



CITY OF ROCKVILLE

CLIMATE ACTION PLAN



COG's Built Environment Energy Advisory Committee

February 17, 2022

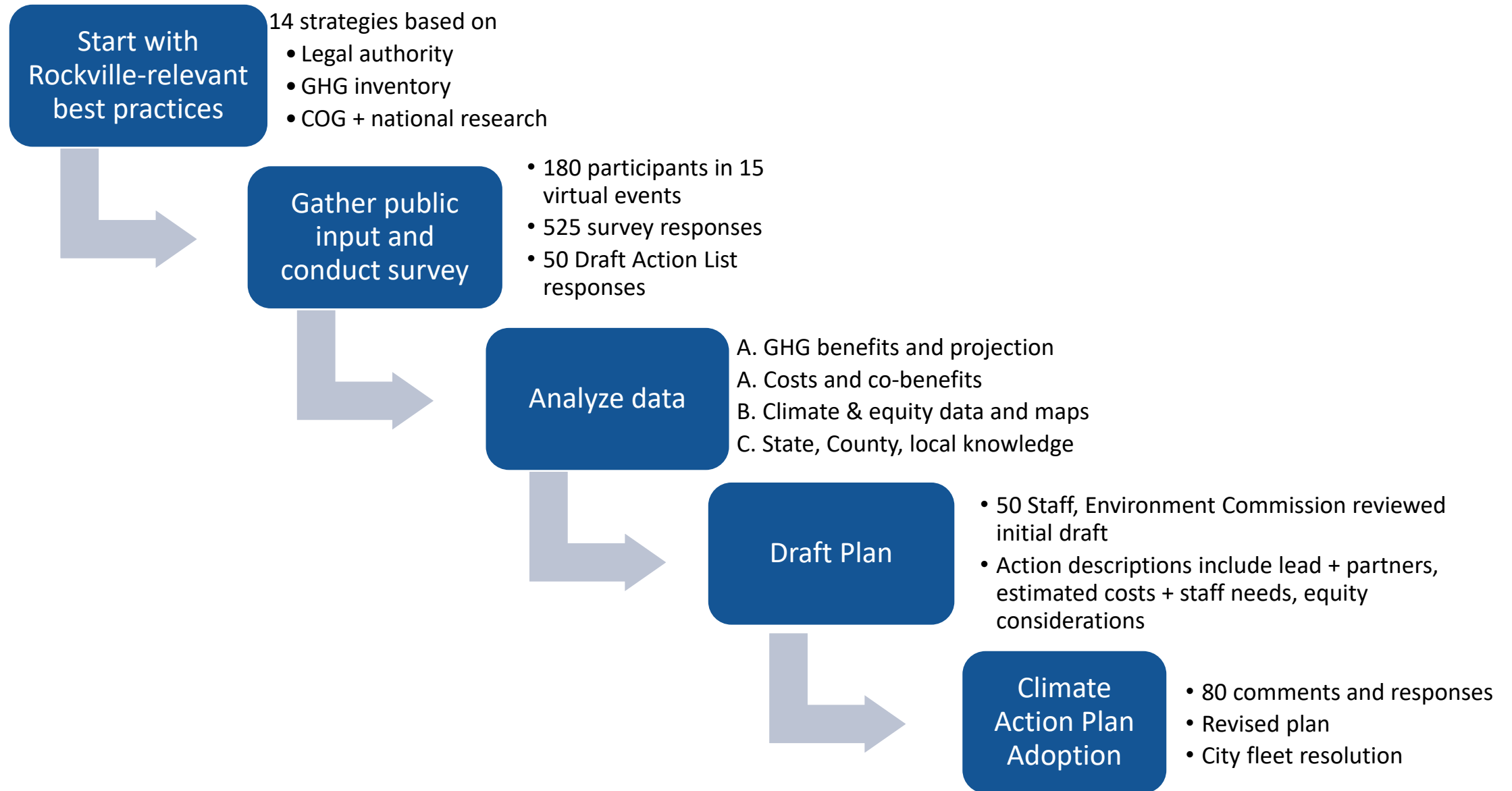
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Overview

- Plan development process
- Greenhouse gas inventory, goals, and projections
- Climate impacts and social vulnerability
- List of 42 actions



Developing the Draft Plan



Existing Actions - Community

Mixed use
development

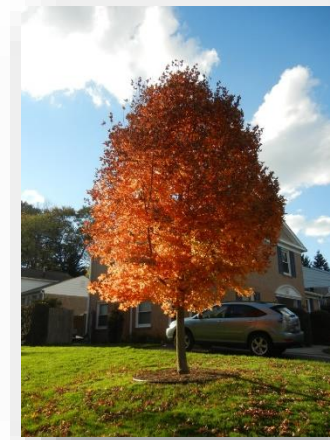


Access to bikeshare,
Metrorail, Metrobus,
MARC, RideOn



34 miles shared-use paths

34 miles shared-use roads



30 years Tree City
USA

300 trees
distributed in tree
giveaway events



12 public electric
vehicle charging
stations in city

2,279 electric
and plug-in hybrid
vehicles registered in
Rockville zip codes

Existing Actions – Community cont'd

764 solar permits.

Low-moderate income home retrofit program.



75 million kWh green power purchases/yr.

Over **70** green buildings.

Adopted **2018** International Energy Conservation Code.



47% residential recycling rate.

200 buildings report energy benchmarking data.

Existing Actions - Municipal

100% electricity from wind credits for city operations.

Geothermal energy powers Thomas Farm.



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9 facility energy projects leveraging Pepco rebates and Maryland grants implemented since 2014.

Upgraded all **46** traffic lights and 185 of 6500 streetlights to high-efficiency LEDs.



1 electric car and 1 hybrid in city fleet.

Tracking energy use of **150** accounts

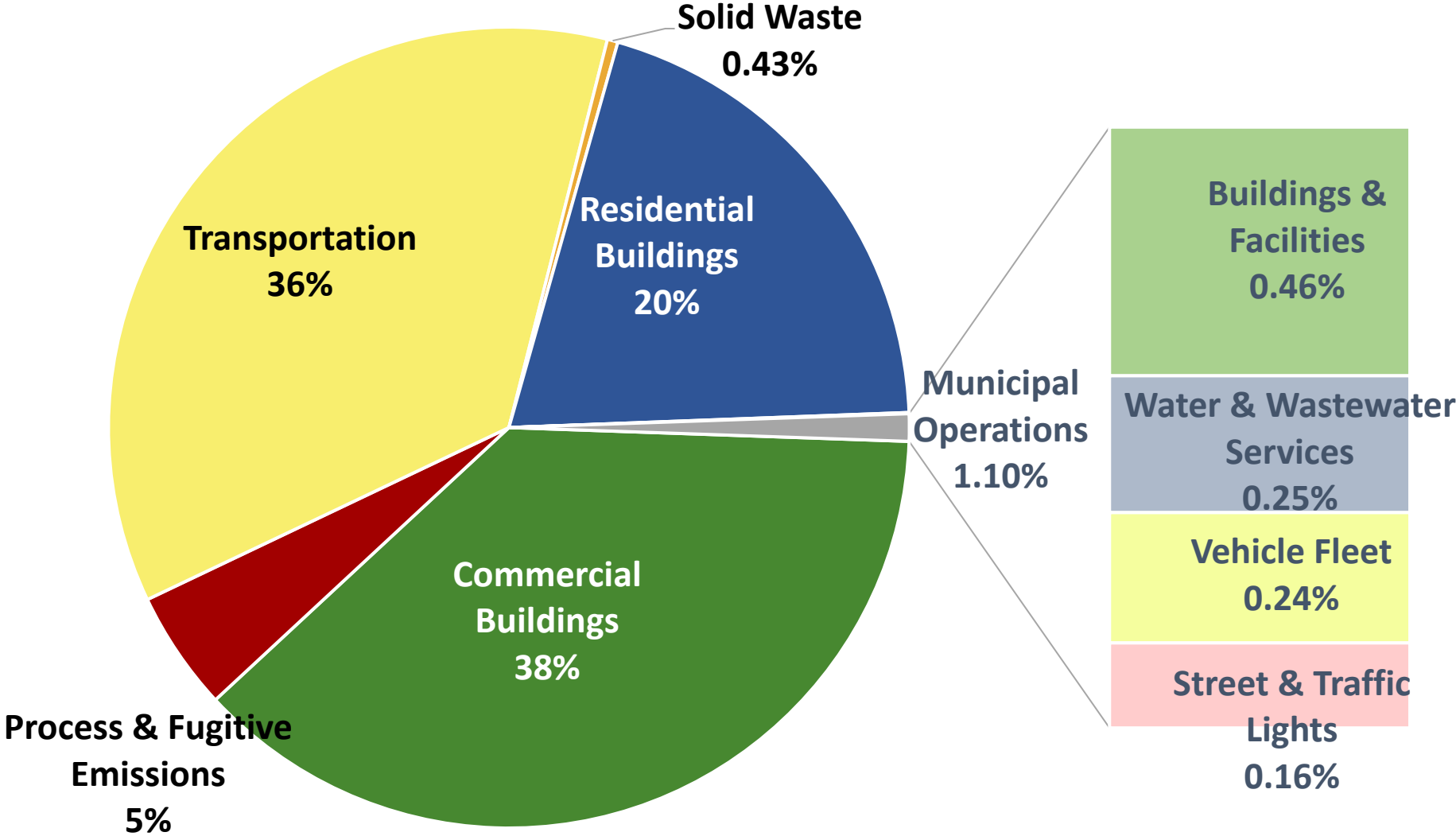


Expanding paperless technology

Greenhouse Gas Emissions

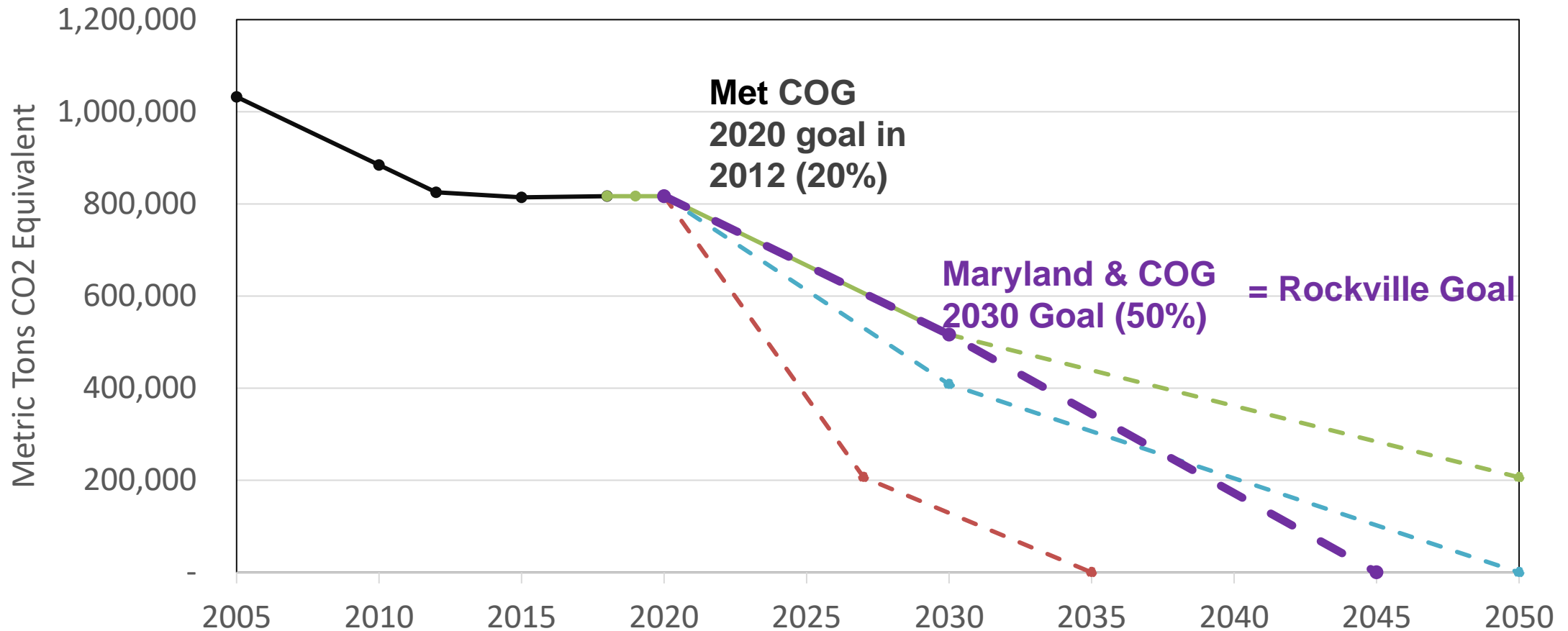
Community Total: 816,868 MTCO₂e

Municipal Total: 8,994 MTCO₂e

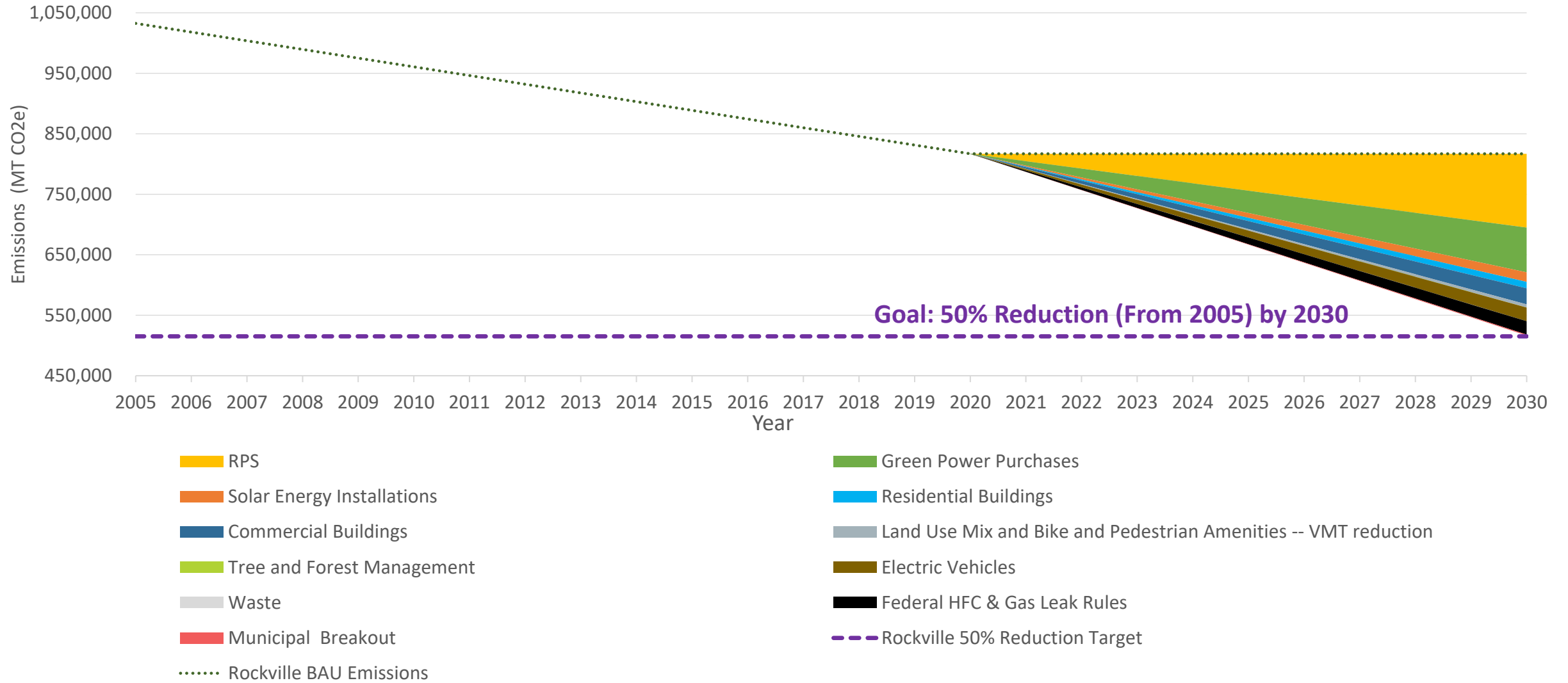


Emissions Reduction Goals

- Rockville Historical
- COG (50% by 2030; 80% by 2050)
- Montgomery Co. (Net zero by 2035)
- UN Paris 1.5C (Net zero by 2050)
- Maryland 2030 Plan (50% by 2030, Net zero by 2045)

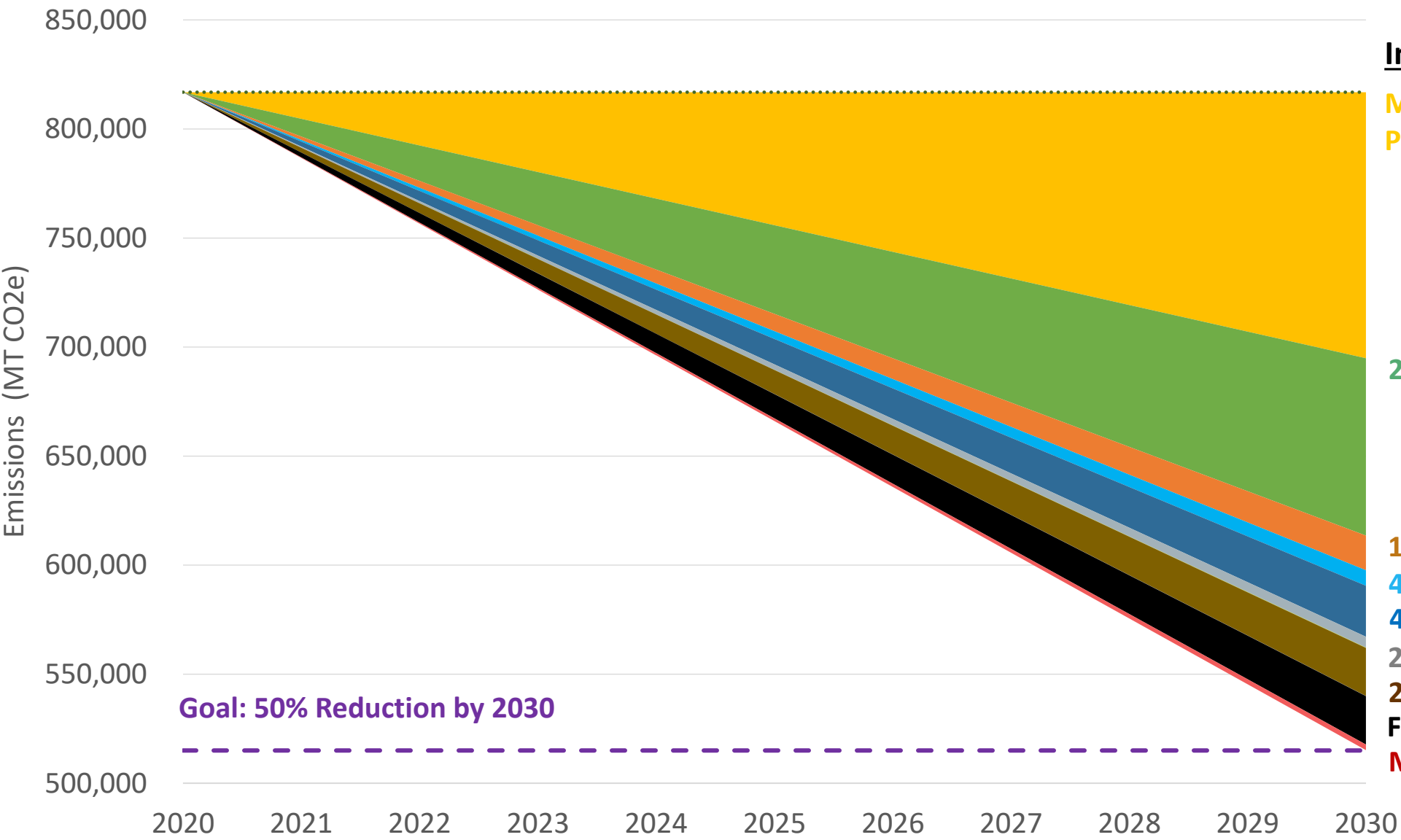


How Can We Reduce Emissions?



Source: Cadmus Reduction Analysis Tool, 2021. Based on COG Business as Usual Projections.

Emissions Reduction Pathway



Impactful Actions

Maryland 50% Renewable Portfolio Standard

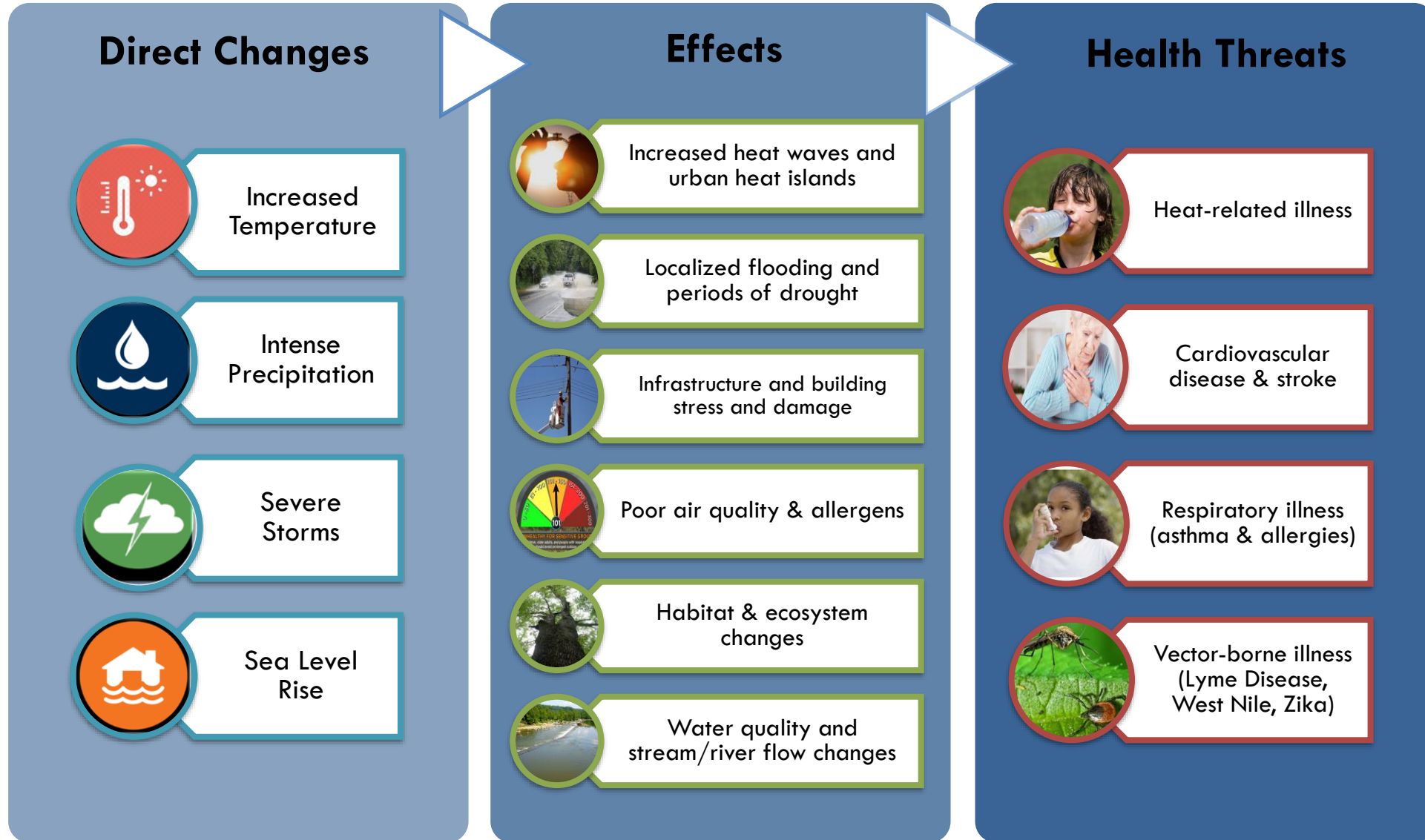
27% Green Power Purchase

- 1800 Solar Installations**
- 4000 Residential Energy Efficiency**
- 400 Commercial Energy Efficiency**
- 2000 Households Near TOD**
- 2000 Electric Vehicles**
- Federal HFC/ NG Rules**
- Municipal Operations**

Emissions Reduction Pathway

	Quantity of Strategy Implementation by 2030	Status	% Contribution to 50% Goal by 2030
Maryland	Maryland renewable energy portfolio standard (RPS) increasing to 50%	Adopted	41%
Montgomery County	Green power purchases increasing to 27% of residents and businesses	Proposed County action may assist	27%
	400 commercial building electric and natural gas upgrades	Proposed County action may assist	8%
Federal	Federal standards reduce HFC emissions by 75%	Rule finalized	7%
Rockville	2,000 additional electric passenger vehicle swaps	Voluntary	7%
	1,800 additional solar energy installations	Voluntary	5%
	4,000 residential building electric and natural gas upgrades	Voluntary	2.4%
	Land use mix + bike/pedestrian amenities lead to 2,000 households located near transit and reduced vehicle miles traveled	Adopted in Comprehensive Plan	1.7%
	Municipal facility efficiency, fleet conversions, streetlights, solar	Proposed	0.8%
	3,000 trees planted	Ongoing action	0.1%
	Municipal compost drop-off program	Proposed	0.02%
Total			100%

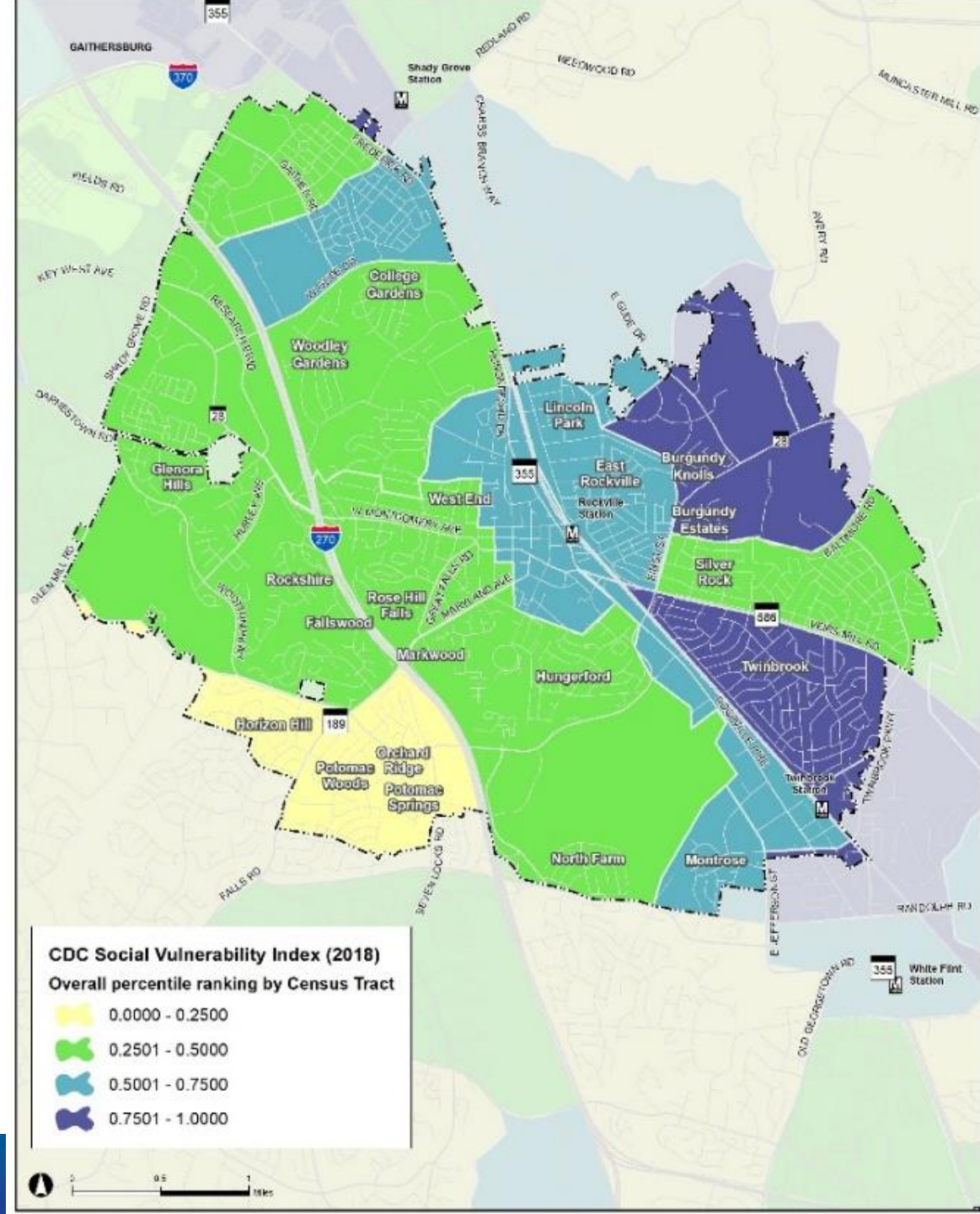
Climate Resilience Challenges



Rockville Social Vulnerability

CDC Social Vulnerability Index:

- Socioeconomic Status
 - Poverty, unemployed, no HS diploma
- Household composition
 - Elderly, youth, disability, single-parent
- Minority status and language
- Housing quality and transportation access



7 Categories, 42 Actions



Energy Efficiency (9 actions)

Increase energy conservation and efficiency and reduce fossil fuel use in all existing and new buildings and infrastructure.



Renewable Energy (5 actions)

Increase the generation, use and access to affordable, reliable and clean energy systems.



Transportation (9 actions)

Expand safe, efficient, affordable, and equitable multi-model transportation options that utilize clean and efficient energy sources.



Land Management (3 actions)

Maximize the economic and social benefits of land while maintaining or enhancing natural systems and ecological health to ensure resiliency.



Materials and Waste (3 actions)

Manage solid waste by reducing, reusing, recycling, composting, and sustainable purchasing.



Resiliency (9 actions)

Improve the capacity of our community, homes, businesses, and natural environment to prevent, withstand, respond to, and recover from climate change impacts such as rising temperatures, more frequent and intense heat waves, heavy rainfall and severe storms.




Public Education and Oversight (4 actions)

Conduct inclusive and equitable public engagement and involvement and establish systems for monitoring and accountability to encourage participation and support plan success.

Summary Tables

IX. Appendices

Appendix A: Rockville Climate Action Plan Cost-Benefit Summary

Category	Action ID	Action	Benefits (+++ High, ++ Medium, + Low, N Neutral, - Negative)						Lead	Partners	Estimated City Investment
			GHG	Resiliency	Feasibility	Health	Equity	Co-Benefits			
 Energy Efficiency	C-01	Advocate for Montgomery County's Building Energy Performance Standard (BEPS) for existing commercial and multifamily buildings	+++	+	++	+	-	Economic	Montgomery County	Public Works, Pepco, Washington Gas, Planning and Development Services	No direct implementation cost See M-01 for City facility compliance cost
	C-02	Expand the low and moderate income (LMI) home repair and weatherization program to increase energy efficiency, resiliency, and renewable energy opportunities	+	++	++	++	+++	Housing Economic	Housing and Community Development	Public Works, Maryland Energy Administration, Pepco, Washington Gas, Housing non-profits	Low LOS: \$100,000 per year +1 FTE High LOS: \$250,000 per year +2.5 FTE (includes solar). Shared resources: C-05, C-09, C-20
	C-03	Progressively strengthen green/energy conservation building codes for new construction to reach net zero or equivalent	++	++	++	+	N	Economic	Planning and Development Services	Public Works, Montgomery County, Development Community	Operating: 1 FTE/Consulting support Investment in staff capacity and training Shared resources with C-09, C-20

Summary Tables

Appendix B: Rockville Climate Action Plan Implementation Summary

Appendix B provides a CAP Implementation Summary for each action by type (project, program, policy, etc.) and proposed implementation timeframes, which may be subject to change based on budget appropriation and federal funding opportunities.

Type	Action ID	Action	Proposed Implementation Timeframe
Projects	C-21	Partner with Federal Emergency Management Agency (FEMA) to update the Flood Insurance Rate Maps (100-year Floodplain Maps) used to implement the National Flood Insurance Program (NFIP)	FY 2022 – FY 2023
	C-23	Work with Montgomery County and community partners to measure and map urban heat islands to mitigate exposure to extreme heat	To be determined
	M-01	Complete energy assessments of City facilities and develop a strategic plan to reduce facility energy consumption	Expansion, proposed FY 2023 and beyond
	M-02	Convert City-owned streetlights to energy efficiency LED (light-emitting diode) (CIP TA22)	Proposed FY 2023 - 2025
	M-04	Identify and install feasible solar photovoltaic systems on City property	Proposed FY 2023 and beyond
	M-06	Convert the city fleet to cleaner and more efficient fuel sources	Proposed FY 2023 and beyond
	M-07	Establish a new Capital Improvement Project to expand electric vehicle charging infrastructure on City property to serve employees, fleet and the community	Proposed FY 2023 and beyond
Programs	C-02	Expand the low and moderate income (LMI) home repair and weatherization program to increase energy efficiency, resiliency, and renewable energy opportunities	Expansion, to be determined
	C-17	Expand education and incentives to support tree planting and maintenance, environmentally friendly landscape conversions, and management of non-native invasive plants on private property	Expansion, proposed FY 2023 and beyond
	C-18	Develop a food waste composting program for residents	Proposed FY 2023
Policies	C-03	Progressively strengthen green/energy conservation building codes for new construction to reach net zero or equivalent	Coordination with the ICC and Maryland code cycle adoption

Action List – Energy Efficiency

Action ID	Energy Efficiency Actions
C-01	Advocate for Montgomery County to adopt a Building Energy Performance Standard (BEPS) for existing commercial and multifamily buildings
C-02	Expand low and moderate income (LMI) home repair and weatherization program to increase energy efficiency, resiliency and renewable opportunities
C-03	Progressively strengthen green/energy efficiency building codes for new construction to reach net zero or equivalent
C-04	Opt into Montgomery County's point of sale energy disclosure (Chapter 40, Real Property, Section 40-13B)
C-05	Expand home energy efficiency outreach program to increase participation in utility energy audits and rebates
C-06	Coordinate with Montgomery County on electrification incentives for existing building systems
M-01	Complete energy assessments of City facilities and develop a strategic plan to reduce facility energy consumption
M-02	Convert City-owned streetlights to energy efficient LEDs (CIP TA22)
M-03	Advocate for a Pepco-owned streetlight LED conversion agreement that serves the public interest

Action List – Renewable Energy

Action ID	Renewable Energy Actions
C-07	Advocate to increase the Maryland Renewable Portfolio Standard by 2030
C-08	Coordinate with Montgomery County on development of the Community Choice Energy Program to aggregate green power purchasing
C-09	Promote private solar and geothermal installations through the solar co-op program, streamlined permitting, and expanding access to low-to-moderate income residents
M-04	Identify and install feasible solar photovoltaic opportunities on City property
M-05	Purchase green power renewable energy certificates (RECs) for municipal electricity

Action List – Transportation

Action ID	Transportation Actions
C-10	Work with WMATA, MDOT, and Montgomery County to maximize transit accessibility and ridership and enhance mobility options
C-11	Develop a Rockville Community Electric Vehicle (EV) Readiness Plan
C-12	Require new developments and redevelopments to be electric vehicle-ready
C-13	Promote a regional electric vehicle purchasing cooperative (EVPC)
C-14	Expand active transportation and shared micro-mobility network by implementing improvements in Bicycle Master Plan and Vision Zero Plan
C-15	Adopt and implement a Pedestrian Master Plan
M-06	Convert the City fleet to cleaner and more efficient fuel sources
M-07	Establish a new Capital Improvement Plan (CIP) to expand electric vehicle charging infrastructure on City property to serve employees, fleet and the community
M-08	Update city teleworking and transit benefit policies to encourage City employees to reduce vehicle miles traveled (VMT)

Action List – Land Management

Action ID	Land Management Actions
C-16	Implement the Comprehensive Plan to steer the densest development/redevelopment to mixed-use, transit-served locations, reduce vehicle miles traveled (VMT) and emissions, and conserve/restore environmental areas
C-17	Expand education and incentives to support tree planting and maintenance, environmentally friendly landscape conversations, and management of non-native invasive plants on private property
M-09	Develop a Green Space Management Plan for public lands to assess and restore trees, forests, meadows, stream valleys and wetlands

Action List –Materials and Waste

Action ID	Materials and Waste Actions
C-18	Develop a food waste composting program for residents
C-19	Expand residential recycling and waste reduction outreach program to increase recycling compliance and waste diversion
M-10	Develop a City sustainable procurement policy

Action List – Resiliency

Action ID	Resiliency
C-20	Incorporate climate resilient building and infrastructure design features in new buildings and retrofits
C-21	Partner with Federal Emergency Management Agency to update the Flood Insurance Rate Maps (100-year floodplain maps) used to implement the National Flood Insurance Program
C-22	Work with Montgomery County and state agencies to provide cooling centers, resiliency hubs, and other services to strengthen community resiliency
C-23	Work with Montgomery County and community partners to measure and map urban heat islands to mitigate exposure to extreme heat
C-24	Increase tree planting, green, cool and photovoltaic roofs, and cool pavements on public and private property
M-11	Continue assessing the vulnerability of Rockville’s critical infrastructure, facilities, and services, and prioritize areas for improved climate resiliency
M-12	Advocate for state and federal authorities to update stormwater infrastructure design, operations and maintenance standards to accommodate new rainfall/ storm event projections and help reduce projected flooding issues
M-13	Assess Rockville’s risk of flooding and develop a Flood Resiliency Master Plan to reduce or mitigate flooding impacts
M-14	Develop and implement Heat Illness Prevention Plans for various City services and operations

Action List – Public Engagement & Oversight

Action ID	Public Engagement Oversight Actions
C-25	Work with community partners to conduct an inclusive public engagement campaign to reduce emissions and adapt to the impacts from climate change
C-26	Develop metrics and performance indicators for climate actions to establish a data-driven assessment and reporting process
M-15	Incorporate climate mitigation, resiliency, and equity considerations into the City's budget prioritization process
M-16	Develop an interdepartmental climate action team to implement and track plan progress

Actions for Future Monitoring

- FM-01 Building electrification requirements
- FM-02 Fossil fuel divestment
- FM-03 Electric leaf blowers/yard equipment
- FM-04 Solid waste reduction policies
- FM-05 Climate refugees
- FM-06 Transportation Accessibility Study
- FM-07 Equity Impact Assessment
- FM-08 Car sharing services

Next Steps

Implementing Plan

- Ongoing actions
 - City Hall lighting
 - Solar study
 - Solar and EV Co-ops
 - Environment & Sustainability Newsletter
 - Continuing to leverage grants and partnerships
- Working through the budget process
- Defining metrics

Plan and background materials available here: <http://www.rockvillemd.gov/climate>

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Metropolitan Washington
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**Rockville Environment
 Commission**



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