

Rockville's Climate Commitments and Accomplishments to Date

This section contains three subsections:

1. History of Rockville's Climate Commitments

Cities play a pivotal role in addressing climate change. Half the world's population lives in urban areas, and cities often serve as first responders to the extreme weather associated with climate change. Cities also consume more than two-thirds of the world's energy and account for more than 70% of global carbon emissions—which means they also play a critical role in cutting emissions. While the City of Rockville's share of global emissions is relatively small, community leadership is a powerful force when multiplied across cities throughout the world. Rockville's elected officials have adopted several climate commitments over the last decade and agree that the next critical step is to engage with community partners to develop a Climate Action Plan (Table 1).

2. Climate Action Plan Categories, Challenges, and Opportunities






Climate actions pose both challenges and opportunities across a range of sector categories, summarized in Table 2. Table 2 also touches on Rockville's main challenges and opportunities in each sector.

3. Rockville Climate and Sustainability Accomplishments and Near-Term Outlook

Rockville and partners have already been working on many initiatives with climate and sustainability-related benefits. Table 3 summarizes these existing programs, policies, plans, and accomplishments across the sector categories. Developing the Climate Action Plan will involve identifying gaps to build on this work. Table 3 also provides an outlook on Rockville and Montgomery County potential and planned actions over the next year.

Table 1: History of Rockville Climate Commitments

2006	<ul style="list-style-type: none"> • Joined U.S. Mayors Climate Protection Agreement
2007	<ul style="list-style-type: none"> • Joined the International Council for Local Environmental Initiatives (ICLEI) • Adopted “Strategy for a Sustainable Rockville”
2010	<ul style="list-style-type: none"> • COG region adopted greenhouse gas reduction goals: 20% (below 2005) by 2020; 80% by 2050.
2011	<ul style="list-style-type: none"> • Resolved to become a U.S. Environmental Protection Agency’s (EPA) Green Power Community.
2013	<ul style="list-style-type: none"> • Became a Maryland Smart Energy Community. • Set municipal facility and operations goals: 15% energy efficiency; 20% renewable energy
2015	<ul style="list-style-type: none"> • Established a priority initiative to create a community climate action plan.
2017	<ul style="list-style-type: none"> • Resolved to support the Paris Climate Agreement goals, reaffirming the City's commitment to reducing greenhouse gas emissions and increasing climate resiliency • Committed to work with community stakeholders to develop a Rockville Climate Action Plan.
2018	<ul style="list-style-type: none"> • Earned Sustainable Maryland Certified Champion (earned highest points among Sustainable Maryland Certified Communities).
2019	<ul style="list-style-type: none"> • Partnered with COG and a consultant to conduct Rockville climate action plan technical support.
2020	<ul style="list-style-type: none"> • Joined the National Community Energy Challenge

Table 2: Climate Action Plan Categories, Challenges, and Opportunities ¹		
	<p>Energy Efficiency</p>	<p>Challenge: Building energy consumption accounts for 58% of Rockville greenhouse gas emissions.</p> <p>Opportunities: Optimize building energy performance with upgrades to insulation, HVAC systems, lighting, appliances, occupancy sensors; seal air leaks; use natural lighting; optimize maintenance and operations; consider combined heat/power, microgrids, district energy.</p>
	<p>Renewable Energy</p>	<p>Challenge: Coal, gas, and oil account for 55% of Maryland’s electricity, nuclear 37% and renewables only 12%.</p> <p>Opportunities: After optimizing energy efficiency, increase local and utility-generated renewable energy: solar, wind, biomass, geothermal; and increase green power purchases.</p>
	<p>Sustainable Transportation</p>	<p>Challenge: Transportation – cars, trucks, trains, buses, and airplanes -- accounts for 36% of Rockville emissions.</p> <p>Opportunities: Align transportation, land use, and urban design policies to support choices - walking, bicycling, transit, ridesharing. Increase fuel efficiency electric vehicle ownership and charging stations. Increase affordable housing near jobs.</p>
	<p>Sustainable Development & Green Space Conservation</p>	<p>Challenge: Development patterns affect greenhouse gas emissions rates, tree canopy, open space, water and air quality, urban heat island, natural habitat, and quality of life.</p> <p>Opportunities: Direct most population and employment growth to compact, mixed-use, walkable, bikeable, transit-oriented places and conserve natural habitat, trees, and green infrastructure.</p>
	<p>Waste</p>	<p>Challenge: The production, consumption and disposal of goods and food contribute to the generation of greenhouse gas emissions (note: product cycle not included in greenhouse gas inventory except for landfill gas).</p> <p>Opportunities: Reduce waste and encourage sharing, re-use, recycling, composting, and the circular economy.</p>

¹ The climate action plan categories are derived from best practices and aligned with state and regional strategies, including COG’s *Regional Climate and Energy Action Plan*, and customized for Rockville.



Climate Resilience

Challenge: Heat waves, heavy downpours, and severe storms pose risks to health, businesses, infrastructure, the environment, supply chain, and services.

Opportunities: Optimize drainage and absorption, improve emergency response, keep infrastructure in state of good repair, update continuity of operations plans. Consider climate resiliency when replacing/rehabilitating infrastructure.





Equity, Health, & Clean Economy

Challenge: Some populations (youth, elderly, communities of color, disabled, low-income, first generation and foreign language speakers) may have less access to affordable green options, may experience increased exposure to climate risks, and a lowered capacity to bounce back in the event of natural hazards.

Opportunities: Ensure eco-friendly housing, energy, green space and transportation choices are equitably available to residents and businesses. Build adaptive capacity by addressing chronic stressors. Increase opportunities for climate action planning to incorporate social equity, cultural sensitivity and community health considerations into program and policy decisions. Increase investment in the regional clean economy.


Table 3: Rockville Climate and Sustainability Accomplishments and Near-Term Outlook

Legend



CATEGORY	
1. Actions	
 = Actions that affect <u>municipal</u> operations and city facilities	 = Actions that affect Rockville homes, businesses, and the <u>community</u>
<i>Outlook: Near-term planned or expected actions by city, County, or COG.</i>	

ENERGY EFFICIENCY

1. Analyze greenhouse gas emissions


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|  Municipal inventory completed for years 2005, 2012, 2016 |  Community inventory completed for years 2005, 2012, 2015, 2018 |
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2. Develop city and community climate change, energy or sustainability plan

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|  The city adopted a 15% energy efficiency goal, 20% renewable energy goal, and municipal energy plan in 2013 as part of the Maryland Smart Energy Communities program. |  The <i>Strategy for a Sustainable Rockville</i> (2007) includes several actions for reducing government emissions and promoting community sustainability. |
|  Staff participate in national, regional and County climate and sustainability policy committees and workgroups. |  The Sustainability Survey (2012) identified community priorities. |
| |  Rockville earned Sustainable Maryland Certification in 2012, 2015 and 2018. |
| |  Climate actions are proposed in the draft 2040 Master Plan. |

Outlook: Participating in National Community Energy Challenge benchmarking program in 2020. Develop Rockville Climate Action Plan 2020-2021. Re-certify Sustainable Maryland in 2021.








3. Track, benchmark and publicly disclose large building energy performance

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|  The city uses ENERGY CAP and ENERGY STAR Portfolio Manager to track monthly energy data for all utility accounts. |  In 2016, the Mayor and Council amended the City Code to allow Montgomery County’s building energy benchmarking requirements to apply within the city. Approximately 150 non-residential properties greater than 50,000 square feet benchmark and report building energy performance. |
|  The city reports annual City Hall energy performance data to comply with Montgomery County energy benchmarking law. | |

Outlook: Montgomery County is updating their building energy benchmarking law to include a smaller size threshold and multifamily buildings.

4. Increase existing building energy efficiency. Conduct municipal building energy audits and install retrofits. Promote energy efficiency incentives for residences and businesses.

As an ENERGY STAR partner and a Maryland Smart Energy Community (MSEC), the city has implemented the following energy efficiency projects with a combination of MSEC grants, city funds, and Pepco rebates:

-  Three chillers, one air handler, LED lighting, and several appliance retrofits were completed at the F. Scott Fitzgerald Social Hall, Glenview Mansion, and Lincoln Park Community Center.
-  Fifteen programmable thermostats at 8 facilities.
-  Swim and Fitness Center/Welsh Park: North pool air handler/heat recovery; LED pool lighting and parking lot lighting; energy efficient lighting and plumbing fixtures in the locker room renovation.
-  Water Treatment Plant: Conducted energy audit to identify electrical system upgrades for consideration in an upcoming plant rehabilitation project.
-  The Facilities Division initiated a preventative HVAC maintenance program to improve efficiency.
-  The Police Station and Thomas Farm Community Center incorporated green building features in design and construction.
-  The city and Johnson Controls (JCI) entered into a Performance Contracting Partnership. In 2004, building performance energy audits of the Civic Center, Senior Center, Swim Center, Croydon Creek Nature Center, City Hall, Lincoln Park Community Center, Horners Lane Pump House, Water Treatment Plant, Theater & Social Hall, Redgate Clubhouse, Montrose, Rockcrest, and Gude were conducted. JCI completed construction on energy upgrades in 2005.

Outlook

- *The city plans to conduct an energy audit of City Hall to identify energy saving measures).*
- *The city was awarded a Maryland Smart Energy Communities grant to upgrade interior lighting at Lincoln Park Community Center. The project was completed in July.*
- *Montgomery County is considering Building Energy Performance Standards that will apply to existing commercial and multifamily buildings over a specified size and require improved energy performance.*



The city coordinates with Montgomery County to hold free LED light bulb exchange outreach events for residents.





The city promotes energy efficiency funding and incentive programs offered by Pepco, Washington Gas, the Maryland Energy Administration, Montgomery County Green Bank, and Montgomery County Property Assessed Clean Energy (C-PACE program)



Rockville Community Services is coordinating with a non-profit (Blockchain Frontiers Foundation) and the Maryland Energy Administration to provide energy audits and efficient home improvements for low-to-moderate income Rockville residents. 22 homes have been assisted to date. The program received additional funding in 2020.

5. Implement green building codes for new buildings



-  Chapter 5 of the City Code includes green building and energy efficiency code requirements that apply to city buildings and renovations.
-  City staff are voting members of the International Code Council's building code development process. They participate in energy conservation and green building code development.



Rockville Green Building Regulations, which apply to residential and commercial new construction and major renovations, incorporate the 2015 International Green Construction Code and the 2018 International Energy Conservation Code.


Outlook: Montgomery County is considering updating their green building tax credit program to incentivize buildings that exceed code requirements; Rockville buildings are eligible for County tax credits.

6. Install combined heat and power, district energy, and microgrid systems

-   The city supported Pepco’s proposal to pilot a microgrid in Rockville Town Center which would serve both private and municipal buildings. The Maryland Public Service Commission denied the initial proposal. Pepco has not indicated if they will resubmit a revised proposal.

Outlook: Montgomery County received an energy planning grant to consider multiple options including a microgrid or combined heat and power system to serve County facilities in the Rockville core.

7. Implement city sustainability and residential and commercial green engagement programs (i.e. green business or home challenges, awards, etc.).

-  The city has a process to re-use unneeded office furniture, recycle un-used electronics, and is exploring paper-saving initiatives.



The city recognizes environmental achievements in the community through the annual Environmental Excellence Awards.



The city promotes Montgomery County's initiatives including Green Business Certification program and the Maryland Green Registry.



EMD staff work closely with PIO to conduct ongoing environmental outreach and communications through social media, Rockville Reports, Channel 11, and the Environment & Sustainability e-newsletter.

Outlook: Environmental Management is considering piloting a green business program for food-service establishments and automotive repair shops to recognize green practices.

The CAP will identify opportunities for interdepartmental sustainability/climate initiatives.



8. Upgrade to energy efficient outdoor lighting

-  The city completed outdoor LED retrofits at Maryvale Park, Welsh Park/Swim & Fitness Center, City Hall, Lincoln Park Community Center and F. Scott Fitzgerald Theatre.
-  The city replaced traffic lights and 185 streetlights with more efficient LED fixtures.

Outlook: The Maryland Energy Administration supported a preliminary analysis of retrofitting Rockville-owned and Pepco owned streetlights to LED. Additional coordination with Pepco is on-going for comprehensive LED streetlight retrofits (pending PSC approval).

RENEWABLE ENERGY

1. Promote incentives and financing mechanisms for on-site renewable energy and energy storage. Install renewable energy systems at city facilities.

-  A geothermal heating and cooling system is installed at the Thomas Farm Community Center.
-  In 2015, the city worked with EPA and a solar company to assess the feasibility of installing solar at city facilities. Unfortunately, there were several site-specific barriers that made installation economically unviable.



Rockville has promoted the residential solar co-op opportunities, working with the County and a non-profit, in 2015, 2016, 2017, 2019, and 2020. The 2020 solar co-op included an electric vehicle charger option.




Permits for solar installations total more than 500 in Rockville.

Outlook:

Staff is exploring the feasibility of installing solar at 6 Taft Court.

9. Increase green power purchasing, cooperative and aggregate purchasing. Join EPA Green Power Partnership for government and Green Power Community Partnership community-wide.

-  Rockville is an EPA Green Power Partner since 2011. The city continues to purchase wind renewable energy certificates (RECs) for 100% of municipal electricity consumption.





In FY 2011, the Mayor and Council adopted a resolution to become a U.S. Environmental Protection Agency’s (EPA) Green Power Community.



In 2020, the Rockville community purchased nearly 75,000,000 kWh of green power covering 8% of demand.

10. Support utility, state, and national-level renewable energy expansion policies including renewable portfolio standards




-  Rockville supports reasonable, cost effective State and Federal legislation on energy and sustainability. Rockville supported increasing Maryland’s Renewable Portfolio Standard (RPS) in 2016 through 2019.
-  In 2020, Rockville supported the Community Choice Energy Act.







The Rockville Environment Commission provides recommendations to the Mayor and Council on legislative advocacy positions.

SUSTAINABLE TRANSPORTATION


11. Adopt policies, incentives and programs to facilitate alternative fuel vehicle adoption and charger installation.


-  Pepco installed 1 DC Fast Charger and 2 Level 2 charger stations at Thomas Farm Community Center.
-  City Hall features an electric charging station with two chargers to serve the fleet.
-  The city fleet includes a Nissan Leaf, a hybrid, and recently switched from a 15-year vehicle replacement cycle to a 5-year lease cycle to provide additional fuel efficiency and safety measures.

-  Building codes include measures to encourage zero emission vehicles.
-  Maryland provides incentives for EV charging stations and electric vehicles. Draft strategies are proposed in the 2040 Comprehensive Master Plan.
-  A dozen public charging stations are in Rockville.
-  Two private compressed natural gas fueling stations are located near Rockville.


Outlook: The city and Pepco are evaluating other options to expand the EV charging network.





12. Encourage city employees and residents to take alternative commute options and to help employers offer alternative commute options to workers.

-  The city has telework, flex time and alternative work schedule options and encourages carpooling, biking, and walking.

-  Regional programs available in Rockville include COG's Commuter Connections services and Montgomery County Department of Transportation's Commuter Services.




13. Adopt a bicycle and pedestrian plan that works towards convenience, accessibility, and an interconnected system.

-  Bike lockers and changing areas are available at City Hall and various community facilities.

-  The City of Rockville is committed to encouraging bicycling for all residents of Rockville through education, infrastructure, and outreach.
-  The League of American Bicyclists recognized Rockville as a Bronze-level Bicycle Friendly Community by in 2016.
-  There are 34.3 miles of shared-use paths, 33.5 miles of shared use roads within Rockville.
-  The 2017 Bikeway Master Plan proposes an additional 21.9 mi. dedicated bikeways and 19.1 mi. shared roadways.

Outlook: The Vision Zero initiative aims to further increase bicycle and pedestrian safety.


14. Improve transit services and increase capacity (e.g. commuter bus service, real-time information, bus rapid transit) to accommodate growth around rail stations and other activity centers. Ensure access for youth, elderly, disabled, ESL, low-income populations.

-  The city supports transit enhancements at the county and state level.
-  The city supports Montgomery County and MTA Bus Rapid Transit initiatives and accommodates proposed routes in its Master Plans.
-  The city allocates capital improvement funds toward needed transit, bicycle, and pedestrian infrastructure.



The City of Rockville does not operate its own transit system. Various transit agencies operate routes within the city, including WMATA, Montgomery County RideOn, MARC, Amtrak, King Farm Shuttle, Rockville Senior Services, etc.

15. Implement green fleet strategy.

-  The city fleet is piloting one electric and one hybrid vehicle.

Outlook: The city is evaluating green fleet options under a new lease framework that reduces vehicle replacement cycles from 15 years to 5 years.


16. Enforce anti-idling policies for public fleets and off-road equipment.





Maryland has an anti-idling law that prohibits vehicle idling for more than five minutes, with some exceptions. The State law applies within Rockville. The fine for violation of this provision is up to \$500.

SUSTAINABLE DEVELOPMENT & GREEN SPACE CONSERVATION


17. Incentivize green roofs and other green infrastructure. Install green roof(s) on government property.


 Rockville Police Headquarters features a green roof.

 Rockville's Rainscapes Rewards program provides education and financial incentives to homes, neighborhoods and organizations for tree planting, conservation landscaping, rain barrels and pavement removal.


 Rockville developed a drainage manual to assist property owners in developing sound site stormwater practices.


18. Update comprehensive and small area land use plans, zoning, and urban design guidelines to allow for greater concentration of growth in activity centers that are walkable, mixed use, mixed income, and transit-oriented.


 The Land Use Element of the Comprehensive Master Plan promotes walkable, higher density, mixed use, mixed income and/or transit-oriented development in activity centers, such as Rockville Town Center and the Twinbrook Metro Station.

 The city commissioned a report from Urban Land Institute, completed in 2019, that recommends strategies for revitalizing Town Center.

19. Implement plan(s) to preserve and enhance ecologically valuable green spaces. Restore and manage natural ecosystem functions to increase capacity to adapt to a changing climate.



 Rockville's extensive parks and open space include over 905 acres of parkland in 65 parks.





 The Parks, Recreation and Open Space (PROS) Plan includes a variety of goals for increasing greenspace access and better serving Rockville's diverse community.

 The 2002 Comprehensive Master Plan includes a policy to pursue sustainable practices to protect environmental quality and natural resources for the use of present and future generations.

Outlook: The 2040 Comprehensive Plan includes a recommendation for an Open Space Management Plan.




20. Obtain and maintain Tree City USA designation. Maximize tree canopy on public property. Engage the community on tree planting.

-  The city seeks to maintain tree canopy, managing over 28,000 street trees and more than 323 acres of parkland designated as Forest Preserve.
-  The city has been named a Tree City USA by the Arbor Day Foundation for 30 consecutive years (1990-present).

-  Tree canopy covers 50% of Rockville land area as of 2014, when the most recent analysis was conducted.
-  In 2019, the city distributed 300 trees to residents to encourage tree planting.
-  Rockville's Rainscapes Rewards program provides education and financial incentives to homes, neighborhoods and organizations for tree planting
-  The city's Environment & Sustainability e-newsletter includes tree planting and maintenance tips.


Outlook: The city's Earth Month activities include a tree give-away event planned for the fall, 2020).

21. Require and incentivize tree protection for new development and retrofits as part of the development review process. Expand the responsibility of developers to plant or maintain trees over time.

-  The Sediment Control and Stormwater Management Regulations requires environmental site design to the maximum extent practicable.
-  Rockville's Forest and Tree Protection Ordinance, Street Tree Master Plan, and Landscape, Screening and Development Manual promote planting and care of trees.
-  As part of the development review process, the Forest and Tree Protection Ordinance requires forest and tree protection, planting and maintenance requirements.


WASTE


22. Adopt environmentally preferred purchasing policy


-  Chapter 17 of the City Code, Purchasing, was amended in 2011 to include provisions for environmentally preferable purchasing and life-cycle cost and bid award based on best value.

Outlook: The next step would be to develop environmental purchasing procedures and guidelines.


23. Adopt and enforce recycling requirements for businesses. Adopt a construction and demolition recycling policy or guidelines.

-  Rockville's facilities and offices offer recycling services to employees and visitors.

 Multi-family properties, businesses and organizations are required to recycle. The program is administered by Montgomery County.


 Rockville's Green Building Regulations require construction and demolition waste management plans with the goals to reduce and recycle construction waste.

24. Implement residential and commercial organics collections, including food composting and recovery initiatives.


 The city's Recycling and Refuse program collects yard waste for composting at Dickerson.

Outlook: The city is examining options for curbside or drop-off food waste composting collections.

25. Support community activities that promote repair, reuse, reduce, and sharing opportunities.


 Community events, such as the Lincoln Park community yard sale, promote sharing opportunities.

26. Implement bans or fees on single use products which are not readily recyclable.

 A plastic bag fee, polystyrene ban, and straw ban apply in Rockville.

CLIMATE RESILIENCE

27. Assess community vulnerabilities (social, environmental, economic, public health) to climate impacts. Adopt climate adaptation/resiliency plan, policies or initiatives.


 Initial policies are included in the Draft 2040 Comprehensive Master Plan.



Climate adaptation strategies are anticipated to be included in the upcoming Climate Action Plan.


Outlook: Participate in water treatment plant resilience plan 2020-2021. Complete a climate vulnerability screen with cross-sector input as part of the CAP.

28. Assess climate vulnerability of critical infrastructure (transportation, communication, energy utility, drinking water, wastewater and stormwater facilities). Implement needed protection measures.

 The city has conducted several assessments to ensure continued performance of essential functions under a broad range of circumstances for the Water Treatment Plant and delivery system, a Debris Management Plan, an Emergency Operations Plan, and a Continuity of Operations Plan.

Outlook: The next step would be to assess any changes needed considering the recent weather patterns and projections.

29. Update zoning, building codes, ordinances, and the development review process to ensure new development is more resilient to local climate impacts.

 The adopted 2015 International Green Construction Code contains some provisions that enable buildings to be more resilient.

Outlook: Climate adaptation strategies will be included in the upcoming Climate Action Plan.

EQUITY, HEALTH, AND THE CLEAN ECONOMY

30. Direct energy, green building, and sustainability services towards underserved populations.



Rockville leadership prioritizes diversity and engagement through such events as the Diversity Town Hall, held in 2017. Rockville Community Services provides and partners with a variety of organizations to aid and support to all members of the community through affordable housing, lower fees on parks and recreation, utility bill assistance, and environmental services.



Rockville Community Services is coordinating with a non-profit and the Maryland Energy Administration to provide energy audits and efficient home improvements for low-to-moderate income Rockville residents. 22 homes have been assisted to date.

31. Update economic development workforce plans/strategies to incorporate strategies to support emerging green or clean tech industries.



Rockville Economic Development, Inc. (REDI) was formed in 1997 as a 501(c)(3) by the City of Rockville to proactively support existing industry and attract new businesses to the city.