



# MARYLAND ZERO EMISSION

**Electric Vehicle Infrastructure Council**

March 8, 2023

# Agenda

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- Welcome and Announcements
- Public Comments
- Federal NEVI Standards & Build/Buy America
- Federal Program Updates
- ZEEVIC Legislative Working Group
- State Agency Updates
- MarylandEV and Outreach Updates
- Utility Updates
- Closing Remarks



# Welcome and Announcements

Deputy Secretary Lewis, MDOT

# Announcements

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- Applications to fill ZEEVIC membership vacancies are currently on hold
  - The Governor's Appointments Office is not accepting applications until April at the earliest
- RAISE Grant application by MD Clean Energy Center
  - Clean TAXEE project, including installation of 20 DCFC, deployment of 100 ZEV, workforce development opportunities, and battery storage in Baltimore City
  - ZEEVIC Chairman Letter of Support (sent)
- USDOE Grant application by BGE
  - Baltimore JET project, including electric infrastructure upgrades, EV chargers, solar, and battery storage in Baltimore City
  - ZEEVIC Chairman Letter of Support (pending)

# Maryland by the Numbers



**66,155**  
Registered EVs



**10.73**  
EVs per 1,000 people



**1,278**  
Charging  
Stations

**3,577**  
Outlets



**23**  
Alt. Fuel Corridors

*\*As of February 28, 2023:*

## EVs Registered per 1,000 People\*

Top State: California - 27.55

Lowest State: Mississippi - 1.15

Median - 5.13

**Total U.S. - 8.66**

\* From US Department of Energy, Vehicle Technologies Office. Based on Registration data pulled December 9, 2022.

# ZEEVIC Member Welcome

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**SERENA COLEMAN McILWAIN, *Secretary of the Environment***  
Maryland Department of the Environment

# ZEEVIC Member Welcome

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**KEVIN A. ANDERSON, *Secretary of Commerce***  
Maryland Department of Commerce

Secretary's  
Designee

Patrick Wynn  
Senior Director,  
Office of Strategic  
Industries and  
Entrepreneurship

# Public Comments







# NEVI Update

Colleen Turner, Michael Baker International  
March 8, 2023



# NEVI Update

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- FHWA Announced on February 15th:
  - Minimum Standards
  - Buy America Requirements & Waiver
  - Charging & Fueling Infrastructure Discretionary Grant Program
- Released updated DACs
- Request for Information (RFI)
  - EVSE End to End Data Collection & Data Reporting Solution
  - 24 Total Responses
  - Release Date – January 11, 2023
  - Close Date – February 13, 2023

NEVI

# Minimum Standards

# Charging Station Requirements

## Along AFCs

- ✓ Minimum of 4 DCFC charging ports
  - Simultaneously charge 4 EVs
- ✓ Accessible 24/7/365

## AFC/Non-AFC Locations

- ✓ Maintained for minimum of 5-years from **initial date of operation**

## Non-AFC Locations

- ✓ Minimum of 4 network connected charging ports
  - Simultaneously charge 4 EVs
  - All DCFC, All L2, or Combo
- ✓ At minimum be accessible during operating hours

# Charger Requirements

## DC Fast Charging

- ✓ At least 1 permanent CCS Type 1 connector
  - Must charge any CCS-compliant vehicle
- ✓ Also include permanent CHAdeMO connector
  - Limited to FY22 NEVI Funds
- ✓ Port must support output voltages between 250- and 920-Volts DC
- ✓ Minimum continuous power delivery rating of 150kW per port

## Level 2

- ✓ Permanent J1772 connector
  - Must charge any J1772-compliant vehicle
- ✓ Minimum continuous power delivery rating of 6kW

## DC Fast/ Level 2

- ✓ May conduct power sharing
  - Each port must continue to meet continuous power delivery rate\*

\* Exception for L2 if customer consents to accepting lower power levels

# Charging Network Connectivity Requirements

## Charger to Charger Network

- ✓ Communicate via a secure communication method
- ✓ Securely measure, communicate, store, and report
  - ✓ Energy and power dispensed, real-time price charging-port status, real-time price to customer, and historical charging port uptime
- ✓ Chargers must:
  - ✓ Receive and implement secure, remote software updates
  - ✓ Conduct real-time protocol translation, encryption, and decryption
  - ✓ Support remote charger monitoring, diagnostics, control, and smart charge management

## Charging Network to Grid

- ✓ Secure communication with electric communities, other energy providers, or local energy management systems

## Charging Network to Charging Network

- ✓ Enable EV driver to use a **single method of identification** to charge at charging stations that are part of multiple charging networks

## Disrupted Network

- ✓ Must **remain functional** if communication with charging network is disrupted so that:
  - Initiate & Complete charging session
  - Provide minimum required power level

# Interoperability Requirements

## Charger to EV

- ✓ Conform to ISO 15118-3
- ✓ Must have hardware capable of implement both ISO 15118-2 and ISO 15118-20
- **Conform to ISO 15118-2 and be capable of Plug and Charge**

## Charger to Charger Network

- ✓ Conform to Open Charge Point Protocol (OCPP) 1.6J or higher
- **Conform to OCPP 2.0.1**

## Charging Network to Charging Network

- **Capable of communicating with other charging networks in accordance with Open Charge Point Interface (OCPI) 2.2.1**

## Network Switching

- ✓ Must be designed to securely switch charging network providers **without** changes to hardware

# Qualified Technician Requirements

## Electricians

- ✓ Certification from the EVITP **OR**
- ✓ Graduation or continuing education from a registered apprenticeship program for electricians
  - Includes charger-specific training

## Non-Electrical Worker

- ✓ Graduated from registered apprenticeship program **OR**
- ✓ Have appropriate licenses, certifications, and trainings required by State.

## > 1 Electrician

- ✓ At least one meets the electrician requirements **AND**
- ✓ At least one **MUST** be enrolled in an electrical registered apprenticeship program



# Payment & Pricing

## Payment Methods

- ✓ Contactless payment method
  - Must accept major credit/debit cards
- ✓ Automated toll-free number OR short message/messaging system (SMS)

## Other Requirements

- ✓ No membership requirements
- ✓ No delay, limit, or curtail power flow
  - Due to payment method or membership
- ✓ Provide access for users with LEP and accessibility for people with disabilities

## Pricing

- ✓ Must be displayed prior to initiating charging
- ✓ Must be based on price of electricity to charge in **\$/kWh**
- ✓ Must be the real-time price
- ✓ Cannot change during session
- ✓ Price structure clearly displayed and explained
  - Includes any other fees

# Minimum Uptime Requirements

## Uptime

- ✓ Avg. annual uptime of 97%
  - Per charging port
  - In total minutes
  - Calculated on a monthly basis for previous 12 months
- ✓ Port is considered “up” when:
  - Hardware & Software are online and available for use or in use
  - Successfully dispenses electricity in accordance with minimum power level requirements

## Uptime Percentage Calculation

$$\mu = ((525,600 - [T_{\text{outage}} - T_{\text{excluded}}]) / 525,600) \times 100$$

## Excluded Outages

- ✓ Electric Utility Service Interruption
- ✓ Scheduled Maintenance
- ✓ Vandalism
- ✓ Natural Disasters
- ✓ Failure to charge OR meet minimum power delivery due to fault of vehicle

# FHWA Data Requirements

## Quarterly

- ✓ Charging Station & Port Identifier
- ✓ Charging Session start & end time, and any error codes
- ✓ Energy (kWh) dispensed per session by port
- ✓ Peak session power (kW) by port
- ✓ Payment method by charging session
- ✓ Port uptime, t\_outage, t\_excluded
- ✓ Duration of each outage in minutes

## Annual

- ✓ Maintenance & Repair Costs per Station
- ✓ Identification & participation in state or local business opportunity certification programs (For Private Entities)

## One-Time

- ✓ Name & Address of entities involved in operation and maintenance
- ✓ Distributed energy resource installed capacity in kW or kWh per charging station
- ✓ Cost of real property acquisition, charging equipment acquisition & installation, and distributed energy resources
- ✓ Aggregated grid connection & upgrade costs paid to utilities
- ✓ Total distribution of and system costs
- ✓ Total service cost

## Community Engagement Outcomes Report

- ✓ Must be included as part of the State EV Infrastructure Plan – Not stand-alone report
- ✓ Community engagement activities

# Third-Party Data Sharing Requirements

- ✓ Unique charging station name or identifier
- ✓ Address of charging station
- ✓ Geographic Coordinates
- ✓ Operator Name
- ✓ Network Provider Name
- ✓ Charging Station Status
  - ✓ Operational, under construction planned
- ✓ Charging Station Access Information
  - ✓ Public vs Limited
- ✓ Charging Station Access Type
- ✓ Hours of Operation
- ✓ Charging Port Information
  - ✓ # of ports
  - ✓ Unique port identifier
  - ✓ Connector types available
  - ✓ Charging level
  - ✓ Power Delivery Rating (kW)
  - ✓ Pull-through Stall
  - ✓ Real-time Status
- ✓ Pricing & Payment Information
  - ✓ Pricing structure
  - ✓ Real-time price to charge
  - ✓ Payment methods accepted

Available free of charge via application programming interface

Waiver

**Buy America Requirements**

# Waiver

## First Phase

- ✓ Effective Date: March 23, 2023
- ✓ Enables EV charger acquisition & installation to immediately proceed
- ✓ Applies to EV chargers:
  - Manufactured by July 1, 2024
  - Installation begun by October 1, 2024

## Other

- ✓ Removal of EV chargers from the General Applicability Waiver for Manufactured Products

## Second Phase

- ✓ Effective Date: July 1, 2024
- ✓ Phases out coverage for EV Chargers where:
  - Cost of components manufactured in US does **NOT exceed** 55% of the cost of all components

## All Phases

- ✓ If predominantly steel or iron, EV charging housings components are:
  - Excluded from waiver and
  - Must meet Buy America Requirements

# Next Steps

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- Development of NEVI Program RFP
  - Challenges
  - Update to NEVI Toolkit
- Future Outreach Opportunities & Activities
  - Coordination with ZEEVIC
- State Agency Coordination
  - MEA, Labor, Commerce
- Annual update to Maryland NEVI Plan

# Maryland NEVI Contact Information

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## **Dan Janousek**

Maryland Department of Transportation

Email: [djanousek@mdot.maryland.gov](mailto:djanousek@mdot.maryland.gov)

## **Rebecca Bankard**

Maryland Department of Transportation

Email: [rbankard@mdot.Maryland.gov](mailto:rbankard@mdot.Maryland.gov)



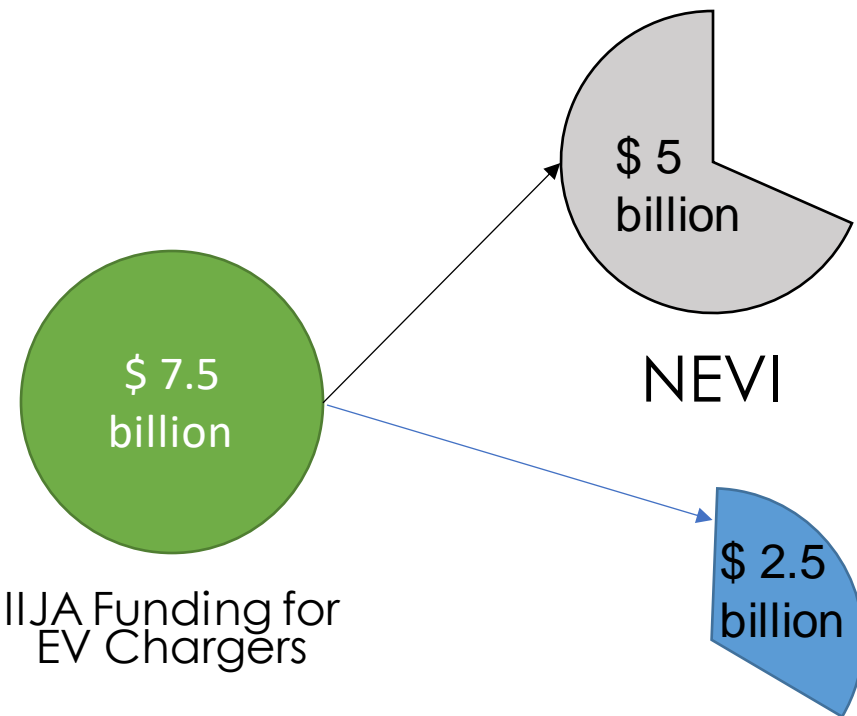
A stylized graphic in the top right corner shows two hands, one in red and one in white, holding a globe. The globe is composed of yellow, grey, and red segments. The hands are rendered in a simple, flat style.

# New Federal Resources Announced

Leo Sawada, Jacobs

# Charging & Fueling Infrastructure (CFI)

<https://evplan.mdot.maryland.gov/>



- \$5.0 billion State Funded Programs
  - 10% discretionary grants to fill gaps in national network
- MD NEVI PLAN Approved

FY22 ————— Over five years —————> FY26

- \$2.5 billion in discretionary grants
- **First round of funding will Open Soon (announced Feb 15)**
- \$700 million from Fiscal Years 2022 and 2023

Charging & Fueling Infrastructure  
Discretionary Grant Program

# Charging & Fueling Infrastructure (CFI)

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This program provides two funding categories of grants:

- (1) Community Charging and Fueling Grants (Community Program)
- (2) Alternative Fuel Corridor Grants (Corridor Program)

Eligible to states, localities, Tribes, territories, and public authorities to deploy publicly accessible charging and alternative fueling infrastructure in communities and everywhere American live and work.

# What kind of project are eligible?

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- Planning, feasibility analysis, revenue forecasting, environmental review, preliminary engineering/ design work, and other preconstruction activities.
- Acquisition of real property and construction/ reconstruction costs for the installation of publicly accessible charging and fueling infrastructure.
- Installation of traffic control devices to provide directional information to charging infrastructure.
- Contracting with a private entity for operations and maintenance.
- Propane fueling infrastructure for MHD vehicles.

# What kind of project are eligible?

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For the Community Program only:

- To reduce greenhouse gas emissions.
- To expand or fill gaps in access to publicly accessible charging and alternative fueling infrastructure.
- To conduct educational and community engagement activities to develop and implement education programs through partnerships with schools, community organizations, and vehicle dealerships to support the use of ZEVs and associated infrastructure.



# What kind of project are eligible?

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## Community Program

- Rural areas
- Low-and moderate-income neighborhoods
- Communities with low ratios of private parking spaces
- Communities with high ratios of multiunit dwellings
- Meet current or anticipated market demands
- Include faster charging speeds with high-powered capabilities necessary to minimize the time to charge or refuel

## Corridor Program

- Improve AFC from corridor-pending to corridor-ready
- Provide infrastructure redundancy to reduce congestion
- Meet current or future market demands
- Support a competitive market
- Improve access in areas where needs are identified
- Enable or increase construction that may not be completed without Federal assistance
- Create charging and fueling infrastructure for MHD vehicles along the National Highway Freight Network and near intermodal transfer stations

# Ride and Drive Electric

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- Fiscal Year 2023 Funding Opportunity Announcement.
- Accelerate and enhance the development of the nation's EV charging network through focused investment in EV charging reliability, resiliency, equity, and workforce development.
- Areas of Interests:
  - Enhancing EV Charging Resiliency
  - Equitable Access and Opportunity in Electrification
  - Improving EV Charging Performance and Reliability

# ZEV Freight Corridors

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- DOE and DOT announce \$7 million for New Projects to Accelerate Decarbonization of **Medium and Heavy Duty (MHD)** Freight Transportation
- Seven corridor plans were selected to develop innovative MHD EV charging and hydrogen corridor infrastructure plans across 23 states.
- DOE announced its intent to release funding to address barriers to a cleaner, safer, more affordable, and more reliable Made in America EV charging network





# ZEV Freight – Selected Projects

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- CALSTART: **East Coast Commercial ZEV Corridor**. Strategic planning effort to spur the deployment of commercial MHD ZEV infrastructure along the **I-95 freight corridor from Georgia to New Jersey**.
- National Grid: Northeast Electric Highways Study. Forecast electric charging demand at traffic stops on freight corridors across ME, MA, NH, VT, RI, CT, NY, PA, and NJ to help inform a blueprint for future large-scale, least-cost deployment of commercial EV charging and serve as an exemplar for other regions.
- Cummins Inc.: MHD ZEV Infrastructure Planning on I-80 Midwest Corridor.
- GTI Energy: Houston to Los Angeles (H2LA)– I-10 Hydrogen Corridor Project.
- Los Angeles Cleantech Incubator: I-710 Corridor.
- Rocky Mountain Institute: San Francisco and Bay Area Regional MHD Electrification Roadmap.
- Utah State University: Wasatch Front Multi-Modal Corridor Electrification Plan.



# 2023 Legislative Session

Kevin Miller, ChargePoint

David Proctor, Sharp & Company

# 2023 ZEEVIC Clean Trucks Act Support Letter: Proposed



XXXX XX, 2023

**Re: Zero Emission Electric Vehicle Infrastructure Legislation Support**

To Whom It May Concern:

The Zero Emission Electric Vehicle Infrastructure Council (ZEEVIC) has reviewed legislation related to electric vehicles (EVs) introduced in the 2023 Legislative Session. ZEEVIC was established via legislation in 2011 and expanded in 2019 with a mission to evaluate zero emission vehicle (ZEV) ownership and charging station incentives; develop recommendations for a statewide infrastructure plan; and propose policies to promote the successful integration of EVs into Maryland's communities and transportation system. ZEEVIC's responsibilities are directly related to helping Maryland meet its greenhouse gas emissions reduction goals.

ZEEVIC supports the goals of the following bill, which is generally consistent with ZEEVIC's mission and priorities:

- HB0230/SB0224 (Amended): Department of the Environment - Zero-Emission Medium - and Heavy-Duty Vehicles - Regulations (Clean Trucks Act of 2023)  
Advances deployment of medium- and heavy-duty ZEVs in Maryland. By requiring a needs assessment and deployment plan, the bill addresses concerns with emerging clean truck infrastructure, and allows agencies to adjust goals while the market develops and innovations emerge.

ZEEVIC encourages policymakers to consider cross-cutting issues that will have an impact on the outcome of this bill, including sustainability of incentive funding, availability of vehicle models, and feasibility of implementation and compliance.

Additional information about ZEEVIC's legislative mandated mission and goals are available in the attached flyer. ZEEVIC's Legislative Working Group welcomes the opportunity to review these bills and we look forward to reviewing future legislative efforts regarding EVs and infrastructure. ZEEVIC member organizations may reach out separately about any specific concerns or bill nuances.

Respectfully,

Kevin George Miller  
Chair, Legislative Workgroup  
ZEEVIC

Attachment



# 2023 ZEEVIC Legislative Support Letter: Completed



February 24, 2023

**Re: Zero Emission Electric Vehicle Infrastructure Legislation Support**

To Whom It May Concern:

The Zero Emission Electric Vehicle Infrastructure Council (ZEEVIC) has reviewed legislation related to electric vehicles (EVs) introduced in the 2023 Legislative Session. ZEEVIC was established via legislation in 2011 and expanded in 2019 with a mission to evaluate zero emission vehicle (ZEV) ownership and charging station incentives; develop recommendations for a statewide infrastructure plan; and propose policies to promote the successful integration of EVs into Maryland's communities and transportation system. ZEEVIC's responsibilities are directly related to helping Maryland meet its greenhouse gas emissions reduction goals.

ZEEVIC supports the goals of the following bills, which are generally consistent with ZEEVIC's mission and priorities:

- [HB0007](#): Electric Vehicle Recharging Equipment Rebate Program – Renewal  
Provides a meaningful monetary incentive to individuals and various entities to install EV recharging equipment. The bill increases funding and will boost incentive access and EV adoption.
- [HB0101/SB0593](#): Condominiums – Common Elements – Clean Energy Equipment  
Addresses some of the unique access barriers to EV adoption faced by residents of condominiums within the State. This bill authorizes certain condominium governing bodies to grant the installation and use of leased clean energy equipment, including EV chargers, on common elements.
- [HB0312](#): Vehicle Emissions Inspection Program - Not Subject to Inspection – Fee  
Helps fund EV infrastructure development and EV sales rebates by establishing a \$14 fee collected once every two years from vehicles that exempt from inspections, which includes Battery Electric Vehicles (BEVs).
- [HB0550/SB0548](#): Maryland Energy Administration (MEA)– Energy Programs – Modifications (Clean Transportation and Energy Act)  
Improves the State's rebate program for installing EV recharging equipment. The bill also clarifies certain aspects of the Medium/Heavy-Duty Zero-Emission Vehicle Grant Program, including prioritization of grants to benefit low-income or environmental justice communities.
- [HB0830/SB0477](#): Residential Construction or Significant Renovation – Electric Vehicle Charging  
Supports EV readiness in homes by requiring builders to install charging equipment for EVs during new construction or significant renovation. This bill also addresses EV readiness in multi-unit residential communities by requiring at least one EV charger per 25 spaces.

- [HB0889](#): Retail Service Stations - Electric Vehicle Charging Stations and Property Tax Credit for Service Station Conversions  
Expands EV charging infrastructure at gas stations, by requiring that new gas stations be constructed with the same number of EV fast chargers as gas pumps.

ZEEVIC encourages policymakers to consider cross-cutting issues that will have an impact on the outcome of any of these bills, including sustainability of incentive funding, availability of vehicle models, and feasibility of implementation and compliance.

Additional information about ZEEVIC's legislative mandated mission and goals are available in the attached flyer. ZEEVIC's Legislative Working Group welcomes the opportunity to review these bills and we look forward to reviewing future legislative efforts regarding EVs and infrastructure. ZEEVIC member organizations may reach out separately about any specific concerns or bill nuances.

Respectfully,

A handwritten signature in black ink, appearing to read "Kevin George Miller".

Kevin George Miller  
Chair, Legislative Workgroup  
ZEEVIC

Attachment



# 2023 ZEEVIC Letter to the PSC: Completed



February 27, 2023

Mr. Andrew Johnston  
Executive Secretary  
Maryland Public Service Commission  
6 Saint Paul Street, 16th Floor  
Baltimore MD 21202

Dear Mr. Johnston:

On behalf of the Maryland Zero Emission Electric Vehicle Infrastructure Council (ZEEVIC), I am writing regarding Case No. 9478, with comments on the Semi-Annual Progress Report of Baltimore Gas and Electric (BGE), Delmarva Power and Light Company (DPL), Southern Maryland Electric Cooperative (SMECO), the Potomac Edison Company, and Potomac Electric Power Company (PEPCO) Regarding Implementation of Approved Electric Vehicle Charging Program Offerings. The ZEEVIC was charged by the Maryland legislature to develop policies, recommendations, and incentives that increase awareness of zero emission vehicles (ZEV), support the ownership of ZEVs, and promote investment by the private sector in ZEVs in Maryland. The ZEEVIC encourages the Public Service Commission (PSC or "the Commission") to adopt robust reliability requirements for electric vehicle (EV) charging stations under its jurisdiction.

The EV charging reliability is key to the successful integration of EVs into Maryland's communities and transportation system to help decarbonize Maryland's transportation sector. As the Commission noted in Order No. 90036, "reliable public charging is critical for EV drivers and instilling public confidence in the EV Pilot and EV adoption generally." Maryland's plan for the National Electric Vehicle Infrastructure (NEVI) program similarly stated that unreliable EV chargers "could further fuel range anxiety by creating a negative opinion and experience surrounding charging, which could impact the consumer's decision to purchase an EV."

The ZEEVIC recognizes that the challenges to achieving highly reliable EV charging are complex and evolving. While these barriers will not be surmounted overnight, it is essential that Maryland take reasonable and meaningful action to increase confidence in EV charging reliability.

Mr. Andrew Johnston  
Page Two

We support the evaluation and adoption of consistent, transparent, and actionable reliability reporting for EV charging stations under the Commission's jurisdiction, such as those deployed through the utilities' Approved Electric Vehicle Charging Programs. We concur with the PC 44 Work Group recommendation to develop reliability reporting requirements after reviewing utility semi-annual reports filed on February 1, 2023, as well as any final reliability reporting requirements set by the Federal Highway Administration (FHA) for the NEVI program. These comments represent a consensus position of ZEEVIC, whose members may provide further recommendations representing their own individual positions.

Thank you for your consideration. Greater transparency in EV charging reliability reporting will increase accountability and lead to a more reliable EV charging experience, which is necessary to achieve statewide goals to decarbonize Maryland's transportation sector.

If you have any questions or need further information, please contact Ms. Virginia Burke, Maryland Department of Transportation (MDOT) Office of Planning and Capital Programming (OPCP) Transportation Air Quality Program Manager, at 410-865-1229 or email at [vburke@mdot.maryland.gov](mailto:vburke@mdot.maryland.gov). Ms. Burke will be happy to assist you. Of course, you may always contact me directly.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Earl Lewis, Jr."

R. Earl Lewis, Jr.  
Chairman

cc: Ms. Virginia Burke, Air Quality Program Manager, OPCC, MDOT  
Mr. Kevin Mosier, Assistant Director, Energy Analysis and Planning, PSC (and PSC ZEEVIC Representative)  
Mr. Benjamin Baker, Senior Commission Advisor, PSC

Attachment



# 2023 ZEEVIC Purpose and Role Attachment

## ZEEVIC Purpose and Role



### What is ZEEVIC?

ZEEVIC is the Zero Emission Electric Vehicle Infrastructure Council.

### Who created ZEEVIC?

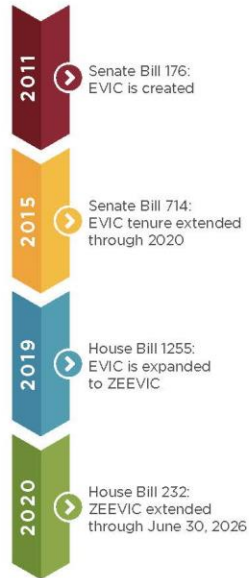
The Maryland Legislature created the Electric Vehicle Infrastructure Council (EVIC) in 2011 to address and remove barriers related to electric vehicle (EV) adoption in Maryland. In 2019, the membership, responsibilities, and reporting requirements of EVIC were expanded to include zero emission vehicles (ZEVs) and fuel cell electric vehicles (FCEVs). To reflect the expanded responsibilities of the council, EVIC was renamed the Maryland Zero Emission Electric Vehicle Infrastructure Council (ZEEVIC).<sup>1</sup> In 2020, the membership of ZEEVIC was expanded further and the Council's sunset date was extended to 2026.<sup>2</sup>

### What does ZEEVIC do?

The ZEEVIC is charged with supporting the development of:

- Policies, recommendations, and incentives that increase awareness of ZEVs, support the ownership of ZEVs, and promote investment by the private sector in ZEVs;
- Recommendations for a statewide EV charging and hydrogen refueling infrastructure plan; and,
- Other potential policies to promote and facilitate the successful integration of ZEVs into Maryland's transportation network.

ZEEVIC's responsibilities support Maryland's greenhouse gas (GHG) emissions reductions goals outlined in the Climate Solutions Now Act (CSNA). The CSNA sets a goal of 60% GHG emissions reductions by 2031 and net-zero by 2045. Because transportation is the single largest GHG emissions generator in Maryland, representing over one-third of total GHG emissions, ZEVs play an integral role in helping Maryland meet the CSNA emissions reduction goal.



<sup>1</sup>Chapter 213, Acts of 2019  
<sup>2</sup>House Bill 232, 2020



## Who is part of ZEEVIC?

Name	Representing
<b>R. Earl Lewis, Jr.</b> , Deputy Secretary (Council Chair)	Maryland Department of Transportation
<b>Hyeon-shic Shin</b> , PhD, Morgan State University	Academic Community, a Maryland institution of higher education with relevant expertise
<b>Weston Young</b> , Worcester County	Maryland Association of Counties, urban or suburban region
<b>Vacant</b>	Maryland Association of Counties, urban or suburban region
<b>Nina Forsythe</b> , City of Frostburg	Maryland Municipal League, rural region
<b>David Edmondson</b> , City of Frederick	Maryland Municipal League, urban or suburban region
<b>Elvia Thompson</b> , Annapolis Green	EV Driver Advocacy Organization
<b>Kristy Fleischmann-Groncki</b> , BGE	Electric Companies (3)
<b>Robert Stewart</b> , PEPCO Holdings, Inc.	
<b>Jeff Shaw</b> , SMECO	
<b>Jason Tal</b> , Tesla Consultant	Electric Vehicle Manufacturer
<b>Kevin Miller</b>	Electric Vehicle Charging Station Manufacturer
<b>Robert Wimmer</b> , Toyota	Fuel Cell Electric Vehicle Manufacturer
<b>Joe Alfred</b> , Ally Power Inc.	Fuel Cell Electric Vehicle Infrastructure Equipment Manufacturer
<b>Steven Koerner</b> , BP Pulse Fleet	Fleet Operators
<b>Michael A. Wall</b> , Clinton Electric Company	Electrical Workers
<b>Scott Wilson</b> , Electric Vehicle Association of D.C.	Environmental Community (2)
<b>Vacant</b>	
<b>Paul Verchinski</b>	Member of the public, with expertise in energy or transportation policy
<b>Vacant</b>	New Vehicle Dealer Association
<b>Senator Clarence K. Lam</b> , M.D., District 12 Baltimore & Howard Counties	Maryland State Senate
<b>Delegate Tony Bridges</b> , District 41, Baltimore City	Maryland House of Delegates (2)
<b>Delegate David Fraser-Hidalgo</b> , District 15, Montgomery County	
<b>Bihui Xu</b> , Transportation Planning	Maryland Department of Planning
<b>Secretary</b>	Maryland Department of the Environment
<b>Secretary</b>	Maryland Department of Commerce
<b>Kevin Mosler</b> , Wholesale Markets Liaison	Maryland Public Service Commission
<b>David Lapp</b> , People's Counsel	Office of People's Council
<b>Mike Jones</b> , Transportation Program Manager	Maryland Energy Administration

### Where can you learn more?

ZEEVIC: [MDOT.Maryland.gov/ZEEVIC](https://MDOT.Maryland.gov/ZEEVIC)  
MDEV: [MarylandEV.org](https://MarylandEV.org)  
Electric Vehicles: [MDOT.Maryland.gov/EV](https://MDOT.Maryland.gov/EV)



# ZEEVIC Supported 2023 Bills

Bill #	Bill Title	Status Of Letter
<a href="#">HB0007</a>	Electric Vehicle Recharging Equipment Rebate Program – Renewal	Emailed to Bill Sponsor
<a href="#">HB0101</a> <a href="#">SB0593</a>	Condominiums - Common Elements - Clean Energy Equipment	HB Emailed to Bill Sponsor <b>SB Submitted As Testimony</b>
<a href="#">HB0230</a> <a href="#">SB0224</a>	Department of the Environment - Zero-Emission Medium- and Heavy-Duty Vehicles - Regulations (Clean Trucks Act of 2023)	ZEEVIC Approval pending
<a href="#">HB0312</a>	Vehicle Emissions Inspection Program - Not Subject to Inspection - Fee	Emailed to Bill Sponsors
<a href="#">HB0550</a> <a href="#">SB0548</a>	Maryland Energy Administration – Energy Programs – Modifications (Clean Transportation and Energy Act)	HB Emailed to Bill Sponsors <b>SB Submitted As Testimony</b>
<a href="#">HB0830</a> <a href="#">SB0477</a>	Residential Construction or Significant Renovation - Electric Vehicle Charging	<b>HB Submitted As Testimony</b> SB Emailed to Bill Sponsor
<a href="#">HB0889</a>	Retail Service Stations - Electric Vehicle Charging Stations and Property Tax Credit for Service Station Conversions	<b>Submitted As Testimony</b>

# Other ZEV Related 2023 Bills

Bill #	Bill Title	Status
<a href="#"><u>HB0123</u></a>	Vehicle Laws – HOV Lanes – Plug-In Electric Drive Vehicles	Crossed Over 3 <sup>rd</sup> Reading Passed
<a href="#"><u>HB0147</u></a> <a href="#"><u>SB0250</u></a>	Environment – Climate Crisis Plan – Requirement	HB CMTE SB CMTE
<a href="#"><u>HB0834</u></a>	Electric Vehicle Charging Infrastructure - Requirements (Electric Vehicle Charging Reliability Act)	HB CMTE
<a href="#"><u>HB1291</u></a> <a href="#"><u>SB0950</u></a>	Maryland Zero Emission Electric Vehicle Infrastructure Council - Membership	HB CMTE SB CMTE



# State Agency Updates

MDE, MEA, DGS



# MDE Program Updates

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## Volkswagen Settlement Updates

- EVSE Infrastructure Programs
  - Phase I
    - MDE received 56 proposals (35 ECGP, 25 CAGP)
    - Approx. \$11.36 million in total requested funds
    - Approx. \$3.7 million available in funding
    - Under ECGP: 13 new Level 3 stations, 36 charging ports
    - Under CAGP: 24 new workplace Level 2 charging sites, 145 charging ports
  - Phase II
    - MDE received 77 proposals (47 ECGP, 30 CAGP)
    - Approx. \$12.6 million in total requested funds
    - Approx. \$3.7 million available in funding
    - Under ECGP: 13 new Level 3 stations, 35 charging ports
    - Under CAGP: 26 new workplace Level 2 charging sites, 170 charging ports
  - Phase III will open late this year

# MDE Program Updates

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## Volkswagen Settlement Updates

- Vehicle Replacement Program
  - MDE received approx. \$64 million for vehicle replacements
  - Funded 44 project proposals (school buses, transit buses, RTG cranes, switcher locomotives)
  - Goal was to reduce NOx emissions from VW defeat devices
    - Estimated 575 to 1,730 excess tons of NOx from defeat devices
    - Estimated lifetime NOx reductions from projects approx. 3,000 tons
    - In addition, diesel replacements will reduce CO2 emissions by over 6,000 tons per year
  - Remaining funds will be used to reopen two programs
    - Electric M/HD Trucks
    - Electric School Buses

# MDE Program Updates

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## Volkswagen Settlement Updates

- Observations for EVSE Program:
  - Much better geographic distribution for Round 2 than Round 1 (particularly east and west)
  - Power levels have increased from Round 1
  - Experiencing delays in both Level 2 and 3 equipment due to supply chain issues.
- Observations for Vehicle Program:
  - Significant delays due to COVID/Supply chain issues
  - Prices have increased (sometimes significantly)
  - Charging infrastructure has had issues
  - Issues to work out with some MHD electric vehicles

# MEA Program Updates

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## EVSE Rebate Program

- Expecting to process apps received through 12/29/22.
- ~FY23 results: 1,897 rebates (88% res, 12% comm) totaling \$1.8M (55% res. 45% comm).
- Allowing applicants to continue to submit for MEA to hold.
- FY24 status TBD- dependent on legislative/budgetary session results.

## Clean Fuels Incentive Program (CFIP)

- Recommendations awaiting approval from management.
- No second funding round.
- FY24 program budget/structure potentially influenced by session results.

## Clean Fuels Technical Assistance (CFTA) Program

- 3 projects still underway.
- Determining next steps.

# DGS Program Updates

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## NASPO ValuePoint Master Contract for EV Charging:

- Maryland is the Lead State
- 5 other member states participating on sourcing team
- RFI was posted to NASPO ValuePoint and eMMA, through last week
- Goal is an RFP by summer

## Project Update:

- 113 ports completed
- 26 ports opening soon: Jessup Correctional Institute, Clifton T. Perkins Hospital Center, Mary Risteau, Bel Air DC/MSC, 5th Regiment Armory, Thomas B. Finan Center
- 66 ports in the construction phase
- DGS continues to create fleet focused EV educational materials and administer the RFID card program

## Earth Day Event:

DGS EV Infrastructure and Green Purchasing teams are working with MD EV Ambassadors on an Earth Day outreach event at the end of April (Stay tuned!)

# Additional State Agencies

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- PSC
- MDP



# MarylandEV Outreach Updates

David Proctor, Sharp & Company



# Updated Postcard Handout

**Get Energized About Driving!**  
Make the Switch to Electric

There's never been a better time to choose an EV that's right for your lifestyle. Take the EV Journey to learn about the benefits of EVs in Maryland by scanning the code below.



Scan the code or visit:  
[MarylandEV.org/Maryland-EV-Journey](https://MarylandEV.org/Maryland-EV-Journey)



MDEEV Maryland Department of the Environment MARYLAND ZERO EMISSION Electric Vehicle Infrastructure Council MDOT MARYLAND DEPARTMENT OF TRANSPORTATION

English

**¡Recárgate de energía conduciendo!**  
Cámbiate a lo eléctrico

Este es el mejor momento para incorporar un vehículo eléctrico (EV) que vaya con tu estilo de vida. Escanea el código a continuación y comienza la ruta para conocer los beneficios que te trae tener un vehículo eléctrico en Maryland.



Escanea el código o visita:  
[MarylandEV.org/Maryland-EV-Journey](https://MarylandEV.org/Maryland-EV-Journey)



MDEEV Maryland Department of the Environment MARYLAND ZERO EMISSION Electric Vehicle Infrastructure Council MDOT MARYLAND DEPARTMENT OF TRANSPORTATION


Spanish

**EVs offer great incentives for Marylanders**

**CHEAPER**  
Federal, state, and electric utility incentives mean that you save money when you purchase an EV and/or install charging equipment.

**CONVENIENT**  
Save time by charging at home and wake up every day to a full tank! A growing network of over 1,200 Maryland charging stations takes range anxiety out of your travels.

**CLEANER**  
EVs produce little to no tailpipe emissions compared to gas-only vehicles. Your charge will also benefit the environment as Maryland electricity continues to get cleaner by shifting to renewable sources.



[MarylandEV.org](https://MarylandEV.org)

English

**Los vehículos eléctricos ofrecen excelentes incentivos para los habitantes de Maryland**

**MÁS ECONÓMICOS**  
Los incentivos federales, estatales y de servicios públicos de electricidad significan que ahorras dinero cuando compras un EV y/o instalas un equipo para recargar.

**MÁS LIMPIOS**  
Estos vehículos casi no producen emisiones a través del tubo de escape, en comparación con los de solo gasolina. Su carga beneficia al medio ambiente, mientras la electricidad en Maryland continúa volviéndose más limpia, al cambiar a recursos renovables.

**CONVENIENTES**  
Ahorra tiempo cargando tu vehículo en casa, ¡y despiértate cada día con el tanque lleno! En Maryland cuentas con una red creciente de más de 1,200 estaciones de carga, que te ofrecen más tranquilidad durante tus viajes.



[MarylandEV.org](https://MarylandEV.org)

<b>Gas</b>		3.9 gallons	x	\$3.3 per gallon	→	<b>\$12.87</b> 
VS						
<b>Electric</b>		34.7 kWh	x	\$0.15 per kWh	→	<b>\$5.21</b> 


\*Based on Maryland averages 2/2023 and level 2 charging.

\*Basado en los promedios de Maryland de 2/2023 y nivel 2 de carga. Promedio de precio de gasolina y electricidad en Maryland según datos de los websites de AAA y US EIA.

Spanish


# New Maryland EV Flyer

## Zero Emission Vehicles in Maryland



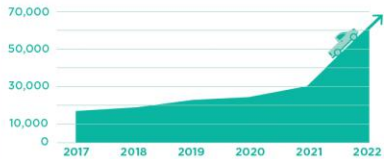
Maryland's greenhouse gas (GHG) emissions reduction goals outlined in the Climate Solutions Now Act (CSNA) aim to achieve 60% GHG emissions reduction by 2031 and net-zero by 2045. Electric Vehicles (EVs) play an integral role in helping the state meet GHG reduction goals, because EVs reduce tailpipe emissions by consuming less gasoline.

### Maryland by the Numbers



**66,000+** registered EVs in the state as of February 2023


#### EV registration from 2017 to 2022



Year	Registration Count
2017	~10,000
2018	~15,000
2019	~20,000
2020	~25,000
2021	~35,000
2022	~60,000

**1%** of registered cars in MD are EVs

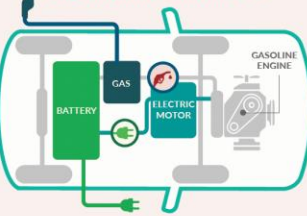
Goal of **300,000** registered EVs by 2025



### EV TYPES AND INTERNAL DRIVE COMPONENTS

#### PHEVs

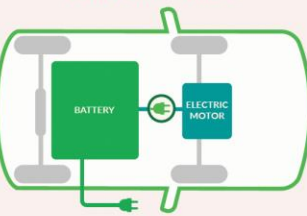
Plug-In Hybrid Electric Vehicles




**LOW/ZERO EMISSIONS**

#### BEVs


Battery Electric Vehicles




**ZERO EMISSIONS**



MDOT.Maryland.gov/ZEEVIC



Learn how much you can save by going electric with rebates and incentives from federal, state, and electric utility sources!



MarylandEV.org

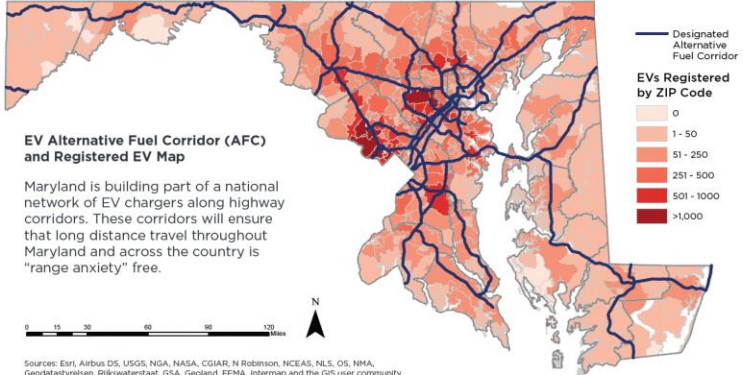
## Zero Emission Vehicles in Maryland

### Maryland State Plan for National Electric Vehicle Infrastructure (NEVI)

Maryland state agencies worked collaboratively with partners and stakeholders to develop a plan to build a network of chargers across the state. The plan's approval in 2022 allows Maryland to spend approximately \$63 million in federal funding between federal fiscal years (FFY) 2022-2026.

#### EV Alternative Fuel Corridor (AFC) and Registered EV Map


Maryland is building part of a national network of EV chargers along highway corridors. These corridors will ensure that long distance travel throughout Maryland and across the country is "range anxiety" free.



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatasysteisen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community


#### EVs Registered by ZIP Code

- 0
- 1 - 50
- 51 - 250
- 251 - 500
- 501 - 1000
- >1,000




**Level One**  
120V  
Electrical source from a regular home outlet.

Charge Time  
2-5 miles of range per 1 hour of charging.



**Level Two**  
220V  
Electrical source from a regular home dryer outlet, home hardware, or public station.


Charge Time  
10-20 miles of range per 1 hour of charging.




**DC Fast Charge**  
208 or 480V  
3-Phase AC  
Electrical source from a public station.

Charge Time  
60-80 miles of range per 20 minutes of charging.


**There are currently 3500+ outlets as of February 2023**



MDOT.Maryland.gov/ZEEVIC



Learn how much you can save by going electric with rebates and incentives from federal, state, and electric utility sources!



MarylandEV.org

# Upcoming Outreach Events

March



March 10<sup>th</sup>-12<sup>th</sup>

April



April 5<sup>th</sup> 7:30-8:30pm



Drive Electric Earth Day  
April 22<sup>nd</sup> 3-6pm



April 23<sup>rd</sup> 12-5pm



Date TBD



DGS Earth Day  
Event

**Tell us about your event and we can promote it to our social media audience!**

# Maryland EV Social Media Post Examples

February – March 2023

**Maryland Electric Vehicle**  
4d · 🌐

According to an IKEA press release, 25 retail locations, to include its Maryland stores, will receive public EV fast charging and delivery vehicle charging. IKEA will collaborate with Electrify America and Electrify Commercial to install chargers at its retail locations throughout the U.S.

Click the link to read more: <https://www.ikea.com/.../ikea-u-s-electrify-america.....> See more



Boost this post to reach up to 832 more people if you spend \$14. **Boost post**

You, Lucia Proctor, Shelley L Johnson and 19 others 3 shares

**Maryland Electric Vehicle**  
February 9 at 3:26 PM · 🌐




With Valentine's Day fast approaching, help spread the EV love by sharing your electric vehicle ownership story! ❤️🔥

Submit a written testimonial and photo of your vehicle, with or without you and your loved ones, via the linked form to potentially be featured on our website or in our interactive Maryland EV Journey learning tool. You must be a Maryland resident to participate. <https://survey123.arcgis.com/.../787c947378364bc584caf752.....> See more

### Maryland EV Driver Testimonials

Many EV owners are enthusiastic about the environmental benefits. Once people dive into the EV lifestyle, they quickly find out there are plenty of other reasons they do not miss their gas-powered cars. As automakers continue to roll out more EVs at a range of different prices and recharging becomes quicker and easier, EV ownership has never been more accessible.

Do you have an EV story to share? **Submit your testimonial!**

 <p>"With less than twenty moving parts, it actually saved me money. So much so that I paid off my car last month; 16 months ahead!" Percell Artis, Waldorf, MD</p>	 <p>Toyota RAV4 Prime "With 42mi/day EV range, we don't use gas at all most weeks or even months. For longer road trips the ICE makes refueling fast and convenient. Also 0-60 in 5.5s in a 'common' SUV!" Enrique Cohen, Bowie, MD</p>	 <p>"I am able to utilize the electric charge when conducting 90% of my weekly needs. It allows me to do my part in reducing emissions which is important to me." John Maria Harley, Waldorf, MD</p>
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Boost this post to reach up to 832 more people if you spend \$14. **Boost post**

Lucia Proctor and 5 others

**Maryland Electric Vehicle**  
February 2 at 2:53 PM · 🌐

K. Neal International Trucks Inc., with locations in Hyattsville, Gaithersburg and Capitol Heights, has been named as an exclusive dealer for GreenPower Motor Company Inc.'s all-electric Type D BEAST and Type A Nano BEAST school buses serving Maryland and the District of Columbia. Learn more: <https://thedailyrecord.com/.../canadian-manufacturer-to.../> #marylandev #electricvehicles #EV #vehicles



Boost this post to reach up to 832 more people if you spend \$14. **Boost post**

You and 5 others

# Utility Updates

BGE, PHI, SMECO, Potomac Edison



# BGE

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- EVSE Pilot Program Update
  - Residential: 2,769
  - Multifamily: 251 ports
  - BGE-owned Multifamily: 20 L2s
  - Public: 276 live, 136 in progress
  - TOU Rate: 1,672 participants
  - Fleet program – finalizing implementation
  - Smart Charge Management – over 1400 customers enrolled
- Events & Outreach
  - Maryland Auto Show – March 10<sup>th</sup>-12<sup>th</sup>
  - WMAR Steering Change Series

# Pepco and Delmarva (PHI)

## MD EVsmart Incentive and Rebate Programs`

Program	Jurisdiction	Program Target	Current Enrollment/Installations
Residential Rebate	Pepco MD	750	750
	DPL MD	250	110
R-PIV TOU Rate	Pepco MD	No Limit	380
	DPL MD	No Limit	9
Residential Plug-in Vehicle TOU (PIV)	Pepco MD	100	48 (6 applicants in review pipeline)
	DPL MD	37	8 (1 applicants in the review pipeline)
Multi-Dwelling (MDU) Incentive	Pepco MD	100	18 (32 ports installed; 23 applicants in review pipeline)
	DPL MD	25	4 (5 ports installed, 2 applicants in review pipeline)
Off Peak/Off Bill Rebate	Pepco MD	250	250
	DPL MD	75	70
Workplace Charger Rebate	Pepco MD & DPL MD	25 total between Pepco & DPL	0
\$50 Annual Incentive	Pepco MD	750	64

## MD EVsmart Public Chargers – In Service

	L2 Charger	DC Fast Charger	Total
<b>Pepco</b>	154	4	158
<b>DPL</b>	76	8	84
<b>Total</b>	230	12	242

## MD EVsmart Pipeline Status – Public Chargers

	Sites	Chargers
<b>Pre-Construction / In Construction</b>	6	18
<b>Engineering</b>	28	78
<b>Total</b>	34	96

- MD EVsmart Semi-Annual Report submitted 02/01/23. Administrative Hearing scheduled for 03/15/23. Requested: extension of public charger program to 12/31/25, \$100K budget increase for Pepco PIV TOU, removal of demand response events from EVsmart scope. Notification of pausing applications to Pepco MDU offering.
- Fleet offering launch Q2 2023; ICF is program administrator.
- Events & Outreach:
  - 02/13/23 Power2Go Summit EV Symposium – Mapping Rural Maryland’s EV Future, at the Chesapeake Environmental Center in Grasonville, MD
  - 02/21/23 Cardinal Shehan School Youth Workforce Development Day in Baltimore, MD

# SMECO

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- EVSE Pilot Program Update
  - 32 EVSE Installed (29 Level 2, 3 DC Fast)
  - One Level 2 waiting for commissioning (3/6/23)
- Other Programs
  - Residential Rebate, Multi-family, and Managed Charging approved
  - EV TOU PSC hearing planned for March 8<sup>th</sup>



# Potomac Edison

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- EVSE Pilot Program Update
  - Residential Rebates: 494\*
  - Multifamily: 6
  - Public: 25 Level 2, 10 DC Fast Chargers
  - TOU Rate: 500 participants
- Events & Outreach
  - EV Driven Social Media Video Campaign launched on 10/28/22 that will run through March 2023; promotes residential rebates.
  - 2/22/23: filed for the EV-Only Time of Use Rate program; current rate offering is the Off-Bill Credit program
  - Date TBD: EV-Only TOU Rate promotional campaign (websites, blog posts, emails, updated online rate calculator)

\*counts through 2/28/23

# Closing Remarks

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Next ZEEVIC Meeting: May 10, 2023