

# METROPOLITAN WASHINGTON CLIMATE PLANNING

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Prince William County Sustainability Commission

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# Presentation Overview

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- Metropolitan Washington Climate Planning Background
- Metropolitan Washington 2030 Climate and Energy Action Plan
- Local and Regional Greenhouse Gas (GHG) Emissions Inventories
- COG Local Climate Planning Implementation Support and Resources

# METROPOLITAN WASHINGTON CLIMATE PLANNING BACKGROUND

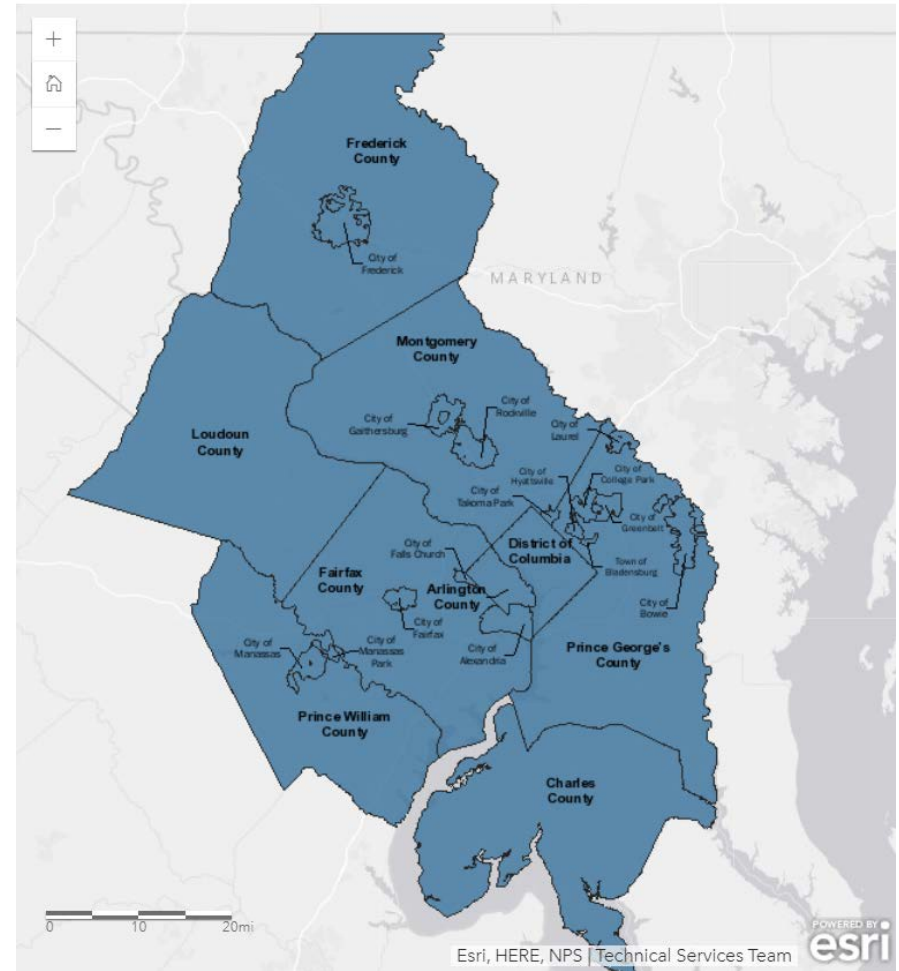
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# COG & Our Region

- COG Members: 24 local governments, states of Maryland and Virginia, U.S. Congress; 300+ officials
- Policy direction in Region Forward's vision for a more prosperous, accessible, livable, sustainable, and equitable region



# COG's Climate Action History

## COG Resilience and Climate Work

COG Climate Change Initiative and adopted climate goals in the *National Capital Region Climate Change Report*

2008

Established Climate, Energy and Environment Policy Committee (CEEPC)

2009

Greenhouse gas (GHG) emission reduction targets incorporated into *Region Forward*

Adopted 2010-2012 *Regional Climate & Energy Workplan*

2010

Joined COG's action to set GHG reduction targets

Evaluated strategies to reach GHG reduction targets through *What Would It Take* scenario analysis

Adopted 2013 - 2016 *Regional Climate & Energy Workplan*

2013

Recognized as White House Climate Action Champions

2014

Approved Resolution R10-2014 endorsing Green Streets policies

## TPB Resilience and Climate Work



# COG's Climate Action History (continued)

## COG Resilience and Climate Work

Updated Climate Energy and Environment Policy Committee 2013-2016 Action Plan Resource Guide

2015

Developed *Metropolitan Washington 2020 Climate and Energy Action Work Plan*

2016

Published Environmental Justice Toolkit

2017

Named a US Regional and Metro Scale Climate Leader by the Global Covenant of Mayors for Climate and Energy

2019

Adopted 2030 climate goals and developed a *Metropolitan Washington 2030 Climate and Energy Action Plan*

2020

Met global standards for climate planning

2021

## TPB Resilience and Climate Work

Identified types of projects, programs, and policies with the greatest potential to reduce GHGs of the transportation sector (TPB Multisector Working Group)

Published TPB Climate Change Mitigation Study of 2021

Developed TPB Resiliency Study



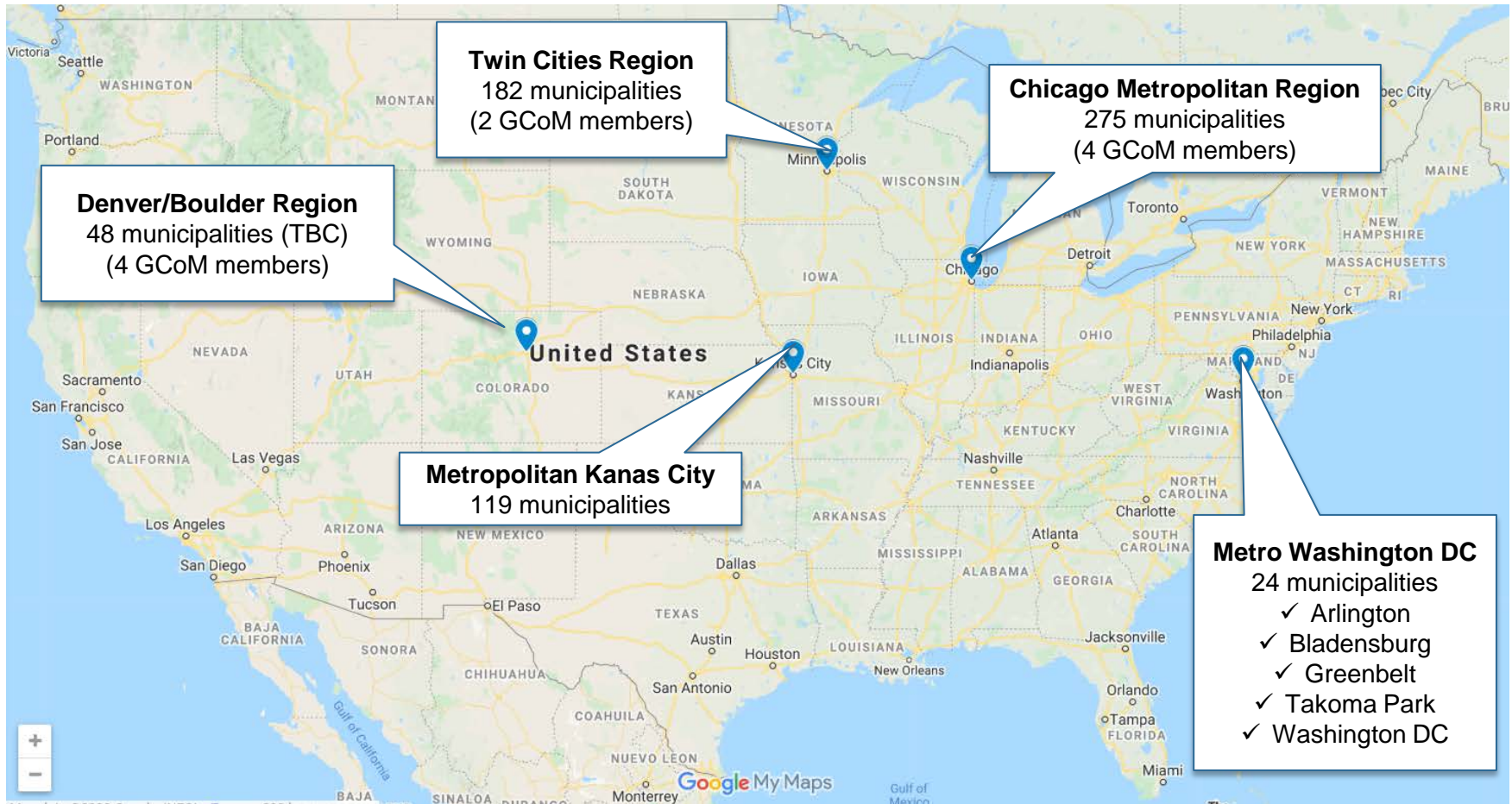
# METROPOLITAN WASHINGTON CLIMATE 2030 CLIMATE AND ENERGY ACTION PLAN

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# Global Covenant of Mayors

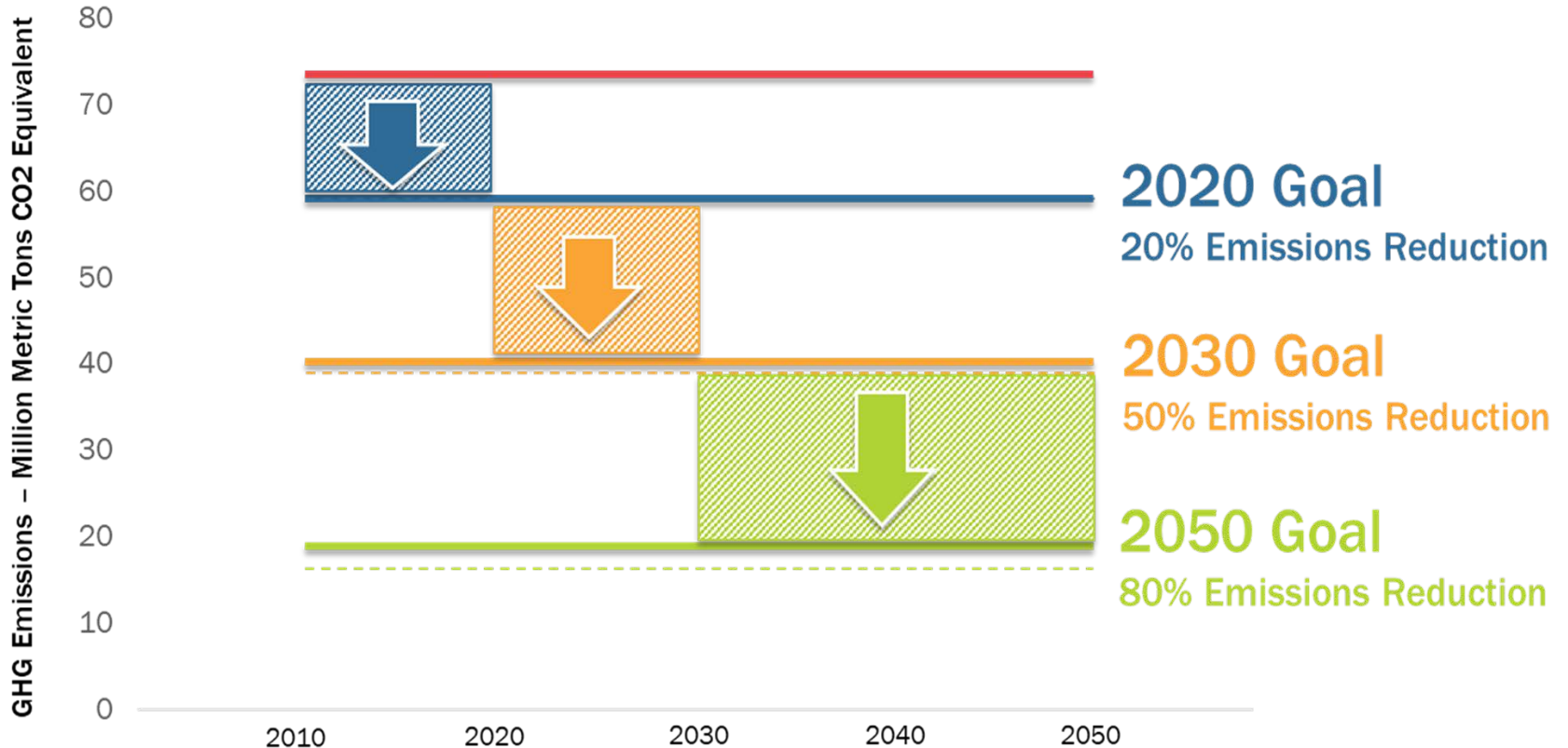




# Climate Collaborative Guiding Principles

Principle	Description
1. Collective Action	We will continue to work together to leverage our impact and facilitate application at scale.
2. Effective Partnerships	We will continue to share best practices, learn together, and coordinate on implementation to advance regional transformation.
3. Lead by Example	We have a continued commitment to internal implementation of long-term solutions to reduce the climate impacts of our operations.
4. Integration	We understand climate action is inherently multidisciplinary and will promote cross-department coordination, including in areas such as equity, health, and economic development.
5. Flexibility	We understand the need for flexibility in how our public agencies and stakeholders across the DC, MD, and VA work to achieve regional GHG goals.
6. Transparency	We will continue to measure and report progress in a manner easily understandable by all.
7. Innovation	We support a just transition to a clean energy economy through the application of innovative technology, policies, and processes by public and private sectors.
8. Community Leadership	We will continue to educate, motivate, and empower action from our community's institutions, businesses, non-profits, and residents.
9. Inclusive Engagement	We commit to inclusive community engagement and equitable provision of climate and energy programs and services.
10. Advocacy	We will continue to support state and federal policies and programs that protect the human and environment health of our communities.

# Regional GHG Mitigation Goals



# Climate Resilience Goals

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In October 2020, per CEEPC's recommendation, the COG Board adopted (and TPB affirmed) the climate resilience goal of becoming a Climate Ready Region and making significant progress towards becoming a Climate Resilient Region by 2030.

## *Climate Ready Region:*

To be Climate Ready by 2030, all local governments must assess current and future climate risks, and be actively integrating climate planning across government plans, operations, and communications.

## *Climate Resilient Region:*

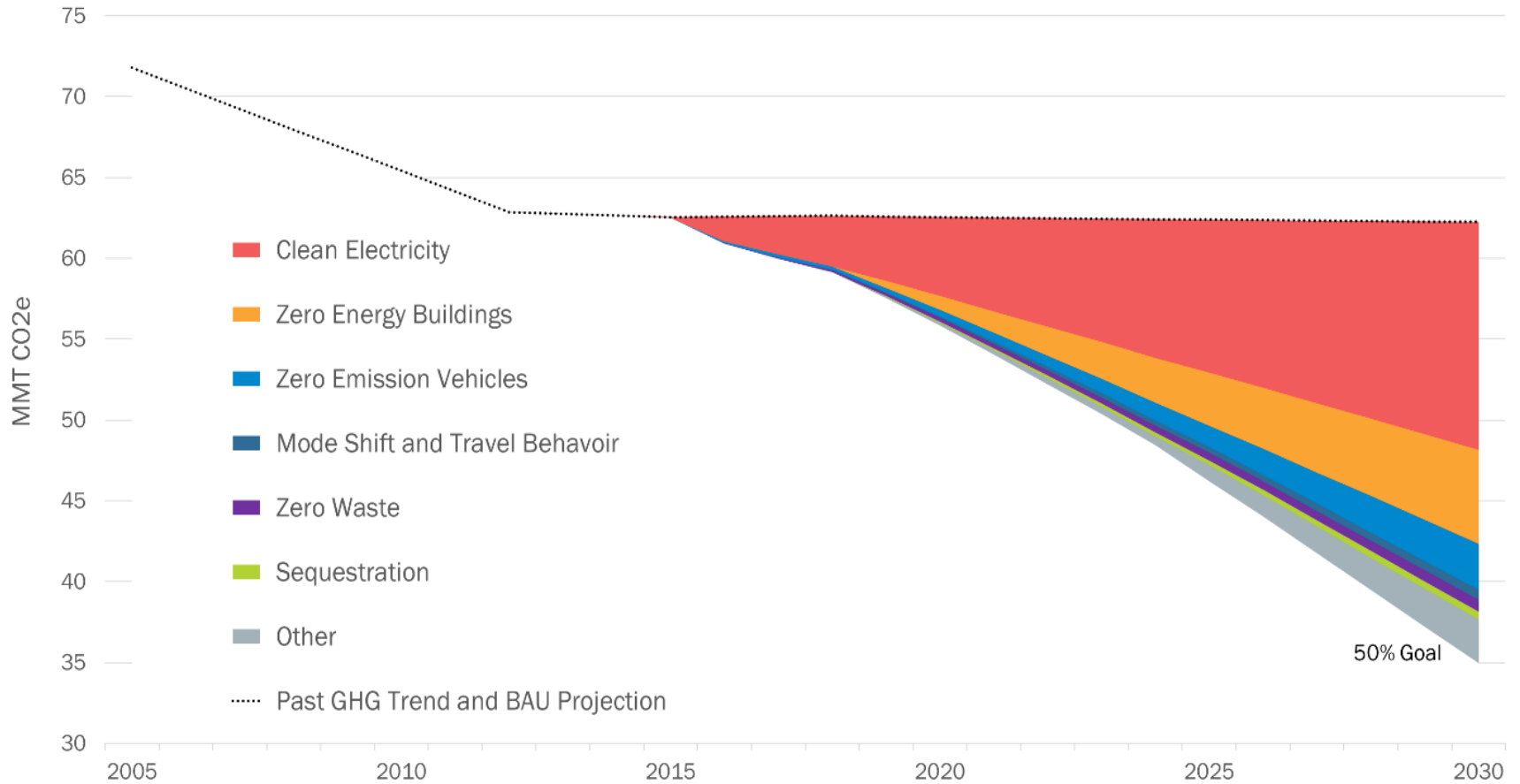
To fully be a Climate Resilient Region, the region must have the ability to adapt and absorb against disturbances caused by current and future, acute and chronic climate impacts and successfully maintain essential functions.

# Four Main Plan Elements

Element	Description
1. Greenhouse Gases	Summary of regional GHG inventory trends from 2005 – 2018, business-as-usual (BAU) GHG emission projections through 2030, and technical scenario showing what it will take for the region to reach GHG reductions of 50% below 2005 levels by 2030.
2. Climate Mitigation Strategy	CEEPC’s priority collaborative mitigation actions to move the region toward achieving the GHG emission reduction goal of 50% by 2030, below 2005 levels. Climate action areas include Planning, Equity, Clean Electricity, Zero Energy Buildings, Zero Emission Vehicles, Mode Shift and Travel Behavior, Zero Waste, and Sequestration.
3. Climate Risks and Vulnerabilities	Summary of the Regional Climate, Risk and Vulnerability Assessment (CRVA). Evaluates climate hazards: extreme heat, drought, lightning and thunderstorms, flash and riverine flooding, coastal flooding and extreme winter conditions.
4. Climate Resilience Strategy	CEEPC’s priority collaborative climate resilience actions to move the region toward achieving the goal of becoming a Climate-Ready Region and making significant progress to be a Climate Resilient Region by 2030. The action areas include Planning, Equity, and Resilient Infrastructure.



# 2030 Scenario



# Mitigation Actions

Climate Action Area	Action ID	Priority Collaborative Action
Planning	PL - 1	Advance Climate Planning and Track Progress
Equity	EQ - 1	Enable Equitable Planning Practices
	EQ - 2	Prioritize Sustainable Energy Access for All
Clean Electricity	CE - 1	Advocate for Aggressive Renewable Portfolio Standards
	CE - 2	Accelerate Development of On-Site Renewables
	CE - 3	Accelerate Deployment of Battery Storage
	CE - 4	Accelerate Development of Microgrids for Critical Infrastructure
	CE - 5	Accelerate Development of Large-Scale Off-Site Renewables
	CE - 6	Advocate for and Implement Community Choice Aggregation
Zero Energy Buildings	ZEB - 1	Expand Building Benchmarking Requirements
	ZEB - 2	Accelerate Deep Building Retrofits
	ZEB - 3	Enhance Green Building Codes and Policies to Facilitate Net Zero Energy Building Development
	ZEB - 4	Expand Proper Disposal and Leak Detection of Refrigerants



# Mitigation Actions (continued)

Climate Action Area	Action ID	Priority Collaborative Action
Zero Emission Vehicles	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
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
Zero Waste	ZW - 1	Implement Curbside Organics Recycling Programs
	ZW - 2	Reduce Solid Waste Generation
	ZW - 3	Build Markets for Circularity
Sequestration	SQ - 1	Strategically Plant New Trees on Publicly Owned Land
	SQ - 2	Enhance Regulatory Capacity to Manage Tree Canopy and Forest Protection
	SQ - 3	Enhance Incentives and Financing Mechanisms for Tree Planting and Preservation on Privately Owned Lands



# Risk Levels and Adaptive Capacity

## Degree of Challenge

Hazard	Probability	Consequence	Risk
Extreme Heat	3	3	9
Drought	2	3	6
Flooding (Flash and Riverine)	3	3	9
Coastal Flooding	3	2	6
Lightning/Thunderstorm	3	2	6
Extreme Winter Conditions	2	3	6

Factor	Degree of Challenge
Infrastructure Conditions/Maintenance	High
Access to Basic Services	Moderate
Access to Healthcare	Moderate
Public Health	Moderate
Housing	Moderate
Poverty	Moderate
Community Engagement	Moderate
Environmental Conditions	Moderate
Economic Health	Low





# Resilience Actions

Climate Action Area	Action ID	Priority Collaborative Action
Planning	PL - 2	Support Capacity Building for Climate Resilience Planning
	PL - 3	Develop Integrated Approach to Climate Resilience Planning
	PL - 4	Update Local Regional Plans to Address Climate Risks
Equity	EQ - 3	Support Engagement of the Public on Climate Risks, with a Particular Emphasis on Potentially Vulnerable Populations
	EQ - 4	Support Equitable Secure Energy Access
Resilient Infrastructure	RI - 1	Support Establishment of Resilience Hubs
	RI - 2	Improve the Resilience of Critical Infrastructure
	RI - 3	Implement Measures to Equitably Address Urban Heat Island
	RI - 4	Enhance Green Infrastructure Networks
	RI - 5	Implement Measures to Reduce Flood Risk

# LOCAL AND REGIONAL GREENHOUSE GAS INVENTORIES

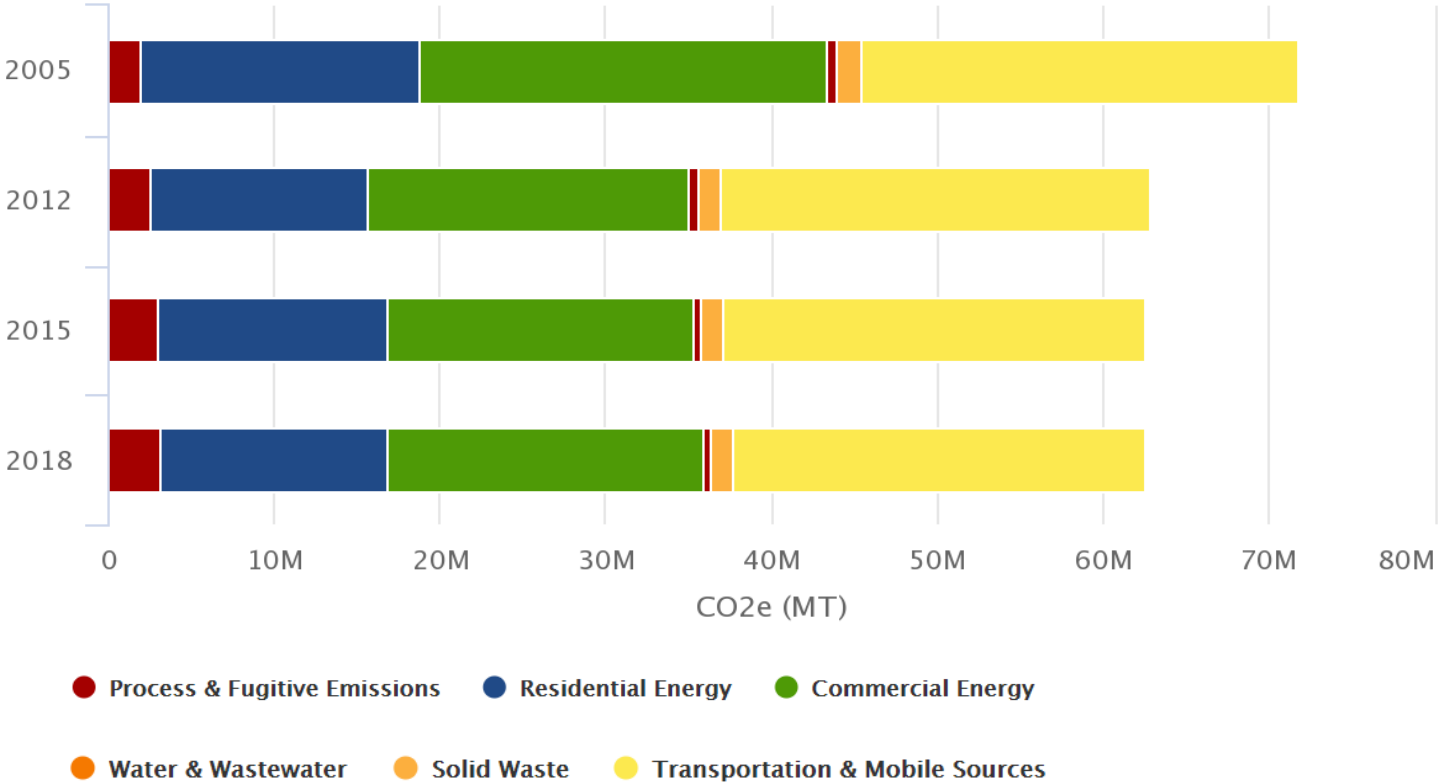
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# Regional GHG Emissions Trends

- 13% Reduction in GHGs across region, 2005 - 2018

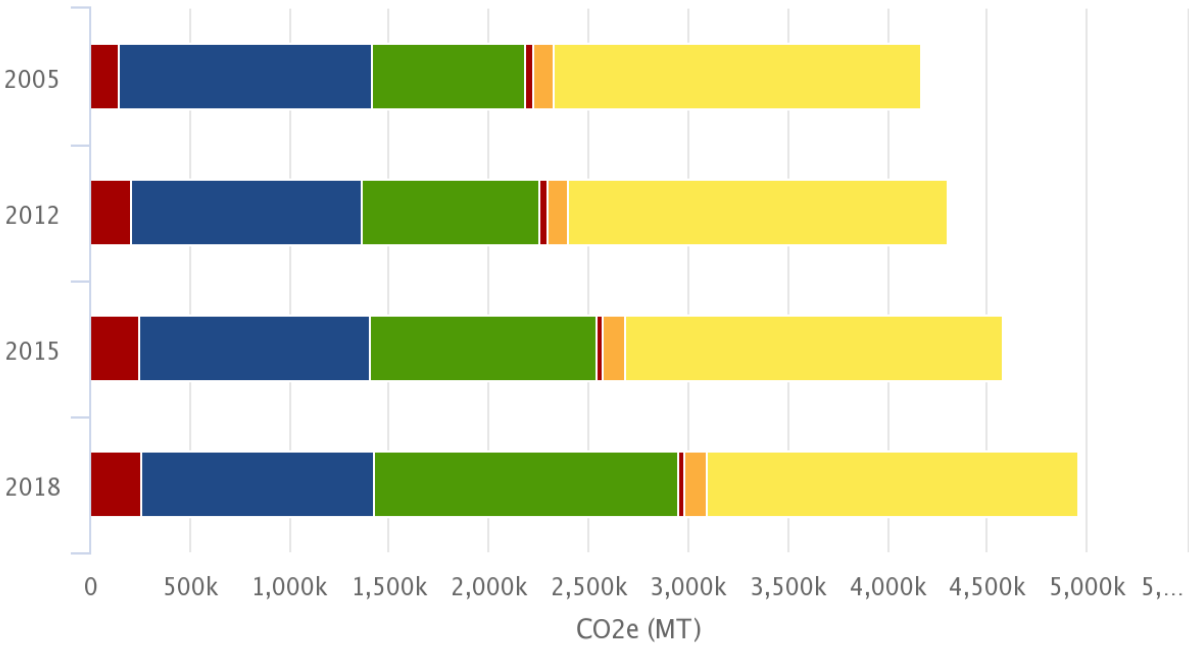


Source: ClearPath output

Note: ClearPath is an online greenhouse gas inventory tool. ClearPath is a product of ICLEI - Local Governments for Sustainability.

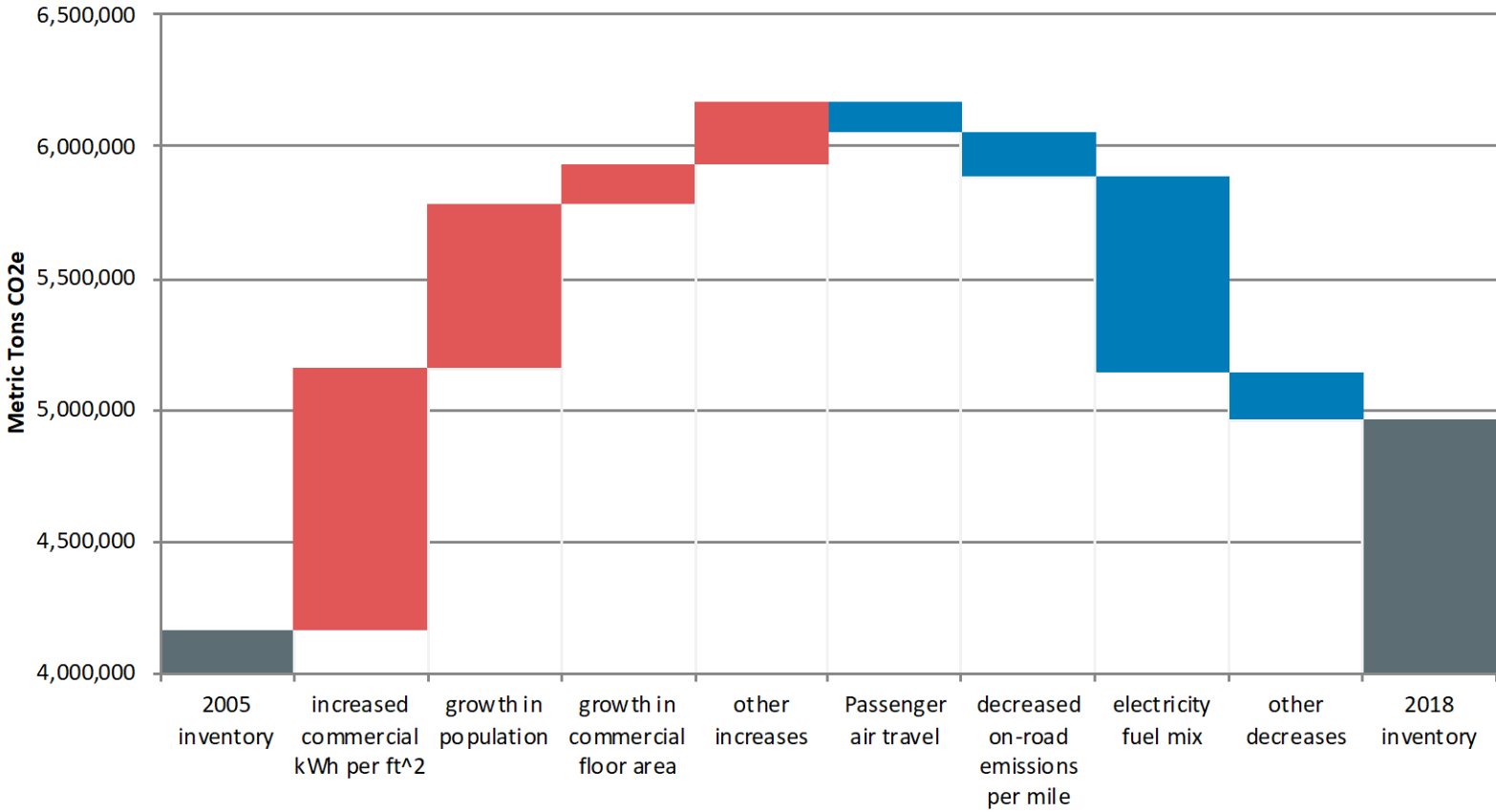
# Prince William GHG Emissions Trends

- 19% Increase in GHGs, 2005 - 2018



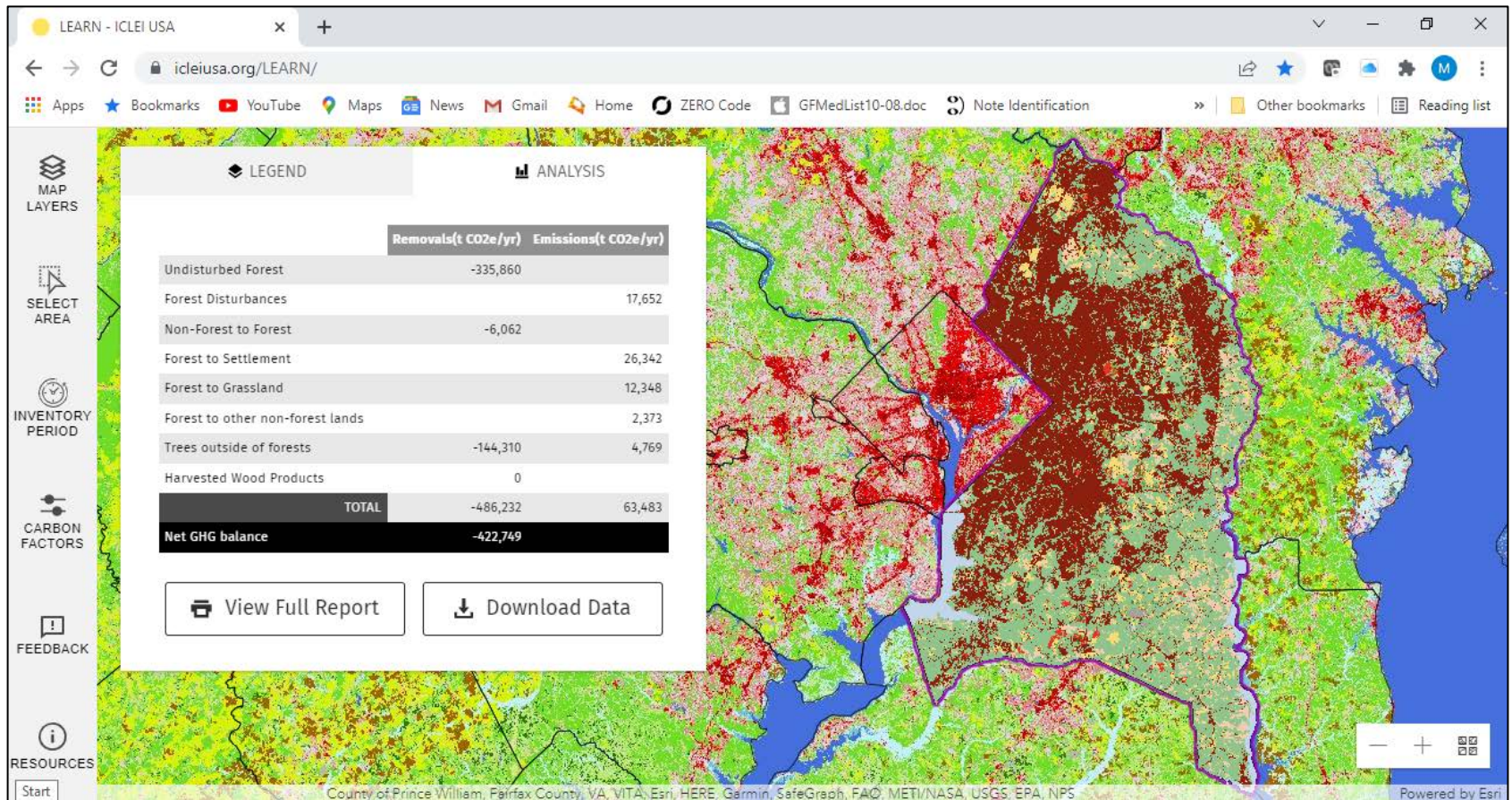
- Process & Fugitive Emissions
- Residential Energy
- Commercial Energy
- AFOLU
- Water & Wastewater
- Solid Waste
- Transportation & Mobile Sources

# Prince William Drivers of GHG Change



# Land Use – Forests and Trees

ICLEI/WRI [LEARN Tool](#), 30-meter resolution data



# 2020 Inventory Timeline – What’s Left

Tasks	Summer 2022	Fall 2022	Winter 2022
Draft Deliverables			
Local Government Technical Review and Comment Period			
Final Changes			
GHG Drivers of Change Analysis			
<i>Potential</i> Forest and Tree Sequestration Analysis			
Fact Sheet Development			
Final Deliverables and Promote			



# Regional COVID Resources

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*There are a wide variety of regional resources available that can help inform and explain how COVID impacts 2020 GHG emissions.*

<https://www.mwcog.org/about-us/covid-19/>

- [COVID-19 Impacts in Metropolitan Washington](#)
- [COVID-19 Travel Monitoring Snapshot](#)
- [Regional Economic Monitoring System \(REMS\) Report](#)
- [CEEPC March 24, 2021 Meeting, Agenda Item #5: 2020 COVID-19 Impact on Emissions Presentation](#)
- [COG updates members on economic impacts from COVID-19](#)





# COG LOCAL CLIMATE PLANNING IMPLEMENTATION SUPPORT AND RESOURCES

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# COG Local Climate and EV Support

- Technical Analytics
  - GHG Emissions Inventories
  - Business-As-Usual Projections
  - Mitigation Scenarios
  - Climate Risk and Vulnerability Assessments

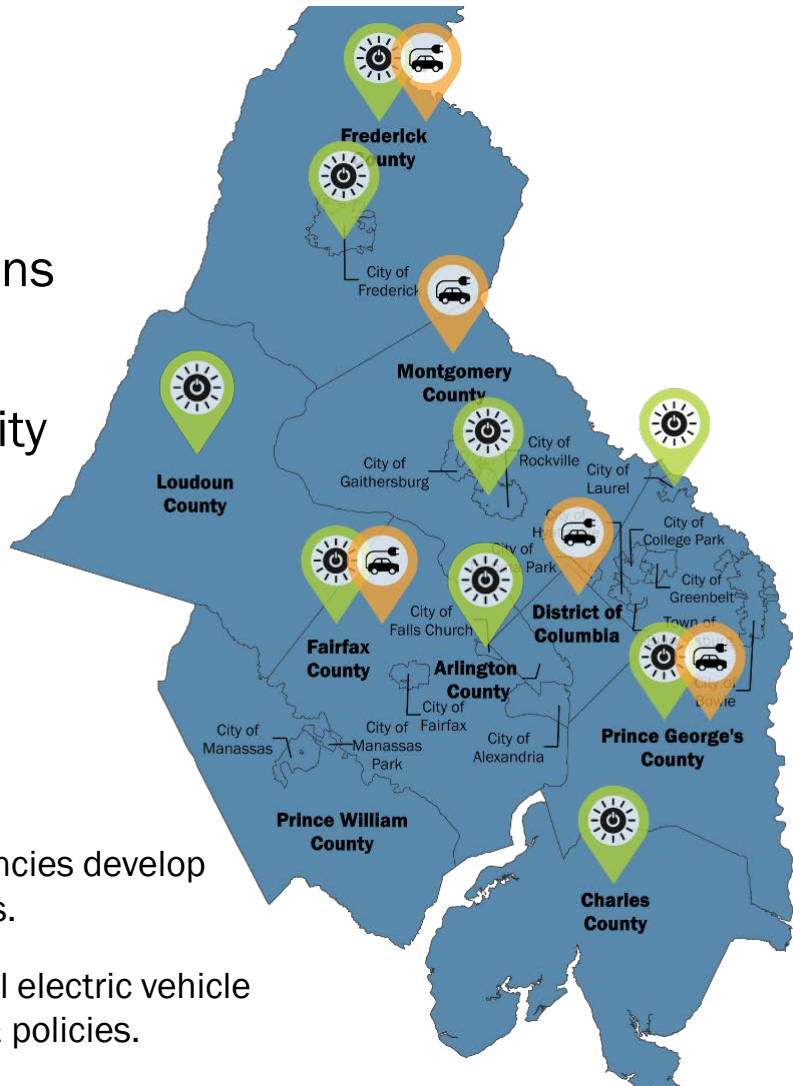
- Contract mechanism to access expert consultant support



COG helping governments, agencies develop climate and energy action plans.

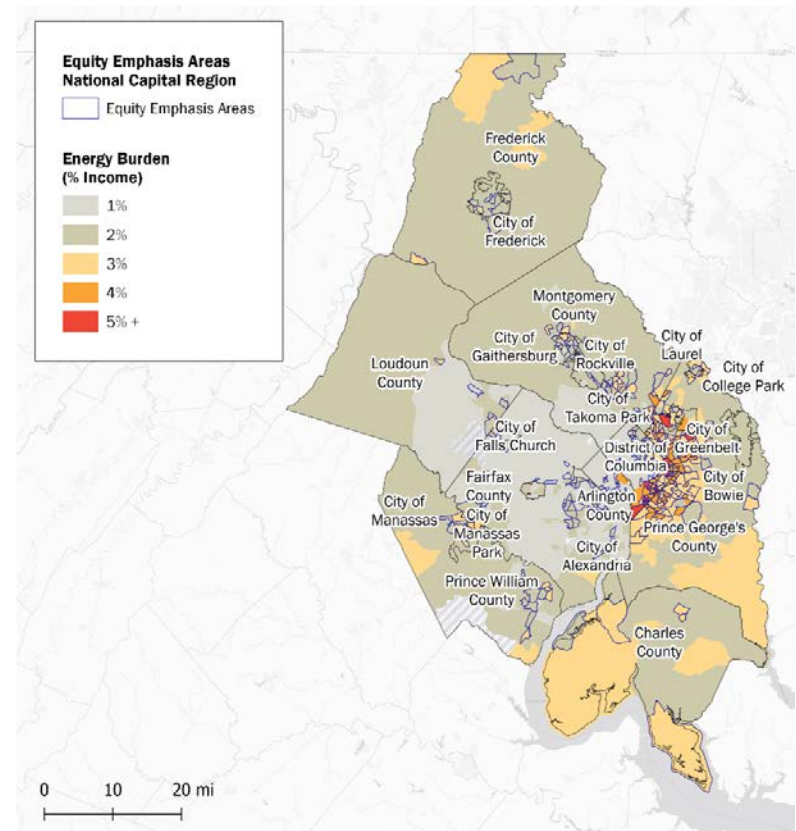


COG coordinating local/regional electric vehicle and zero emission fleet plans & policies.



# Data and Tools

- GHG inventories, GHG drivers of change, projections
- Tracking progress on local and regional ([dashboard](#)) key performance indicators including trends for renewable systems, green building, electric vehicles.
- Equity mapping to evaluate community impact on flooding, sea level rise, heat, energy burden, health equity



Source: US Department of Energy Low-Income Energy Affordability Data (LEAD) Tool & MWCOG Equity Emphasis Areas

# Coordinated Policy Guidance and Advocacy

- 2005 Regional Green Building Policy
- 2012 Regional Green Streets Policy
- 2014 model local solar policies, permitting and inspection guidance
- 2021 Tree Canopy Cookbook
- Climate and Energy Legislative Committee



# Local Technical Assistance and Coordinated Implementation

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- Local govt energy efficient fleet assessments
- Clean energy feasibility assessments
- Street light assessments and technical assistance
- Coastal Storm Risk Management Study
- Military Installation Resilience Review
- Mid-Atlantic PACE Alliance
- Mid Atlantic Purchasing Team
- Energy emergency preparedness exercises
- Technical trainings and capacity building

# Local Implementation – Solar

MWCOG coordinated solar feasibility studies on > 170 public facilities and bulk solar procurement for public facilities.

MWCOG coordinated the launch of a dozen solar co-ops across region.



# Local Implementation – Clean Diesel

MWCOG has partnered with > 12 equipment owners and leveraged the EPA Diesel Emission Reduction Act (DERA) program to repowering fleets to clean diesel 5 marine vessel projects, 5 locomotive engines, and non-road highway construction equipment operating across the region.



# Engagement – DMV Climate Partners

[DMV Climate Partners](#) website and weekly e-news with the latest local and national climate news, events, funding opportunities, jobs, and resources for residents. [Subscribe](#) to the e-news today!

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**CLIMATE PARTNERS**

## Global Change Starts at a Local Level

United in Climate Action – We are a group of partners committed to reducing greenhouse gas emissions and creating more resilient communities across the District of Columbia, suburban Maryland, and Northern Virginia, or DMV.

[Learn More](#)



# Engagement – Climate Awards

- Climate and Energy Leadership Awards for government agencies, NGOs, and educational institutions
- [Apply](#) or [nominate](#) an organization now through June 30!



# Engagement – Auto Show

Metropolitan Washington Auto Show Electric Vehicle (EV) Pavilion,  
EV Ride and Drive, and Public Policy Day training sessions



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