



THE VOLKSWAGEN SETTLEMENT

**AN ELECTRIFYING OPPORTUNITY FOR EV
CHARGING**

OCTOBER 10, 2019



SPEAKERS

Moderator:

Hon. Maria S.
Bocanegra

- Commissioner,
Illinois
Commerce
Commission

Speakers:

Nick Nigro

- Founder, Atlas
Public Policy

Hanna Terwilliger

- Economic
Analyst,
Minnesota Public
Utilities
Commission

Dan Weekley

- Vice President of
Innovation,
Dominion Energy



VW Settlement Overview

Background on VW settlement and current status

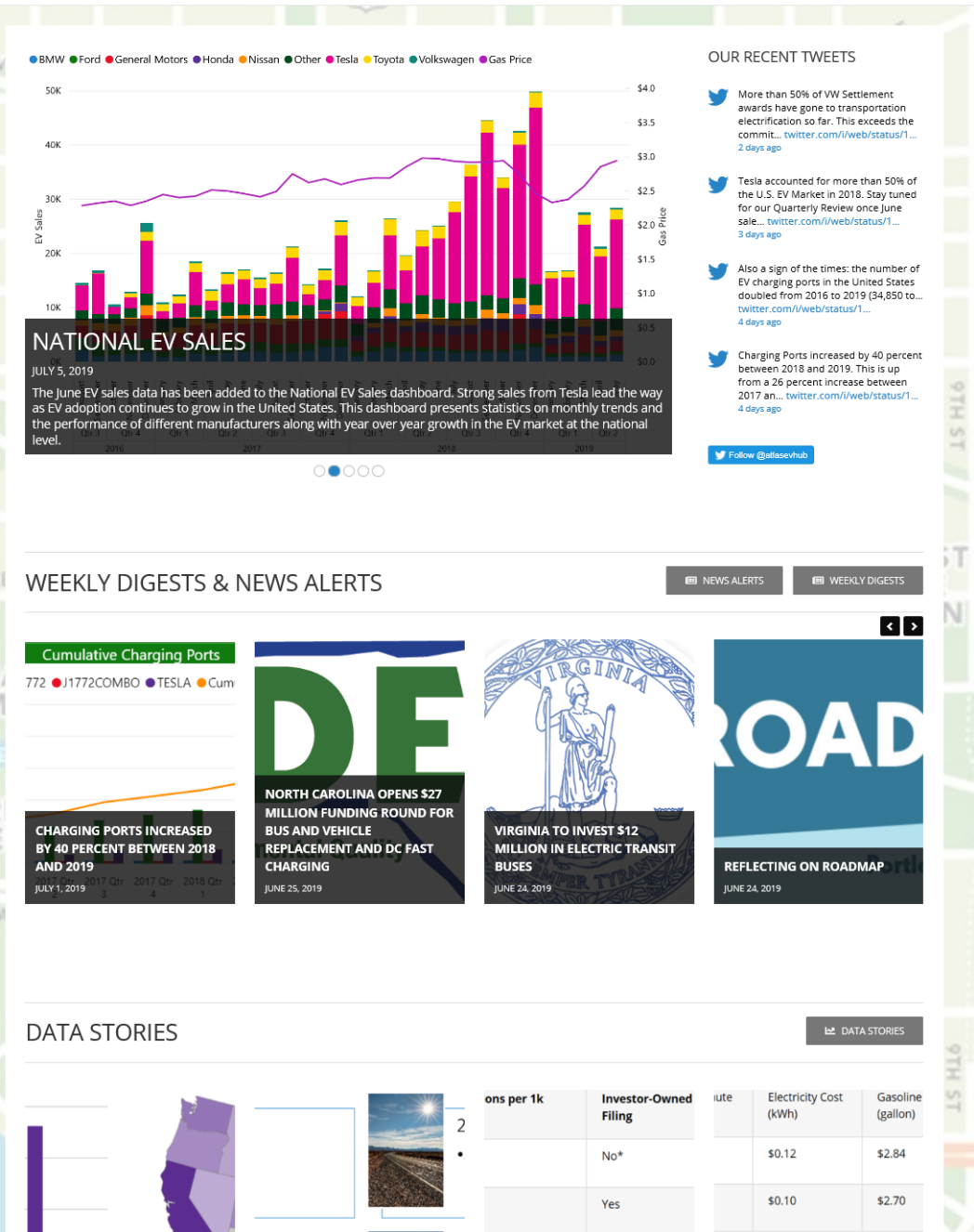
About Atlas Public Policy

WWW.ATLASPOLICY.COM

- DC-based policy tech firm started in 2015
- We equip businesses and policymakers to make strategic, informed decisions through the greater use of technology that aggregates publicly available information

Our Key Focus Areas

- **Access:** Collect and disseminate publicly available information.
- **Interpret:** Create technology to spur insights and conduct data-driven analyses.
- **Empower:** Strengthen policymakers, businesses, and non-profits' ability to meet emerging challenges and identify and seize opportunities.



ABOUT THE ATLAS EV HUB

- The EV Hub gives stakeholders from across the EV industry quick access to key data and information on the market, policies and regulations, and activities by the EV community
- A one-stop shop for businesses, policy professionals, and the advocacy community to learn more about what's going on in the EV market
- A comprehensive platform for the EV community: www.atlasevhub.com

Free access for public agencies and Clean Cities Coordinators!

\$10 billion to **buyback** or modify these vehicles

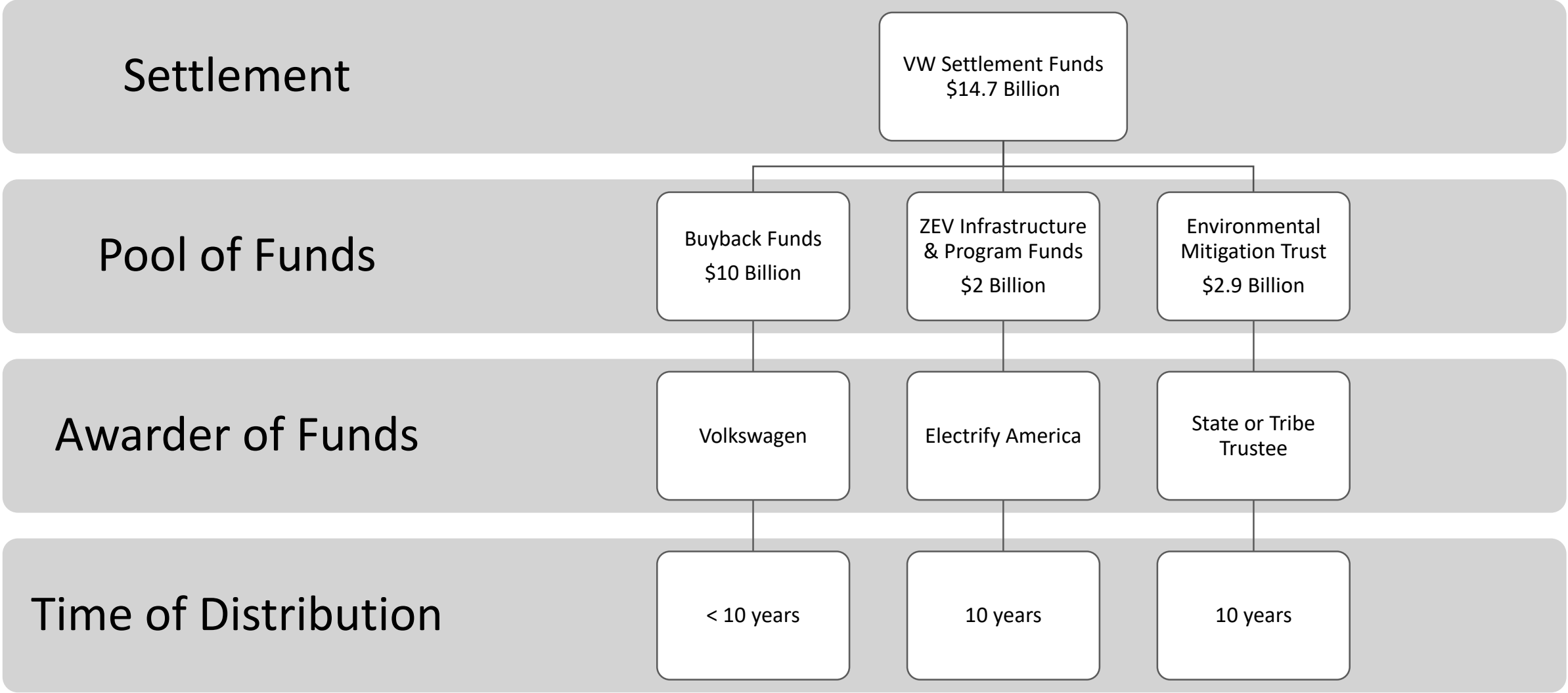
\$2 billion on zero emission vehicle **infrastructure** and programs distributed by its independent company, Electrify America.

\$2.9 billion in an environmental mitigation trust for states and tribes to use

\$1.45 billion civil penalty

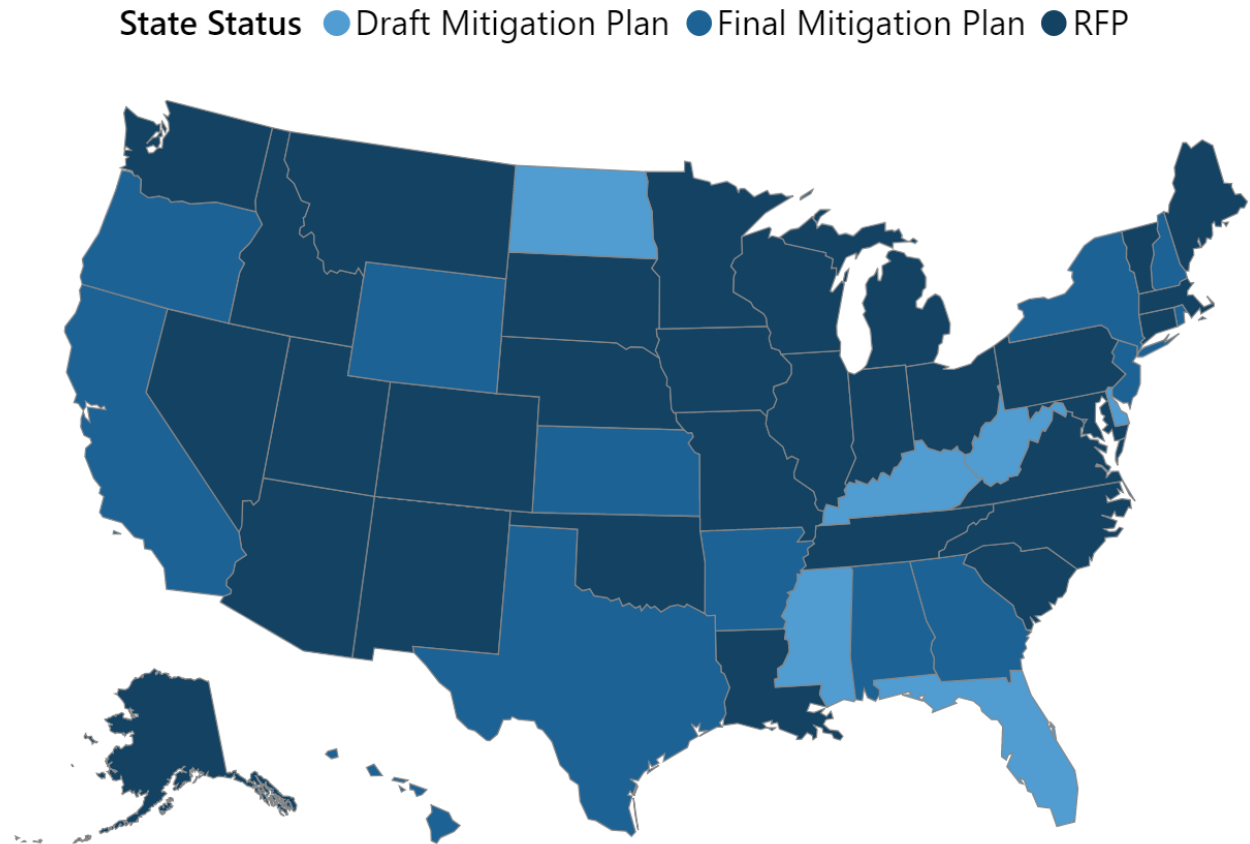
VW: largest environmental
settlement in U.S. history

Simplified Illustration of VW Settlement Fund Distribution



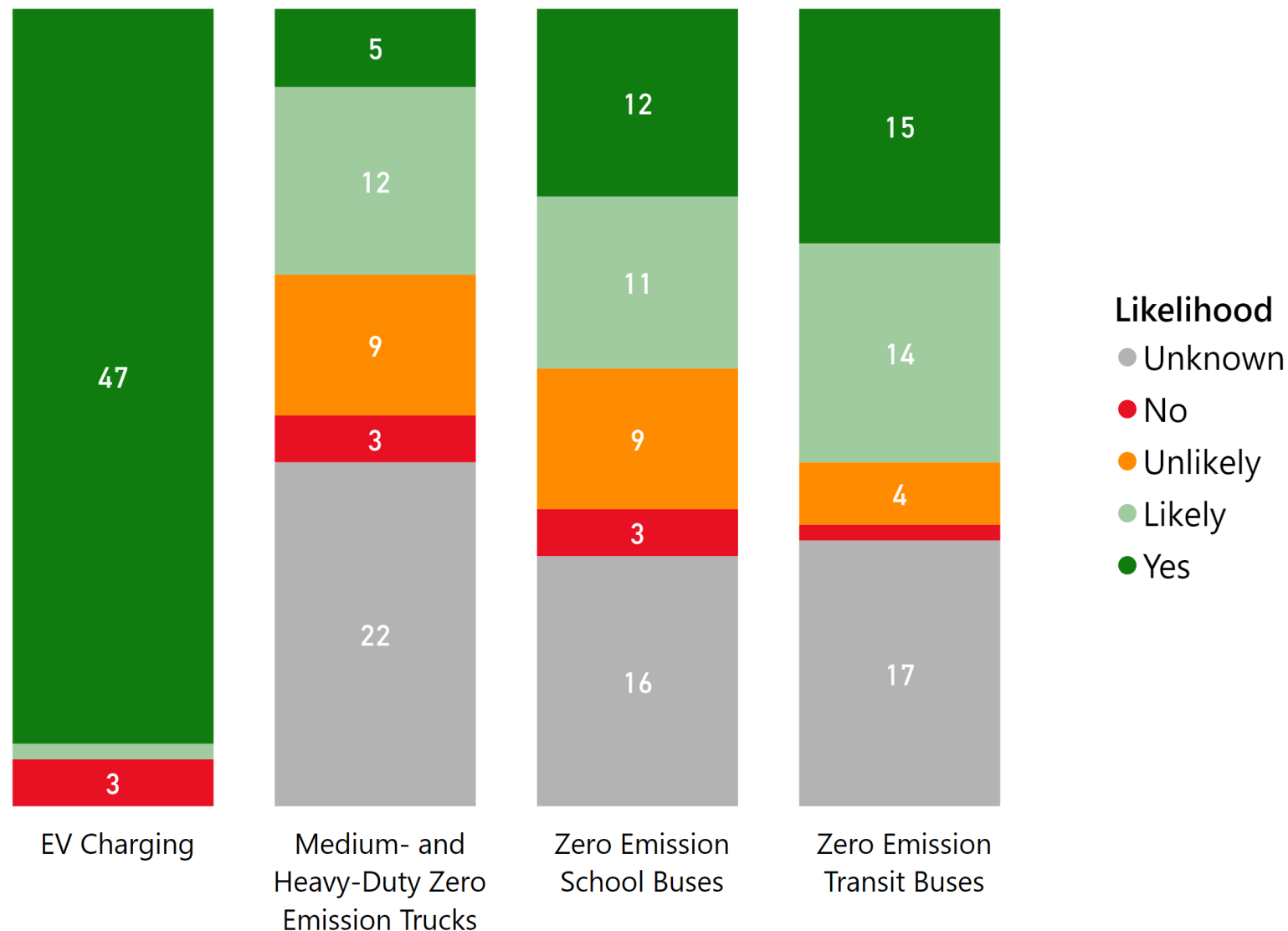
Status of VW Settlement Spending

- All states have published mitigation plans
 - 45 plans are final
- 31 states have issued RFPs as of October 2019
- 9 RFPs are currently open



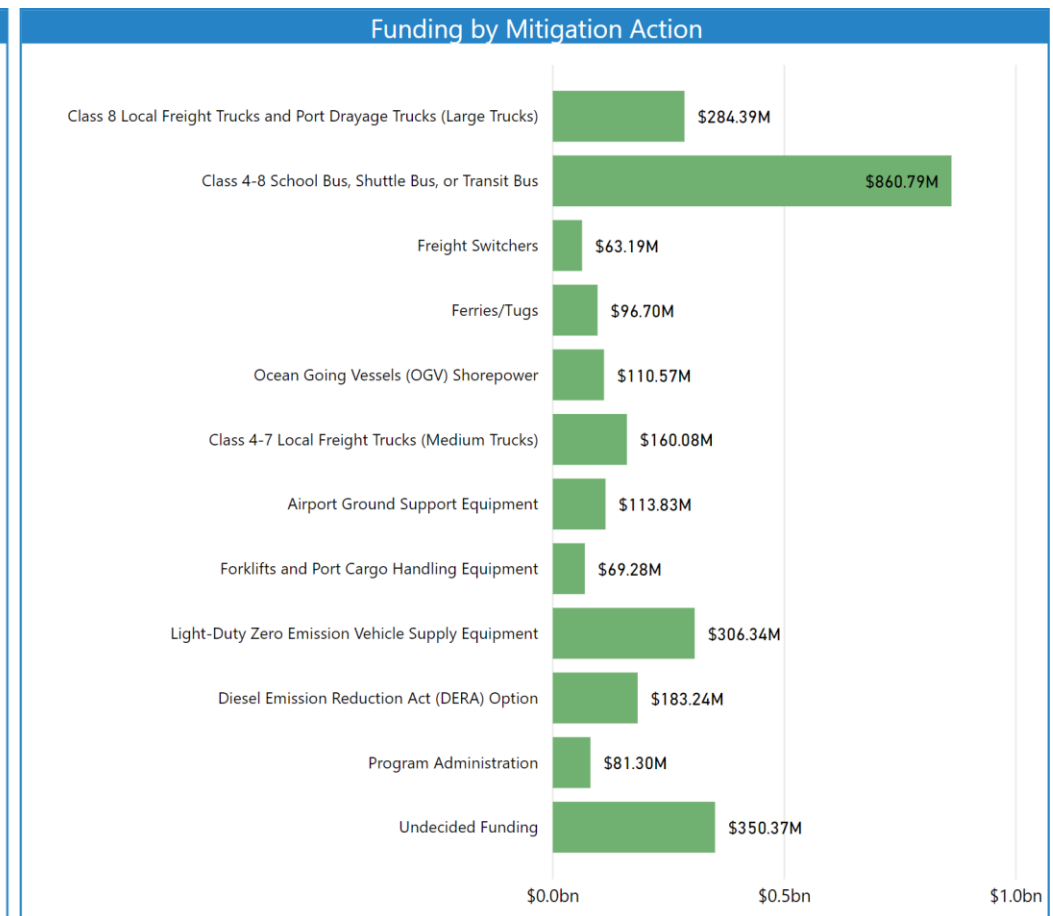
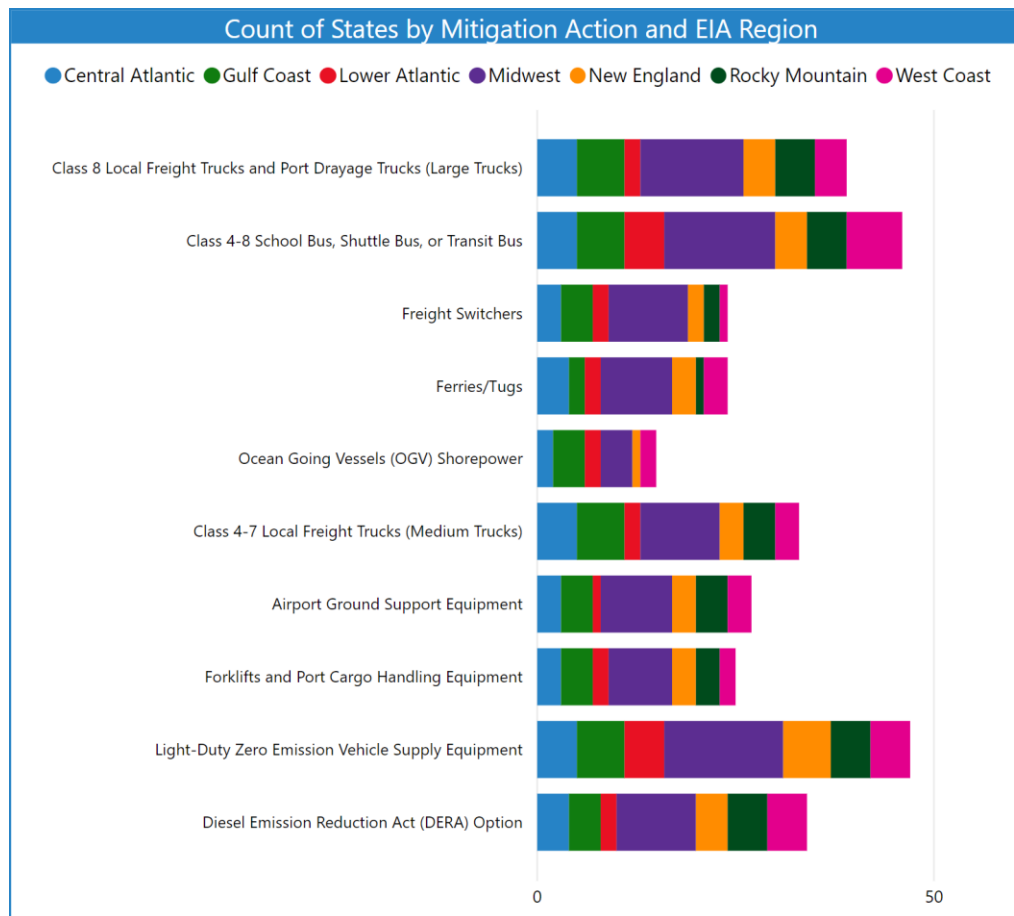
Likelihood of Using Settlement Funds for ZEVs and EV Charging

*Most states have confirmed
funding for EV charging & ZEV
school & transit buses*



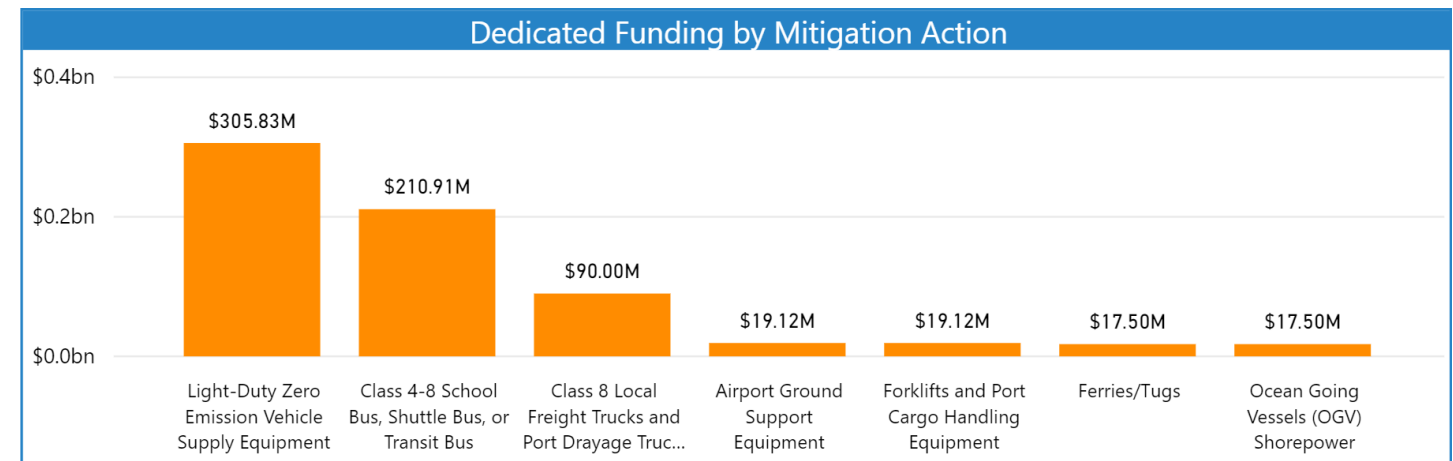
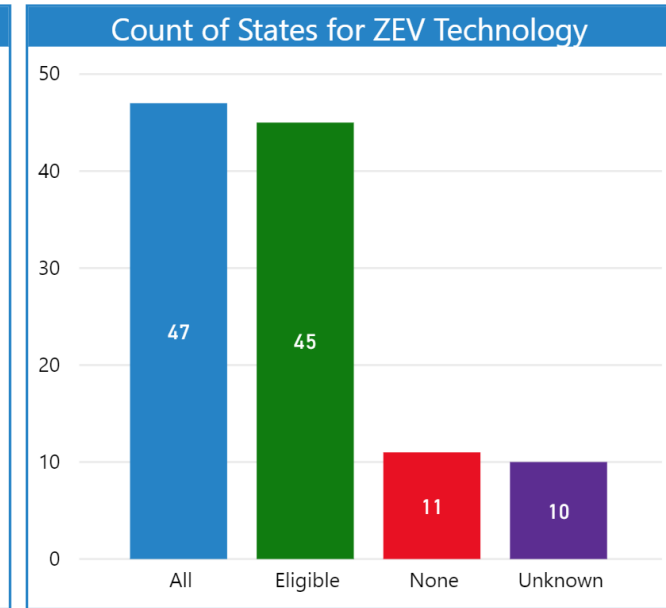
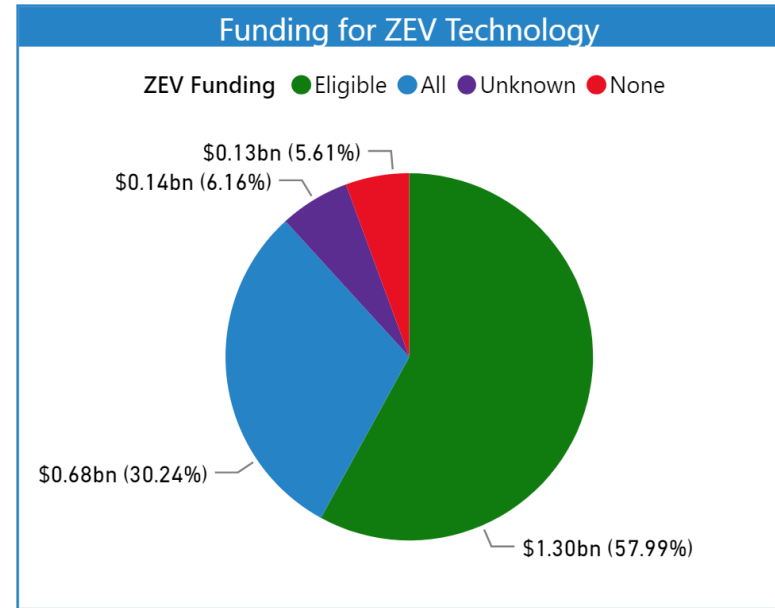
Mitigation Plan Analysis

- 51 plans have been released (\$2.68b total funding)
- 20 states aim to target greenhouse gas emission reductions



Breakdown of ZEV Funding

- Nearly all mitigation plans have some allocation for ZEVs
- Eligibility of funds for ZEVs is largely an unknown
- Dedicated funds (“All”) provides certainty for ZEV technology
 - EV charging largest benefactor
 - Rhode Island has highest share of dedicated funding: 85%
 - Arizona, DC, Oregon, and Wisconsin, and have no dedicated funding pots
 - Wisconsin and DC have already issued funds for ZEV

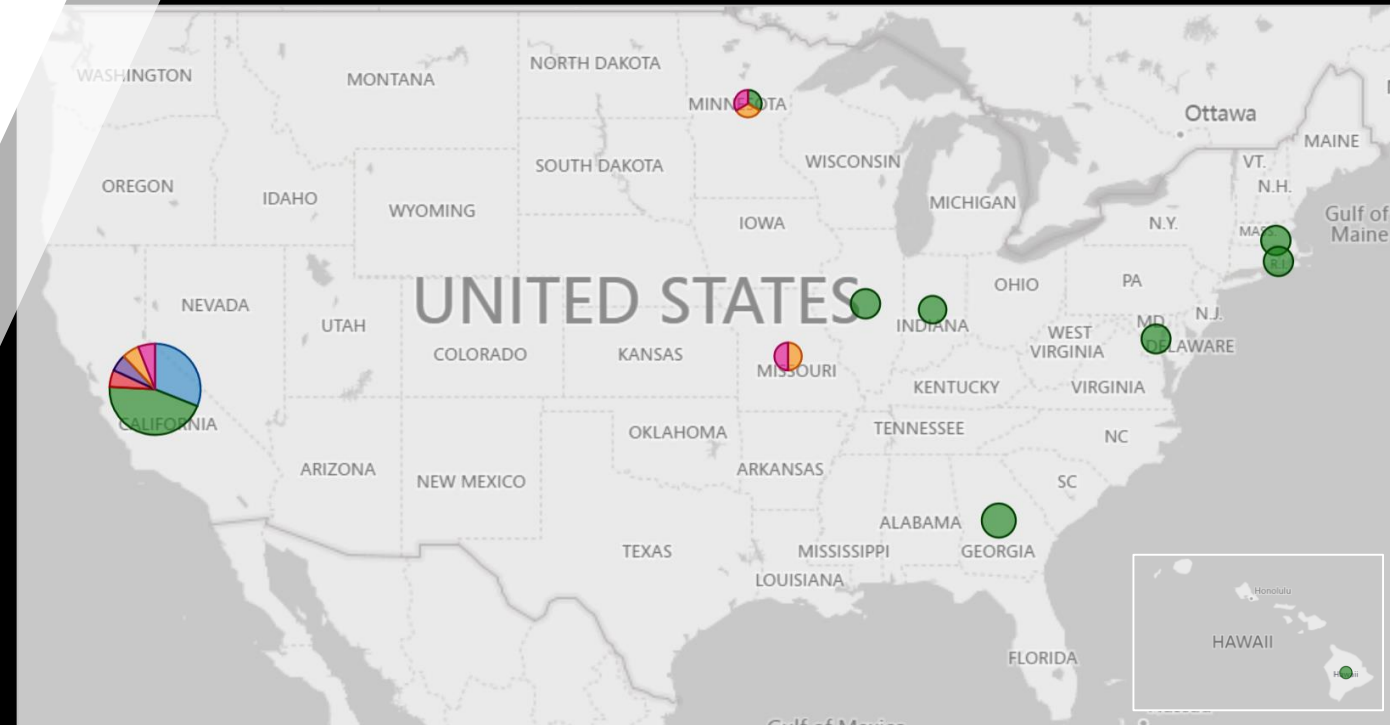


ZEV Funding Opportunities

- 10 states have dedicated funding programs for zero emission trucks & buses
- Most programs target school and transit buses
 - Virginia School Bus Replacement Program (\$20m)
 - Washington Transit Bus Replacement Program (\$13m)
 - Electric Transit Buses for the Pioneer Valley and Martha's Vineyard Transit Authority (\$11m)

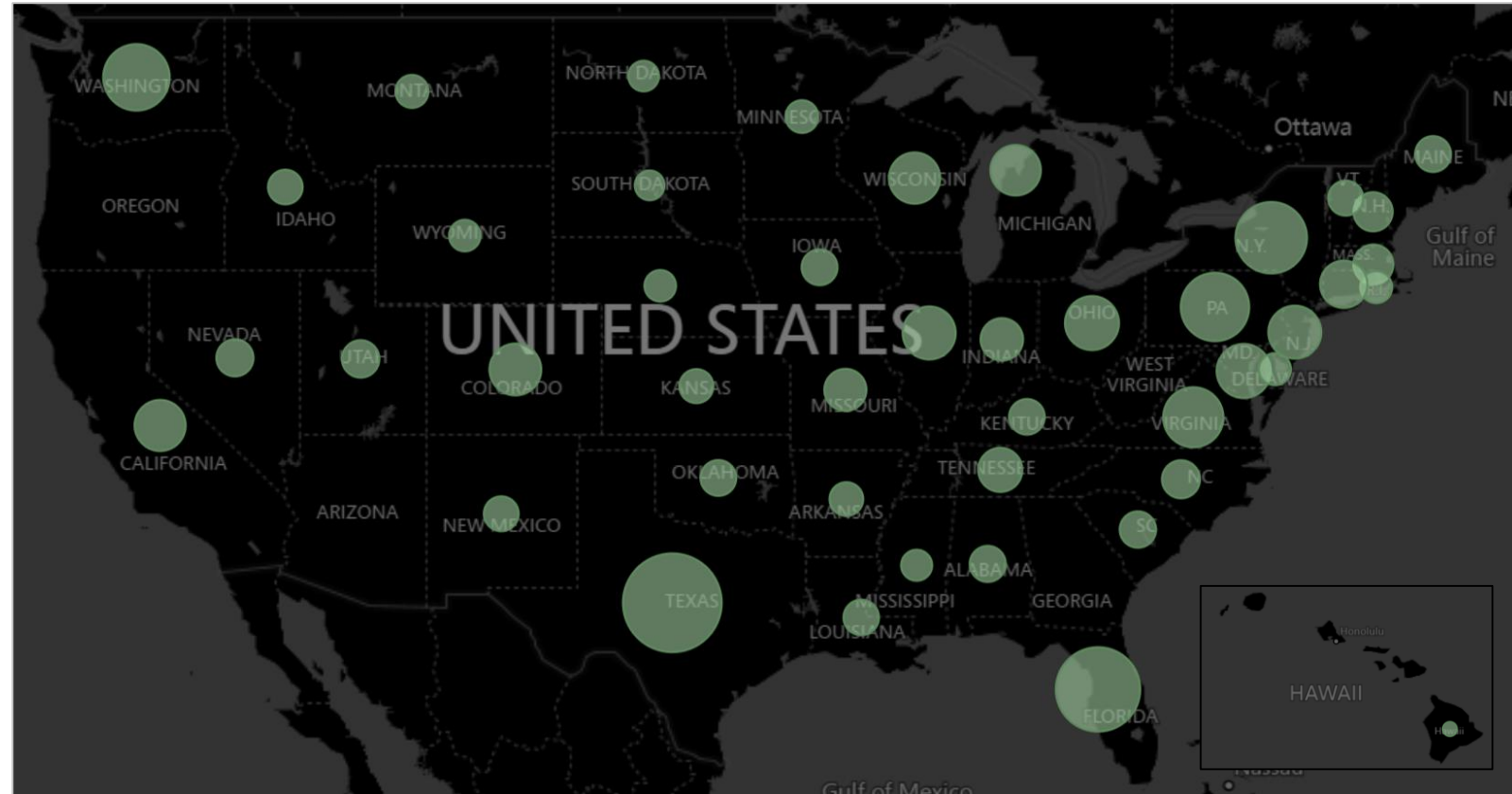
Mitigation Action

- Class 8 Local Freight Trucks and Port Drayage Trucks (Large Trucks)
- Class 4-8 School Bus, Shuttle Bus, or Transit Bus
- Ferries/Tugs
- Ocean Going Vessels (OGV) Shorepower
- Airport Ground Support Equipment
- Forklifts and Port Cargo Handling Equipment

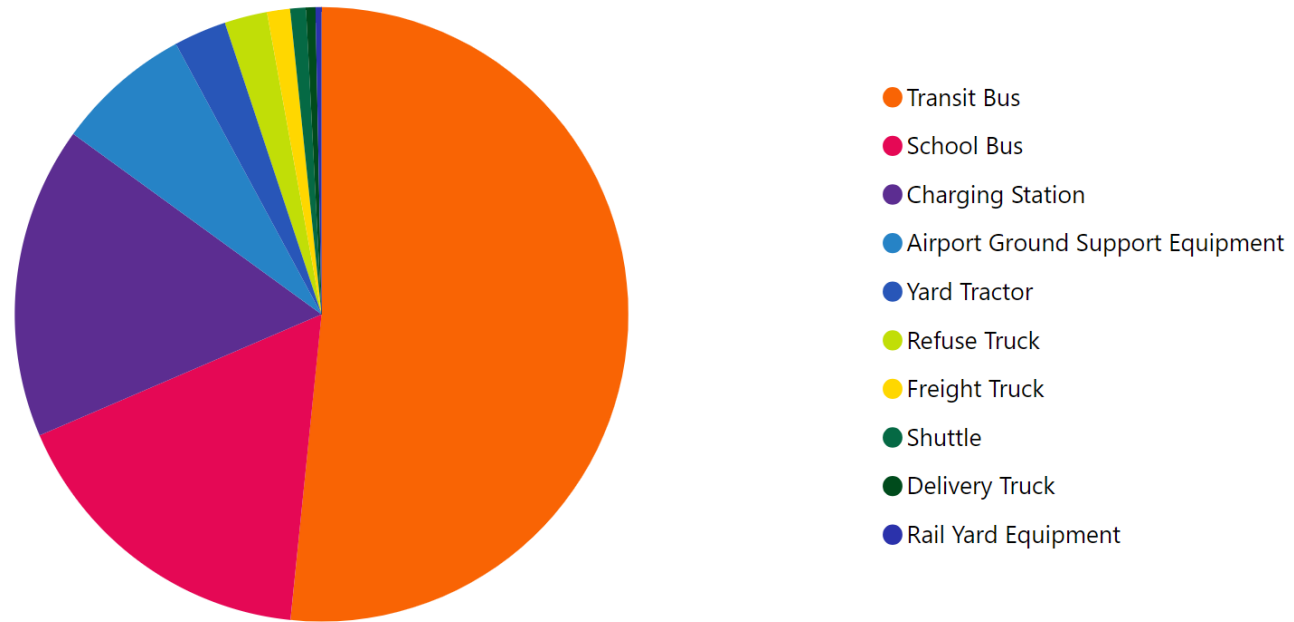


EV Charging Funding Opportunities

- \$306m total going to EV charging from 46 states
- 37 states allocating max (15%) for EV charging
- Texas largest investment (\$31m) followed by Florida (\$25m), & New York (\$19m)
- VW settlement rare opportunity to fund EV charging for most states
 - California not in top 10 investment total

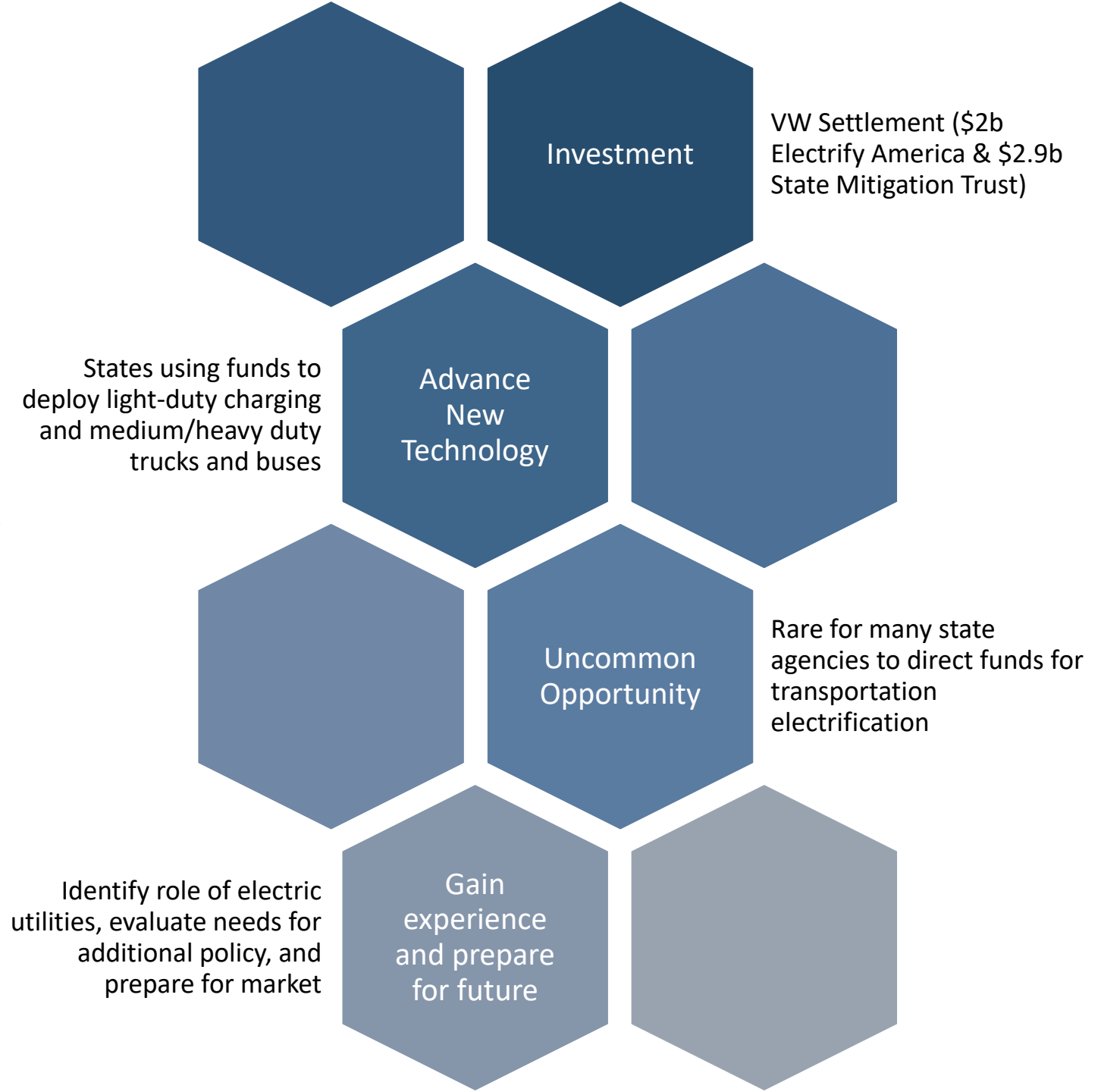


VW Settlement Funding Awards



- 21 states have awarded \$166m to transportation electrification as of October 2019
- \$86m towards transit buses (51%)
- \$28m to school buses (17%)
- \$27m to charging stations (16%)

Why electric utility industry should care





ATLAS
PUBLIC POLICY

WWW.ATLASPOLICY.COM
WASHINGTON, DC USA

nick.nigro@atlaspolicy.com



Minnesota EV coordination

Hanna Terwilliger | Economic Analyst

The ideas expressed are the views of the presenter, and not the Minnesota Public Utilities Commission.

Minnesota Public Utilities Commission

- The Commission's mission is to protect and promote the public's interest in safe, adequate and reliable utility services at fair, reasonable rates.
 - Quasi-judicial
 - Independent, consistent, professional and comprehensive oversight and regulation of the following industries "affected with the public good": electricity, natural gas, need for and physical location of "large energy facilities", and limited telecommunication (landline phone.)
- Approximately 60 staff in Executive, Financial Analysis, Economic Analysis, Energy Facilities Permitting, Legal, Consumer Affairs Office, and Administrative Services.



Katie Sieben
Chair



Dan Lipschultz
Vice Chair



Matt Schuerger
Commissioner



John Tuma
Commissioner

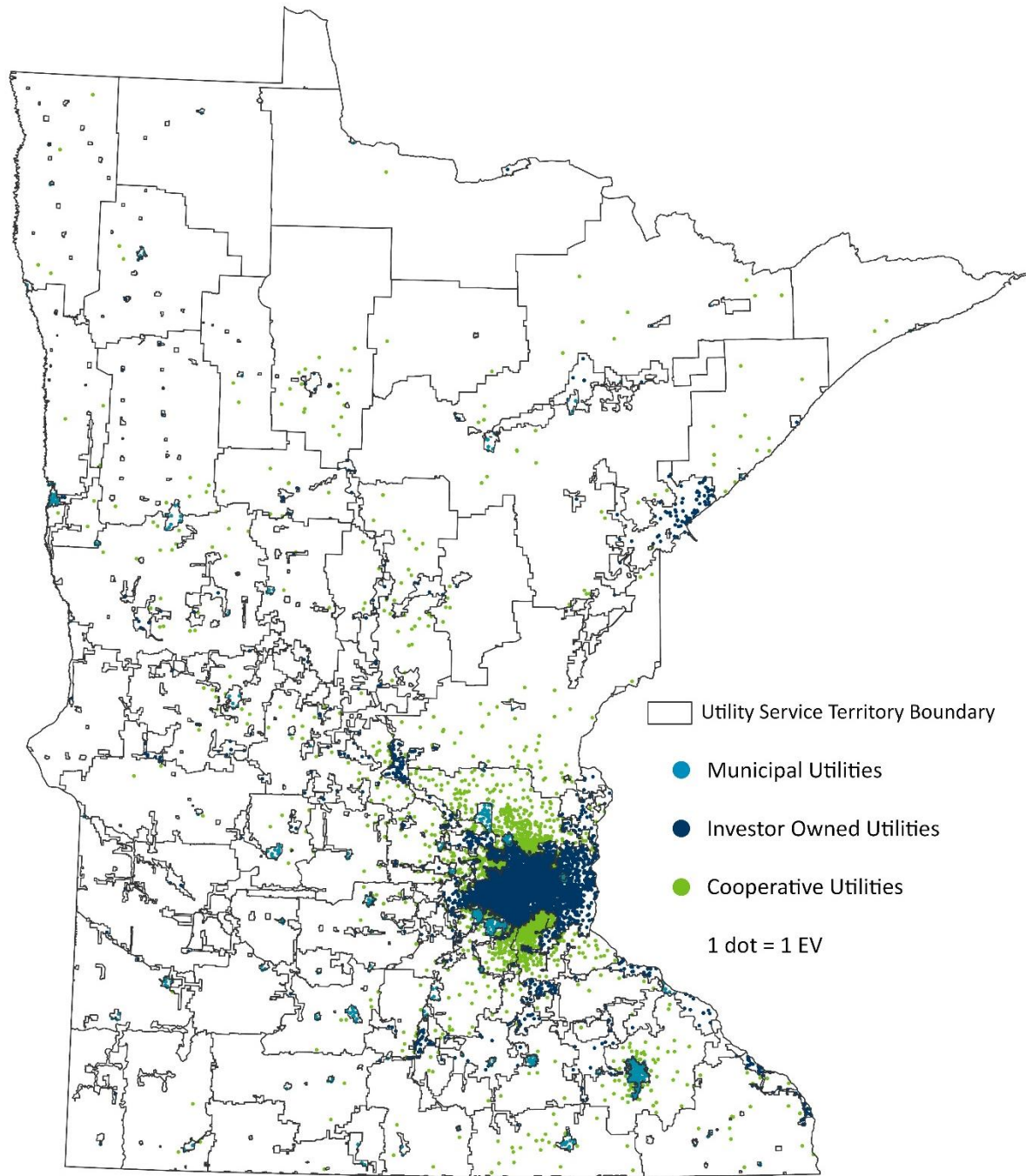


Valerie Means
Commissioner

EV Regulations in Minnesota

- Minnesota Public Utilities Commission
 - EV Charging providers exempt from PUC regulation
 - Minn. Stat. 216B.02: *“public utility”...does not include ... a retail seller of electricity used to recharge a battery that powers an electric vehicle*
 - PUC reviews and approves utility EV rate and infrastructure pilots and program requests from regulated utilities
- Minnesota Pollution Control Agency (MPCA)
 - regulates air quality: Gov. Walz announced MN to adopt ZEV standards, MPCA will do rulemaking
 - oversees funds disbursement for VW Settlement

EVs in Minnesota



Docket #	Description	Utility
12-874	Residential Electric Vehicle Service Time of use and off peak charging options	Dakota Electric Association
15-111	Residential Electric Vehicle Charging Tariff Time-of-Day charging option in compliance with Minn. Stat. 216B.1614	Xcel Energy
15-112	Off-Peak Electric Vehicle Rider Off-peak charging option in compliance with Minn. Stat. 216B.1614	Otter Tail Power
15-120	Residential Electric Vehicle Service Time-of-Day charging option in compliance with Minn. Stat. 216B.1614	Minnesota Power
17-817	Residential EV Service Pilot Time-of-Day charging rate using embedded Level 2 charger submetering technology	Xcel Energy
17-879	Inquiry into Electric Vehicle Charging and Infrastructure Also includes Transportation Electrification Plans	All investor owned utilities
18-643	EV Infrastructure Pilots Make ready infrastructure investments for fleet and public charging	Xcel Energy
19-186	Residential EV Subscription Pilot Flat monthly rate for off-peak charging, includes submetered Level 2 charger in monthly price	Xcel Energy
19-337	EV Commercial Charging Pilot Rate for demand charge relief for fleet and public charging customers	Minnesota Power
19-559 (pending)	Home EV Service Offering Full scale rollout of Xcel Energy's Residential EV Service Pilot	Xcel Energy

Minnesota Volkswagen Settlement

- \$47 million for Minnesota
- 3 Phase deployment of funds (25% - 50% - 25%)
- Phase 1 Grant Programs

Grant program (Settlement category)	Eligible fuels	Targeted amount	Approx. number purchased	Estimated emissions reductions (tons)
School bus replacement program (School buses)	All (diesel, propane, natural gas, electric)	\$2,350,000 (20%)	127	NO _x : 23-28 PM _{2.5} : 1-1.7 GHG: 292-585
Clean heavy-duty on-road vehicles program (Transit buses, class 4-8 trucks)	All (diesel, propane, natural gas, electric)	\$4,112,500 (35%)	137	NO _x : 494-564 PM _{2.5} : 17-34 GHG: 12,543-23,160
Clean heavy-duty off-road equipment program [Switcher locomotives, ferries, tugs, port cargo handling equipment, ocean-going vessel shore power, Diesel Emission Reduction Act (DERA)]	All (diesel, propane, natural gas, electric)	\$1,762,500 (15%)	12	NO _x : 619 PM _{2.5} : 23 GHG: 1,866
Heavy-duty electric vehicle program (School buses, transit buses, trucks, airport ground support equipment, forklifts)	Electric	\$1,762,500 (15%)	14	NO _x : 15-16 PM _{2.5} : 0.5-1.0 GHG: 1,855-4,508
Electric vehicle charging station program (Zero-emission vehicle infrastructure)	Not applicable	\$1,762,500 (15%)	Fast chargers: 20 Level-2 chargers: 45	NO _x : 1.1 PM _{2.5} : 0.05 GHG: 4,632

Why should regulators follow the VW Settlement?

- Information/data about EVs
- Use other agency expertise in quantifying vehicle emissions
- Settlement money can go beyond light duty vehicle electrification and charging infrastructure

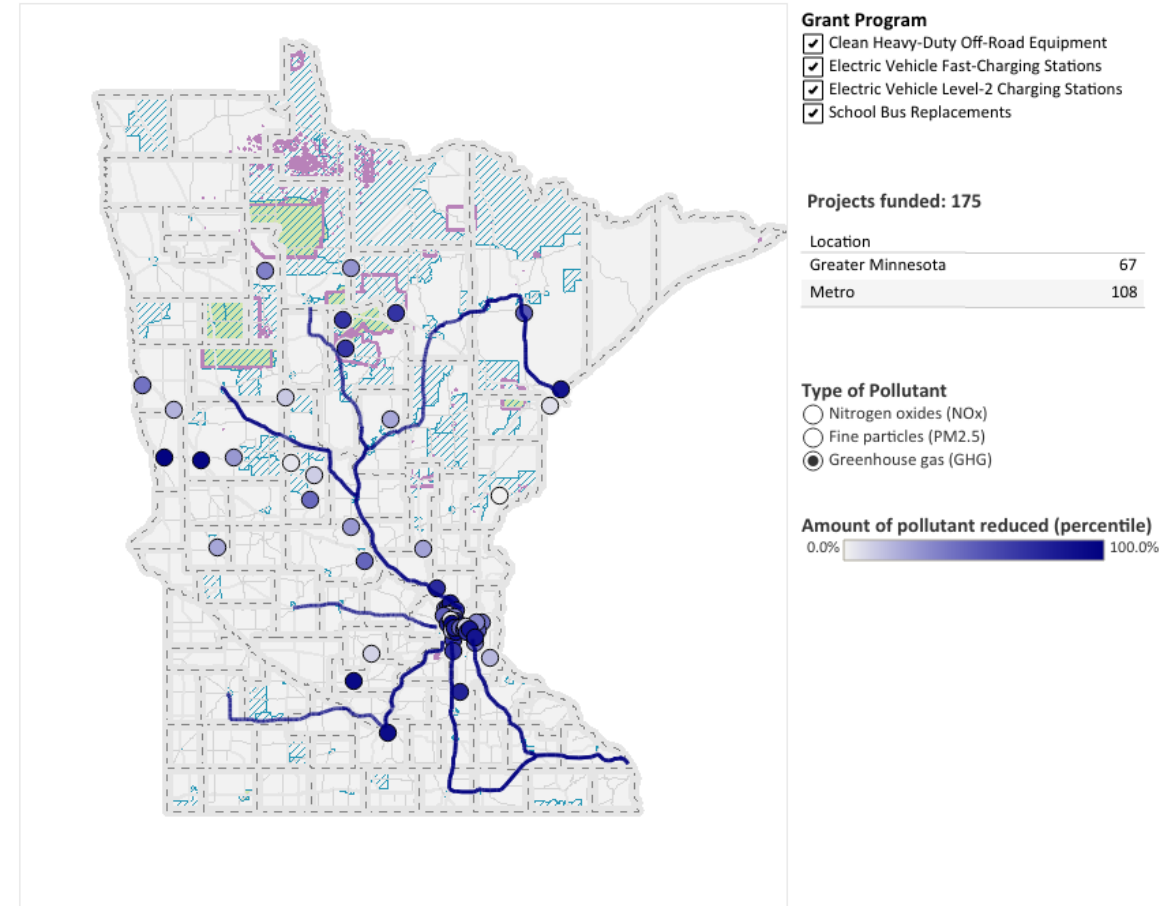
Project Locations and Totals

This map shows the location of the vehicle replacements and electric vehicle (EV) charging stations funded through the VW settlement funds in Minnesota. Each dot on the map represents the ZIP code where the funded projects primarily operate and where emission reductions were achieved. The EV fast-charging corridors show the major roadways along which EV fast-chargers will be installed.* The map also shows Environmental Justice Areas of Concern.

The dots are shaded based on the amount of emissions reduced: the darker the dot, the greater the reductions achieved in that ZIP code. Use the filters to see the reductions achieved by each grant program and by type of pollutant (NO_x, PM_{2.5}, or GHG). Hover over a dot to see the total amount of emissions reduced and the type of vehicle replacements and/or EV chargers installed there, and project grant winner(s).

The data table to the right of the map gives project totals by location; hover over the totals to see the number of specific project types in each location.

**The exact installation location of EV Fast-Charging Stations along the four corridors has not yet been determined.*



MN Interagency EV Working Group

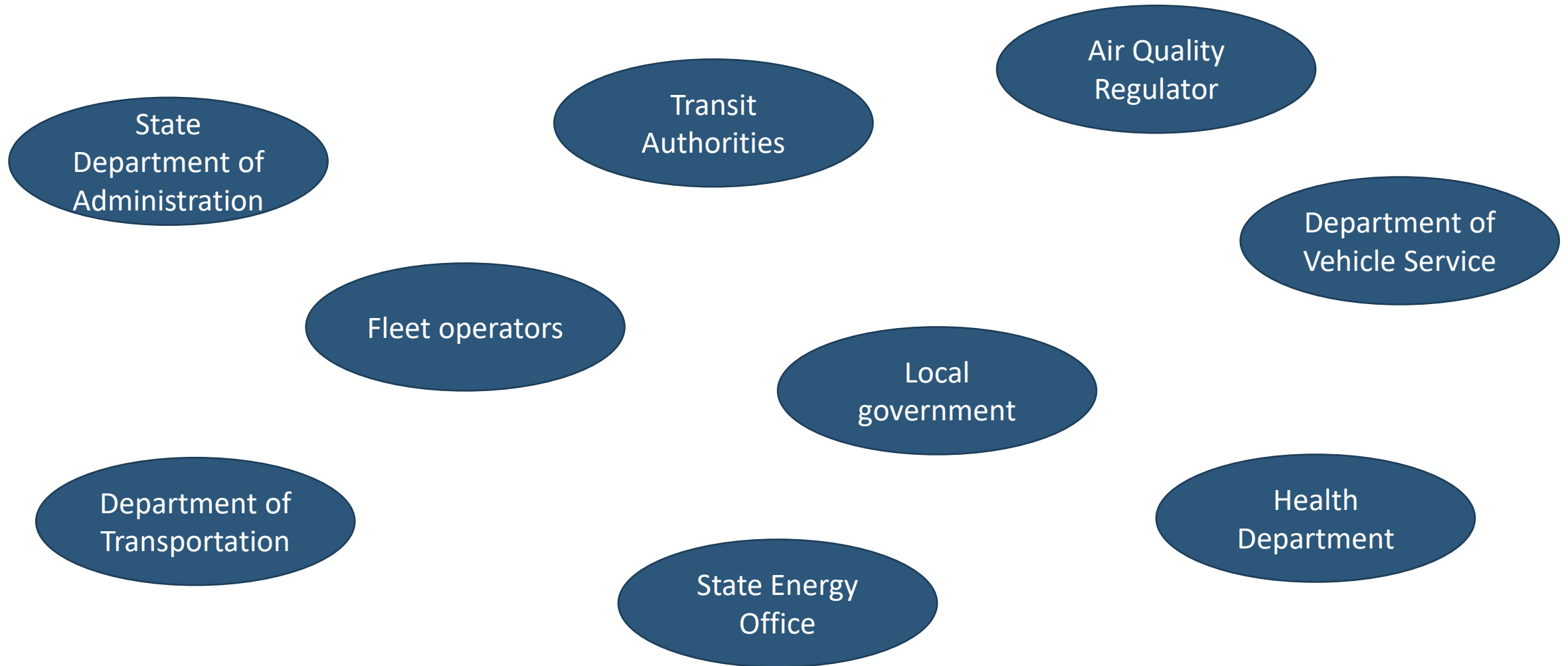
- Goal: share information about agency work on EVs
 - MN Pollution Control Agency (convener)
 - MN Department of Administration
 - MN Department of Transportation
 - MN Department of Commerce
 - State Energy Office
 - Regulatory Division
 - MN Public Utilities Commission
 - MN Department of Health

Challenges for PUCs

- Timing
- Non-collusion clauses for VW settlement managers
- Information asymmetry
- Stakeholder lack of knowledge about regulatory process



What other government entities should regulators talk to about EVs?



Thank you!

Hanna Terwilliger
hanna.Terwilliger@state.mn.us
651-201-2243

mn.gov/puc/energy/electric-vehicles/

Innovating for Growth

VA-Largest US Deployment of
Electric School Buses

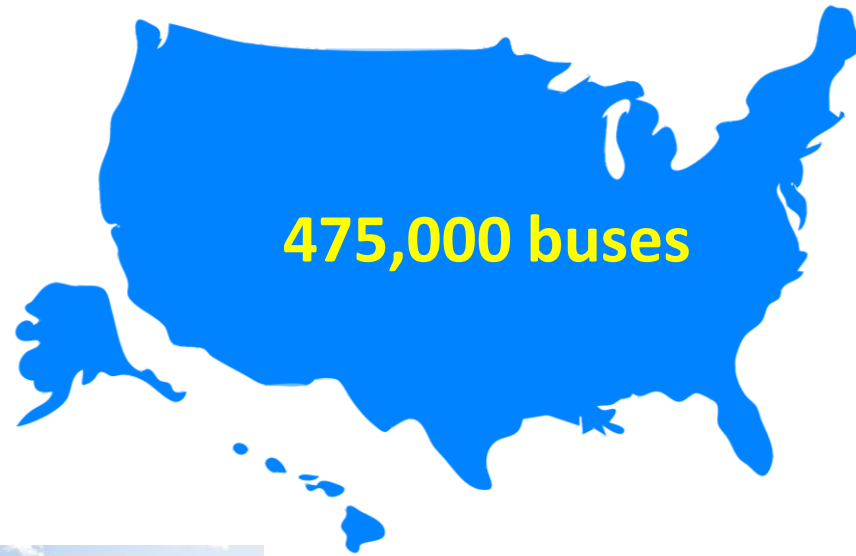
Dan Weekley

Vice President - Innovation



**Dominion
Energy®**

School Bus Industry



17,000 Buses



5,600 Buses



- Operations - Predictable 4 to 6 hours of daily operations, running AM/PM routes. 180 days/year and typically stored in centralized parking.
- Across Dominion's VA and SC service territory, roughly 16,000 buses

Locality and School Benefits

60%

Same Acquisition Cost + Less Maintenance

Cost to upgrade from a diesel to electric model covered by program, including infrastructure

Reduce operation & maintenance costs for schools by 60%

Districts to keep O&M savings



Electric Bus Charging

Equivalent of 17 MPG compared to 6 MPG for diesel

Charging stations & infrastructure provided at no cost to schools

Electric Bus V2G Overview

New Vehicle to Grid Technology

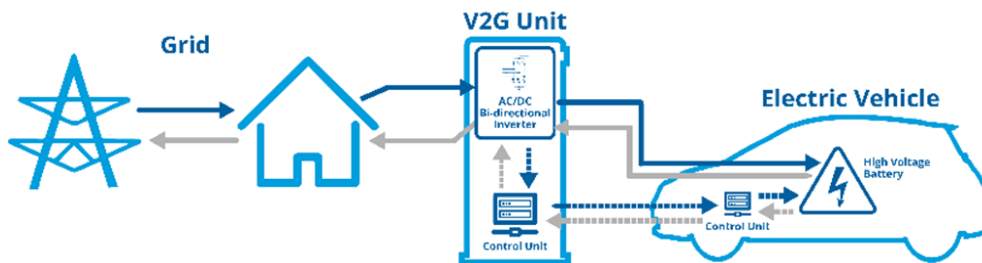
- ① The buses are all electric & can be used as portable batteries.
- ② When not in use, they can be tapped as an energy resource through vehicle-to-grid technology.
- ③ If energy needs are high or if renewable resources are intermittent, the batteries can provide stability to the grid.
- ④ During a power outage or emergency, the batteries could serve as mobile power stations.



Industry Leading Innovation

Phase 1 of the program will be one of the largest deployments of V2G in America

Phase 1 & 2 in VA will include 1,050 buses which is capacity of more than 200 Mw's, enough energy to power 10,000+ homes



Community Benefits



Increased Safety

Electric buses are quiet, allowing for better communication between drivers and students

Every bus to be equipped with 3-point seatbelt for each student



Cleaner Air & Zero Emissions

Air quality inside is 6x better than non-EV models

One electric bus reduces CO₂ emissions by 54,000 pounds each year

Replacing 1,050 buses over 5 years with new electric ones will reduce emissions by 810 million pounds, the equivalent to taking 78,000 cars off the road!

Dominion Energy & VA Deployment Plan

Phase 1 - 2019/2020

- 50 buses to be fully operational within VA service territory by Fall 2020

Phase 2 - 2020/2025

- 1000 buses over 5 year period to replace aging diesel fleet
- Petition VA General Assembly approval to allow multi-year program for up to 20% of state annual bus replacements (averaging 200/year)

Phase 3 - 2025/2030

- 2025 Goal that **50%** of all diesel bus replacements will be electric
- 2030 Goal that **100%** of all diesel bus replacements will be electric

VW Settlement Funds

- The State of Virginia recently announced it would allocate additional \$20 million dollars from the VW settlement to help further accelerate the adoption of electric school buses
- Dominion Energy will collaborate and assist with Virginia's DEQ and DOE in this initiative



Transportation

Using our low-carbon assets to reduce others' carbon

Thank you!

Dan Weekley

Vice President - Innovation



**Dominion
Energy®**



QUESTIONS

Please type questions into GoToWebinar



ANNOUNCEMENTS

1. NARUC Members: Join the EV Working Group
 - Email charper@naruc.org
2. Next webinar November 7: Using Energy Efficiency to Meet Peak Demand
 - Hear about new analysis showing that energy efficiency can be a cost-effective option for meeting peak power needs, along with early approaches to valuing time-sensitive savings from efficiency.



Wednesday, October 16th, 2019
3:30-5:00pm EDT

Disconnections & Delinquencies: Lessons Learned and Next Steps

This webinar is the fourth and final webinar in the Series hosted by the NARUC Committee on Consumers in the Public Interest, National Association of State Utility Consumer Advocates, and NRRI on the topic of data collection for utility disconnections and delinquencies. The purpose of this series will be to gain a greater understanding of the data collection processes throughout the country in order to make recommendations for a data collection model related to utility disconnections and delinquencies.

This webinar will review proposed best practices from experts in the field who have participated in the Disconnections & Delinquencies webinar series, and include time for a lively Q&A to discuss questions posed in earlier webinars and from other sources.

To register, please visit: <https://www.naruc.org/nrri/>



THANK YOU



CHARPER@NARUC.ORG



[HTTP://WWW.NARUC.ORG/CPI](http://WWW.NARUC.ORG/CPI)