PRINCE WILLIAM COUNTY

Prince William Community Energy and Sustainability Master Plan

CEEPC Brief
11.15.23

Prince William
Climate Mitigation & Resiliency Goals

Board of County Supervisors adopted goals in November 2020:

1. Reduce County-wide GHGs 50% from 2005 Baseline by 2030
2. Procure 100% Renewable Electricity for County Government Operations by 2030
3. Achieve 100% Renewable Electricity County-wide by 2035
4. Achieve Carbon Neutral County Government Operations by 2050
5. Develop climate resilient actions to move towards being a Climate Ready Region by 2030

Developing CESMP

- County has well established environmental programs and initiatives
- Sustainability action strategies in the Comprehensive Plan and Strategic Plan
- Needed a centralized strategic approach for reducing greenhouse gas emissions and addressing climate resiliency
- Office of Sustainability established and authorized to develop a Community Energy and Sustainability Master Plan (CESMP)

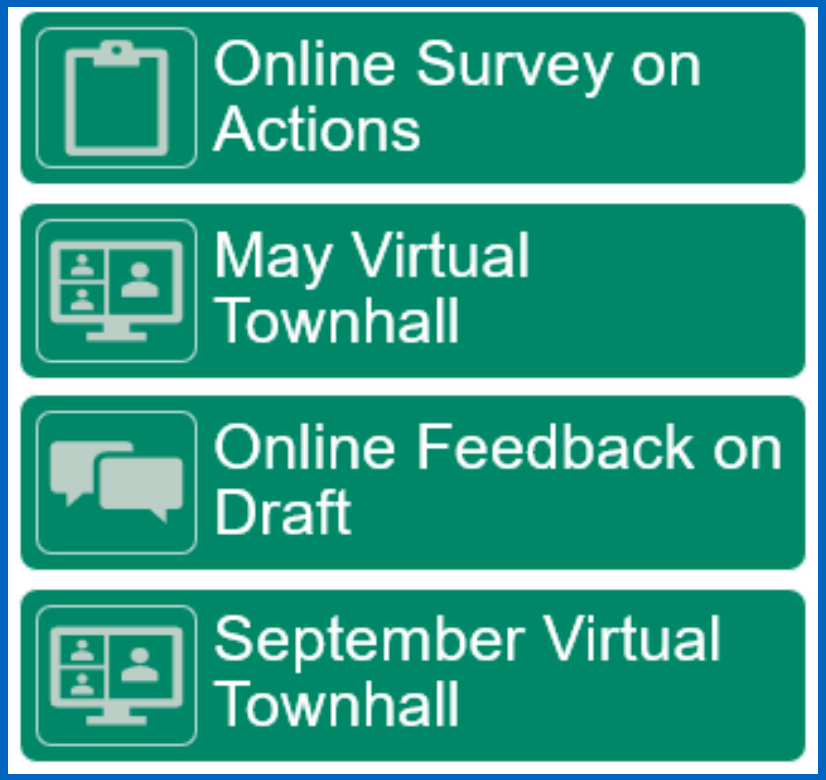
CESMP Core Team

CESMP Stakeholder Engagement

- Sustainability Commission established to serve as the Board appointed public advisory body to provide recommendations throughout the development of CESMP

- Joint Environmental Taskforce (JET) established for collaboration on sustainability initiatives between the County and schools

Engagement with Community Members



General Public Priorities:

- Plant and protect trees
- Provide more bicycle and pedestrian infrastructure
- Streamline solar permitting
- Increase commercial building energy efficiency
- Protect natural water resources

Community Engagement - Workgroups

Buildings and Decarbonization

- Building Trades – GPI Consulting Engineering
- Virginia Pace Authority
- Dominion
- Northern Virginia Electric Cooperative
- Prince William Service Authority
- Prince William Residential Solar Taskforce
- Prince William County Schools
- George Mason University VA Climate Center
- Northern Virginia Community College
- Data Center Coalition
- Citizen's Climate Lobby
- Prince William Commercial Development Committee
- Northern Virginia Building Industry Associations – Developer Rep
- Northern Virginia Building Industry Associations – Builder Rep

Transportation and Land Use

- Virginia Railway Express
- Potomac and Rappahannock Transportation Commission
- Lake Ridge Occoquan Coles Civic Association
- Woodbridge Potomac Communities Civic Association
- Mid County Civic Association of Prince William
- HOA Roundtable
- Prince William Conservation Alliance
- Active Transportation Groups – Biking
- Northern Virginia Regional Commission
- Trails and Blueways Council
- Metropolitan Washington Council of Governments
- Prince William County Schools Transportation
- Prince William County Economic Development
- Northern Virginia Building Industry Associations

Climate Adaptation and Resiliency for Vulnerable Populations

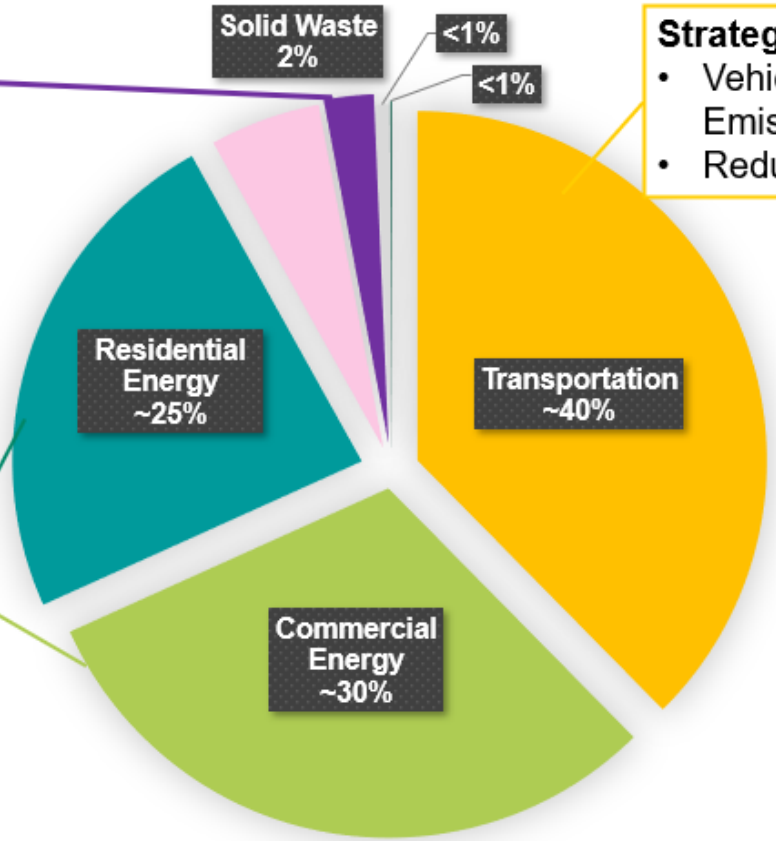
- Virginians Organized for Interfaith Community Engagement
- Prince William County Schools Student Representative
- Community Partners in Equity and Inclusion
- Senior Citizen Advocacy
- Veteran's Commission
- Chesapeake Climate Action Network
- Institute for Public Health
- Tenants and Workers United
- Prince William Department of Social Services Rep for Homeless Populations

MWCOG 2018 Greenhouse Gas Inventory – Prince William County-Wide Emissions

Strategies to Reduce these Emissions:
- Waste Diversion

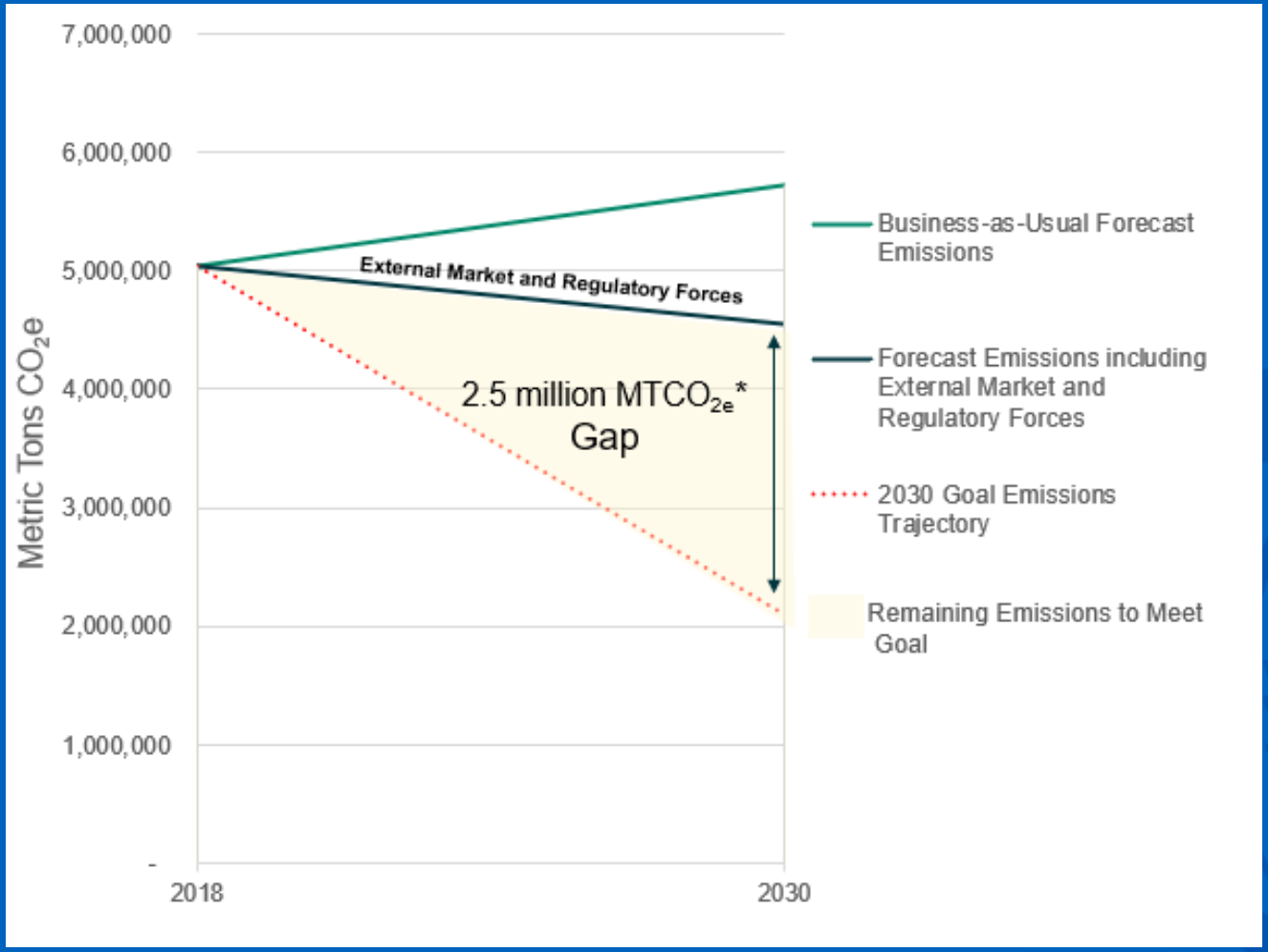
Strategies to Reduce these Emissions:
- Vehicle Fuel Switching to Zero-Emission Vehicles
- Reducing Vehicle Miles Traveled

Strategies to Reduce these Emissions:
- Decarbonizing the Electric Grid
- Energy Efficient and Electric Buildings



Emissions Sources
- Transportation and Mobile Emissions
- Commercial Energy
- Residential Energy
- Process and Fugitive Emissions
- Solid Waste
- Agriculture
- Water and Wastewater

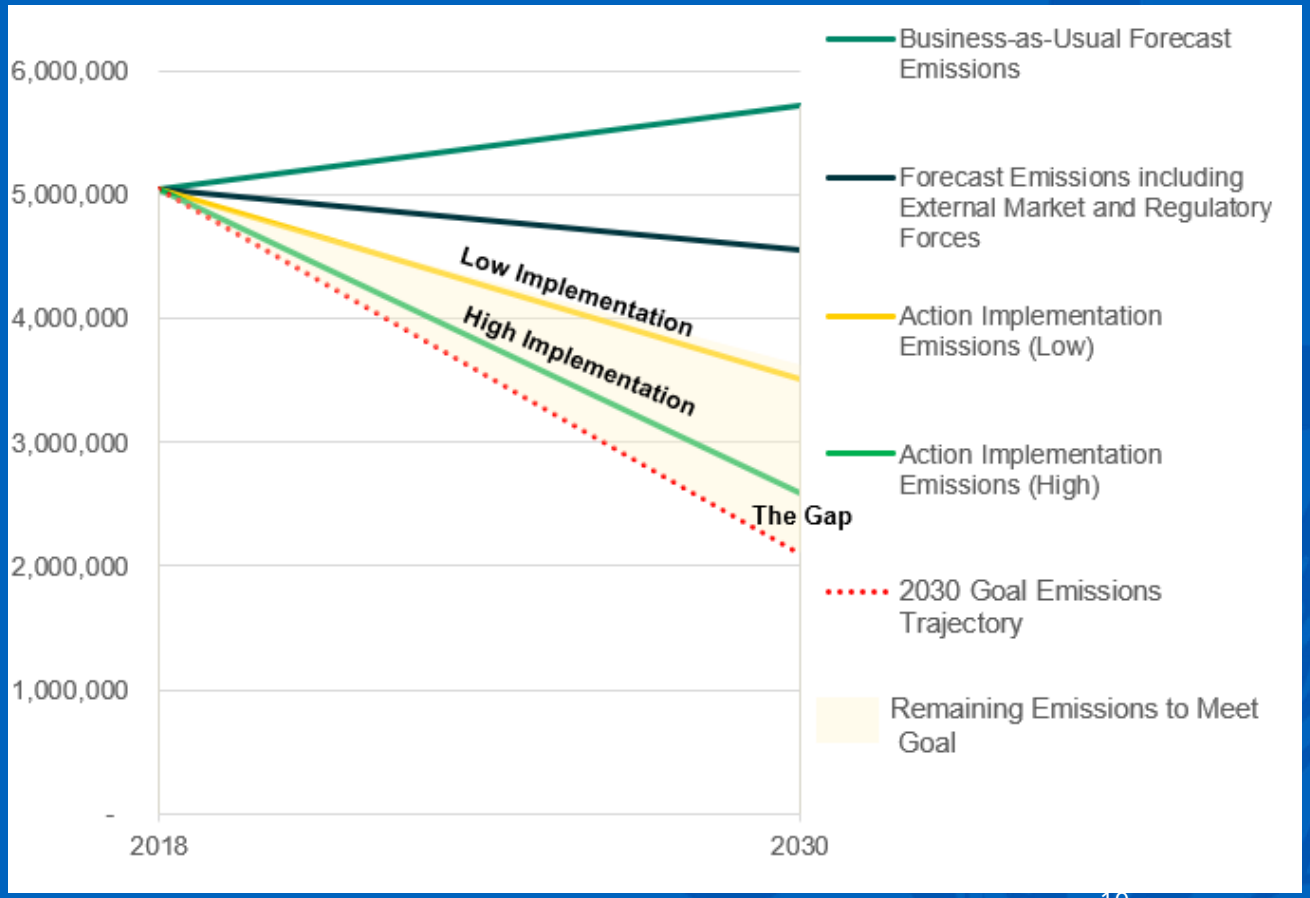
Greenhouse Gas Mitigation - Emissions Forecast



Greenhouse Gas Mitigation - Emissions Forecast

+ CESMP Action

- Low = Low Action Implementation
- High = High Action Implementation



Climate Resiliency – Vulnerability Assessment

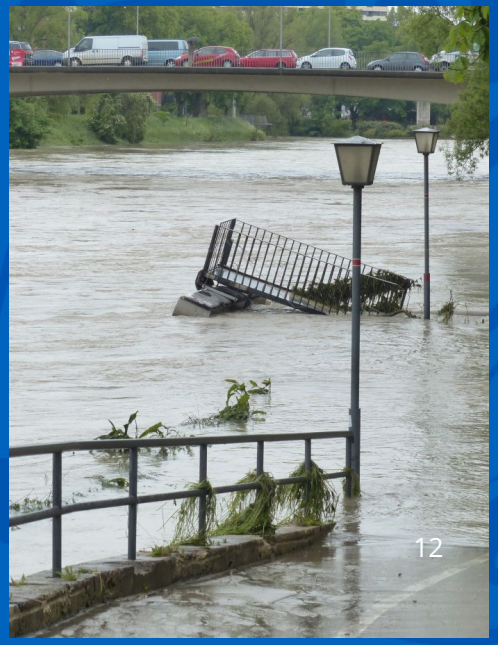
Table E-1. Summary of Vulnerability Ratings for All Climate Hazards

Climate Hazard	Asset Category															
	Safety and Security		Food, Water, and Shelter		Health and Medical		Communications		Transportation		Energy & Hazardous Materials		Natural Resources		Socially Vulnerable Populations	
	2050	2075	2050	2075	2050	2075	2050	2075	2050	2075	2050	2075	2050	2075	2050	2075
Precipitation	L	L	M	M	M	M	L	L	H	H	M	M	H	H	H	H
Extreme Temperature	M	M	M	H	M	M	M	M	M	H	M	M	M	H	H	H
Drought	L	L	M	M	M	M	L	L	M	M	M	M	M	M	M	H
Coastal Flooding and SLR	L	L	M	M	M	M	L	L	M	M	M	M	M	M	M	M
Earthquakes	L	L	M	M	M	M	L	L	M	M	M	M	M	M	M	M
Strong Winds/Tornadoes	L	L	M	M	M	M	L	L	M	M	M	M	M	M	M	M

Climate Resiliency – Vulnerability Assessment

Biggest Climate Hazards:
- Extreme Temperature
- Precipitation (flooding)

Most Vulnerable Assets:
- Socially Vulnerable Populations (according to equity emphasis areas)
- Transportation Infrastructure
- Natural Resources



Action Evaluation Criteria

Criteria Category	Criteria Name	Criteria Definition
Primary Benefits	GHG Reduction Potential	An estimate of GHG reduction potential resulting from the action.
	Climate Risk Reduction Potential	An estimate of climate hazard risk reduction resulting from the action.
Co-Benefits	Organizational Diversity, Equity, and Inclusion	Impact on social, environmental, or economic disparities such as disproportionate levels of air quality, health impacts, access to transit, flood risk, energy burden etc.
	Resource Conservation	Impact on natural resources, such as air, water, raw materials, and the natural environment.
	Savings to Residents and Businesses	Additional costs or savings to residents and businesses.
	Local Employment	Impact on the employment rate, physical access to jobs, income and social mobility, and/or total number of jobs.
Feasibility	Funding Source Identified or Secured	Has full or partial public funding for this action been secured, or has a potential funding source been identified?
	Cost to the County Government	What is the magnitude of upfront, operational, and staffing costs to the County government from the implementation year to 2030?
	Cost Savings to County Government	An initial investment that lowers costs paid by the County government such that cost savings could be used to fund other climate change/adaptation programs.

High Priority Actions - Transportation

CESMP High Priority Actions	Related Goal #
T.1: Improve Pedestrian and Bicycle Infrastructure and Enhance Connectivity	1
T.2: Encourage Transit-Oriented Development	1
T.3: Expand Existing Programs that Reduce Single-Occupancy Vehicle Trips	1
T.4: Upgrade Public Transit Infrastructure	1
T.5: Encourage Zero-Emission Vehicles and Charging	1
T.6: Expand Public EV Charging Network	1
T.7: Adopt Zero- or Low-Emissions County Fleet	1, 4

OmniRide Bus,
Photo Credit: Prince William County

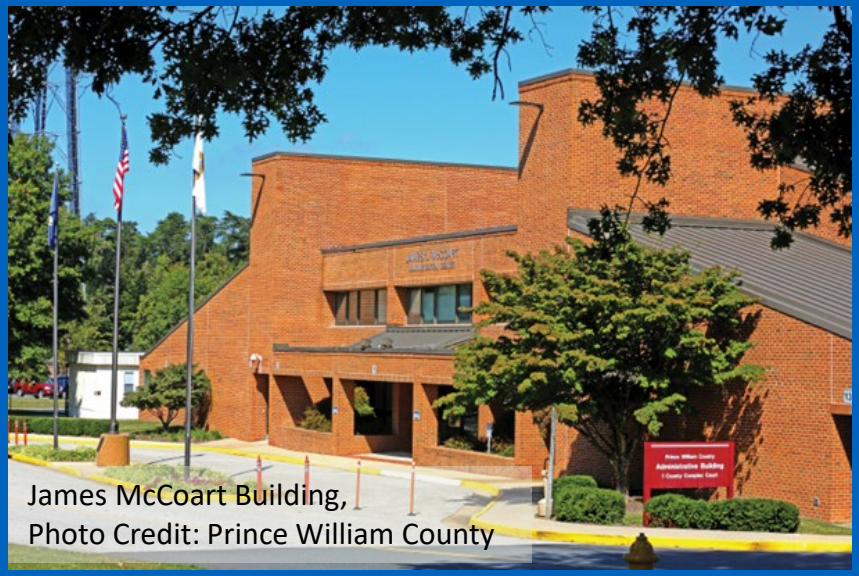
High Priority Actions - Electricity

CESMP High Priority Actions	Related Goal #
E.1: Acquire Clean Electricity Sources for the County	1, 2, 3, 4
E.2: Promote Renewable Energy Incentive Programs and Develop Additional Solar Incentives	1, 2,
E.3: Encourage Renewable Energy Use in Energy-Intensive Commercial Buildings	1, 2,
E.4: Promote Existing Green Power Products	1, 2,
E.5: Install Solar on County Government Facilities	1, 2, 3, 4

Solar on McCoart Building
Photo Credit: Shockoe Solar

High Priority Actions - Buildings

CESMP High Priority Actions	Related Goal #
B.1: Encourage Energy Efficiency and Electrification Retrofits	1
B.2: Propose Green Zoning Regulations	1
B.3: Encourage Energy Efficient and Electric New Construction	1
B.4: Promote Energy Efficiency and Electrification Incentives	1
B.5: Create Net-Zero Plan for County Government Facilities	1, 2, 4, 5



James McCoart Building,
Photo Credit: Prince William County

High Priority Actions – Natural Resources

CESMP High Priority Actions	Related Goal #
N.1: Adopt Natural Open Space Requirements	1, 5
A.1: Develop Adaptation Plans for Critical Facilities	5
A.2: Manage Stormwater Flooding in Areas Outside of the Floodplain	5
A.3: Improve Power Resiliency for Critical Infrastructure	5
A.4: Implement Shoreline Protection and Nature-Based Solutions	5
A.5: Restore Streams to Reduce Flooding	5
A.6: Encourage Technology for Residents to Make Homes Adaptive	1, 5
A.7: Plan Alternate Evacuation Routes for Flood-prone Areas	5

Neabsco Creek Boardwalk,
Photo Credit: Prince William County

Alignment with Established County Strategies

Recommended actions in the CESMP contribute to achievement of Comprehensive Plan and Strategic Plan action strategies

Actions	Comprehensive Plan Action Strategies	Strategic Plan Action Strategies
E.1: Acquire Clean Electricity Sources for the County	H5.9	SG2: C., SG2: E
E.2: Promote Renewable Energy Incentive Programs and Develop Additional Solar Incentives	H5.4, H5.6, H5.7, H5.9	SG2: C., SG2: E, SG2: F
E.3: Encourage Renewable Energy Use in Energy-Intensive Commercial Buildings	H5.9	SG2: C., SG2: E
E.4: Promote Existing Green Power Products	H5.9	SG2: C., SG2: E
E.5: Install Solar on County Government Facilities	H5.9	SG2: C., SG2: E
B.1: Encourage Energy Efficiency and Electrification Retrofits	H5.4	SG2: E
B.2: Propose Green Zoning Regulations	LU8.1, LU8.3, H5.2, H5.3, H5.4, H5.4, H5.10	SG2: B., SG2: E
B.3: Encourage Energy Efficient and Electric New Construction	H5.3, H5.4, H5.7	SG2: B., SG2: E
B.4: Promote Energy Efficiency and Electrification Incentives	H5.4, H5.7	SG2: E
B.5: Transition to Net Zero County Government Facilities		SG2: A., SG2: B., SG2: E

Next Steps

- CESMP adopted by the Board on October 24, 2023
- Integrate CESMP into Comprehensive Plan through a Comprehensive Plan Amendment (Requested by Board)
- Develop system for tracking climate mitigation and climate resiliency metrics in the county (building from CESMP implementation plans)
- Increase staff capacity – Currently recruiting Climate and Energy Program Manager!
- Collaboration between agencies for implementation of actions
- Pursuing grant opportunities and opportunities for regional collaboration

Questions?

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