

# District of Columbia

## Transportation Electrification Roadmap

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### Incentives / Transportation Needs Assessment

*Webinar will begin shortly...*



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## Transportation Electrification Roadmap

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### Incentives / Transportation Needs Assessment

Thursday, 13 May 2021



# Welcome – Opening Remarks – Agenda

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## Agenda Outline

- Welcome
- Introduction to the Grantee: *the Electrification Coalition*
- Transportation Electrification Roadmap (Eric Campbell, DOEE)
  - Goals
- Recapping previous webinars
- Introduction: a Transportation Needs Assessment
- Framework for Incentives (Brad Nelson)
- Breakout Discussion
- Report-out/Questions/Feedback/General Discussion

# Schedule of Stakeholder Sessions

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- Thur, May 13 | 7pm: Incentives / Transportation Needs Assessment
- Thur, May 27 | 7pm: Incentives For Businesses, Fleets, Utility and Energy Interests
- Thur, June 24 | 7pm: EV/ EV Service Equipment Strategy
- Thur, July 29 | 7pm: School Bus Electrification
- Thur, August 26 | 7pm: Concluding Roadmap Feedback Group

Register at [bit.ly/electrification-roadmap](https://bit.ly/electrification-roadmap)

# The Electrification Coalition



## Who We Are

The Electrification Coalition (EC) is a nonpartisan, non-profit organization committed to promoting policies and actions that facilitate the deployment of electric vehicles on a mass scale, in order to combat economic and national security dangers caused by our dependence on oil.



- Technical Lead: Climate Mayors EV Purchasing Collaborative
- Electrification Advisor: Bloomberg American Climate Cities Challenge
- Freight Electrification Pilot Project: Hewlett Foundation
- Lead Electrification Partner: Smart Columbus
- Electrification Advisor: City of Atlanta Partnership
- Project Lead: Drive Electric Northern Colorado
- Project Lead: Rochester EV Accelerator



# CLEAN ENERGY DC

THE DISTRICT OF COLUMBIA CLIMATE AND ENERGY PLAN

## Transportation Electrification

★ ★ ★ DEPARTMENT  
OF ENERGY &  
ENVIRONMENT

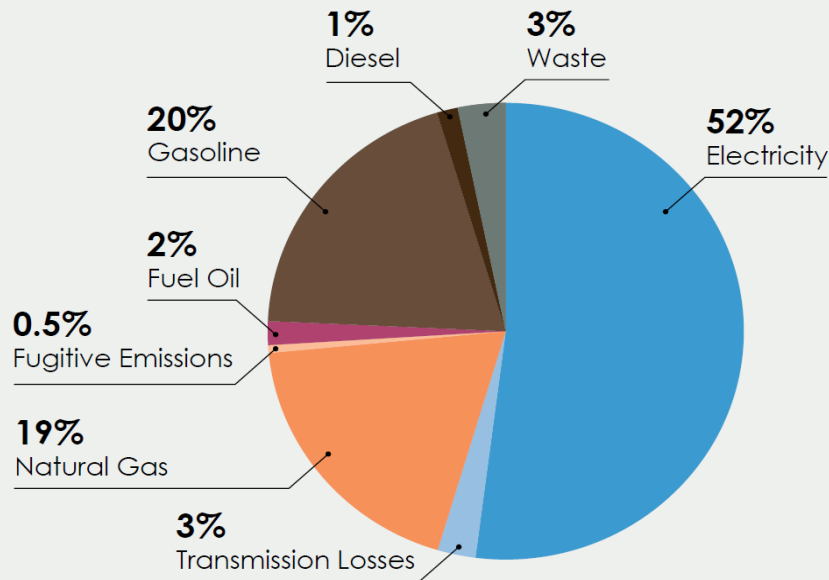
GOVERNMENT OF THE DISTRICT OF COLUMBIA



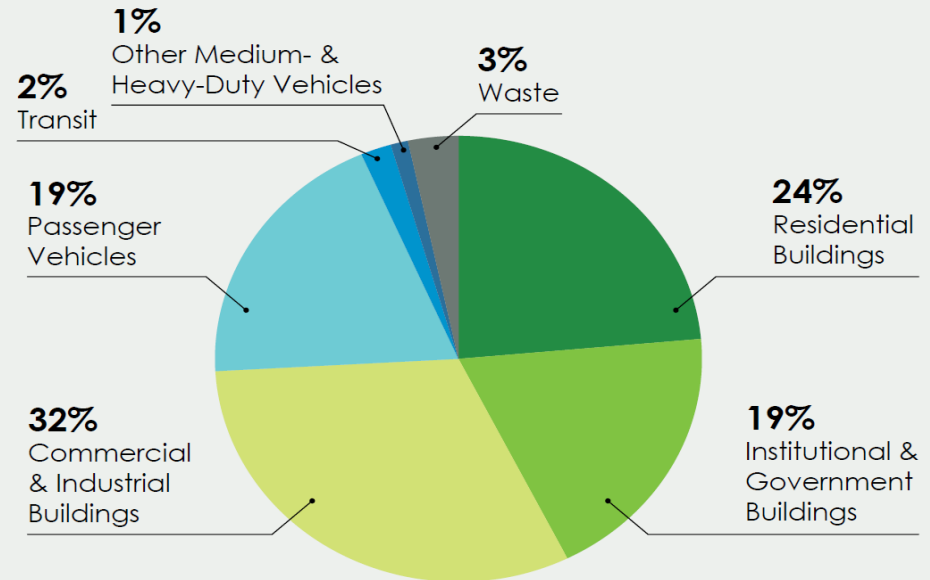
# DC CLIMATE AND ENERGY GOALS

Clean Energy DC is the District's first quantified roadmap to meet the Sustainable DC climate and energy goals.

## GHG EMISSIONS BY SOURCE



## GHG EMISSIONS BY SECTOR

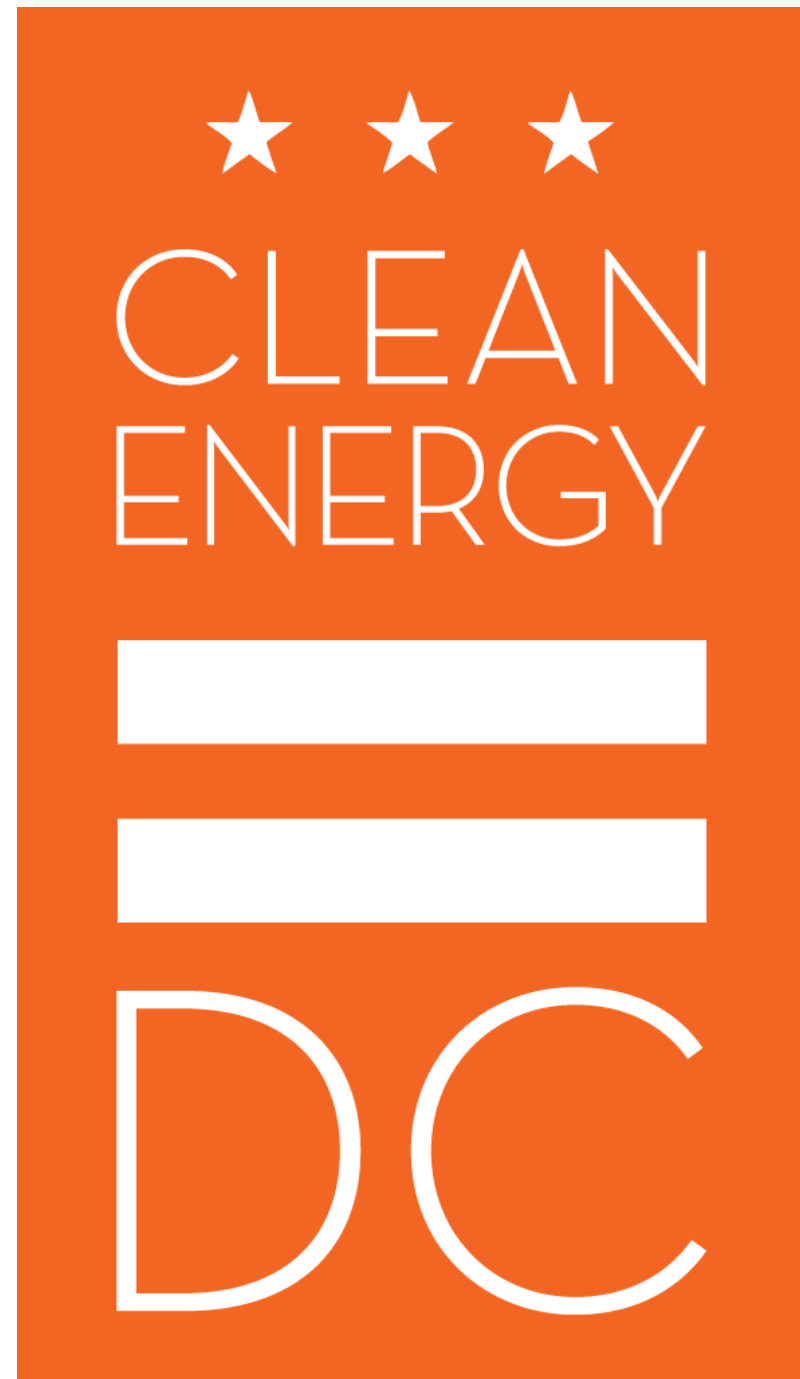


The plan will **reduce emissions by 50 %** by 2032 compared to 2006 levels, and will help the city achieve **carbon neutrality by 2050**

# Overview of CEDC Act

The Act, effective as of March 2019, will realize CEDC goals by targeting three areas:

- **Transportation Emissions Reduction and Electrification-** mandates and incentivizes a path for zero-emissions fleets, buses and private vehicles
- **Renewable Energy-** mandates 100% renewable energy by 2032
- **Energy Efficiency-** Establishes a first-of-its kind Building Energy Performance Standard for buildings





# Transportation Electrification Roadmap Goals

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- 1 Buses and private fleets 50% Low or Zero Emissions Vehicle (ZEV) by 2030 → 100% ZEV by 2045
- 2 100% EV replacement of public buses and school buses at End-Of-Life by 2021
- 3 At least 25% ZEV registrations by 2030 (estimate ~75,000 EVs)

Provide policies, cost estimates, and timelines

# QUESTIONS?

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## CONTACT INFORMATION

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# Transportation Electrification Roadmap

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## Transportation Vision:

**Mode Shift** to  
active  
transport  
and public  
transit



**Fuel switch** to  
Electricity



# Roadmap - Status

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Transportation Electrification Roadmap Final Report due **October 31, 2021**

- ***Receive Stakeholder comments and redraft accordingly***

## **Introduction and Orientation:**

- Outline of Roadmap Activities

## **Introduction to Mobility Equity:**

- Introduction to Electric Vehicles and Charging Equipment

## **Equitable EV Charging Placement:**

- Discussion about desirable locations for EV chargers

Recordings of past sessions can be provided.

A close-up photograph of a person's hand plugging a white charging cable into the charging port of a white electric vehicle. The hand is wearing a silver bracelet and a ring. The background is blurred, showing a red wall. The text 'Transportation Needs Assessment' is overlaid in green, bold font, with a horizontal line underneath it.

# Transportation Needs Assessment

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**TNA**

# Transportation Needs Assessment

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A **Transportation Needs Assessment (TNA)** is a process that involves determining communities' transportation needs and setting criteria for understanding how to best allocate resources that increase mobility to meet those identified needs.

- Targeting specific communities and populations
- Focus on transportation electrification projects
- Complement moveDC/public transit

# Transportation Electrification focus

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## What?

Identify community transportation needs which may be addressed by electrification programs.

## Why?

Gather feedback in order to make recommendations for the Roadmap

## How?

Survey exercise (and any direct feedback or comments!)

# TNA Process

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## Needs Identification

To meet the District's goals of carbon neutrality by 2050 while ensuring equitable outcomes for all residents.

## Data Collection & Analysis

This stage gathers information to identify existing concerns; gaps in mobility, awareness/knowledge, and services; and identify electrified transportation projects which may address these stakeholder concerns.

## Data Application

Once data is collected the responses, input, and feedback will be used to evaluate solutions and determine how to best allocate resources that increase mobility to meet those identified needs.

## Evaluation

Evaluation helps understand what was successful and finds opportunities for improvement.



# Transportation Electrification Focus

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## moveDC Strategies

- Implement the DC Circulator electrification plan and electrify the District-owned bus fleet by 2027
- Offer micromobility (bicycle and scooter) options in all 8 wards; leverage community partnerships
- Increase e-bikes to 25% of fleet; Add more bikeshare stations and increase use
- Encourage commercial/private interests and property developers to add EV chargers at sites in locations where there is demand

## Sample responses/programs include:

- Electric carshare
- Electric Vehicle Group-Buy or Personal EV Incentives
- ICE-for-EV trade-in program (some cash value + transit incentives)
- E-bike purchase incentives
- Employer incentives for riding transit

# Types of Questions

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- How easy or hard it is to get to where you need to go
- Familiarity with different types of transportation options
- How you currently get around and how often
  - How you travel for certain purposes
- How you would consider traveling if the options were readily available and affordable
- What incentives you would be most interested in

A close-up photograph of a person's hand plugging a white charging cable into the charging port of a white electric vehicle. The hand is wearing a silver bracelet and a ring. The background is blurred, showing a red wall. The text "Framework for Policies & Incentives" is overlaid in green on the image.

## Framework for Policies & Incentives

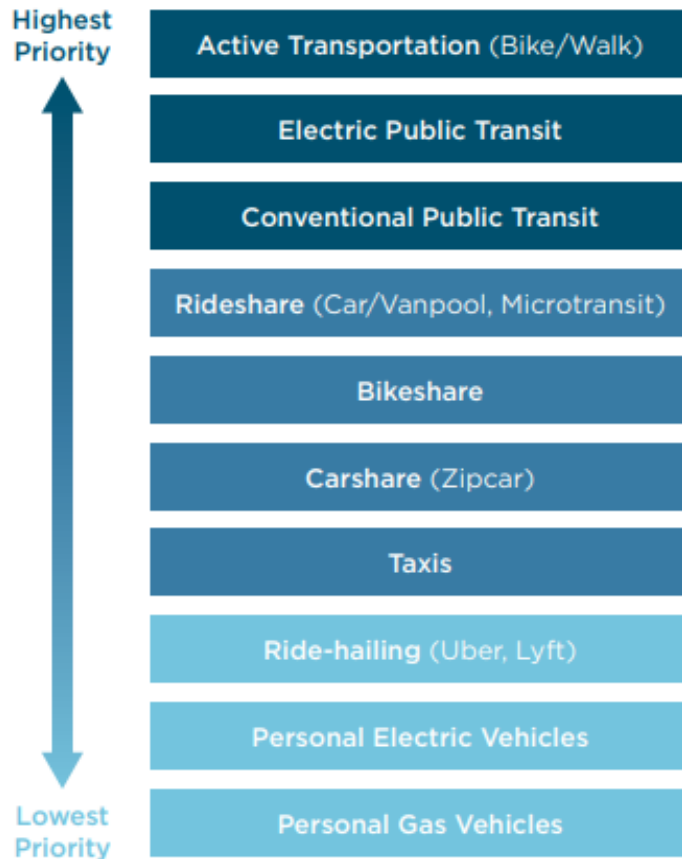
# Current EV Policies

	Current Policies	Policy Summary
Monetary Incentives	AFV Conversion Tax Credit	50%/\$19k per vehicle
	AFV Infrastructure Tax Credit	50%/\$1k Res/\$10k Public EVSE
	Reduced Registration fee for AFVs	\$36 Total-First 2 yrs
	Plug-In PEV Title Excise Tax Exemption	6% of MSRP/Median:\$680
Operational Incentives/ Requirements	AFV Exemption from Driving Restrictions	Fleets (10+) Time-of-day/day-of-week restrictions/commercial bans
	AFV Acquisition Requirements	Fleets (10+) - 70%(8.5k lbs)/50%(25k lbs)
	Passenger Gov Fleet Procurement Requirements	Avg MPG 22+ & no SUVs (W/exemptions)
	Emission Reduction Plan for TNCs	Every 2 yrs TNCs - update GHG reduction plan (Increasing ZEV use & VMT)
City Goals/ Supportive Programs	ZEV Deployment Support	Ex order - Public & commercial fleets (2030: 25% ZEVs/ 2045: 100% ZEVs)
	MHDV ZEV MOU Signatory	2030: 30% ZEV /2050: 100% ZEV (Sales)
	Regional Transportation and Climate Initiative	Develop policies and programs energy efficiency of regional transportation systems and reduce emissions. (EVSE)
	AFV and Infrastructure Support	Green Finance Authority - Increase private investment in clean transportation projects (Bonds & funding allocations)
	Low Emission Vehicle Standards	Title 13 of CA code of Regulations

# Equity Electrification Framework

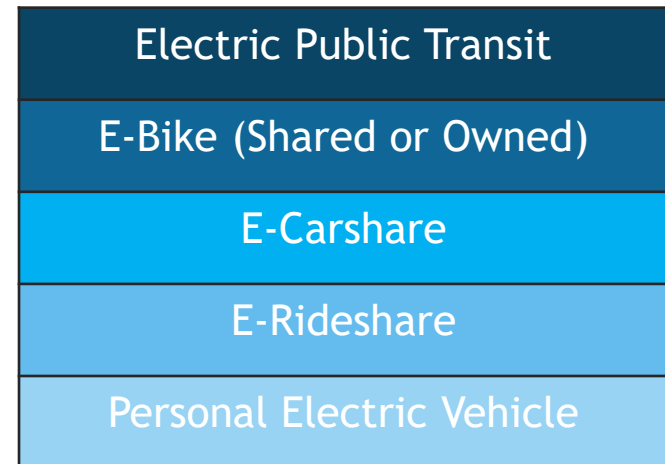
## Greenlining Institute

### Urban Transportation Policy Priorities



## Urban Transportation Policy Priorities

### (District of Columbia)



# Equity Framework - Policy Examples

	Equity Focused Policy Examples
Electric Public Transit	Fleet Procurement Requirement (# or % by prescribed date)
	EV First Transit Procurement Requirement
E-Bike (Shared or Owned)	Purchase incentives for low-income residents
	Subsidized E-bike sharing for low-income residents
E-Carshare	Prioritization of E-Carshare stations in low-income areas
	Subsidized EV car sharing for low-income users
E-Rideshare	TNC Electrification Requirement (# or % by prescribed date)
	Cost Sharing for TNC charging hubs development in lower-income areas
Personal Electric Vehicle	High emission vehicle buy-back program for low-income residents
	Increased purchase & EVSE incentives for low-income residents (new & used vehicles)

# CEDC EV Policy Priorities

	Current Policy Goals	Time Frame	Progress
Electric Public Transit	Set target for reducing transit bus emissions 65% per vehicle mile by 2032	Short Term	Significant
	Pursue Funding Options to Subsidize Electric Transit Buses and Electric Charging Structure	Short Term	Some
	Implement an EV bulk buy program (Public Vehicles)	Short Term	Initiated
E-Bike (Shared or Owned)			
E-Carshare	Pursue and EV-only car sharing fleet	Medium Term	Initiated
E-Rideshare			
Personal Electric Vehicle	Provide an EV purchase incentive	Short Term	Some
	Adopt an EV-ready parking lot requirement	Short Term	Some
	Adopt an EV-ready building code	Short Term	Some
	Establish an EV Showcase and Purchase Center	Short Term	Some

# Transportation Comparison: Cost & Emissions

## Transportation Cost Comparison

	Annual VMT Per Driver (Miles)	Annual Fuel Cost	Annual Maintenance Cost	Annual Total Cost	Avg. Non-Luxury Vehicle Cost (New)	TCO 10 years
ICE	7,013	\$673.14	\$554.03	\$1,370.80	\$26k	\$39,708
BEV	7,013	\$246.16	\$168.31	\$415.79	\$37k	\$41,158
E-Bike	7,013	\$18.23	\$322.60	\$339.53	\$1.5k	\$4,895

- \$1,450 difference in cost between ICE and BEV over 10 years
- Incentive as low as \$1,500 would bridge the 10-year TCO cost gap between ICE and BEV sedans but not the upfront cost differential
- \$1,500 incentive for an E-bike would completely cover the purchase cost.

## Transportation Emissions Comparison (Current PJM Energy Mix)

	Annual VMT Per Driver (Miles)	Annual CO2 Emissions (Lbs)	10 Year Emissions (Lbs)	% ICE Emissions Redux
ICE	7,013	5,633	56,330	N/A
BEV	7,013	1,611	16,110	71%
E-Bike	7,013	119	1,190	98%

- BEVs - 71% reduction in CO2 emissions
- E-Bikes - 98% reduction in CO2 emissions



# Breakout Groups

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Discussion areas:

Initial input about transportation needs related to electric transportation options

Feedback on the TNA process

Input on the awareness of current EV/EV charging incentives

# Contact Information

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Thank you for your participation.

**How Can We Improve?**

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Electrification  
Coalition