

METROPOLITAN WASHINGTON 2030 CLIMATE AND ENERGY ACTION PLAN

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Department of Environmental Programs

Metropolitan Washington Air Quality Committee

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COG's Climate Action History

- **2007:** R31-07 created the COG Climate Change Initiative
- **2008:** Resolution R60-08 adopted the National Capital Region Climate Change Report
- **2009:** Resolution 18-09 established the Climate, Energy and Environment Policy Committee (CEEPC)
- **2010:** Greenhouse gas (GHG) emission reduction targets incorporated into Region Forward
- **2010:** CEEPC adopted the first regional Climate and Energy Action Plan for 2010-2012.
- **2013-2016 and 2017-2020:** Updated Action Plans adopted
- **2020-2030:** Action Plan Adopted

Climate Collaborative Guiding Principles

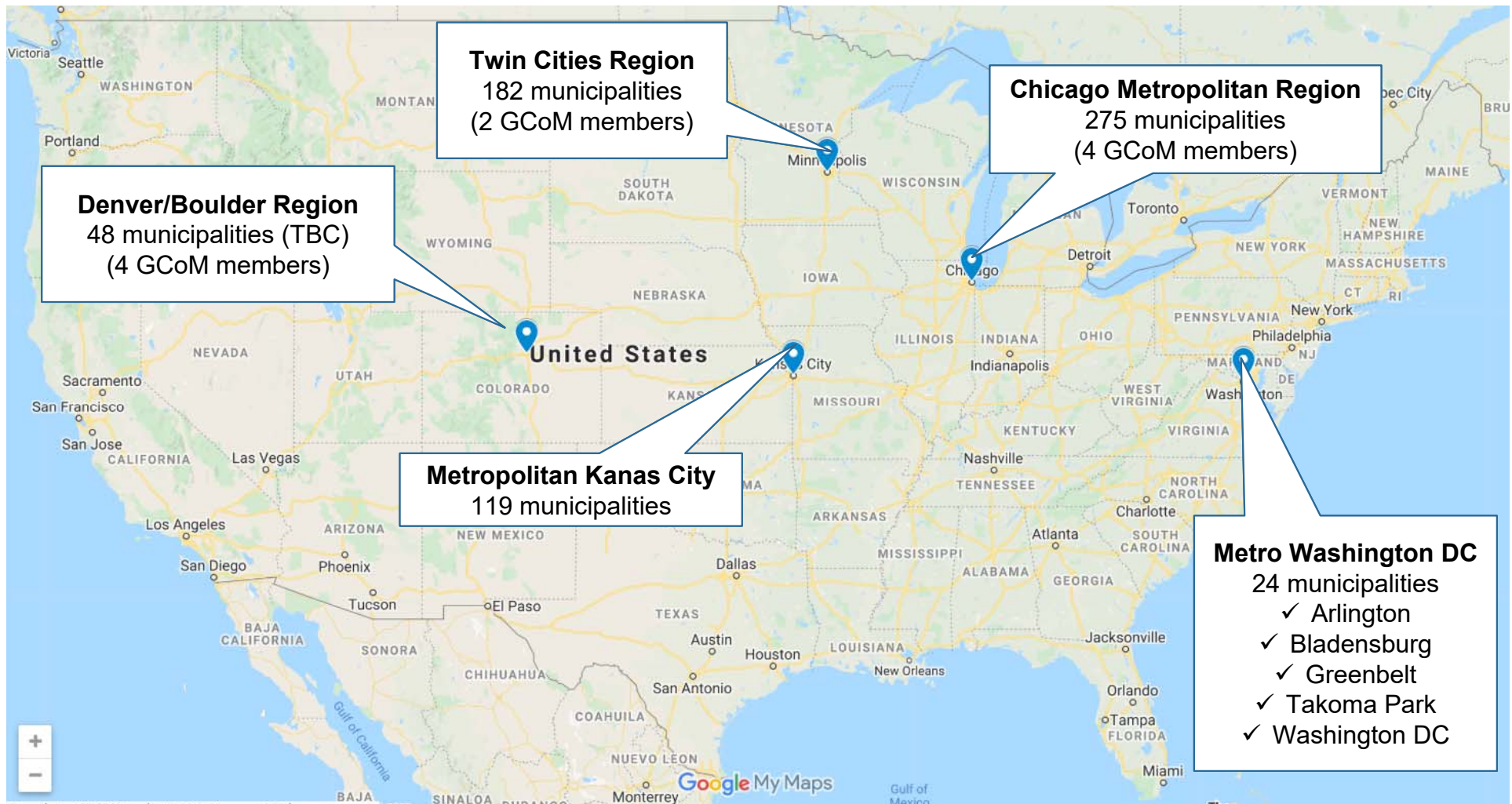
Principle	Description
1. Collective Action	We will continue to work together to leverage our impact and facilitate application at scale.
2. Effective Partnerships	We will continue to share best practices, learn together, and coordinate on implementation to advance regional transformation.
3. Lead by 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.

Collaborative Implementation Examples

- **Clean Electricity:** Coordinated solar feasibility studies on > 170 public facilities, bulk solar procurement. model local solar policies, permitting and inspection guidance, and launch of a dozen solar co-ops across region.
- **Clean Diesel:** COG 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.
- **Justice:** Coordinate development of Environmental Justice Toolkit (2017), guidance for local governments.



Global Covenant of Mayors

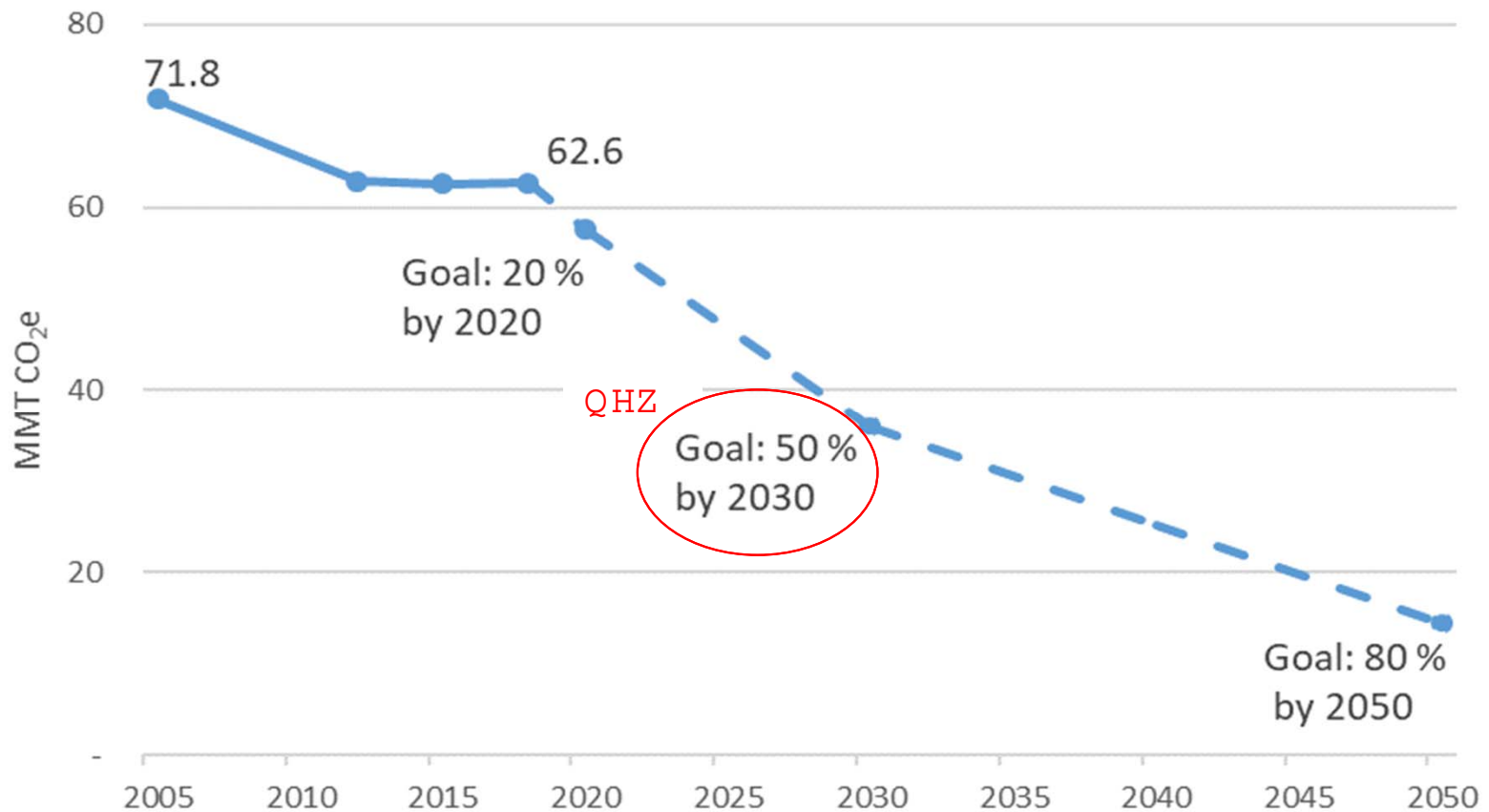


Four Main Plan Elements

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.

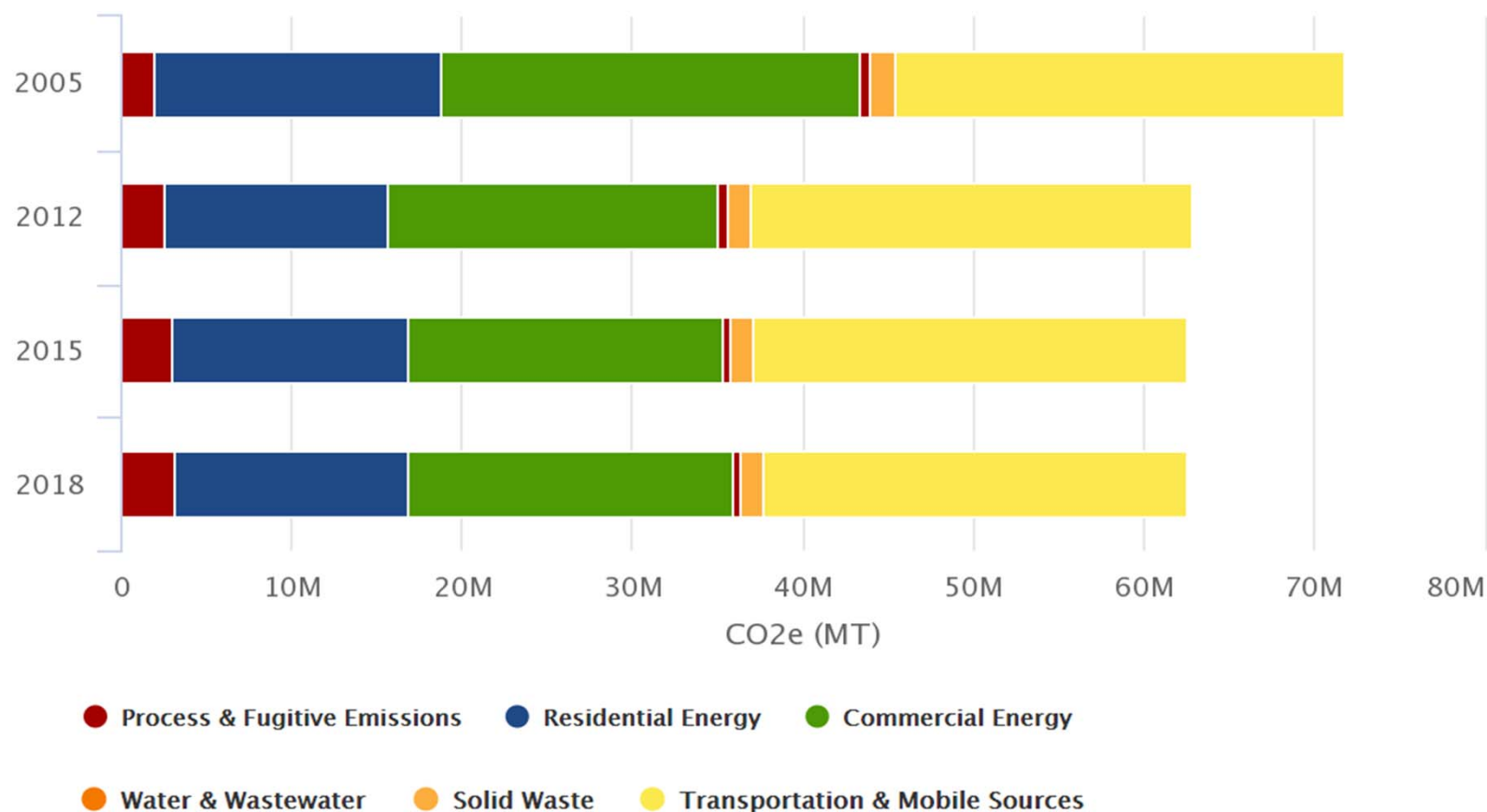
Updated Regional GHG Mitigation Goals

In October 2020, per CEEPC's recommendation, the COG Board adopted (and TPB affirmed) the climate mitigation goal of 50 percent greenhouse gas emission reductions below 2005 levels by 2030.



Regional GHG Mitigation Goals

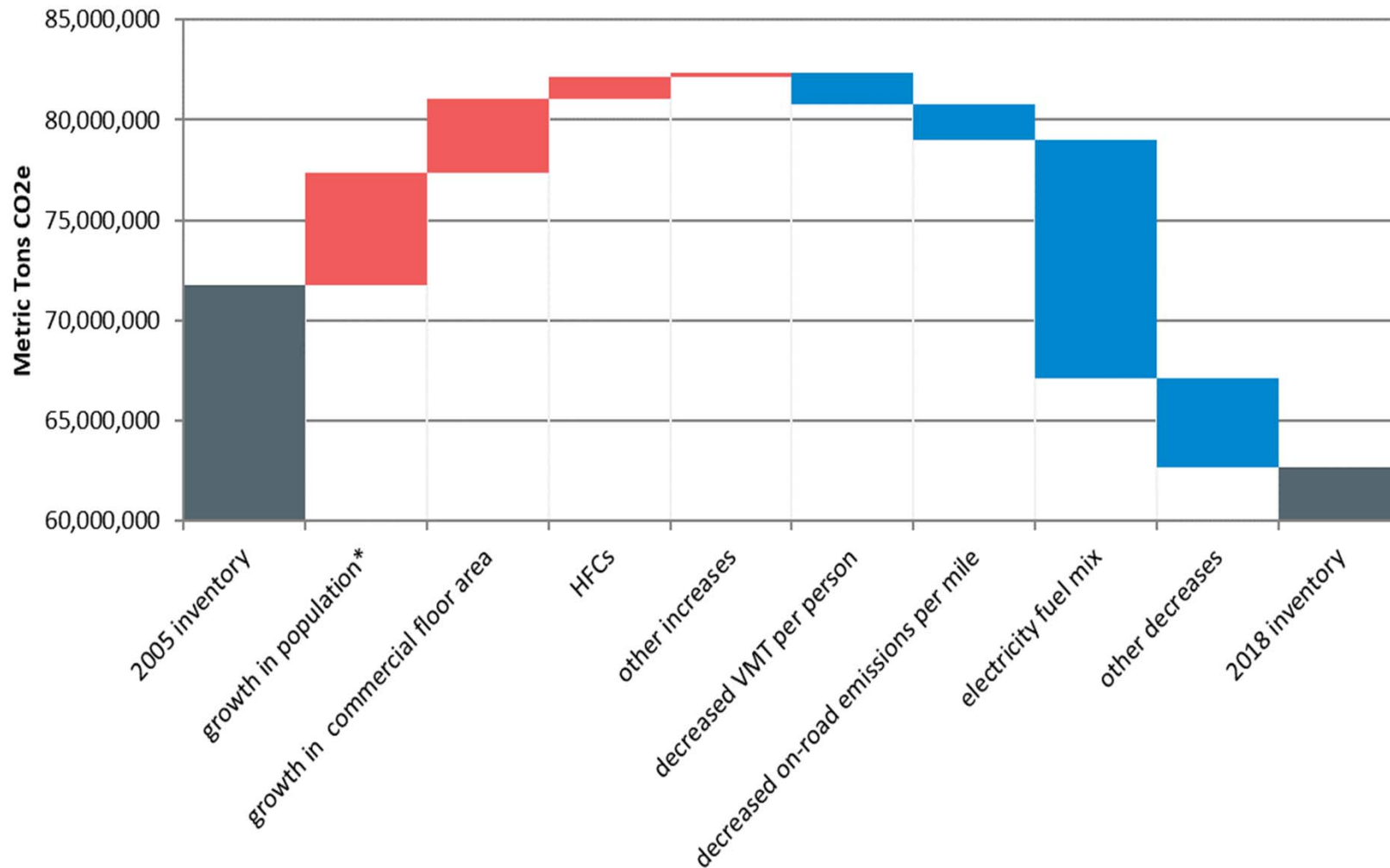
- 13% Reduction in GHGs across region, 2005 - 2018



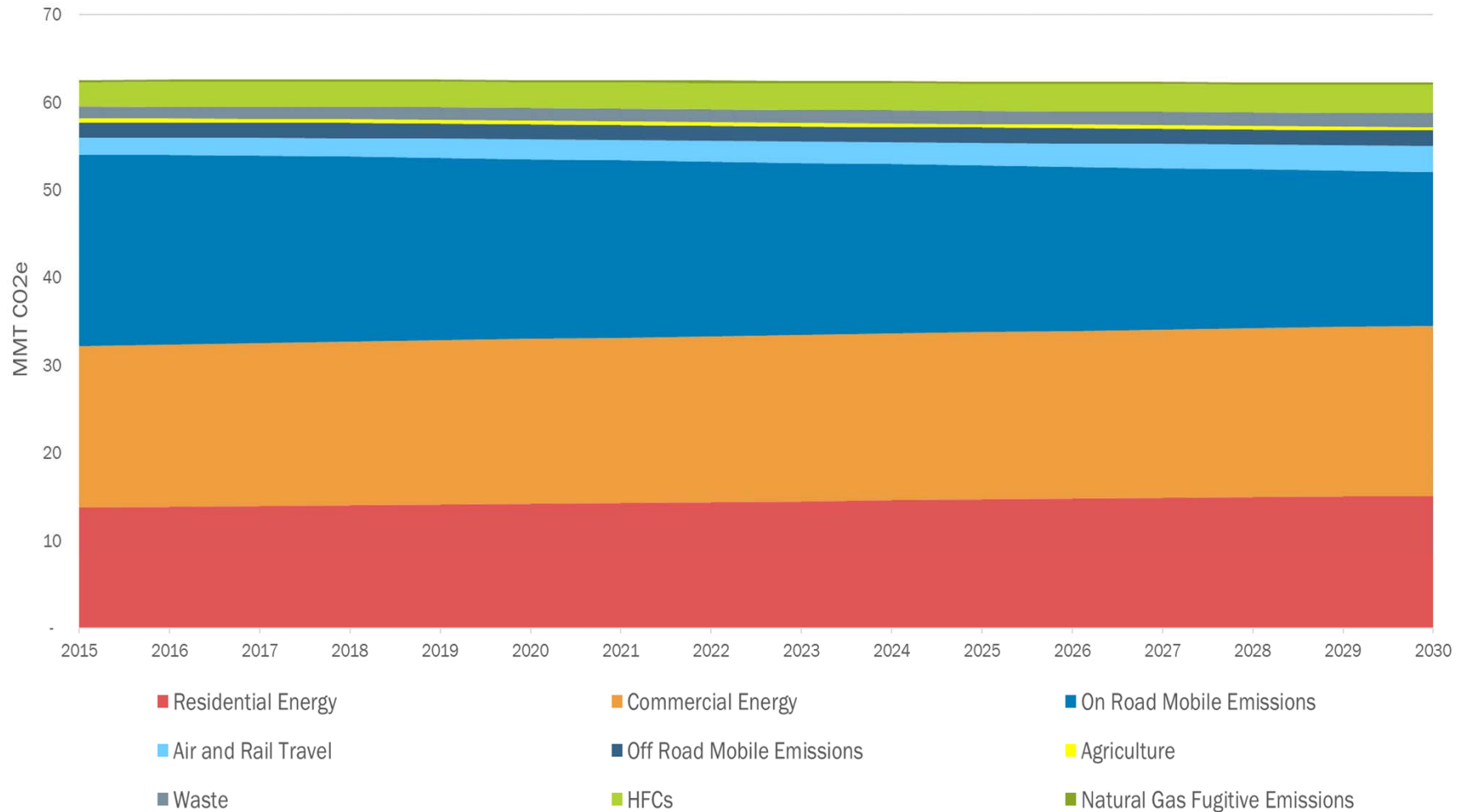
Source: ClearPath output

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

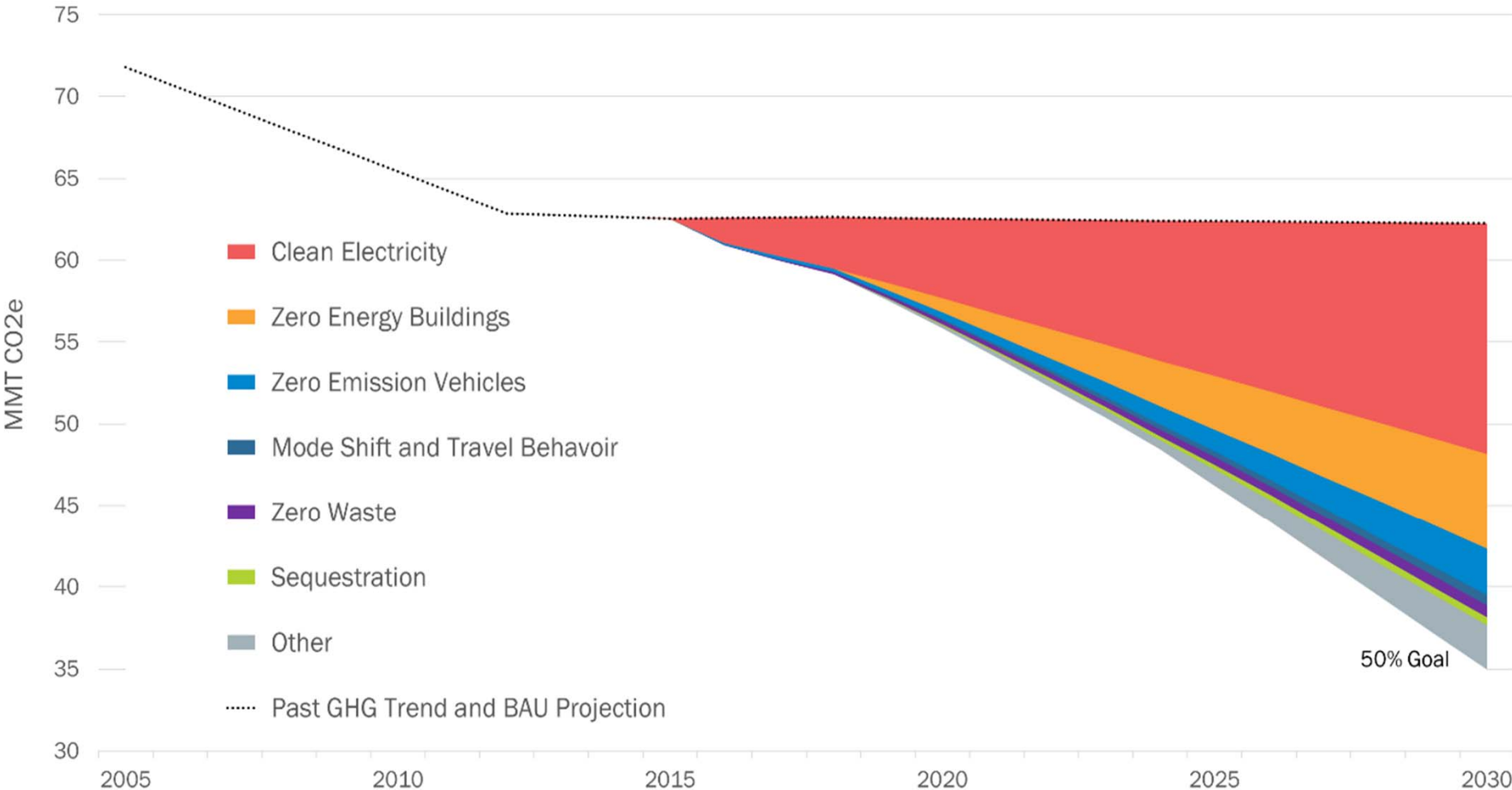
Drivers of Regional GHG Change



Business As Usual Emissions



2030 Scenario



50% Reduction – Technical Potential

Climate Action Area	Assumptions
Clean Electricity	Assuming current standards (DC 87%, MD 50%, Northern VA 38% by 2030).
	Distributed generation: > 200,000 additional solar systems, equivalent to 24% of single-family homes.
	Green power purchases: continued 10 percent annual growth.
Zero Energy Buildings	Zero energy new construction: All new construction net zero energy by 2030.
	Deep retrofits of existing buildings: 2 percent of residential and commercial deep retrofits annually.
	HFCs assumptions from COG Multi-Sector Work Group (MSWG).
Zero Emission Vehicles	EV adoption rates of >30 percent light duty cars, >9 percent light duty trucks, >4 percent medium/heavy duty trucks, and >30 percent transit buses. Assumptions derived from National Renewable Energy Laboratory Electrification Futures Study high EV adoption rates.
Mode Shift and Travel Behavior	Activity centers: 75 percent new housing in Activity Centers with high-capacity transit.
	Travel demand management, transit incentives, and transit fare reduction from MSWG.
Zero Waste	The assumption is 80 percent diversion by 2030.
Sequestration	Sequestration assumptions from MSWG.
Other	Actions that are needed to reach the 2030 goal but are not addressed in this Plan, including deployment of renewable natural gas (RNG), enhanced gas repair leak initiatives, commercial aviation improvements, and non-road engine emission reduction.

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

Climate Resilience Goals

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.

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

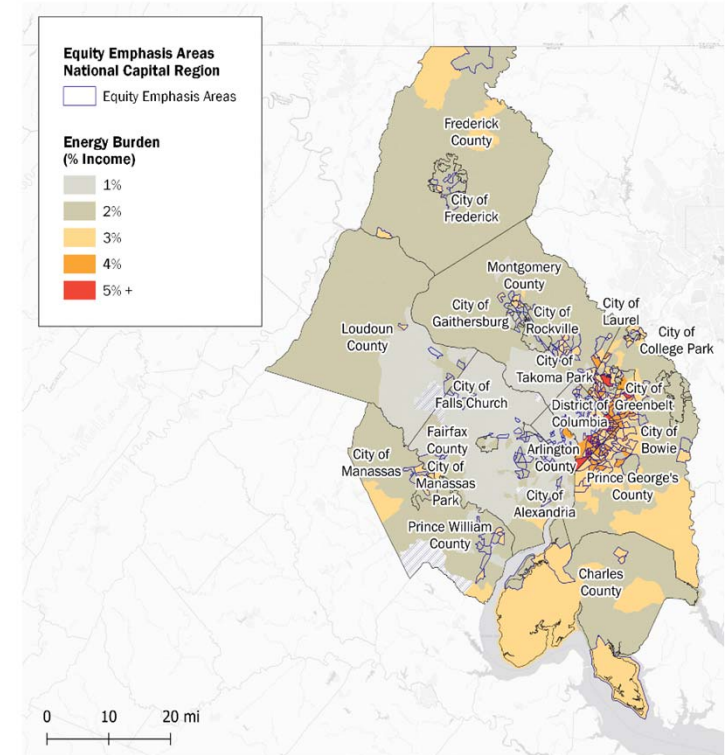
Factor	Degree of Challenge
Infrastructure Conditions/Maintenance	High
Access to Basic Services	Moderate
Access to Healthcare	Moderate
Public Health	Moderate
Housing	Moderate
Poverty	Moderate
Community Engagement	Moderate
Environmental Conditions	Moderate
Economic Health	Low

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

Equity in Regional Climate Planning

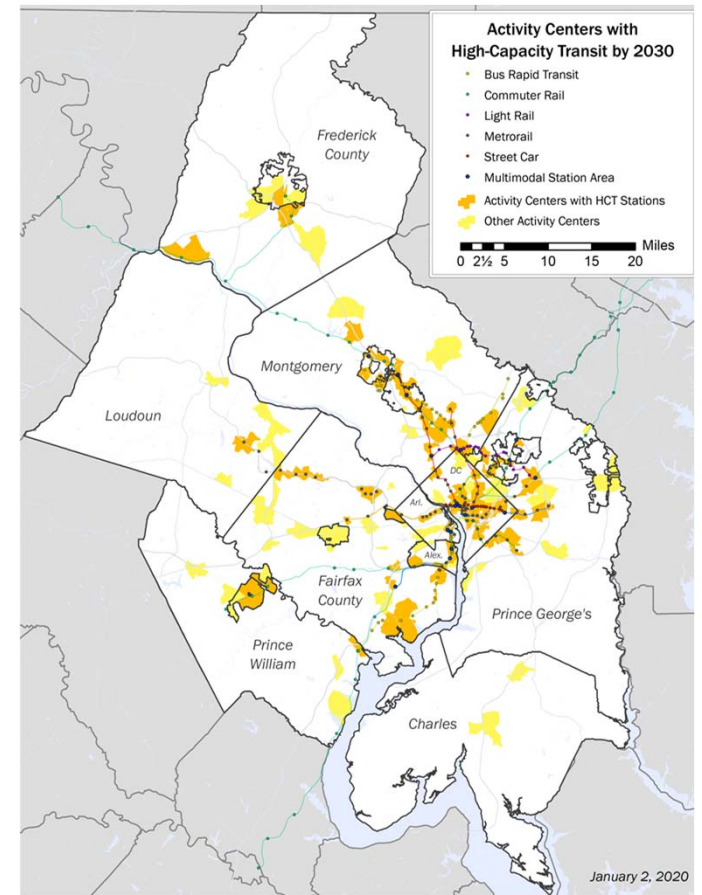
- Sustainable Energy Access
 - Addresses energy poverty & access to affordable renewable energy
- Evaluate community impact
 - Transportation Equity Emphasis Areas
 - Health Equity: How Opportunities for Health are Shaped by Race and Ethnicity



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

Other Benefits of Climate Planning

- Improved public health
 - Clean water & clean air
 - Reduce flooding & heat impacts
- Improved land use efficiency
- Sustainable food
- Expanded economic development
- Emergency response & recovery



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