

# OVERVIEW OF DRAFT METROPOLITAN WASHINGTON 2030 CLIMATE AND ENERGY ACTION PLAN

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Climate, Energy and Environment Policy Committee

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Metropolitan Washington  
Council of Governments

# COG Region Forward Goal Areas

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Climate and Energy



Economy



Environment



Health and Human Services



Transportation



Education



Land Use



Public Safety



Housing



Equity



# CEEPC 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.

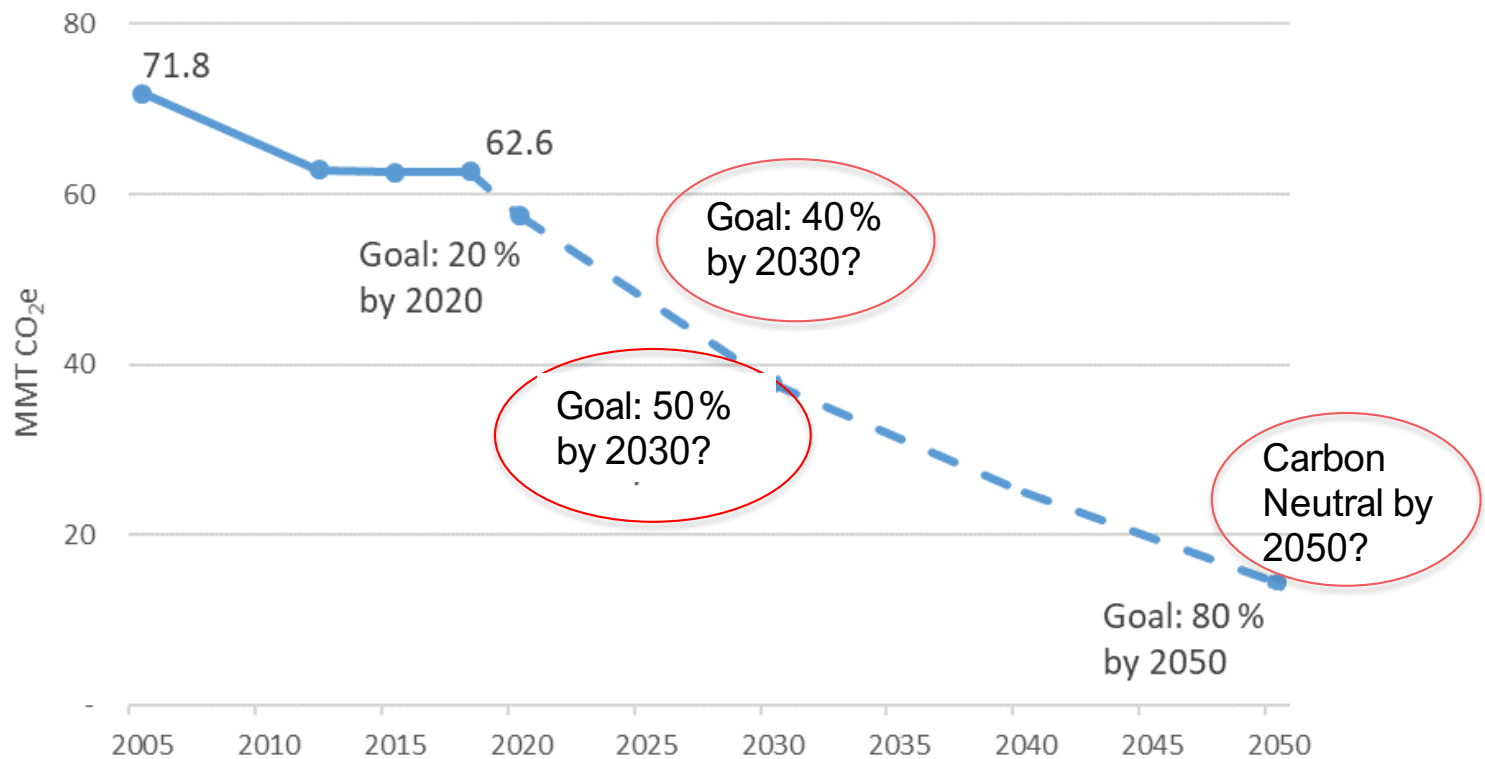
# Four Main Plan Elements

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, 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 2030. The action areas include Planning, Equity, and Resilient Infrastructure.



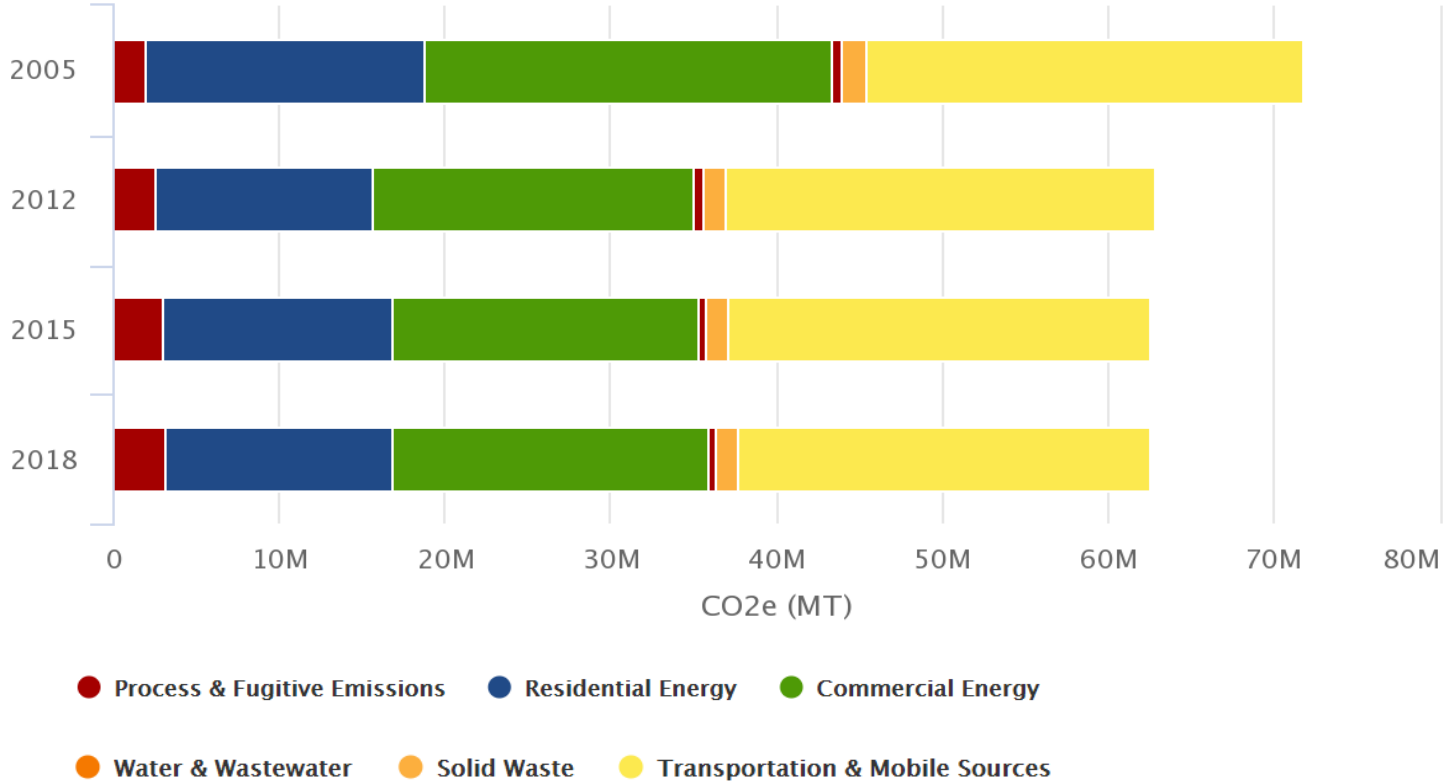
# Updated Regional GHG Mitigation Goals

- 40 to 50% 2030 GHG reduction goal?
- Carbon neutral by 2050 goal?



# Regional GHG Mitigation Goals

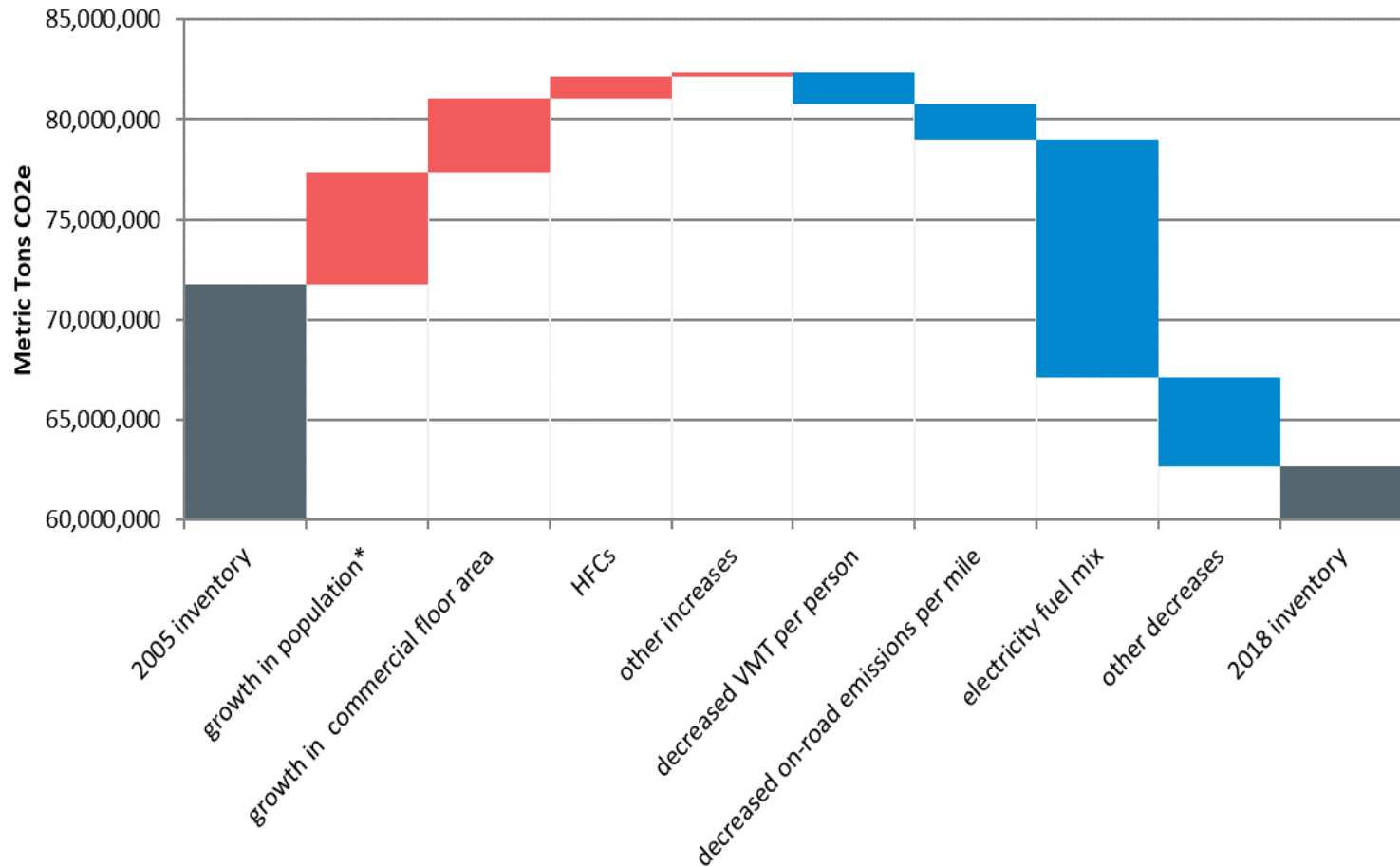
- 13% Reduction in GHGs across region, 2005 - 2018



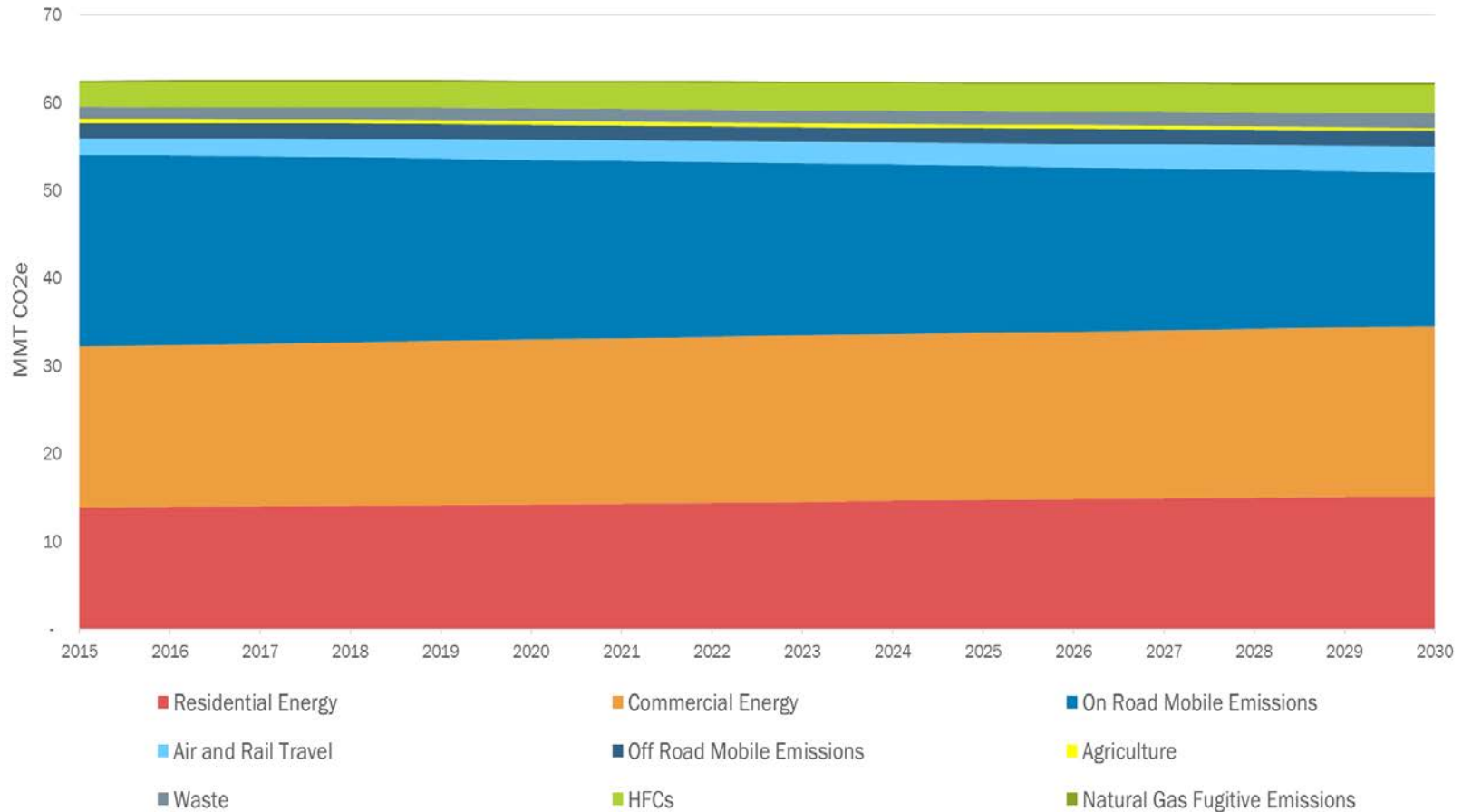
Source: ClearPath output

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

# Drivers of Regional GHG Change

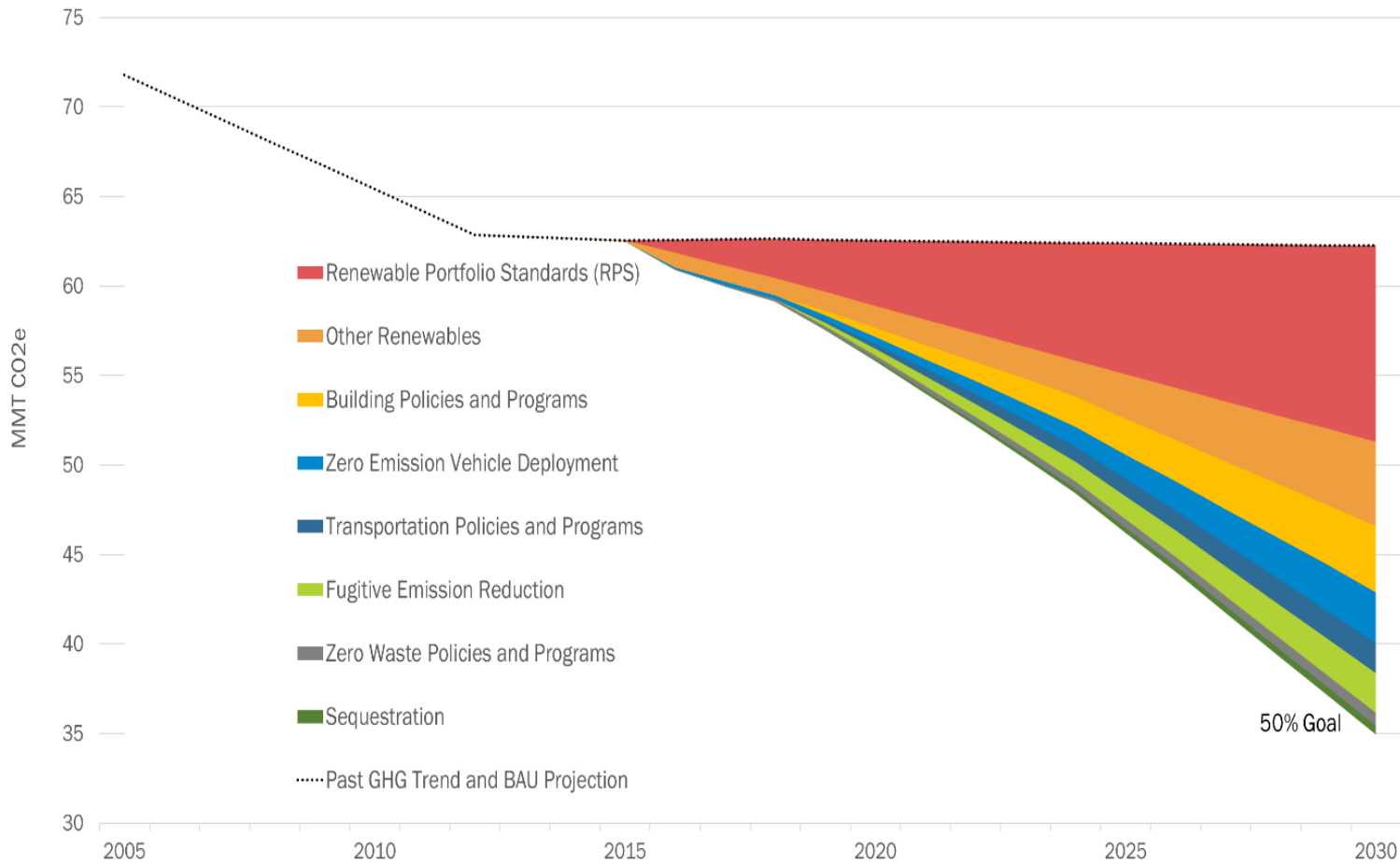


# Business As Usual Emissions





# 2030 Scenario



# 50% Reduction – Technical Potential

GHG Emission Reduction Activity	Assumptions
Renewable Portfolio Standards	Current standards (DC 87%, MD 50%, Northern VA 38% by 2030)
Other Renewables	> 200,000 additional solar systems, equivalent to 24% of single-family homes
	Continued 10% annual growth of green power purchases
	>16% of gas supply from renewable natural gas
Building Policies and Programs	All new construction net zero energy by 2030
	2% of residential and commercial existing buildings get deep retrofits annually
Zero Emission Vehicle Deployment	EV adoption rates of >20% light duty cars, >9% light duty trucks, >4% medium/heavy duty trucks, and >30% transit buses.
Transportation Policies and Programs	75% new housing in Activity Centers with high capacity transit.
	Continued transit improvements and transportation demand management to reduce VMT
Zero Waste Policies and Programs	80% diversion by 2030

# 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
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 Tree Planting and Preservation on Privately Owned Lands

# Action Components

Title
Action Description
Local, Regional, or State Example
How it supports GHG reduction and what level of implementation is needed to meet 50% by 2030
How COG Can Support Implementation
How Local Jurisdictions Can Support Implementation
Region Forward Co-Benefits

## ZEB-3: ENHANCE GREEN BUILDING CODES AND POLICIES TO FACILITATE NET ZERO BUILDING DEVELOPMENT

### Action Overview

Green building codes are laws established by states or local jurisdictions applying to newly constructed buildings or major renovations that mandate increased levels of energy efficiency and often include a requirement for the inclusion of on-site renewable energy systems. Green building codes can help to accelerate the adoption of net zero buildings – those that produce as much energy as they use - across the region.

Maryland, Virginia, and the District of Columbia have all adopted building codes that incorporate energy efficiency components outlined in the International Energy Conservation Code (IECC) and the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) standards. While local jurisdictions in Maryland are permitted to pass more stringent codes that exceed state minimum standards (“stretch codes”), local jurisdictions in Virginia are not. Member jurisdictions in Maryland, including Montgomery County and City of Rockville, have a history of adopting codes that are more stringent than those required by the state. Currently, Montgomery County is in the process of adopting the 2018 International Green Construction Code (IGCC).<sup>6</sup>

### Supporting Overall GHG Reduction Goal

Adopting more stringent building codes, both at the state and local level, can be effective in significantly reducing the total energy consumption and increasing the level of on-site renewable energy generation of commercial, municipal, and residential buildings. Since half of all GHG emissions in the region are associated with the built environment, green building codes have significant potential to reduce emissions.

### Level of Implementation Needed to Reach Overall GHG Goal:

All jurisdictions will need to implement building codes that require net zero energy standards in new construction by 2030, through either adoption of local stretch codes or compliance with potential future state requirements that

### How COG Can Support

- Convene technical experts and facilitate information exchange that enable creation of policies and programs and address barriers to action.
- Coordinate local government input to the national model energy code development process.
- Encourage adoption of building codes and incentives to facilitate net zero building construction.

### How Member Jurisdictions Can Support

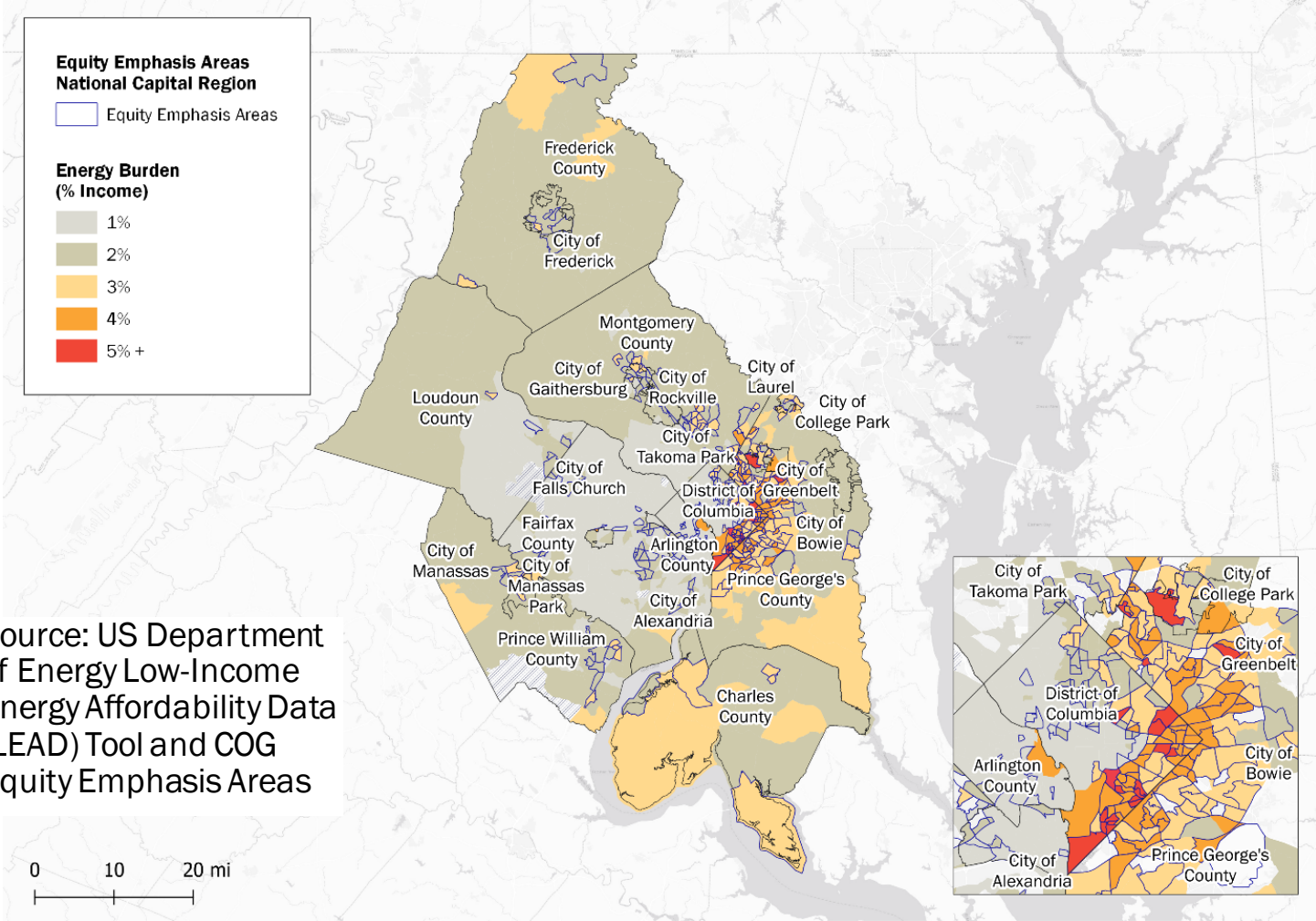
- Participate in the national energy code development process.
- Adopt policy for all new local public facilities to be net zero energy.
- Adopt net zero energy codes or incentives for private development.
- Include net zero energy goals and strategies in master, comprehensive, and small area plans.
- Establish a net zero energy building district or portfolio.<sup>11</sup>
- Provide education and training on new and advanced green construction standards.

### Region Forward Co-Benefits:

- **Environment:** Building codes can be designed to address both energy and water efficiency.
- **Health and Human Services:** Green buildings with enhanced ventilation help to increase indoor air quality, reduce illness, and improve productivity.<sup>12</sup>
- **Public Safety:** As net zero building codes continue to deemphasize reliance on natural gas in new construction, the risks associated with natural gas leaks and explosions will decrease.



# Equity Emphasis Areas and Energy Burden



# Risk Levels and Adaptive Capacity

## Degree of Challenge

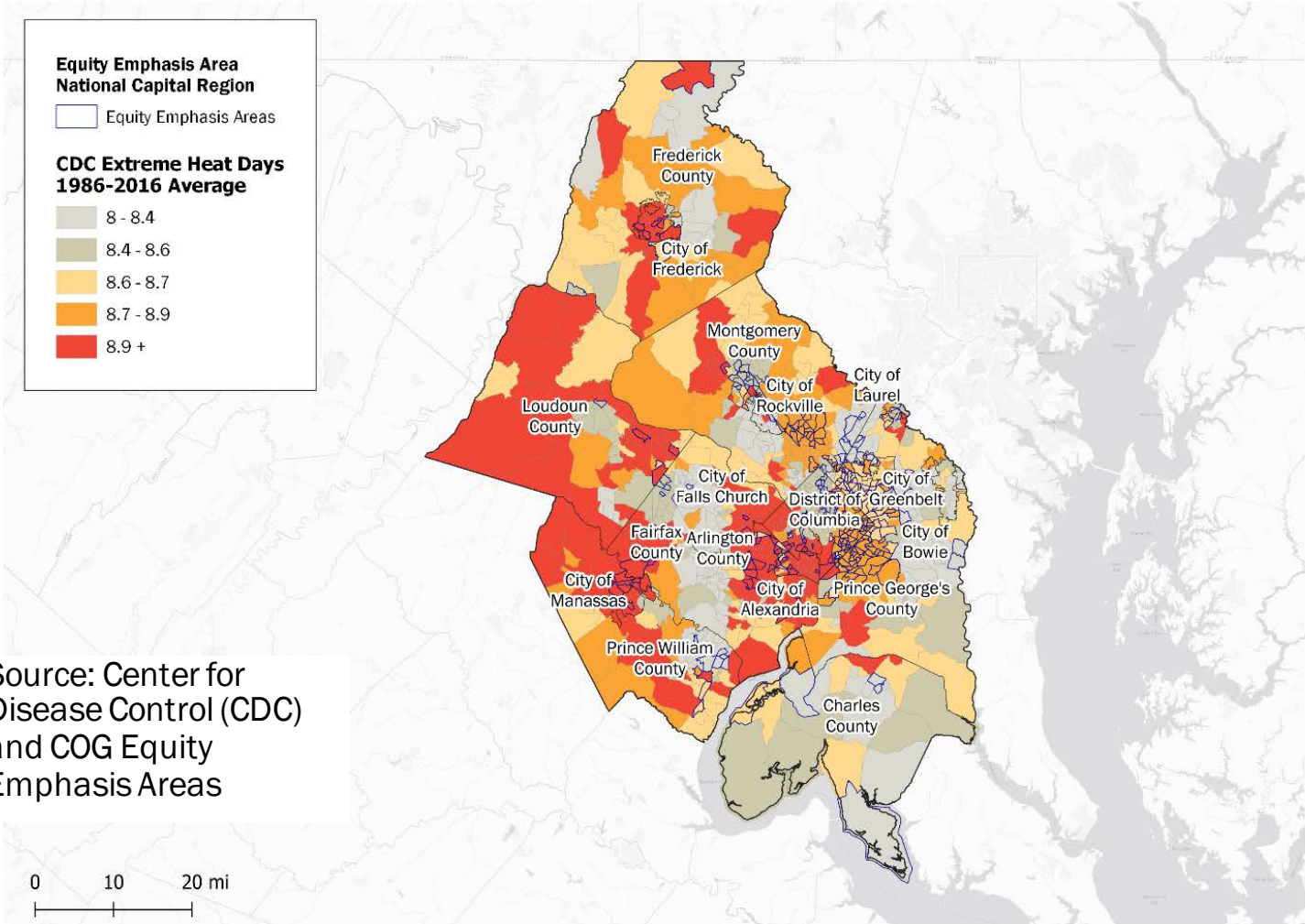
Hazard	Probability	Consequence	Risk
Extreme Heat	3	3	9
Drought	2	3	6
Flooding (Flash and Riverine)	3	3	9
Coastal Flooding	3	2	6
Lightning/Thunderstorm	3	2	6
Extreme Winter Conditions	2	3	6

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



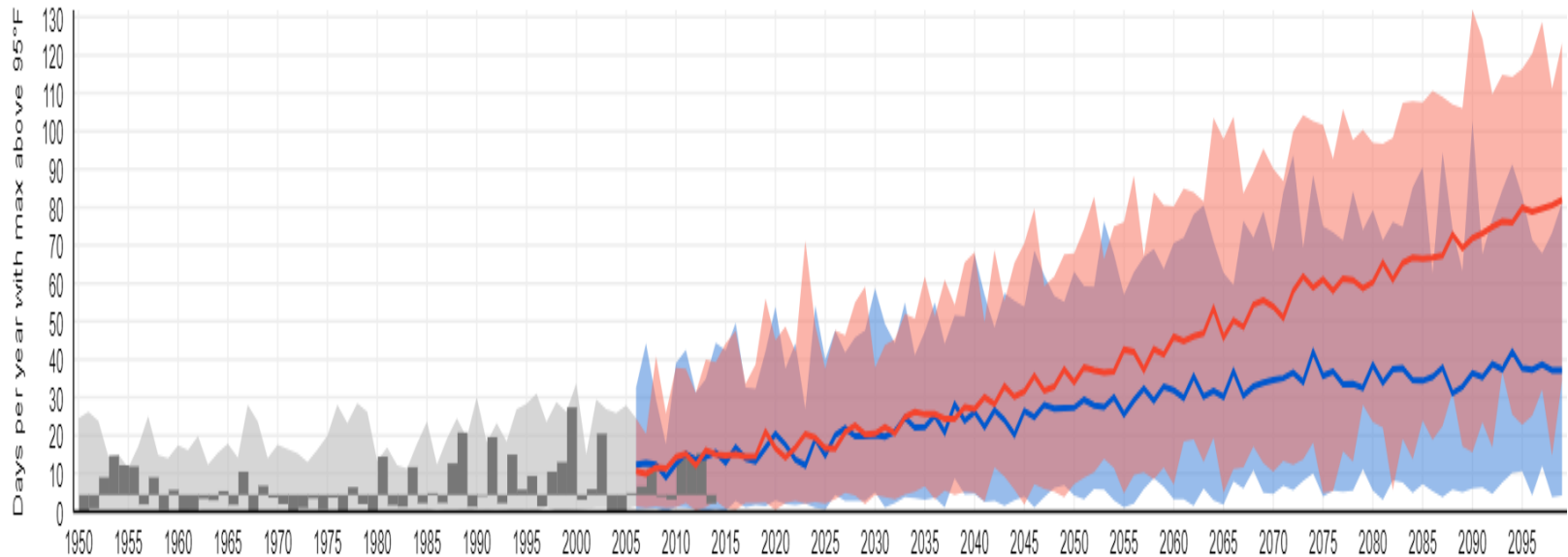


# Equity Emphasis Areas and Extreme Heat





# Days Over 95°F from 1950 until 2095



Historical Observed



Historical Modeled



Lower Emissions



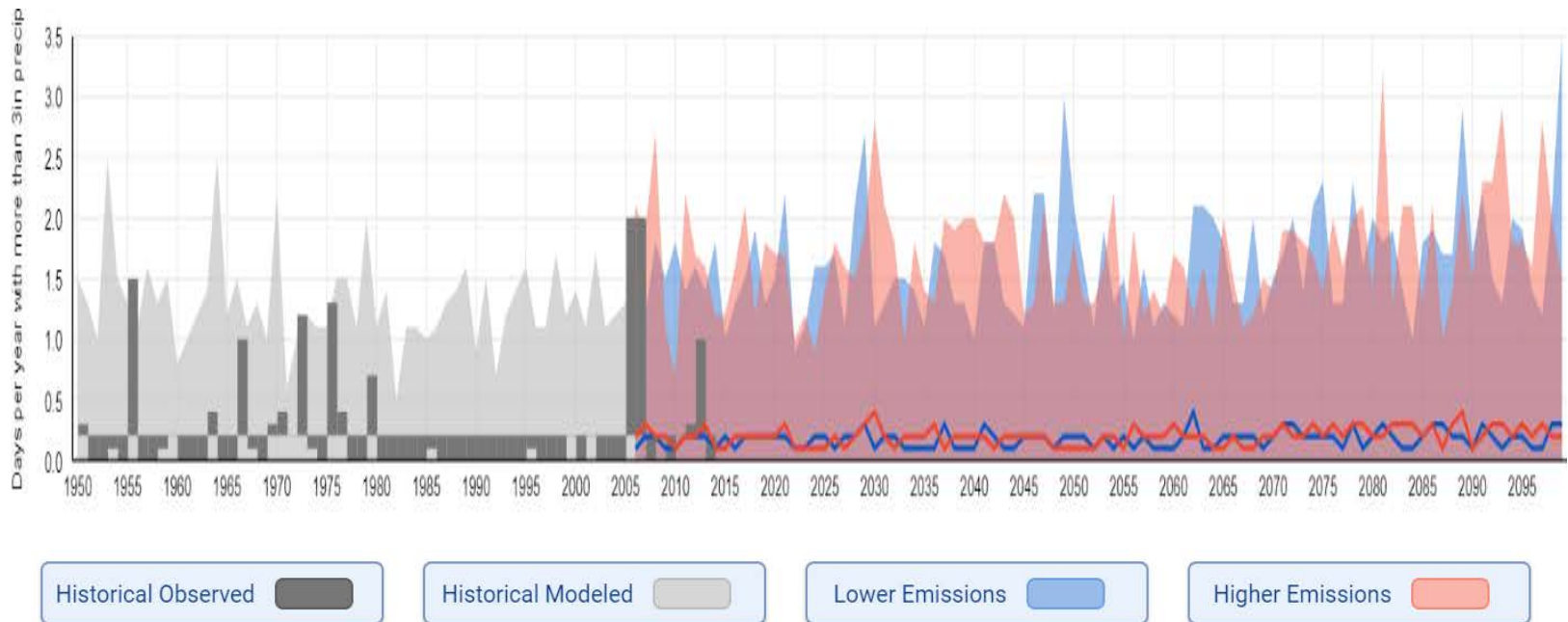
Higher Emissions



Source: NOAA Climate Explorer



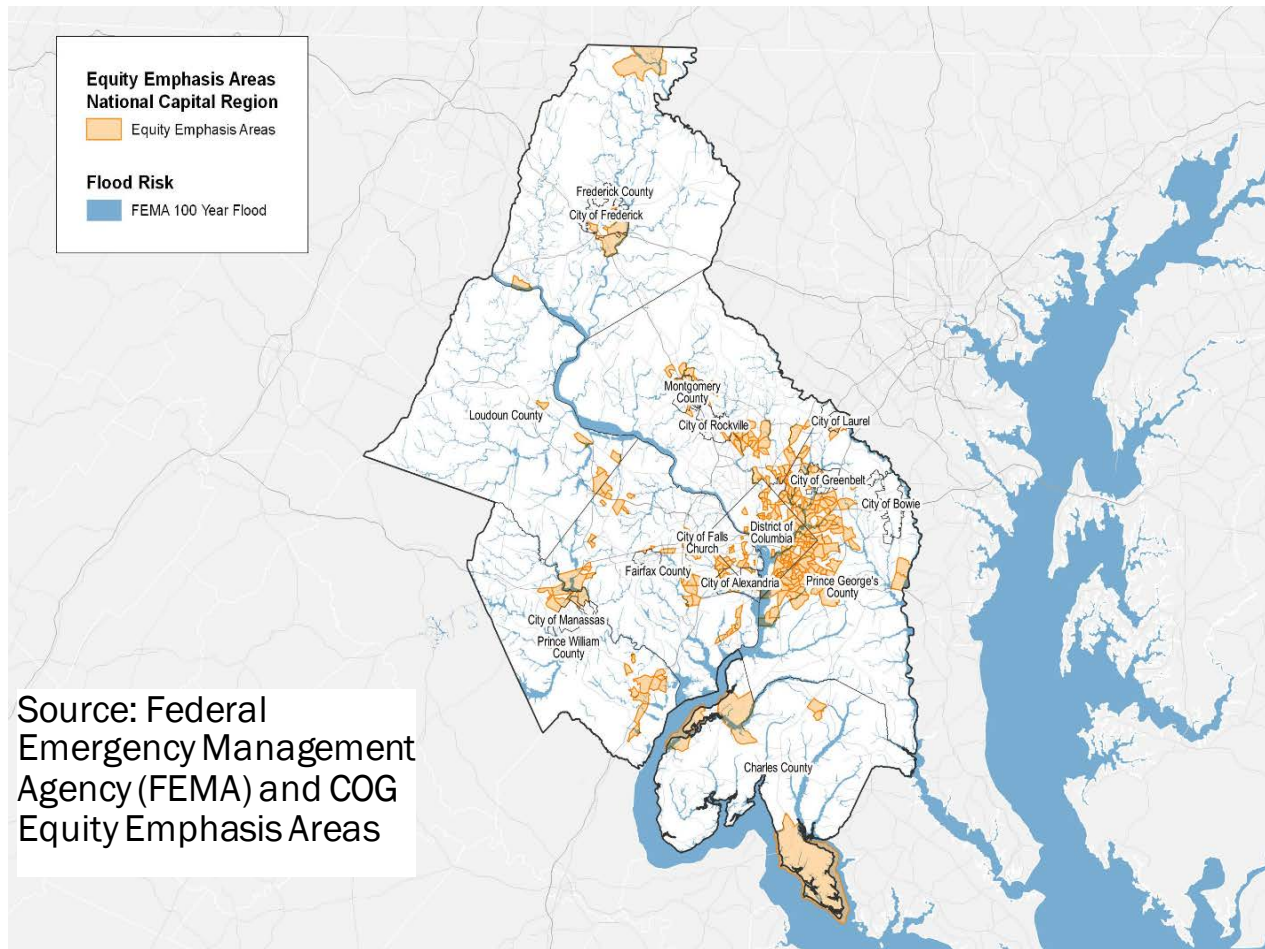
# Days Per Year with >3 Inches Precipitation



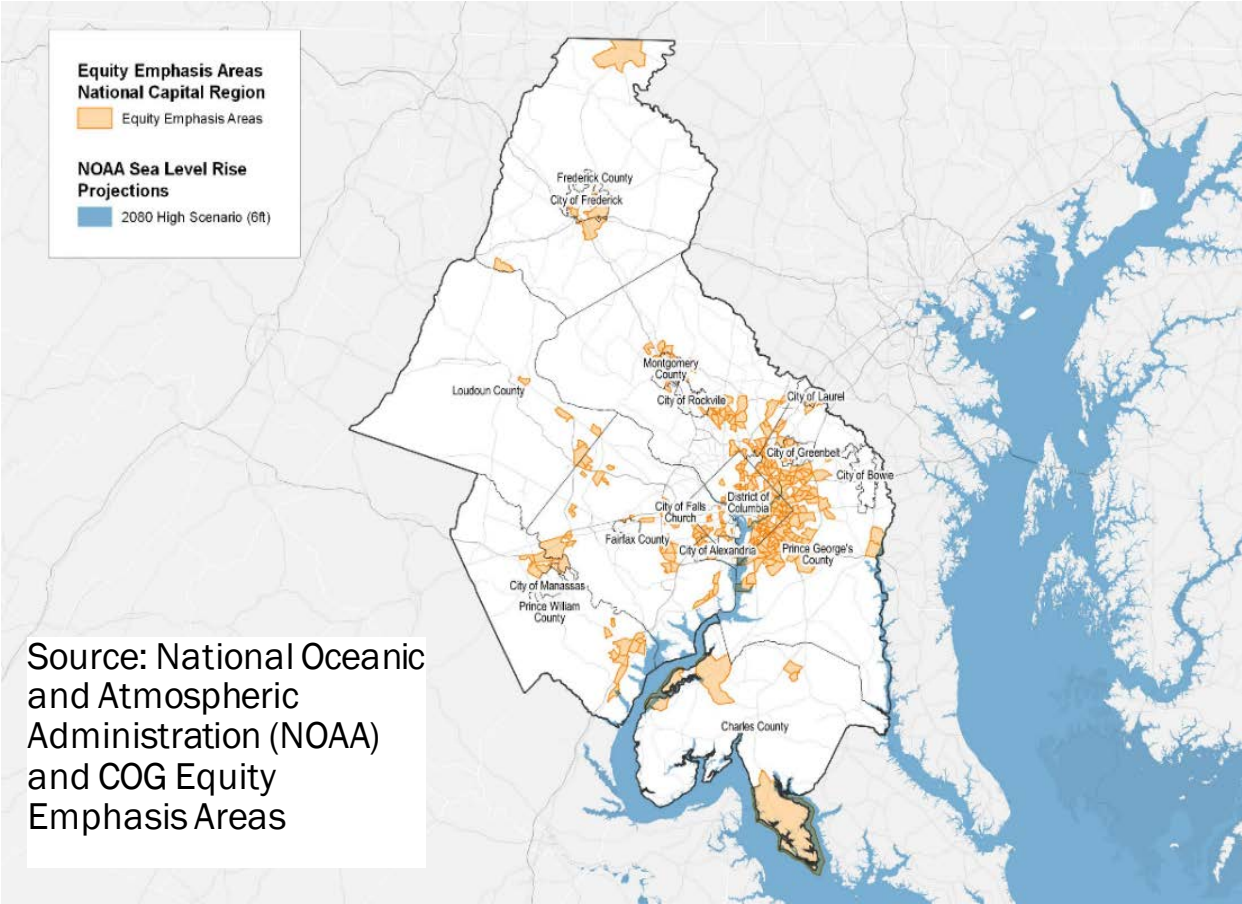
Source: NOAA Climate Explorer



# Equity Emphasis Areas and 100-Year Floodplains



# Equity Emphasis Areas and Sea Level Rise



# 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

# Timeline

Month	Priority Next Steps
September 2020	Presentation to COG Board
	Draft Plan & Climate Goals Resolution Review by ACPAC, BEEAC, CEEPC
	CEEPC Recommends Goals to the COG Board
October 2020	2030 Climate Goal Resolution before COG Board
	Draft Plan Comment Period ends October 16. Submit comments to <a href="mailto:climate2030@mwkog.org">climate2030@mwkog.org</a> .
	Additional Draft Plan Q&A Virtual Session(s)?
November 2020	Updated DRAFT Plan before CEEPC for adoption
December 2020	Submit to GCoM
	1 <sup>st</sup> US Region fully meeting GCoM global standards for climate planning

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