

T&E COMMITTEE #1
July 6, 2020

Briefing

MEMORANDUM

July 1, 2020

TO: Transportation and Environment (T&E) Committee

FROM: Keith Levchenko, Senior Legislative Analyst

SUBJECT: **Briefing:** County's Climate Change Planning Efforts¹

PURPOSE: To receive an update from Executive Branch staff and Climate Planning Workgroup members on the County's development of its Climate Change Action and Resilience Plan

County Government Participants

- Adriana Hochberg, Assistant Chief Administrative Officer (and Director of County Climate Policy)
- Adam Ortiz, Director, Department of Environmental Protection (DEP)
- Patty Bubar, Deputy Director, DEP
- Stan Edwards, Chief, Division of Energy, Climate, and Compliance, DEP

Agenda

- **Background/creation and status of climate change planning workgroups**
- **Summary of Workgroup Recommendations** (by Workgroup representatives)
 - Clean Energy: David Blockstein
 - Buildings: Michal Freedman
 - Transportation: Irene Lane
 - Adaptation: Karen Metchis
 - Sequestration: Sylvia Tognetti
 - Public Engagement: Misha Clive
- **Next Steps**
 - Consultant Phase
 - Continued Public Engagement
 - Short-term Actions

Attachments

- Climate Action and Resilience Planning (CARP) Presentation (Slides 1-32)

¹ Key words: #Climate Change, Global Warming, Greenhouse Gas Reductions

NOTE: For additional information and resources regarding the County's climate change planning process, please see the County's [Climate Home Page](#).

On July 6, the T&E Committee will receive an update from Adriana Hochberg, the County's Director of County Climate Policy on the County's development of a Climate Change Action and Resilience Plan (CARP). Ms. Hochberg will also describe the next steps of the process including: the consultant's work, continued public engagement, and short-term actions already underway or expected to be implemented in FY21. Presentation slides are attached.

The Committee will also hear from Stan Edwards, Chief of the Division of Energy, Climate, and Compliance in the Department of Environmental Protection (DEP) and representatives from each of the climate planning workgroups who will provide summaries of their workgroup's recommendations.

Council Resolution: "Emergency Climate Mobilization"

The County has been active for many years in studying the County's greenhouse gas emissions, developing goals and strategies, and implementing numerous initiatives. The current effort stems from the December 2017, Council approval of [Council Resolution 18-974, "Emergency Climate Mobilization."](#) This resolution supported an accelerated goal of reducing greenhouse gas emissions by 80 percent by 2027 and 100 percent by 2035, as well as to initiate "large scale efforts to remove excess carbon from the atmosphere."

This resolution led to the transmittal to the Council in June of 2018 of a [Climate Mobilization Workgroup Report](#) by Executive Branch staff. This report noted the "massive cultural shift" and "dramatic changes" required to meet the greenhouse gas reduction goal.

Climate Change Planning Workgroups

In order to move the County toward the County's aggressive greenhouse gas reduction goals, a climate change planning process was initiated in the Summer of 2019 overseen by Ms. Hochberg. This process included the creation of five workgroups looking at different aspects of the issue:

- Clean Energy
- Buildings (represents 51% of greenhouse gas emissions in 2015)
- Transportation (41% of greenhouse gas emissions in 2015)
- Adaptation and Sequestration
- Public Engagement

The Clean Energy workgroup focused on greening the grid and expanding the use of distributed renewable energy. Buildings and transportation accounted for 92 percent of the County's greenhouse gas emissions in 2015 and these two groups looked at goals to dramatically reduce emissions from these sectors. The adaptation and sequestration workgroup focused on strategies to address the impacts already being felt from climate change (especially by vulnerable communities) and ways the County can improve climate conditions through land-use and nature-based solutions. Public engagement was identified early on as an essential component throughout the climate change planning process. This workgroup developed recommendations for informing and including the public in climate change planning and effecting the major personal and group behavioral change that will be needed for the County to meet its goals.

The Department of Environmental Protection provided staff support and meeting facilitation for the workgroups. Other County departments such as: The Department of General Services, Department of Transportation, and the Office of Emergency Management and Homeland Security provided staff support as well.

These workgroups were tasked with developing recommendations to be further evaluated and prioritized by a consultant with the goal of creating a Climate Change Action and Resilience Plan (CARP) by the end of 2020. The workgroup recommendations (850 in total) were rolled out at a Town Hall meeting on February 27. The workgroup recommendations are summarized on the attached presentation slides (see Slides 11-23). The full set of [climate workgroup recommendations](#) is available on the County's Climate webpage.

Climate Action and Resilience Plan (CARP)

The next phase of work involves consultant review and development of the Climate Change Action and Resilience Plan (CARP). In April 2020, the County executed a consultant contract with [AECOM](#). AECOM has reviewed the workgroup recommendations and participated in several DEP-facilitated virtual meetings with the Workgroup members to discuss the next phase of work. [Recordings of these meetings](#) are available on the County's Climate webpage.

Slide 6 provides a list of "General CARP Principles" reiterating the Council's greenhouse gas reduction goals in Resolution 18-974 (80 percent reduction by 2027 and 100% by 2035) but also noting that racial equity, social justice, and public health are "key principles" guiding the development of the CARP.

A key element of the CARP will be the prioritization of climate change actions. Many of the workgroup recommendations will require public and/or private investment and significant individual and societal behavioral change. Climate change actions will need to be phased based on greenhouse gas reduction impact, co-benefits achieved, and budgetary impact, all within a social and racial equity framework.

Ongoing Public Outreach and Racial Equity and Climate Advisory Group Formation

DEP will also be continuing a substantial public outreach process (see Slide 29); with a focus on engaging with communities not traditionally heard from on climate planning issues and the formation of a Racial Equity Advisory Group.

Attachments

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Montgomery County Climate Action & Resilience Planning

COUNCIL TRANSPORTATION & ENVIRONMENT COMMITTEE

JULY 6, 2020

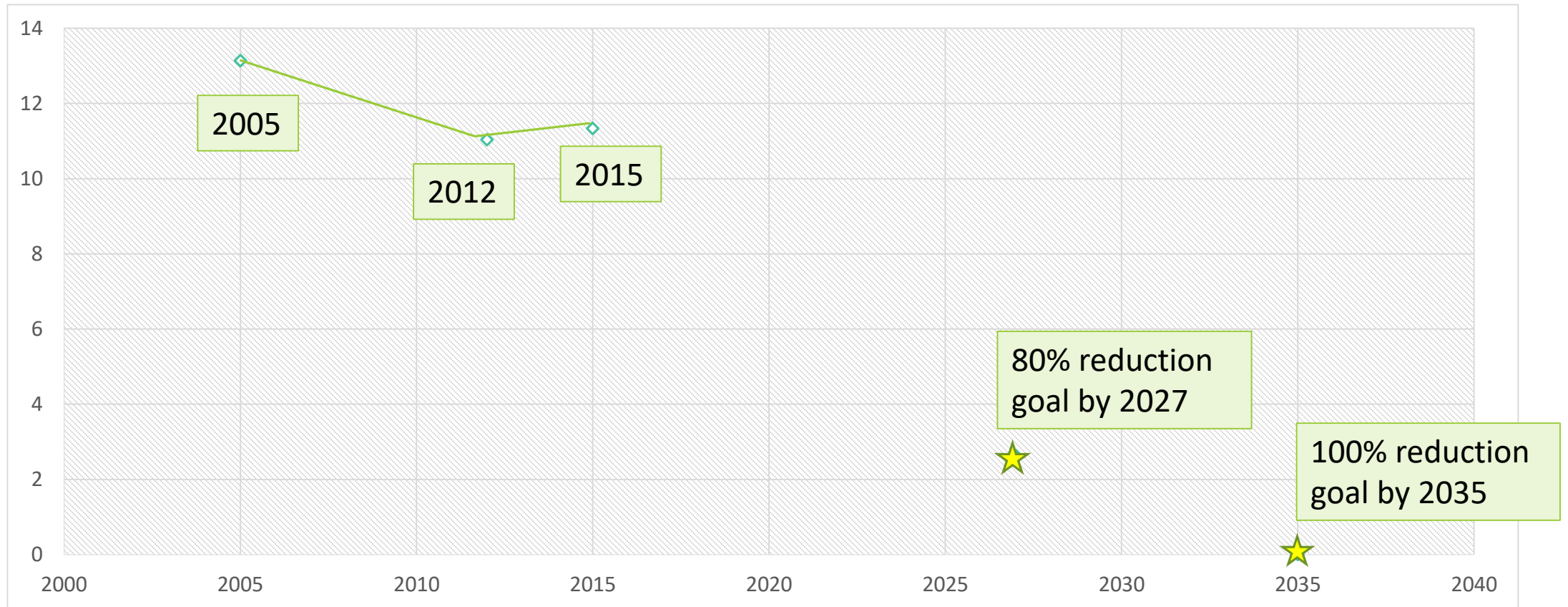


Overview of Presentation

1. Background/creation of climate change planning process and Workgroups
2. Summary of Workgroup Recommendations
3. Next Steps
 - Consultant Phase
 - Continued Public Engagement
 - Near-term Actions

Montgomery County's Measured Greenhouse Gas Emissions

(million metric tons of CO₂e)



Source: Metropolitan Washington Council of Governments (MWCOG) Montgomery County GHG Inventory

We're Already Experiencing Climate Change in Montgomery County

It's getting hotter.

- Daily high and daily low temperatures have been increasing 0.2 degrees F per decade

It's getting wetter.

- Increased number of hours where more than 1" of rain has fallen in an hour since 2010
- Increased number of significant flood reports since 2010

What is the Climate Action & Resilience Plan [CARP]?

The Plan, currently under development, will be a roadmap to achieve zero emissions in Montgomery County by 2035.

Plan components will include:



Prioritized actions for reducing greenhouse gas emissions & adapting to a changing climate



Implementation plan for actions



Cost range evaluation and co-benefits



Identification of equity challenges and opportunities

General CARP Principles

- Plan should provide **path** to GHG reductions of 80% by 2027 and 100% by 2035
- **Racial equity, social justice, and public health** are key principles
- The Plan should identify (or provide a process for identifying) those least able to adapt to climate change and action should be analyzed through this lens

When will the Climate Action & Resilience Plan be done?



July 2019 – February 2020: Workgroups convene and develop recommendations



Spring 2020: Public review of Workgroup recommendations



Spring – Fall 2020: Consultant technical analysis; continued public engagement



Late 2020: Issue Draft Plan and provide opportunities for public comment



Early 2021: Finalize Climate Action & Resilience Plan

150+ Workgroup members, incl:

- 350MoCo
- American Council for an Energy-Efficient Economy
- AstraZeneca
- Barnesville Green, Bethesda Green, One Montgomery Green, and Poolesville Green
- City of Rockville
- City of Takoma Park
- Montgomery County Departments of: Environmental Protection, General Services, Permitting Services, Transportation
- Electric Vehicle Association of Greater Washington DC
- George Mason University
- GRID Alternatives
- Maryland National Capital Park and Planning Commission
- Montgomery County Green Bank
- Montgomery County Public Schools
- National Rural Electric Cooperative Association
- Neighborhood Sun
- Standard Solar
- Tesla
- Montgomery College
- Sierra Club
- US Agency for International Development
- US Department of Commerce
- US Environmental Protection Agency

5 Technical Workgroups

- Buildings
- Clean Energy
- Climate Adaptation & Sequestration
- Community Engagement & Education
- Transportation

850+
recommendations



Summary of Workgroup Recommendations

Clean Energy: David Blockstein

Buildings: Michal Freedman

Transportation: Irene Lane

Adaptation: Karen Metchis

Sequestration: Sylvia Tognetti

Public Engagement: Misha Clive

Clean Energy Workgroup: Goals, Strategies and Recommended Actions

Goal 1 – Green the electricity supplied to Montgomery County residents and businesses

Goal 2 – Expand the use of distributed renewable energy.

Strategy 2.1 – Establish engagement strategies, programs, and financial tools to address cost barriers to onsite renewables and storage.

Action 2.1.1 – Examine the benefits of reinstituting County’s property tax credit for solar and geothermal systems.

Strategy 2.2 – Assess feasible public and private locations for solar and wind installations of various scales in Montgomery County and adjacent jurisdictions.

Goal 3 – Expand the use of renewable energy to power buildings.

Goal 4 – Encourage economic development related to renewable energy

Goal 5 – Establish a dedicated, secure funding source to support renewable energy programs and financial incentives.

Buildings Workgroup Recommendations (examples)

- Expanding of the County's existing Building Energy Benchmarking Law
- Developing a building energy performance standard for existing commercial and multifamily buildings
- Residential home labeling program to give consumers transparent energy-efficiency information during the home buying process
- Pursuing electrification, including banning natural gas and encouraging fuel switching in existing buildings from natural gas to electric energy sources
- Ideas for new County programs for energy and water efficiency incentives, financing options, and unbiased technical assistance
- Workforce development initiatives focused on building operator training

Transportation Workgroup Recommendations

- Transportation policy *tweaks* will not result in 100% carbon emission reductions; holistic policies focused on County-wide *fast and reliable public transit infrastructure* will
- Transportation vision that is *people-centric* rather than car-centric allows progress towards environmental justice
- While very aggressive, carbon emission reduction goals are achievable if:
 - Ubiquitous use of EVs
 - Eliminate need for SOV driving
 - Increased transit stations
 - Vibrant employment and activity centers located County-wide
 - Coordinated state, regional and federal actions

Transportation Workgroup Recommendations

- Comprehensive vision that included a mutually reinforcing portfolio of policies, incentives, and revenue streams to minimize risk and enhance quality of life
- **Electric & Alternative Vehicle Recommendations:**
 - Accelerate decommissioning of ICE vehicles while incentivizing purchase of EVs
 - Increase access to public charging stations
 - Ensure electrification of all multi-passenger & ride-hailing vehicles, commercial trucks & school buses
 - Dramatically increase capacity for renewable energy sources for such electrification

Transportation Workgroup Recommendations (continued)

- **Transportation Demand Management Recommendations:**
 - Improve “right-sized” public transit to fix first-mile and last-mile challenges
 - Reimagine operations and need for parking spaces
 - Expand teleworking options by improving digital access
 - Curb control and surcharge pricing strategies
 - Incorporate carbon emission cost / climate test for all land development / road construction plans
- **Walkable / Bikeable Communities Recommendations:**
 - Prioritize the implementation of Bicycle and Pedestrian Master Plans
 - Incorporate pedestrian-only urban centers
 - Increase access to non- motorized personal mobility device transportation options

Adaptation Workgroup Recommendations

- Goal 1: Prioritize people and communities that are the most vulnerable & the most sensitive to the impacts of climate change
- Goal 2: Reduce the risks and impacts of high summer temperatures
- Goal 3: Reduce risks and impacts of more intense storms
- Goal 4: Protect public health from climate-driven impacts
- Goal 5: Ensure the availability & sustainability of quality drinking water supplies to support a growing and thriving Montgomery County

Adaptation Workgroup Recommendations (continued)

- Goal 6: Conserve and restore habitat to support healthy populations and ecosystems, reduce non-climate stressors on natural resources, and promote climate-resilient agriculture.
- Goal 7: Support economic opportunities and address economic challenges for climate adaptation
- Goal 8: Conduct vigorous outreach & engagement campaign to accelerate adaptation and resilience
- Goal 9: Reevaluate & update county operations, strategies, & codes to account for the risks of climate change impacts as well as to reduce greenhouse gases

Sequestration Workgroup Recommendations

Recommendations grouped by nine goals – three overarching, six sectoral

Overarching goals:

Goal 1: Strengthen land use policies to provide a foundation for maximizing carbon sequestration and increasing resilience

Goal 2: Accelerate the implementation of carbon sequestration strategies using nature-based climate solutions across all County programs and policies

Goal 3: From silos to systems change – taking a “whole systems” approach and enabling innovation

Sequestration Workgroup Recommendations (continued)

Sectoral goals:

Goal 4: Increase protections for existing trees and double tree canopy in the urban, suburban, and other non-forest areas of Montgomery County, leading to a net increase in the amount of carbon sequestered in trees to 2030 and beyond.

Goal 5: Establish a strict policy of no further loss, and expand where possible, the county's natural wetlands.

Goal 6: Increase the county's forest area to 37% in 2027 and 45% in 2035 (compared to 34% in 2001-2016)

Goal 7: Support an aggressive transition to regenerative agricultural practices by engaging and supporting farmers, gardeners and their organizations

Goal 8: Restore the earth's carbon, water and energy cycles as a key climate solution by restoring the soil's biofertility, microbial activity, surface areas and moisture-holding capacity.

Goal 9: Close the loop by establishing a county-wide food and other organic waste composting system for government, commercial and residential buildings to reach a minimum of 70% diversion, and increase the use of compost for improving soil health and carbon content.

Public Engagement Workgroup Recommendations (examples)

(what is a health frame?)

- **Evidence-based:** More persuasive than messages using environmental or political frames.
- **Applicable:** Can apply health messaging to assorted mitigation & adaptation efforts.
- **Relevant:** Connects with residents' concerns about their health & the legacy of future generations.

(how does a health frame work?)

Develop core messaging for all external outreach; implement tailored strategies for various stakeholders.

(core message, example) **CLIMATE SOLUTIONS ARE HEALTH SOLUTIONS**

(tree planting) Extreme heat events are become more frequent and putting student athletes, outdoor workers, seniors, children, and low-income residents at greater risk of heat stroke and heat-related illnesses. Planting trees will reduce carbon pollution and protect our families from extreme heat.

(greener transportation) Climate change worsens our air quality, making it harder to breathe, especially for people who already suffer from asthma or chronic lung disease. You can reduce air pollution by driving an electric car and walking, bicycling, and using public transit whenever possible.

Public Engagement Workgroup Recommendations (examples)

(general public)

- Institutionalize a steady drumbeat of outreach from EVERY division.
- As county implements emission reducing activities, publicize examples for community.

(concerned residents and influencers)

- Leverage existing community partnerships and develop new ones, including stakeholder advisory groups (businesses, civic groups, faith-based organizations, health industry).
- Implement broad PR campaign to encourage engagement that supports broader and more urgent county changes.

Public Engagement Workgroup Recommendations (examples)

(vulnerable populations – ensuring racial equity)

- Incorporate feedback on CAP from key stakeholders representing underserved communities, communities of color and immigrant communities along with other key communities. Prioritize the visions, values, and experiences of vulnerable communities.
- Budget to support the Office of Racial Equity and Social Justice and the ongoing HHS Minority Health Initiatives
- Define long-term equity goals and develop structures for ongoing community engagement, such as a Community Climate Action Network with tiers of participation.

(students)

- Establish an MCPS workgroup on climate change composed of parents, students, teachers, principals and administrators, with participation by MCPS facilities, nutrition services, curriculum, and PTA.
- Expand opportunities for students in all formal education settings (public, private, or homeschool) to participate in climate change-oriented experiences.

Public Engagement Workgroup Recommendations (examples)

(build internal capacity through institutionalization)

- Build capacity for internal, government-wide climate action programs, and integrate climate awareness into county decision-making such as **budgeting**, drafting annual reports, land use decisions, and passing bills.
- Create cross-departmental workgroups:
 - Communications staff → Cohesive messaging across all departments
 - Programmatic and technical staff → Develop/fund systemic resiliency initiatives alongside CE and experts
- Build departmental capacity:
 - Incorporate info about climate change and the CAP into OHR resources and practices
 - Offer regular trainings on climate change communications research to PIOs and communications staff

Next Steps

- Consultant Phase
- Continued Public Engagement
- Near-term Actions

AECOM Background & Experience

CARP Experience

- Over 50 climate action plans nationally
- Baltimore, MD Climate Action Plan
- City of Los Angeles + Chicago GHG inventory, target setting and climate action development

Technical Tools

- C40 / World Bank / Bloomberg Philanthropy funded Climate Action decision support tool “CURB”
- Created FLEx tool to analyze downscaled GCM output from multiple sources in order to determine changes to future flood impacts

Equity Framework

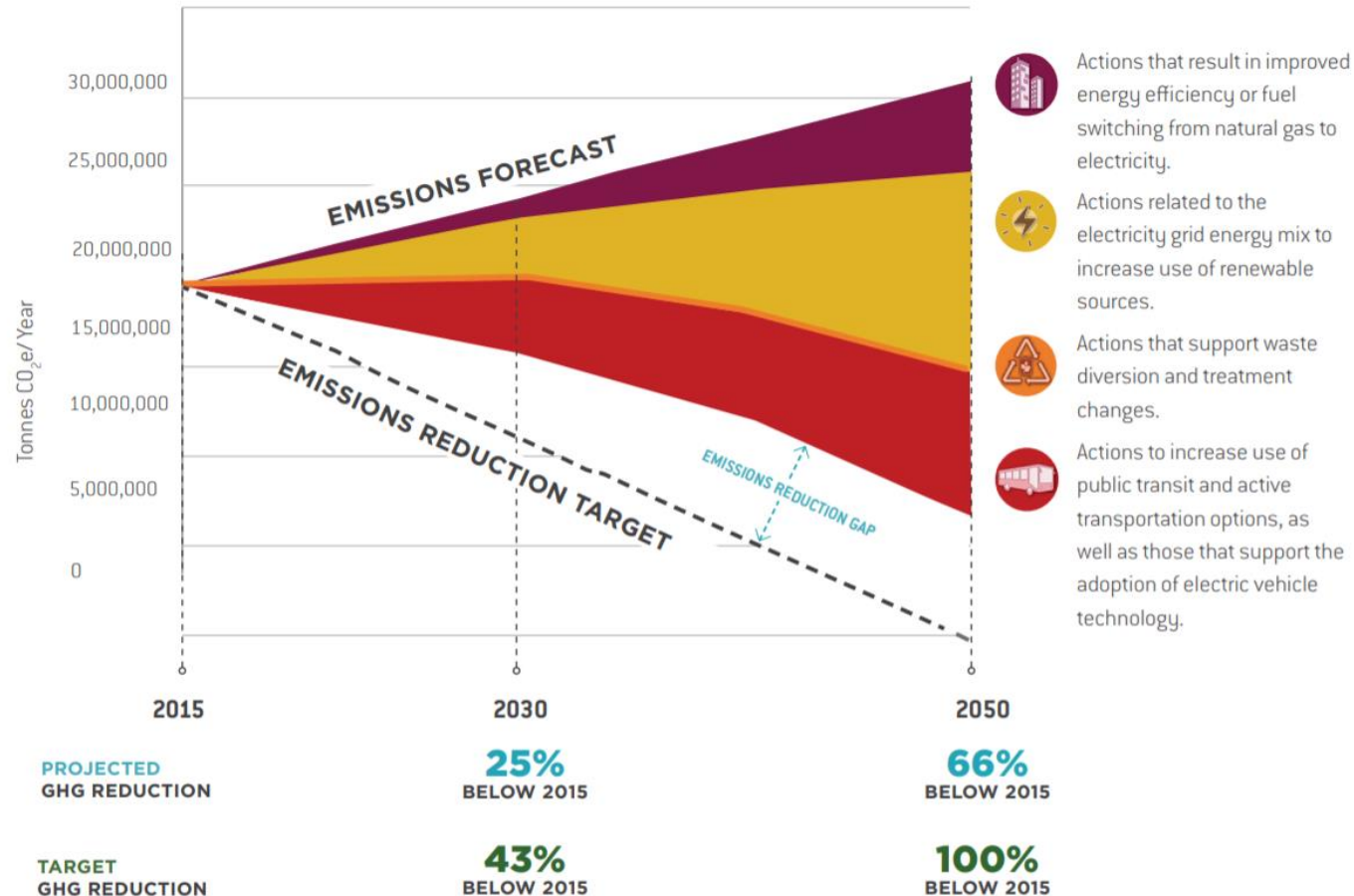
- We understand that while climate affects all, not all are affected equally
- Nspiregreen provided technical support and facilitation in the development of Montgomery County’s Equity Framework for the Vision Zero Program

Local Presence

- AECOM has 300+ professionals in Montgomery County
- Nspiregreen & AECOM have years of experience working with the County



GHG Emissions Analysis



GHG Mitigation CURB Categories

- Existing Building
- New Construction
- District Energy
- Renewable Energy
- Clean Electricity - Grid/Customer Options
- Travel Mode Shift
- Vehicle Fuel Switch
- Vehicle Efficiency Improvement
- VMT Reduction
- Waste Diversion
- Waste-to-Energy
- Landfill Gas Capture
- Water Conservation
- Sequestration
- Carbon Offsets / Carbon Tax
- Other Scope 3 Emissions

Dallas 2020 Climate Action Plan

Climate Vulnerability Assessment

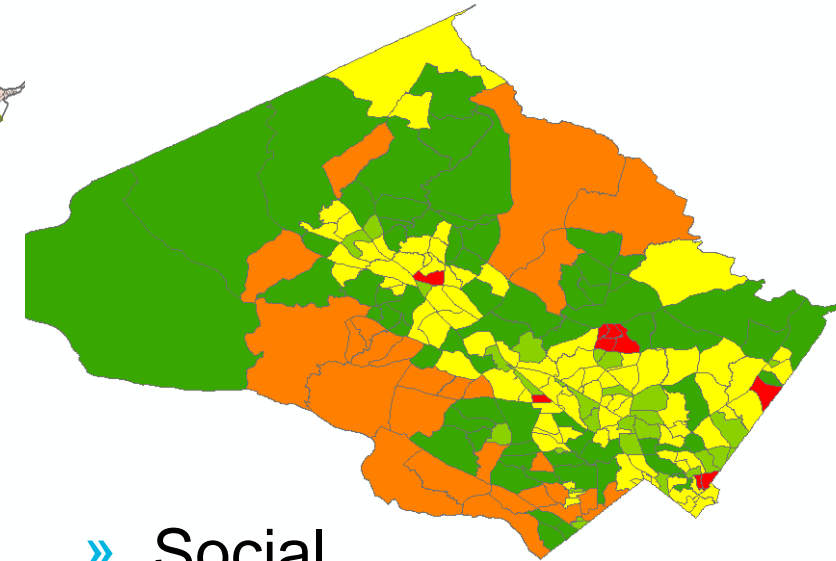


» Current
Floodplains



» Infrastructure

+ Data from Climate Analysis



» Social
Vulnerability

Data review phase

- AECOM has reviewed all 850 workgroup recommendations.
- Completed initial pass for duplicates.
- Categorized actions by direct (quantifiable) vs. indirect actions
- Categorized actions by whether they are:
 - Mitigation (carbon reduction) actions
 - Climate risk (adaptation/resilience) actions
 - Other actions (e.g., governance, economic development)
- Meetings with climate workgroup members held in June.

Continued Public Engagement

Targeted engagement

- Provide capacity for vulnerable members of the community to participate in the climate planning (and implementation) process
 - Resilience Ambassadors program (partnership with Covid Corps)
 - Racial Equity & Climate Advisory Group formation

General engagement

- Monthly virtual office hours
- Monthly climate newsletter
- Virtual presentations with community groups

Near-term (FY21) Climate Actions

Acting while we plan

- Advocate for policies to **green the state's electricity supply**
- Develop **financial strategy** to fund large-scale projects
- Incorporate a climate lens into the **budget** development process
- Develop a **Building Energy Performance Standard**
- Propose the 2018 **Intl Green Construction Code** for adoption
- Identify pathway for **net-zero residential homes**
- Launch US 29 **FLASH bus** service & continue design of 355 and Veirs Mill **bus rapid transit**

More FY21 Climate Actions

- Implement **Electric Vehicle** residential charging regs, install EV charging at county facilities, pilot curbside EV charging, launch EV purchasing co-op, implement EV charger info campaign
- Purchase **hybrid Police vehicles** and increase **EV Ride On buses**
- Expand **dockless vehicle** pilot & install dockless vehicle parking corrals
- Finalize **Transportation Demand Management** regs
- Construct Oaks landfill **community solar**
- Complete energy efficiency projects, lighting retrofits, HVAC/CHP/boiler upgrades, and energy commissioning at multiple **County facilities**
- Complete **resiliency hub** at Scotland Recreation Center
- Plant more **trees** through Tree Montgomery
- **Climate change workshops, survey, and online learning modules** for County staff

montgomerycountymd.gov/climate

