

## **ITEM 11 – Information**

October 20, 2021

### Moving Towards Implementation of Climate Plan Strategies: Vehicle Electrification

**Background:**

Members will be briefed on regional and local efforts and opportunities for vehicle electrification. The primary focus will be on zero emission vehicle strategies and actions for light duty vehicles and transit and school buses. A proposed joint effort to coordinate transportation electrification planning will be presented and discussed.



## MEMORANDUM

**TO:** National Capital Region Transportation Planning Board  
**FROM:** Jeffrey King, Director, Climate, Energy and Air Program  
**SUBJECT:** Planning for Electrification of Transportation: Opportunities for Coordination  
**DATE:** October 14, 2021

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This memorandum provides information on opportunities for electrification in the transportation sector as a greenhouse gas emission reduction strategy. The following topics are presented:

- Recap and reaffirm the potential of vehicle electrification strategy to reduce on-road greenhouse gas emissions
  - COG 2030 Climate Energy Action Plan
- Overview of electric vehicle (EV) planning underway
  - Local and State levels efforts underway to support electrification
- Opportunities for regional collaboration in implementing vehicle electrification strategy
  - Specific Projects/Programs
  - Partnership and funding opportunities

## 2030 CLIMATE PLAN AND TRANSPORTATION SECTOR STRATEGIES

In 2020, COG adopted a new interim greenhouse gas emission reduction goal of a 50 percent reduction in greenhouse gas emissions by 2030. The on-road transportation sector represents approximately 33 percent of greenhouse gas emissions (other off-road vehicles and commuter rail are an additional 7 percent) in the region so it represents an important area of focus for climate action. COG's [2030 Climate and Energy Action Plan](#) includes several recommended strategies and actions to reduce emissions from on-road vehicles. The strategies were grouped into 2 categories – Zero Emission Vehicles and Mode Shift and Travel Behavior.

### Zero Emission Vehicles

- ZEV - 1 Expand Light-Duty Electric Vehicle (EV) Deployment
- ZEV - 2 Accelerate Electrification of Medium- and Heavy-Duty Vehicles
- ZEV - 3 Build Out Regional Electric Vehicle Charging Network

### Mode Shift and Travel Behavior

- MSTB - 1 Invest in Infrastructure that Increases Transit, Carpooling, and Non-Motorized Travel
- MSTB - 2 Bring Jobs and Housing Closer Together
- MSTB - 3 Enhance Options for Commuters

## ELECTRIC VEHICLE PLANNING EFFORTS

To address a number of drivers of change and areas of interest, State and local governments are actively developing and implementing government operations and community-wide electric vehicle plans. At the local level, there are at least 11 plans completed or under development. The main

areas of interest include electrification of light duty vehicles, transit buses, and school buses. Plan elements address fleet transition needs, infrastructure deployment, policies and processes, workforce development, and siting of electric vehicle charging.

## **REGIONAL COLLABORATION**

Transitioning on-road vehicles from fossil to electric fuel requires the participation and contribution of several different sectors and stakeholders. Large scale deployment of EVs, needed to reach the region's GHG reduction goals, will need the support infrastructure to operate and maintain these vehicles. Preparing to accommodate the transition to EVs and providing the necessary EV support infrastructure will require participation from the public and private sector entities, vehicle manufacturers, energy suppliers, vehicle operators (private and commercial) and others. While stakeholder entities will have a role for which it would have to develop a detailed implementation plan (some of this already happening), there are a number of opportunities for collaboration by the various jurisdictions. Examples of such a collaborative regional effort would be an assessment of vehicle charging facilities distributed throughout the region, standardization of EV operating/charging protocols including for-hire vehicles, cooperative procurement of vehicle and/or vehicle charging equipment, and securing funding for building EV infrastructure particularly for transit vehicles. COG is supporting local EV plan development through staff assistance and deployment of contractor support under two master service contracts. A number of information sharing opportunities and focused forums to support acceleration of electrification are planned.

# PLANNING FOR ELECTRIC VEHICLES OPPORTUNITIES FOR COORDINATION

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## Greenhouse Gas Reduction Strategy

Jeff King  
Director, Climate, Energy, Air Program

Transportation Planning Board  
October 20, 2021



# Objectives

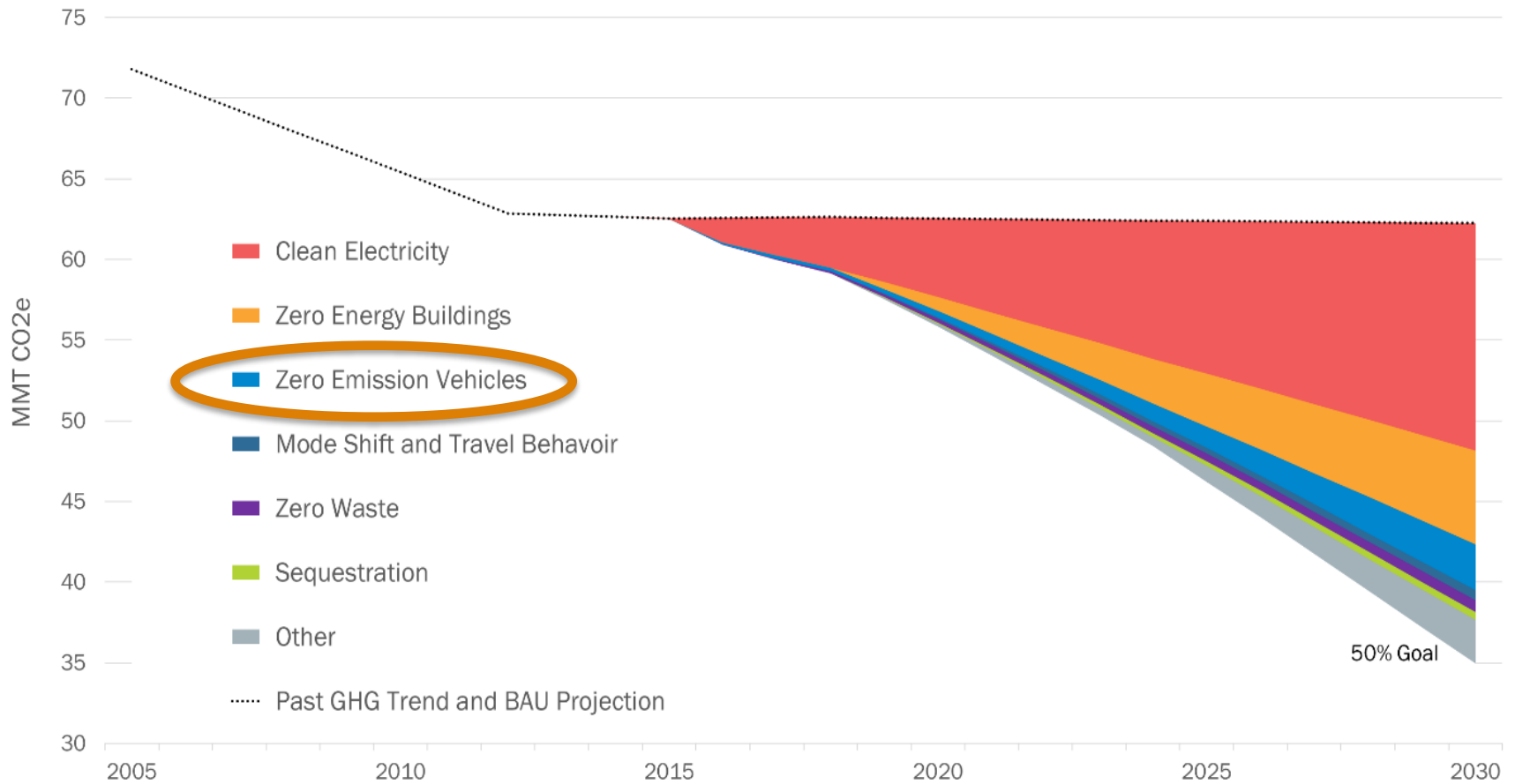
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# 2030 GHG Reduction Strategies

ZEVs Strategy – 3<sup>rd</sup> most potential overall; 1<sup>st</sup> within Transportation sector!



# 2030 CEAP ZEV Strategies and Targets

- Regional Zero Emission Vehicle (ZEV) Strategies
  - ZEV-1: expand light-duty electric vehicle deployment
  - ZEV-2: accelerate electrification of medium- and heavy-duty vehicles
  - ZEV-3: build out regional electric vehicle charging network
- ZEV Implementation Targets
  - Light-duty BEVs and PHEVs: 30%
  - Light-duty trucks: 9%
  - Medium- and heavy-duty trucks: 4%
  - Transit buses: 30%
- TPB's Climate Change Mitigation Study
  - More detailed analysis of ZEV implementation



# Trends and Developments

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- Growth in Vehicle Offerings
- Light Duty Fleet and Transit Interest growing
- Infrastructure deployment
  - Role of Private Sector, Vendor Ecosystem, New OEM models
  - Role of Government and Utilities
  - Federal GSA, Army, Washington HQ Service
  - Fleets/Consumers
  - Electric Utility Infrastructure Partnerships
  - Cooperative/Creative Procurement
  - Congress and White House - Infrastructure Investment





# Drivers and Areas of Interest

- Market moving fast, how get out in front of it
- Accelerate ideal market conditions
- Economy of scales: Planning, Procurement, Deployment
- Building “Consumer” acceptance
- Addressing Workforce needs, education and training
- Transit, last mile, Autonomous, EV Rideshare can support workforce development
- Learning from Pilots
- Active supporters - Clean Cities Coalitions, EV enthusiasts, leading practitioners, NVTC, Dealer network with WANADA
- Advanced Energy Group Task Force – Transit Bus Infrastructure needs assessment, Congressional funding letter



# ZERO EMISSION BUS TRANSITION SIGNATORIES



Metropolitan Washington Council of Governments

# Local EV Plans: Light Duty Vehicles

- Completed Plans
  - City of Frederick – Community plan
  - City of Alexandria – Community plan
  - Prince George’s County – Government fleet plan
- Forthcoming Plans
  - DC’s Transportation Electrification Roadmap
  - Frederick County – Community and government plans
  - Arlington County – Government Operations Interim Plan, County-wide Master plan
- Under Consideration
  - Falls Church - Community-wide plan
  - Rockville – Government fleet plan
  - City of Manassas - Both government and community-wide
  - Charles County – Under consideration
  - Greenbelt – Electric Vehicle Infrastructure Planning Group



# Transit and School Buses

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## Transit Buses

- Alexandria DASH
- DC Circulator
- Frederick County Transit
- Metrobus
- Montgomery County Ride On
- Prince George's County The Bus

## School Buses

- Fairfax County Public Schools
- Montgomery County Public Schools



# Regional Planning and Coordination Opportunities

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- EV Plan Development
  - Vehicle and support equipment and services
  - Policy and Programming support
- EV Infrastructure Needs Assessment
- Shared investment in common elements
  - Utility programs
  - Technology/Vendor information
  - Certain policies and procedures
  - Jurisdiction-specific information
  - EV ownership, registrations, locations



# COG Support Climate Change Planning

- Market Research and Tracking
- Network/coalition building, ecosystem mapping
- Technical / Policy Forums
- Special workshops, ride and drives, sharing of information and lessons learned
- Supporting local planning
  - Policy and incentives, requirements
  - Asset surveys, site assessments, fleet assessments
- COG master consultant contracts:
  - ICF and Cadmus
  - Supports local climate, energy, and EV Plans
  - Developing EV plans for Govt fleet and Community



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