mission

Effort is Unique	Urgent, but supports long range initiatives	Benefits multiple states and supports collaboration	Supports the Coalition's Mission
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## Project Ambassador

- Deb Nelson, NYSDOT
- Tristan Lowery, NYSDOT

# Charging the Charge: To kWh Fee or not to kWh Fee?


As DOTs look forward toward the transition toward electrification and away from gasoline, many states are considering a state-imposed fee (aka kWh fee) like the gas tax for those purchasing electricity as part of a transportation revenue strategy.

- What can we learn from the states (8 as of March 2024) that have passed legislation and/or implemented a fee on EV charging?
- What specific issues should states consider when weighing this option as part of their transportation revenue portfolio?






# Project Deliverables



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## Charging the Charge Considerations for EV Charging Per- kWh Tax Policy



**Charging the Charge: Per-kWh Fees for EV charging  
A Primer For State Officials**

**What are Per-kWh Fees?**

HOW MUCH YOU CHARGE → LEADS TO → HOW MUCH YOU PAY

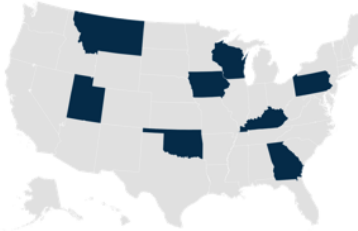
The greatest share of funding used to maintain America's roads comes from a tax paid on fuel at the pump. But with vehicles going further on less fuel, the gas tax failing to keep pace with inflation, and rising highway expenditures, a road funding "gap" now exists for many states.

To address this challenge, some states are trying new funding mechanisms. One of these is a tax on the energy used to charge EVs. It is a similar concept to the gas tax, targeting an EV's "fuel" (i.e. electricity). However, there are key considerations that states should weigh before implementing such a tax.

**Eight states have Per-kWh Fees**

- 1997: Pennsylvania\* 1.8 cents per kWh
- 2019: Iowa 2.6 cents per kWh
- 2021: Oklahoma 3 cents per kWh
- 2022: Kentucky 3 cents per kWh
- 2023: Utah 12.5% of charging cost
- 2023: Georgia 2.8 cents per kWh
- 2023: Montana 3 cents per kWh
- 2024: Wisconsin 3 cents per kWh

Note: All states' fees are currently limited to non-residential or publicly-accessible charging only; Pennsylvania initially enacted an alternative fuels tax in 1997 that did not exclude residential charging; the tax was amended in 2024 to exclude that charging.



**Key Questions for Policymakers**

**Should the tax cover at-home charging?**

80% of EV charging currently occurs at home, but that energy use is difficult to measure, and the collection process is difficult to enforce

**How to mitigate equity concerns?**

Lower income drivers without at-home charging access will pay more than those with private chargers

**How should the rate be set?**

Some states tie the rate to gasoline prices or an equivalent amount of energy in a gallon of diesel

**Does the fee interact with other EV policy?**

Other EV fees may compound this tax and EV goals may be affected

## Recommendations for States Interested in Implementing a Per-kwh EV Charging Tax:

- Where and how the state collects revenue makes a huge difference**  
Unlike the gas tax, which states collect from a small number of fuel distributors, per-kWh taxes would be paid by a much larger group of taxpayers. This could mean a higher risk of noncompliance and less ability to enforce the tax. State offices should consider who will have to pay, how often, and by what method.
- Communication is key for a functioning fee**  
The gas tax is usually a hidden fee built into fuel prices, meaning most drivers do not notice that filling up at the pump comes with a tax. Announcing a new policy may be unpopular and viewed as an unfair tax. A robust education campaign explaining that non-EV drivers already pay a tax at the pump, and that the funding is needed for safe roads, may help the situation.
- Not all chargers can accurately report energy use**  
At-home chargers, some older public charger models, and chargers that allow charging for free, are not able to differentiate how much energy is dispensed in a single charging session, which makes it impossible to calculate a fee for EV drivers accurately. States should consider disqualifying such chargers to avoid issues (this was the approach in Montana).
- Per-kWh taxes alone cannot close the road funding gap**  
Road funds have struggled due to better fuel economy and the federal gas tax not keeping up with inflation. Even if every vehicle in America was an EV, a per-kWh tax would not be able to close the road funding gap due to the prevalence of at-home charging. Most states implementing these fees agree that they should be one part of the road funding solution.

### Other Available Road Funding Policies

- Mileage-Based User Fees** are a fair way to ensure drivers pay for the amount they use the roads, but barriers to implementation exist (see [tetcoalitionnibuf.org](http://tetcoalitionnibuf.org) for more information).
- Tolls** are a very common and effective means of collecting revenue, but can lead to changes in driver behavior to avoid tolls.
- Weight-based fees** can target medium- and heavy-duty vehicles with high road use for commercial activities, but do not collect from all vehicles on the road.
- Efficient vehicle registration fees** help to offset the reduction of gas tax revenue, but as a flat fee do not connect road usage to payment.
- General revenues from other tax sources** can be a flexible way to shore up a road fund, but are unrelated to road use.

**The Bottom Line**  
No road funding policies can close the road funding gap alone, and all have pros and cons. States should consider creating a suite of equitable and implementable road funding solutions



# Today's Workshop Goals

- Provide overview of current kWh fee policies around the country
- Hear details of three TETC member state programs
- Explore lessons learned, benefits and challenges to this approach
- Document additional questions from TETC member states
- Identify further support TETC could provide to member states on this topic



# Poll #1

What is the current kWh fee policy in your state (select one)?

- My state has passed legislation or implemented a kWh fee policy
- There has been some discussion about a kWh fee as part of a strategy for revenue collection
- It has not been considered
- I am not sure





# Background: Per-kWh Tax Policy

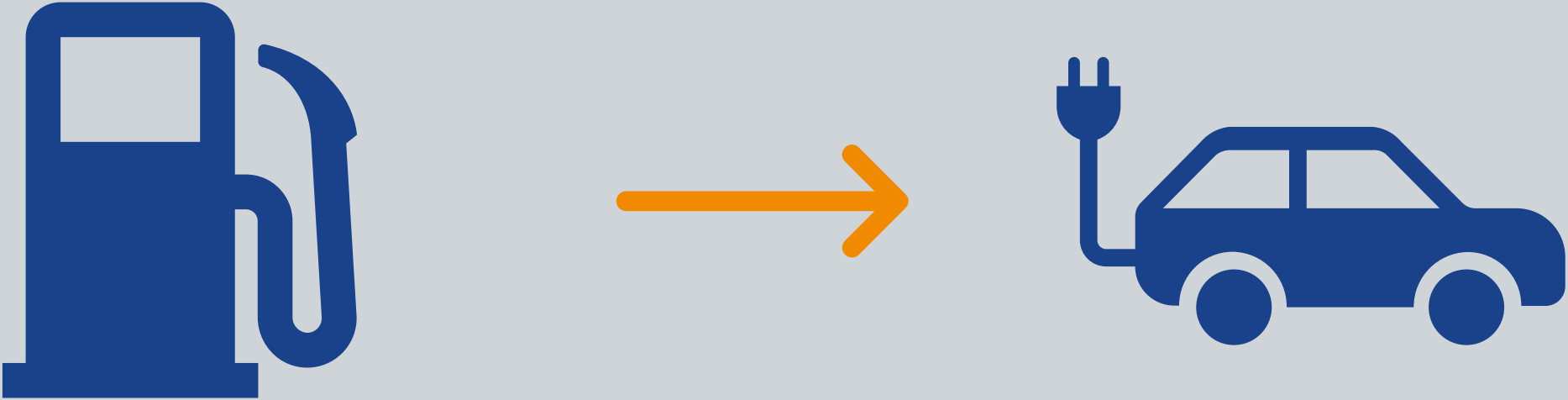


# Roads Need More Funding

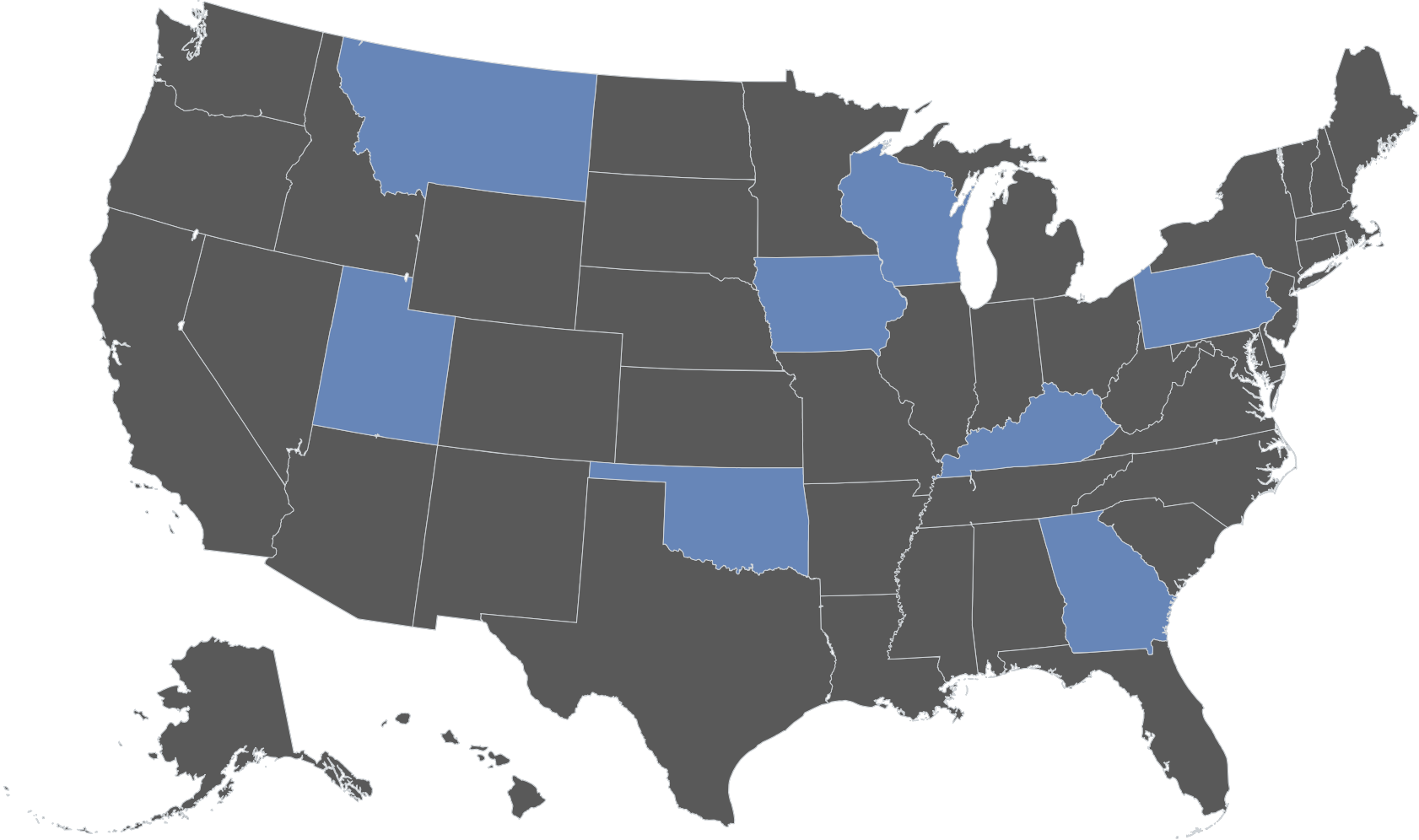
- America's roadways rely on funding to be maintained
- The Gas Tax is the single largest source of funding
- Better fuel economy + EV transition = less revenue
- No single policy can fill the funding gap

# Per-kWh Tax Policy: Part of the Solution

Concept: Taxes the “fuel” an EV needs to run, like the Gas Tax



# Per-kWh Tax Policy: Status Across the U.S.



# SCOOP Research Overview

- Interviewed 7 of 8 states with per-kWh taxes
- Built upon existing road funding research
- Analyzed current per-kWh tax policy implementation and performance
- Developed an equation as a resource for states to measure the revenue generation potential of per-kWh taxes







## Per-kWh Tax Policy Trends:

- Rate can be tied to the energy in a gallon of gas
- Tends to apply to public or non-residential charging
- Most implemented within last two years
- Transparent to drivers via distinct tax on receipts

# Per-kWh Tax Policy: Benefits

- Simple concept that is intuitive for drivers by taxing “fuel” for EVs
- Has potential to be more equitable than flat EV registration fees
- Can be very effective at targeting out-of-state drivers if scoped to public DCFC charging
- Has demonstrated ability to collect revenue, but only on average about 5% the revenue potential of the gas tax, relatively



# Per-kWh Tax Policy: Challenges



Home Charging



Equity Impacts



Tax Collection



Revenue Generation



# Per-kWh Tax Policy Challenges: Home Charging

- 80% of charging occurs at home
- No way to measure use
- Expensive to add meters
- Relies on self-reporting



# Per-kWh Tax Policy Challenges: Equity Impacts

- Most states only tax non-residential or public charging
- People without at-home chargers will pay more
- More likely to impact low-income drivers
- As EV adoption grows, will affect more low-income drivers



# Per-kWh Tax Policy Challenges: Tax Collection

- Gas & Diesel Distributors pay the Gas Tax
- Who pays varies state by state:
  - Utilities
  - Site Hosts
  - Service Providers
  - Private Citizens
- More taxpayers = More difficult administration & enforcement

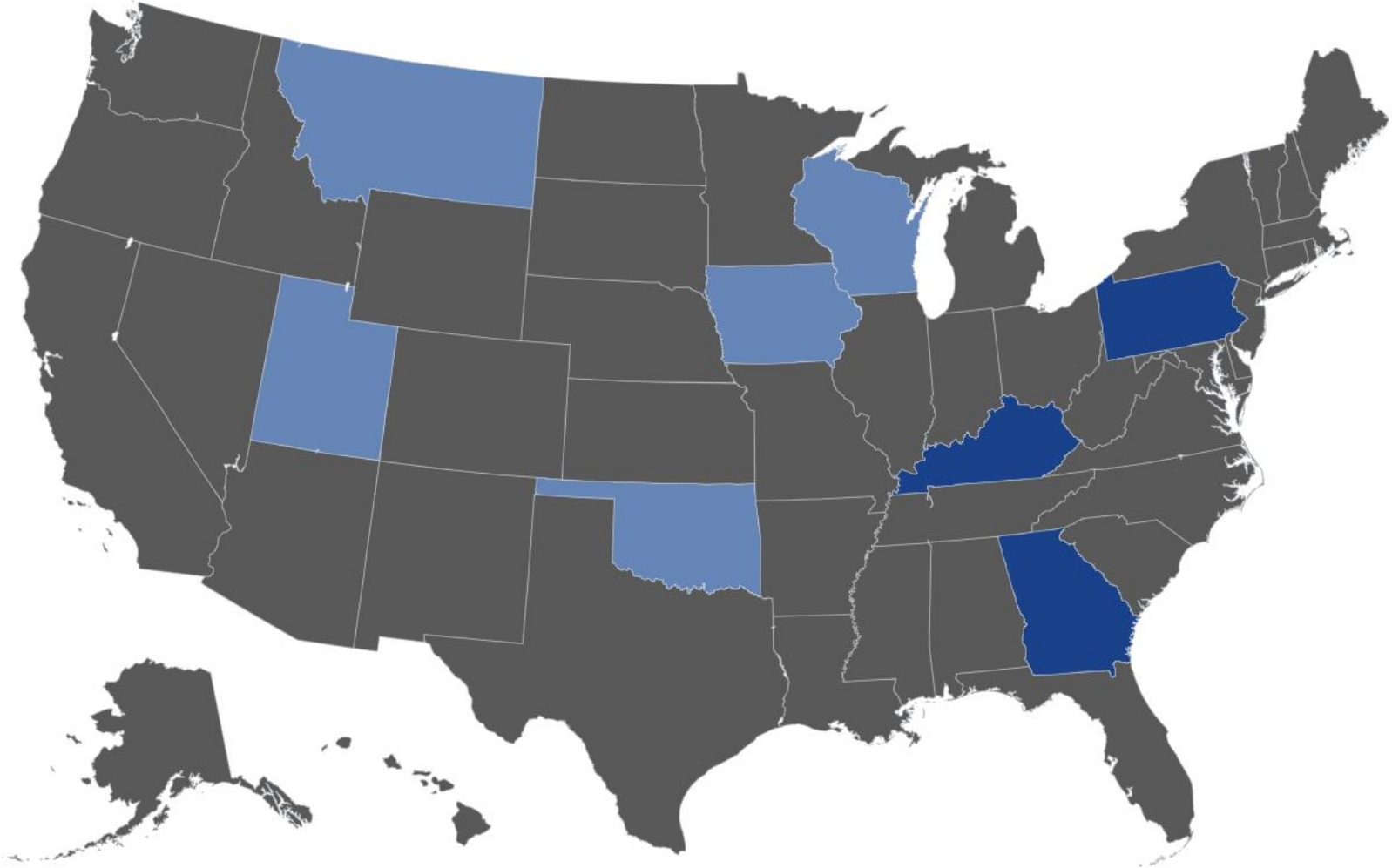


# Per-kWh Tax Policy Challenges: Revenue Generation

- Only 20% of EV charging taxed
- EV adoption rates are low
- EV chargers operate on very narrow margins
- Too soon to tell if current rates will offset administrative costs



# Let's Hear from your Peers







# Member States Per-kWh Tax Reviews

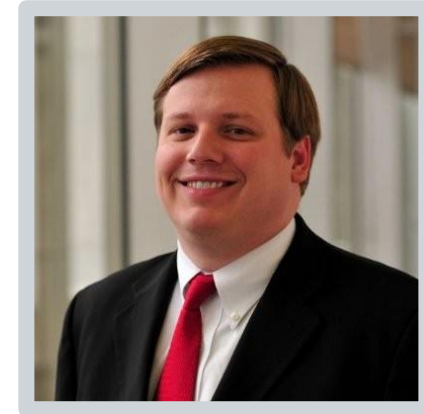
# Speakers



**Shane Rice**  
*Policy Director*  
**Pennsylvania DOT**



**Richard Dobson**  
*Executive Director*  
*Office of Sales & Excise Taxes*  
**Kentucky Department of Revenue**



**Josh Waller**  
*Director of Policy & Government Affairs*  
**Georgia DOT**





# Pennsylvania Per-kWh Policy Overview

# Tax/Legislation Overview (PA)

	Alternative Fuels Tax (Title 75)	New – Senate Bill 656
Per-kWh Tax Rate:	1.72 cents/kWh	Removes residential per-kWh tax.
Rate Methodology:	Based on kWh energy equivalent of gallon of gas (BTUs) and indexed to gas tax rate	Does not change existing rate methodology.
Legislation Passed:	January 1, 1998	July 17, 2024
Rate Effective Date:	December 9, 2023	January 1, 2025
Scope:	Applies to all EV charging within Pennsylvania.	Non-residential and commercial EV charging
Means of Collection:	Through MyPATH, Pennsylvania’s online platform for managing various state tax forms, payments, and accounts.	Unchanged from MyPATH.



# Policy Implementation (PA)

## General Considerations

## PA-Specific Considerations

From whom does the government collect the tax?

All operators of non-residential EV chargers must pay. Previously required all charging operators (i.e., including private residents) to pay.

Payment method/frequency

Taxpayers are responsible for payments monthly via MyPATH.

Auditing/verification of energy use from charging

Over 75% of non-residential EV charging stations are licensed, reporting, and remitting. Field Agents conduct simple records review, potential for full audit.

Transparency to EV drivers at public chargers of tax and tax rate being applied

Not aware of any receipts or invoices that break out Alt. Fuels Tax (AFT) for consumer – similar to most gas stations not specifying state or federal gas taxes.



# Challenges Experienced/Anticipated (PA)

General Considerations	State-Specific Considerations
Registering taxpayers with the state	Registering via MyPATH is designed for businesses, not residents. Determining the owner of L2s can be challenging. New chargers are primarily identified from Dept. of Energy's Alt. Fuels Data Center and receive an "Alt. Fuels Tax Activity Inquiry" letter, with instructions to register and report.
Taxpayer challenges measuring use (e.g., lack of metering, taxpayer is upstream of charger operation)	"Dumb" L2s and private residents cannot measure use
Tax enforcement	PA never tried to enforce the per-kWh tax on private residents and could never verify those few residents who did report due to lack of metering.
Public perception of the tax	Most private residents were not aware of the AFT but agree that EVs should contribute to the Motor License Fund. Have not heard much negative opinions of the EV fee, but it has not been implemented yet.
Compounding taxes/fees on EVs	PA now has an EV registration fee & non-residential charging fees, which compound with no at-home charging.



# Long-Term Policy Performance (PA)

General Considerations	State-Specific Considerations
Adjustments to the rate (the rate itself and how it's calculated)	AFT rates fluctuate with the Liquid Fuels Tax rate. No current discussion of changing calculation. That could change as more medium and heavy-duty EVs are available; the EV fee only applies to vehicles under 14k lbs GVWR.
Will revenue generation be greater than administrative costs?	PennDOT suspects that scoping the tax to both L2 & DCFC chargers will be unsustainable due to enforcement and verification costs for L2s, but DCFCs would be more sustainable and easier/cheaper to verify.
Effectiveness of addressing road funding gap	If all cars were EVs in PA, current rate only results in \$169M in revenue—compared to \$3.6B in gas tax revenue.
Equity impacts to drivers without at-home chargers	Drivers without at-home chargers now pay both annual registration fee & per-kWh tax.
Potential to discourage EV adoption	Not a significant impact at current rates/fee, but could be a factor on lower-priced, used vehicles in the future, particularly for middle- and low-income consumers with low annual VMT.



The background features a faint, light blue graphic of the Kentucky state seal, which is a shield containing a plow, a sheaf of wheat, and a bundle of cotton. Below the seal is a faint outline map of the state of Kentucky. The text is centered over this graphic.

# Kentucky Per-kWh Policy Overview



# Tax/Legislation Overview (KY)

House Bill 8	Details
Per-kWh Tax Rate:	3.0 cents/kWh
Rate Methodology:	Undefined in legislation and accompanying reports.
Legislation Enacted:	April 14, 2022
Became Law on:	January 1, 2024
Scope:	Publicly accessible chargers only.
Means of Collection:	Charging station operators must register initially and then file tax reports monthly via an online portal.



# Policy Implementation (KY)

General Considerations	KY-Specific Considerations
From whom does the government collect the tax?	Publicly-accessible charging station operators
Payment method/frequency	Monthly via online portal
Auditing/verification of energy use from charging	Requires per-port reporting of energy use. Charging station records subject to audit to reconcile w/ returns filed.
Transparency to EV drivers at public chargers of tax and tax rate being applied	The tax is added to the selling price of the power provided at the electric vehicle charging station.



# Challenges Experienced/Anticipated (KY)

General Considerations	State-Specific Considerations
Registering taxpayers with the state	KY continues to work through the process to determine who owns the ~300 stations in the state to determine whether the stations are subject to tax and who is responsible to file & report. Department of Energy website (Alternative Fuels Data Center) is monitored monthly for new public charging station locations.
Taxpayer challenges measuring use (e.g., lack of metering, taxpayer is upstream of charger operation)	Minimized by excluding chargers with no selling price that were installed before July 1, 2022, and all charges with a charging capacity of less than 20 kilowatts (Level 2 chargers eliminated from the base by 2024 legislation in HB 122).
Tax enforcement	This new excise tax is incorporated into our normal administrative practices for tax compliance. Contacts are made to provide registration guidance and filing assistance.
Public perception of the tax	Other than push back from Level 2 owners, there has been minimal feedback.
Compounding taxes/fees on EVs	KY has both the per-kWh fee and an EV registration fee, compounding the costs to EV drivers.



# Long-Term Policy Performance (KY)

General Considerations	State-Specific Considerations
Adjustments to the rate (the rate itself and how it's calculated)	The Department of Revenue adjusts the rate annually based upon the percentage change in the quarterly National Highway Construction Cost Index 2.0 from the current year to the previous year. Annual adjustments cannot increase or decrease more than 5% or go below the initial base of \$0.03 per kilowatt hour.
Will revenue generation be greater than implementation costs	Yet to be determined.
Effectiveness of addressing road funding gap	Yet to be determined.
Equity impacts to drivers without at-home chargers	KY Legislature needs to assess these matters
Potential to discourage EV adoption	Yet to be determined; however, rates are currently minimal.



The background features a faint, light blue graphic of the Georgia state seal, which is a shield containing a plow, a sheaf of wheat, and a bundle of cotton. Below the shield is a map of the state of Georgia. The text "Georgia Per-kWh Policy Overview" is centered over this graphic in a white, bold, sans-serif font.

# Georgia Per-kWh Policy Overview

# Tax/Legislation Overview (GA)

Senate Bill 146	Details
Per-kWh Tax Rate:	2.8 cents/kWh (Estimate)
Rate Methodology:	Kilowatt excise tax rate is pegged to the excise rate for gasoline; motor fuels are indexed annually to Consumer Price Index and an index of the statewide fleet fuel economy. The gallon of gasoline/kWh equivalency can be adjusted but cannot exceed 11 kWh to a gallon.
Legislation Enacted:	May 2, 2023
Became Law on:	July 1, 2023 to take effect on January 1, 2025 but extended to January 1, 2026
Scope:	Applies to all non-residential charging (residential defined as non-commercial charging located at single-family and multi-family dwellings or extended stay residency buildings)
Means of Collection:	Excise tax applies to non-residential chargers and is remitted by charging station operator. <i>Impact of residential charging is considered offset by the annual alternative fuel vehicle (EV) registration fee which is currently \$219.84 for non-commercial vehicles and \$329.86 for commercial vehicles (annually indexed to CPI &amp; statewide CAFE index).</i>



# Policy Implementation (GA)

## General Considerations

## GA-Specific Considerations

From whom does the government collect the tax?

Charging station operators

Payment method/frequency

Monthly form to the GA Dept. of Revenue (DOR)

Auditing/verification of energy use from charging

Similar to existing DOR auditing regime of sales tax remittance. Nuanced process auditing/verification of devices continues to be under development pending on-going evaluations of current and emerging technology.

Transparency to EV drivers at public chargers of tax and tax rate being applied

Requires prominent display of kWh discharge rate either at the station or via a digital network to a user's device; pricing and tax rates must be displayed uniformly and marketed accurately. Enforcement authorized.



# Challenges Experienced/Anticipated (GA)

General Considerations	State-Specific Considerations
Registering taxpayers with the state	Public (non-residential) chargers must be registered with the GA Department of Agriculture (DOA).
Taxpayer challenges measuring use (e.g., lack of metering, taxpayer is upstream of charger operation)	With collection beginning in 2026, focus has been on technology options for oversight and validation of chargers by DOA.
Tax enforcement	Oversight and enforcement of collection and remittance follows DOR's existing audit regime and will likely rely upon the GA DOA's registry to some degree.
Public perception of the tax	With collection beginning in 2026, feedback on public perception is limited.
Compounding taxes/fees on EVs	To reduce compounding, residential charges are exempt from excise tax; commercial charging captures out of state registration transit impact; greater interest in some reform of the EV registration uniform fee.





# Long-Term Policy Performance (GA)

General Considerations	State-Specific Considerations
Adjustments to the rate (the rate itself and how it's calculated)	Rate will be adjusted annually pegged to gasoline tax rate indexed to CPI and statewide fleet fuel economy.
Will revenue generation be greater than implementation costs	Too soon to tell. Will not take effect until January 2026.
Effectiveness of addressing road funding gap	Approximates revenue to mileage/impact embedded within the gas tax rate and indexes but not more.
Equity impacts to drivers without at-home chargers	Definition of residential charging sought to capture a broad range of housing accommodations and private charging.
Potential to discourage EV adoption	Deemed to have limited impact on EV adoption particularly compared to other price point considerations that affect an individual decision to purchase an EV.







# Panel Discussion

# Speakers & Topic Areas



**Shane Rice**  
*Policy Director*  
Pennsylvania DOT



**Richard Dobson**  
*Executive Director*  
*Office of Sales & Excise Taxes*  
Kentucky Department of Revenue



**Josh Waller**  
*Director of Policy & Government Affairs*  
Georgia DOT

• **Legislation**

• **Implementation**

• **Communications**



# Poll #2

What else can TETC do on this topic that would be helpful (select one)?

- I'm good for now, this gives me what I need
- Provide an update on this topic in a year, noting what is new/changed
- It would be great if you could... [PLEASE ADD SPECIFICS IN CHAT]





**Wrap Up**

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# THANK YOU

**GINNA REEDER**  
**Innovation Program Director**

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