CLIMATE COALITION
Montgomery County, MD

Comments on Maryland's Climate Pathway Report
October 11, 2023

Thank you for the opportunity to comment on the Maryland Climate Pathway report. We appreciate all that Maryland has accomplished in the last several years in laying a strong springboard from which we can launch the all-of-Maryland effort needed to attain a 60% reduction (relative to 2006 levels) in greenhouse gas (GHG) emissions by 2031 and a net zero emission economy by 2045 (the Climate Solutions Now Act, "CSNA" goals). And attaining these goals would be much more difficult without all that the state and federal governments are doing to assist local governments and individuals in taking the actions needed to reach these goals.

We urge the State to do all that is needed to enable counties, cities and individuals to address this climate emergency and meet or exceed Maryland's goals.

Success is more likely if we undertake additional realistic but stretch programs and policies. Furthermore, **a report that provides only a single pathway for Maryland to attain the CSNA goals requires that every recommendation be achieved on schedule. That leaves no margin for error or delay. That is unacceptable.** We simply cannot fail to meet the CSNA goals.

We appreciate that the Pathway report acknowledges that it is focused only on "actions the state can take to achieve Maryland's nation-leading greenhouse gas (GHG) emissions reduction goals" and that "there are many uncertainties and challenges around the full implementation of the federal and State policies modeled in the core scenarios." We urge the State to acknowledge other challenges as well. For example, we note that the report does not address other ways to cool the planet, or ways to adapt and build resilience to the impacts of climate change (with the exception of the resilience of the energy grid), and as such we withhold detailed comments on those kinds of necessary actions.

Our comments reflect our analysis of the Climate Pathway report recommendations through the prism of how the climate pathway impacts Montgomery County's ability to achieve its greenhouse gas reduction goals in the following areas: energy, transportation, buildings, waste management, and forestry and land use.

Our following comments and recommendations to the State of Maryland speak to these points.

For inquiries about this document contact: climatecoalition.moco@gmail.com

Table of Contents

Summary of Recommendations for the State of Maryland

Topic	Subtopic	Recommendations
Overall		Examine and address the barriers to implementation that the largest counties face in order to clear the way for significant statewide progress.
Energy	Grid Capacity and Readiness	1. Ensure that utilities' Distribution System Planning meets the requirements in the Climate Solutions Now Act of 2022 and that the Maryland state agencies are proactively planning and pushing PJM to plan for transmission impacts of retiring fossil fuel-fired power plants. 2. Ensure the state has sufficient staffing and resources dedicated to addressing transmission planning and implementation. 3. Take advantage of Grid Enhancing Technologies, such as dynamic line rating (DLR), power flow controls, or advanced reconductoring, 4. Actively participate in or convene PJM's stakeholder discussion to address interconnection backlog issues 5. Actively participate in the development and implementation of PJM's Regional Transmission Expansion Plan (RTEP)
	Renewable Energy Development, Storage and Energy Efficiency	1. Maximize state applications for and use of Inflation Reduction Act (IRA) funds by state agencies, local governments, non-profits, and homeowners and provide outreach and technical assistance related to the use of IRA funds. 2. Revise the Pathway Report assumptions that Maryland will reach its solar energy goals with a business as usual scenario. 3. Advertise existing and augment incentives for accelerating the deployment of solar energy (i.e., commercial, community, and residential solar) in urban areas and on rooftops, parking lots, and brownfields. 4. Remove the 3 MW limit on solar that can be connected to the existing transmission and distribution system. 5. Support the Public Service Commission (PSC) to establish electric storage targets, undertake site planning with input

		from affected communities, and build the Maryland Energy Storage Program. 6. Develop safety standards and community engagement requirements for new battery storage facilities.
	Transitioning Away from Dirty Sources of Energy	1. Support legislation to sunset the STRIDE program, which locks in the costs of stranded gas assets, and replace it with accelerated investment in grid readiness. 2. Support legislation to reform the Renewable Portfolio Standard (RPS) to include only 100% clean non-combustible energy sources and remove dirty sources.
Transportation	Electrify Vehicles	Increase Supplies of ZEVs 1. Adopt the ACF to require large fleet managers to purchase increasing amounts of medium- and heavy-duty ZEVs. 2. Develop a “cash for clunkers” program to prioritize lower-income households 3. Consider incentives beyond those available under the IRA for purchasers of used light- and medium-duty ZEVs. Increase Amount of EV Supply Equipment (EVSE) 1. Support developing the full range of EVSE (see section for specifics). 2. Prioritize obtaining federal grants for EVSE and assist counties in obtaining these funds as well. Encourage counties to require that new commercial and residential construction be at least EV-charger ready to eliminate the need for costly retrofits. Grid Readiness 1. Ensure that utilities build the local distribution networks, battery storage, demand response mechanisms and other grid enhancements to support increased electricity demand from EVs and EVSE.
	Mode Switching to Transit, Walking, Biking, and Landscaping Tools	1. Adopt a state version of any national building codes that require fewer parking spaces and more safe and conveniently located bike storage facilities and EV chargers in new commercial construction.

		2. Give funding priority for new low- and moderate-income housing construction to projects located in transit-oriented communities offering nearby jobs and amenities. 3. Promote legislation or issue regulations that would require employee perks for use of public transit be at least as generous as those provided for parking. 4. Provide generous support of Montgomery County's BRT projects and increases in local Ride-On bus service to ensure that bus service is more frequent and reliable and the planned build-out of bus transit stays on schedule. Build out BRT service to provide connections to more Metrorail stops. 5. Expand Red Line Metrorail service above Shady Grove to serve Germantown, Clarksburg, and the northwest part of the County above I-370. 6. Expand the frequency and reliability of service on the MARC Brunswick line. 7. Fund preliminary feasibility and design studies of a Phase 1 expansion of BRT service that would connect certain Maryland Metrorail stops (including those with MARC Brunswick line connections) to existing Virginia Metrorail stops. 8. Montgomery County should be considered as a model for a state ban on all combustion-powered lawn and garden equipment.
	Limit New Major Highways	1. Quantify induced demand changes in VMT resulting from toll lanes and widening the highway above Gaithersburg. 2. Quantify changes in VMT resulting from (i) separate BRT, bicycle and pedestrian lanes on the bridge, (ii) a separate BRT lane on I-270 to I-495, and (iii) an extension of the Metrorail Red Line above Gaithersburg to serve communities near the County line. 3. Estimate risks including flooding, heat, and air and sound pollution resulting from additional hardscape and removal of trees and plants. 4. Estimate (i) annual toll revenues, (ii) the portion needed to amortize the cost of the projects, (iii) the portion that would be dedicated to fund other transit

		projects. Quantify the costs and benefits of alternative designs and projects to address road congestion. 5. Exclude Proposed M-83 Highway from all state CIPs.
Buildings	Building Energy Performance Standards (BEPS)	**BEPS Implementation** 1. Information Hub – Establish a one-stop-shopping source of information to ensure that building owners understand the law, incentives, and how to factor this information into building management plans. 2. Community outreach – Education efforts must be effective to let building owners know about the law 3. Energy Use Intensity (EUI) standards – The state proposed EUI targets are similar to the stringent County targets, thereby aligning with the goal of eliminating GHG emissions. 4. Alternative compliance pathway – Develop alternative compliance pathways in order to work with the building owners to reduce GHGs as much as possible. **BEPS Financing:** 1. Green Bank – The Maryland Clean Energy Center can serve as Maryland's green bank, but the state needs to provide a reliable source of funding to make it a significant player in supporting the state BEPS. 2. Green bonds – Establish a robust green bond program. 3. Private equity investment – Establish a state program to develop innovative financing and assist with oversight.
	GHG Emissions Reductions in Single Family Homes	The State should support retrofits of single family homes. 1. Establish an Information Hub as part of the outreach and education effort. 2. Use EmPOWER to minimize demands on the homeowner, creating a one-stop-shopping experience. 3. Provide incentives to help make the new systems more affordable and attractive for the homeowner.
	Building Electrification Codes for New Construction	Maryland must ensure that the approved 2024 IECC building code <u>requires</u> electrification.
	Passive House Construction	Promote Passive House construction. DHCD should add points in its Low Income Housing Tax Credit (LIHTC) QAP for Passive House developments.

Waste Management	Waste Reduction and Recycling	1. Identify aggressive waste reduction and recycling goals to reduce the amount of waste going to disposal; develop and implement a state Implementation Plan including zero waste policies to achieve those goals. 2. Ban synthetic turf sports fields that are a significant point source for GHG and cannot be recycled
	Food Residuals Reduction, Recovery and Recycling	1. Focus special attention on zero waste strategies for food residuals: Identify aggressive goals for reducing food residuals, increasing recovery of edible food, and recycling remaining food waste. 2. Implement tested policies and programs to promote food waste prevention, edible food rescue, and recycling including: expanding the current food residuals diversion mandate, standardizing date labels on foods, expanding liability protections and tax incentives for food donation, and providing technical assistance to commercial establishments and public education to households
	Trash Incineration	End Trash Incineration for Waste Disposal and Energy Production.
Agriculture, Forestry and Land Use		1. Ensure that data are collected, made available and incorporated into the models so that the impact of current soil cultivation, farming practices, and trees and forests conservation can be included and recognized in the Climate Pathway report. 2. Modify existing models used to produce this report to include the impact of the existing forestry and land use laws and regulations.

Montgomery County Climate Action

In December, 2017, Montgomery County[1] declared a climate emergency and resolved to work with all levels of government to initiate a massive global mobilization to restore a safe climate and build a sustainable economy, and in particular, to reduce greenhouse gas (GHG) emissions

[1] Montgomery County Resolution No. 18-974 Emergency Climate Mobilization (December 5, 2017)

80% by 2027 and 100% by 2035 compared to 2005 levels and to initiate large scale carbon sequestration efforts. In 2021, the County issued a Climate Action Plan[2] (CAP) which developed 86 climate actions spanning clean energy, buildings, transportation, climate sequestration, climate adaptation, climate governance, and public engagement, partnerships & education.

The County also adopted an updated long term framework to guide a land use planning and strategic development plan, ***Thrive Montgomery 2050,***[3] to guide the County's physical development, promote a diversity of housing types, create walkable, bikeable communities near transit hubs with local greenspace, and preserve existing regional parks, forests and an Agricultural Reserve. We are heartened that the Maryland Climate Pathway report also embraces smart growth and zoning reform policies,[4] identifying several important strategies, and we suggest that the laudable goals of *Thrive Montgomery 2050* may provide some guidance for other communities throughout Maryland. Equity and social justice goals need to inform and infuse these plans, particularly in terms of priority of implementation.

With all that Montgomery County has accomplished in the last few years, Climate Coalition Montgomery County (CC MoCo) believes that the County is far behind in meeting our goals. We are experiencing the impacts of our climate emergency that the County declared in 2017. We are suffering from the projected droughts, floods, heat, air pollution, sea level rise and adverse impact on crop yields. These impacts can adversely impact health, security, and the economy and in some cases be deadly. Accordingly, we view the County's CAP recommendations as only preliminary strategies that must be strengthened with the enactment of the recommendations in the Maryland Climate Pathway Report.

Recommendation: Maryland should examine and address the barriers to implementation that the largest counties face in order to clear the way for significant statewide progress.

The population of Montgomery County represents a sixth of the entire state, and the population of the five largest counties fully represent two-thirds of the state's 6 million residents. As such, our comments attempt to identify some of the barriers In order to expedite implementation to achieve statewide goals. Implicitly, removing those barriers in the largest counties will help all counties as well.

[2] Montgomery County Climate Action Plan: Building a Healthy, Equitable, Resilient Community ("CAP") (June, 2021)
[3] https://www.montgomerycountymd.gov/COUNCIL/resources/Thrive2050/index.html
[4] Pathway Report at 48.

Energy

The Montgomery County Climate Action Plan has as its Energy Goal to ensure that the county uses and invests in carbon-free, reliable, affordable electricity by: 1) ensuring broad access to affordable carbon free electricity; 2) creating demand for clean energy jobs, securing funding to support clean energy, and optimizing economic activity in clean energy; and 3) expanding renewable electricity generation and use of distributed energy resources.

Actions at the state level will support Montgomery County in achieving these goals. Specifically, Maryland should address the following recommendations which were omitted from or addressed insufficiently in the Pathway Report.

Grid Capacity and Readiness

Recommendations:

1. **Ensure the state has sufficient electric transmission and distribution infrastructure to achieve the state's greenhouse gas reduction and clean energy targets. The state should ensure that utilities' Distribution System Planning meets the requirements in the Climate Solutions Now Act of 2022 and that the Maryland Energy Administration or other state agencies are proactively planning and pushing PJM to plan for transmission impacts of retiring fossil fuel-fired power plants.**
2. **Ensure the state has sufficient staffing and resources dedicated to addressing transmission planning and implementation.**
3. **Take advantage of Grid Enhancing Technologies, such as dynamic line rating (DLR), power flow controls, or advanced reconductoring, in the transmission planning process to get more out of the existing transmission system while improving grid reliability by increasing capacity and flexibility, and allowing better integration of renewable energy resources.**
4. **Actively participate in or convene PJM's stakeholder discussion to address interconnection backlog issues and contribute to the development of policies, guidelines, procedures, processes, and regulations that impact the state.**
5. **Actively participate in the development and implementation of PJM's Regional Transmission Expansion Plan (RTEP) which identifies transmission system additions and improvements needed to maintain grid reliability and efficiency.**

Renewable Energy Development, Storage and Energy Efficiency

Recommendations:

1. **Maximize state applications for and use of Inflation Reduction Act (IRA) funds by state agencies, local governments, non-profits, and homeowners and provide outreach and technical assistance related to the use of IRA funds.**

2. **Revise the Pathway Report assumptiont that Maryland will reach its solar energy goals with a business as usual scenario that includes a Renewable Portfolio System (RPS), when Maryland currently is not meeting the solar energy goals under that RPS.**
3. **Advertise existing and augment incentives for accelerating the deployment of solar energy (i.e., commercial, community, and residential solar) in urban areas and on rooftops, parking lots, and brownfields.**
4. **Remove the 3 MW limit on solar that can be connected to the existing transmission and distribution system.**
5. **Support the Public Service Commission (PSC) to establish electric storage targets, undertake site planning with input from affected communities, and build the Maryland Energy Storage Program.**
6. **Develop safety standards and community engagement requirements for new battery storage facilities.**

Transitioning Away from Dirty Sources of Energy

Recommendations:

1. **Support legislation to sunset the STRIDE program,[5] which locks in the costs of stranded gas assets and replaces it with accelerated investment in grid readiness.**
2. **Support legislation to reform the Renewable Portfolio Standard (RPS) to include only 100% clean non-combustible energy sources (e.g., wind and solar) and remove dirty sources (i.e., trash and woody biomass incineration and biogas)**

Transportation

Montgomery County's Climate Action Plan recognizes that complete vehicle electrification, mode switching, and a carbon free electric supply are needed to reach carbon neutrality by 2035.

Reducing GHG emissions in transportation involves three goals:

- Vehicle Electrification
- Mode-switching from personal vehicles to transit, biking, and walking to reduce vehicle miles traveled (VMT)
- Limiting New Major Highway Expansions and Construction

[5] STRIDE: https://opc.maryland.gov/Consumer-Learning/Natural-Gas/STRIDE

Vehicle Electrification

CC MoCo is pleased that Maryland adopted California's Advanced Clean Car II (ACCII) standards and that the Climate Pathway report modeled state adoption and timely implementation of the Advanced Clean Truck (ACT) rule and the Advanced Clean Fleets Regulation (ACF), making rapid implementation of these rules critical.[6]

Rapid uptake of zero emission vehicles (ZEVs) requires (i) an adequate supply of qualifying vehicles, (ii) a significant increase in electric vehicle supply infrastructure (EVSI), including EV supply equipment (EVSE) and (iii) an electric grid ready to support the increased electricity demand.

Increase Supplies of ZEVs

> The sale of new ZEVs at the rates anticipated under the ACCII, ACT and ACF requires an adequate supply of ZEVs qualifying under the new state regulations. To reach its ZEV goals, Maryland will need policies that encourage manufacturers to direct more supply to Maryland. ACCII, ACT and ACF all shape the market, helping to direct more ZEVs to adopting states.

Recommendation: Adopt the ACF to require large fleet managers to purchase increasing amounts of medium- and heavy-duty ZEVs.

> Even with 100% sales of new ZEVs, older and used gasoline powered vehicles will remain on the market. According to AA Cars consumers are three times more likely to buy used cars over new cars.[7]

Recommendation: Maryland should develop a "cash for clunkers" program to encourage trade-ins of older, less fuel efficient vehicles for ZEVs, including e-bikes, e-trikes and e-scooters. The program should prioritize high consuming drivers, particularly those from lower-income households who often own older gas guzzlers or drive longer distances.

Recommendation: **As used ZEVs become more common, Maryland should consider incentives beyond those available under the IRA for purchasers of used light- and medium-duty ZEVs.**

---

[6] The ACF works with the ACT. It is a purchase mandate on certain larger government and private fleets rather than a sales mandate. https://rmi.org/understanding-californias-advanced-clean-fleet-regulation.

[7] https://www.motortrader.com/motor-trader-news/automotive-news/majority-buy-consumers-opt-used-new-cars-28-10-2019

Increase Amount of EV Supply Equipment (EVSE)

The Maryland Zero Emission Electric Vehicle Infrastructure Council (ZEEVIC) most recent monthly dashboard showed over 81,000 registered EVs and 5,388 charging stations and charging ports – roughly a ratio of 15:1.[8] The California Air Resources Board recommends a ratio of 7:1.[9]

Recommendation: Maryland should support developing the full range of EVSE.

Specifically:

1. **EVSE needs to take into account the power levels and physical needs of light-, medium- and heavy duty vehicles and the particular needs of commercial drivers and fleet managers.**
2. **To minimize the number of public chargers needed, state-funded public charging stations should be designed to accelerate rapid charging space turnover once charging is complete.**
3. **To enhance equity, Maryland should ensure that public charging stations are available to residents who cannot install personal EV charging equipment.**
4. **Climate Coalition MoCo has already recommended that Maryland ensure that its version of the 2024 IECC requires new buildings to include EV supply equipment. But more is needed**.

Recommendation: Maryland should prioritize obtaining federal grants for EVSE and assist counties in obtaining these funds as well. Until Maryland adopts the 2024 IECC, Maryland should encourage counties to require that new commercial and residential construction be at least EV-charger ready to eliminate the need for costly retrofits.

Grid Readiness

As discussed above under Energy, Maryland must ensure that utilities build the local distribution networks, battery storage, demand response mechanisms and other grid enhancements needed to support the increased electricity demand from EVs and EVSE to ensure rapid uptake of EVs.

Promote Mode Switching to Transit, Walking, Biking, and Landscaping Tools

To reduce carbon emissions and vehicle miles traveled (VMT) local governments will need to increase use of transit, biking and walking. This requires a cultural and policy change from a car-centric economy to a transit, biking and walking economy. In other words, regardless of how

[8] https://www.mdot.maryland.gov/tso/pages/Index.aspx?PageId=81
[9] Victoria Stavish, Maryland's Uphill Struggle to End Sales of New Gas-Powered Cars by 2035", https://www.baltimoresun.com/news/environment/bs-md-maryland-zero-emission-vehicles-20230918-wtj3i2qswbcarafanyuel7wqqu-story.html.

much transit, safe bike lanes and streets, and transit-oriented complete communities are offered, ultimately people will need to prefer transit, biking, and walking over cars and trucks.

Montgomery County's CAP included several recommendations to encourage mode switching and with the help of state funds has been implementing many of them. *Thrive Montgomery 2050* complements these policies. The Pathway Report also models or recommends several policies to reduce VMT and promote smart growth.[10]

Approximately one-third of Montgomery County is urban and one-third suburban. Residents in these parts of the county need safe, segregated bike and pedestrian lanes to access bus and other transit for errands and commuting.

Recommendation: Maryland should adopt a state version of any national building codes that require fewer parking spaces and more safe and conveniently located bike storage facilities and EV chargers in new commercial construction.

Recommendation: Because the Pathway Report relies on widespread adoption of smart growth policies to reduce VMT, Maryland should give priority, when funding new low and moderate income housing construction, to projects located in transit-oriented communities offering nearby jobs and amenities.

Recommendation: Among programs targeting behavioral change, Maryland should promote legislation or issue regulations that would require that employee perks for transit be at least as generous as those provided for parking.

Recommendation: To encourage preference for transit over cars in a densely populated county, Maryland should provide generous support of Montgomery County's BRT projects and increases in local Ride-On bus service to ensure that bus service is more frequent and reliable and the planned build-out of bus transit stays on schedule.

> Much of the northern part of Montgomery County, which includes the Agricultural Reserve, lacks access to Metrorail and BRT service and thus cannot easily take advantage of transit options.

Recommendation: Expand Red Line Metrorail service above Shady Grove to serve Germantown, Clarksburg and the northwest part of the County above I-370. Build out BRT service to provide connections to more Metrorail stops.

> More frequent commuter rail service along the MARC Brunswick line would connect western counties to D.C. and Virginia, reducing congestion and VMT along I-270. This service through neighboring jurisdictions also would integrate western Maryland counties more deeply into the regional economy, thus supporting economic development in Maryland.

[10] Pathway Report, p. 41

Recommendation: Expand the frequency and reliability of service on the MARC Brunswick line.

> Many mature metropolitan areas include circle lines to interconnect major transit lines far from the city center and reduce congestion on major highways.

Recommendation: Fund preliminary feasibility and design studies (jointly with Virginia) of a Phase 1 expansion of BRT service that would connect certain Maryland Metrorail stops (including those with MARC Brunswick line connections) to existing Virginia Metrorail stops (e.g., Tysons, East Falls Church, Franconia/Springfield or King Street/Old Town, perhaps also connecting to VRE).

> The Pathway Report does not model emissions from non-road fuel use from landscaping, lawn and garden equipment, construction, ATVs, mining, and other industrial equipment. Rather it assumes a linear decarbonization rate to 50% of 2020 levels by 2045 for lawn and garden equipment and assumes off-road diesel usage will decline similarly to diesel freight trucks. Montgomery County recently banned the sale and use of combustion-powered leaf blowers and leaf vacuums, while including rebates to assist in the transition.[11]

Recommendation: The Montgomery County bill should be considered as a model for a state ban on all combustion-powered lawn and garden equipment.

Limit New Major Highway Expansions and Construction

MDE and MDOT should change their transportation planning modeling and project impact analyses to prioritize maintaining a state of good repair. Analyses should emphasize alternatives to new highway or highway expansion projects, account for induced demand, and require quantified projected increases in GHG emissions and VMT resulting from highway projects. Modeling should account for costs of mitigation measures to ameliorate negative impacts of increased hardscape, including costs of flood mitigation projects, and of adverse health consequences from increased heat and noise pollution, and loss of carbon sequestration provided by removed trees and plants. The social cost of carbon should be taken into account.

Two examples in Montgomery County illustrate the importance of determining the complete costs of a project and alternatives: (i) expansion of the American Legion Bridge, including toll lanes on the bridge, I-495 and I-270; and widening I-270 north of Gaithersburg; and (ii) any funding of proposed M-83/Midcounty Highway Extended. Our recommendations should be applied to both.

Recommendations:

---

[11] Bill template (montgomerycountymd.gov) https://apps.montgomerycountymd.gov/ccllims/DownloadFilePage?FileName=2765_1_25278_Bill_18-22_Enacted_20230926.pdf

1. **Include quantitative projections of induced demand and increases or decreases in VMT resulting from toll lanes and widening the highway above Gaithersburg;**
2. **Include quantitative projections of increases or decreases in VMT from including (i) separate BRT, bicycle, and pedestrian lanes on the bridge, (ii) a separate BRT lane on I-270 to I-495, and (iii) an extension of the Metrorail Red Line above Gaithersburg to serve communities near the County line;**
3. **Conduct quantitative estimates of increased risk of flooding, and heat, air, and sound pollution resulting from additional hardscape and removal of trees and plants, and the estimated costs of these negative impacts on Montgomery County, its residents and businesses;**
4. **Estimate (i) annual toll revenues, (ii) the portion needed to amortize the cost of the projects, (iii) the portion that would be dedicated to fund other transit projects in Montgomery County, including access to HOV lanes, expanding the I-270 Innovative Congestion Management System, and reversible lanes, and (iv) the intended use of any remaining revenues;**
5. **Quantify the costs and benefits of alternative designs and projects to address road congestion; and**
6. **To facilitate the effort to remove M-83 from all Montgomery County Master Plans, Maryland should exclude the proposed M-83 Highway from all state CIPs to ensure no state funds are spent on constructing this highway.**

> Proposed M-83 Highway does not now exist. Permanently canceling the proposed M-83 Highway by removing it from Montgomery County's master plans is a Climate Coalition MoCo priority.

Buildings

The Buildings section of the Climate Pathway report is a sweeping overview of the issues to be addressed by this sector to achieve net-zero greenhouse gas emissions. The existing stock of buildings fall into two categories: (i) those larger than 35,000 sq ft are covered by Maryland's Building Energy Performance Standards legislative provisions (BEPS), and (ii) the remainder that do not have legal requirements to decarbonize including smaller commercial buildings as well as most single family homes. As noted in the Climate Pathway report, over two-thirds of the GHG emissions reductions in the buildings sector occurs in residential buildings, and must be addressed for the state to reach its net-zero target by 2045.

Our comments include discussion of Building Energy Performance Standards (BEPS) for existing buildings, how to address existing single family homes, energy codes for new construction, and adoption of passive home construction.

Building Energy Performance Standards (BEPS)

The Montgomery County BEPS is similar to the state law, with the primary differences being that it applies to buildings 25,000 sq ft and larger, and focuses on energy use intensity (EUI). For single family homes (SFH) that are not covered by Montgomery County's BEPS regulation, an electrification pilot was recently initiated. As noted in the Climate Pathway report, over two-thirds of the GHG emissions reductions in the buildings sector occurs in residential buildings, indicating that these buildings must be addressed. Although Montgomery County's efforts are in their early stages, the opportunities and challenges they identified can provide guidance for the state's plans.

Regarding BEPS, two primary issues are implementation and financing, addressed below:

Recommendations:

1. **BEPS Implementation**

    a. **Information Hub – A one-stop-shopping source of information is critical to ensuring that building owners understand the law, what incentives are available and how to factor this information into their building management plans.**

        The Maryland Climate Pathway report notes the incentives available from the Federal government through the Inflation Reduction Act. The report also notes, however, that a study on the Earned Income Tax Credit found that approximately 25% of eligible individuals did not claim the credit, often due to informational complexity and poor communication about the program. The value of providing tools to navigate all the available incentives cannot be overstated. Montgomery County intends to develop an information hub, similar to that in D.C. Many building owners will need information about the law and how to comply.

    b. **Community outreach – Education efforts must be effective to let building owners know about the law and the information hub needed to help them navigate the process.**

        The law cannot be successful if building owners leave compliance until the deadline approaches.

    c. **Energy Use Intensity (EUI) standards – Explicitly define fines associated with missing the EUI targets.**

        The state BEPS law includes both GHG reduction targets and EUI targets. The Montgomery County BEPS addresses only EUI targets. The most stringent targets proposed for the county BEPS will require most buildings to fully electrify, due to the greater efficiency of electric equipment. The state proposed EUI targets are

similar to the stringent county targets, thereby aligning with the goal of eliminating GHG emissions.

We note that the county has fines associated with not complying with the interim and final EUI targets. The state BEPS does not explicitly define fines associated with missing the EUI targets, although the recent meeting of the Air Quality Control Advisory Council indicated that standard penalties as high as $25K a day (judicial) or $2,500 a day (administrative) would apply. It will be important for the fines to serve to encourage building owners to comply with the law.

d. Alternative compliance pathway – The state should consider developing such alternative compliance pathways, in order to work with the building owners to reduce GHGs as much as possible.

To comply, the County BEPS provides a pathway for building owners to work with the County to develop an alternative plan that will increase their energy efficiency to the maximum they are able. In all cases, it would be better to increase efficiency than for the owner to do nothing and just pay the fine. This does not help us reach our targets.

2. BEPS Financing

a. Green Bank – The Maryland Clean Energy Center can serve as Maryland's green bank, but the state needs to provide a reliable source of funding to make it a significant player in supporting the state BEPS.

The Montgomery County Green Bank has a dedicated source of funding. It receives 10% of the county's energy tax, approximately $20M per year. These funds are used to leverage investment and support projects to increase energy efficiency and reduce GHGs in the county. Some of these funds will be used to provide low interest loans to building owners to comply with BEPS. Whether it is allocating an existing tax or generating a new tax source, a reliable source of funding by the state will be critical in order for Maryland to achieve its GHG reduction goals.

b. Green bonds – Adopt a green bond program.

Many states have green bond programs. Green bonds require, as do all bond programs, a source of income to repay those who bought the bonds. The Montgomery County Green Bank plans on issuing a small amount of green bonds to county residents, with the repayment coming from the loans the county made for energy efficiency and electrification projects. While green bonds not only

support additional energy efficiency and electrification projects, they also allow the general public to participate in the greening of the energy economy. This can be an important part of outreach and bringing the public along on the journey to reduce GHGs statewide.

c. **Private equity investment – Maryland and local counties will need to develop innovative solutions to funding the work needed to comply with BEPS to ensure its success.**

Building upgrades to increase energy efficiency can be expensive. The large number of buildings that will be required to reduce GHG emissions and EUI creates a market for financing the effort. Ithaca, N.Y. requires electrification of all its buildings, and private equity firms are participating by financing this work, making it affordable for the building owners while providing a low-risk source of return on the investment. Similar efforts are being discussed for Montgomery County. This type of program requires government oversight and involvement, such as providing reserve to insure against any losses. A similar program by the Connecticut Green Bank has supported the lending of $110M over the last 10 years, while only paying out $300K (0.27%) due to loan failures.

GHG Emissions Reductions in Single Family Homes

Single family homes (SFH) are not covered by BEPS and there are no fines associated with GHG or EUI reductions. For those buildings not covered by BEPS, Montgomery County has initiated a SFH electrification pilot that includes the following, aspects of which could be expanded across the state.

Recommendation: The State should support retrofits of single family homes. Montgomery County's experience could help inform program design:

- **Information Hub –** This is a critical part of the outreach and education effort. Because SFH are not required by law to electrify, the government needs a simple and comprehensive effort to work with homeowners to convince them to electrify. Montgomery County awarded a contract to one company that has experience in energy audits and energy efficiency options. That company's experience, importantly, allows the Information Hub to hit the ground running.

- **Using EmPOWER –** The energy audit subsidized through EmPOWER is a central part of the effort to work with homeowners. The company that is managing the Hub also performs the energy audits. Further, if an HVAC system would need to be replaced, the company managing the Hub will coordinate with a contractor to be present when the

audit is performed. This streamlining minimizes the demands on the homeowner, essentially creating a one-stop-shopping experience.

- **Incentives –** Montgomery County is providing financial incentives for the installation of equipment to electrify the home. Since electrification of SFH will move forward on a voluntary basis, the County incentives, when added to the federal incentives, help make the new systems more affordable and attractive for the homeowner.

Building Electrification Codes for New Construction

Recommendation: Maryland must ensure that the approved 2024 IECC building code <u>requires</u> electrification.

The Climate Pathway report states, “The zero-emission construction standard, to be implemented in 2027, covers all new residential and commercial buildings, increasing electrification of the building sector.”

Montgomery County is also addressing energy use in buildings through review and amendment of the building electrification codes. The 2021 International Energy Conservation Code (IECC) and International Green Construction Code (IGCC) building codes, already accepted by Maryland, are currently under review in Montgomery County. The county code requirement is expected to require newly constructed buildings be electrification ready, with electric plugs in place to support electric installations and with sufficient service capacity in the electric panel to feed the equipment. The 2024 code is expected to require installation of only electric equipment. The Climate Pathway report states, “The zero-emission construction standard, to be implemented in 2027, covers all new residential and commercial buildings, increasing electrification of the building sector.” Montgomery County, however, will not consider these standards until next year.

Passive House Construction

Recommendation: Promote Passive House construction. We recommend that DHCD add points in its Low Income Housing Tax Credit (LIHTC) Qualified Allocation Plan (QAP) for developers whose developments will be built either to the German Standard from the Passive House Academy or the PHIUS+ standard from Passive House Institute US. Familiarizing more counties with Passive House construction may lead to their promotion in County building codes and Green Bank financing at the local level.

The Department of Housing and Community Development (DHCD) and other agencies should make an important contribution to the “all-of-society” approach[12] to achieve the State’s GHG reduction goals by promoting Passive House construction for low income

[12] Climate Pathway Report, p. 21

housing. For example, the Pennsylvania QAP[13] adds extra points to its QAP for designs meeting Passive House standards.

Housing affordability is a significant problem in many jurisdictions and is particularly difficult for low and moderate income residents. As more multifamily housing is constructed, Maryland may want to incentivize construction of highly energy efficient Passive House construction for low income residents.

Passive House concepts were developed in Germany by the Passive House Institute which established rigorous design principles to create a tight building envelope, managed solar gain to capture the sun's energy for heating and minimize it for cooling using high performance windows and doors and other construction features. The resulting buildings are thus highly energy efficient. The National Institutes of Standards and Technology (NIST) in Gaithersburg, MD maintains a research Passive House (which can be visited) to test and improve on additional energy efficiency design options.

Passive House construction of low and moderate income housing can be slightly more expensive than traditional construction, but the resulting energy efficiency during the lengthy occupancy stage provides healthier and more comfortable air and lower operating costs for residents and building owners.

Waste Management

We strongly recommend adopting a wide range of zero-waste policies to promote source reduction, reuse and recycling, thereby reducing the waste going to final disposal, and ending the use of waste incineration as an option for the final disposal of the remaining waste.

We applaud the recognition in the report of the importance of the Sustainable Materials Management/Circular Economy principles to reduce waste as a key element of a GHG mitigation strategy. The internationally peer-reviewed Zero Waste Hierarchy[14] emphasizes **rethinking/redesigning products, reducing waste, reusing materials, then recycling (including composting)** as strategies to produce less waste. Landfilling with at least 75% capture of gas is the preferred disposal alternative after all organic residuals have been removed, and incineration is the least acceptable form of disposal in the zero-waste hierarchy. These policies, however, merit a far greater role in the Climate Pathway plan of action because

---

[13] https://www.housingfinance.com/policy-legislation/pennsylvania-housing-finance-agency-embraces-passive-house_o#:~:text=QAP%20awards%20up%20to%2010,House%20certification%20for%20energy%20efficiency.&text=For%20the%20Pennsylvania%20Housing%20Finance,a%20priority%20over%20the%20years

[14] Zero Waste International Alliance, https://zwia.org/zwh/

of their capacity to reduce greenhouse gas (GHG) emissions, improve public health, and achieve economic and environmental resiliency benefits.[15]

Sustainable Materials Management approaches are typically linked, as in the Pathway report, with the waste sector (which is responsible for 5% of Maryland's GHG emissions). Analyses show[16] that introducing better waste management policies such as waste separation, recycling, and composting could cut total emissions from the waste sector by 84%.

Prioritizing zero waste actions for inclusion in the Climate Pathway action plan should not be based solely on consideration of their impacts on waste sector emissions, because only a small share of their GHG benefits are captured in the standard IPCC GHG accounting protocol[17] for the waste sector: the protocol only counts emissions from *product end-of-life* to *final disposition* – and ignores the impact up and down product supply chains from source reduction and reuse, rather than disposal.

Waste Reduction and Recycling

Recommendation: Identify aggressive waste reduction and recycling goals - including zero waste policies - to reduce the amount of waste going to disposal; develop and implement a state Implementation Plan.

The Pathway report specifically cites MDE's April 2019 Waste Reduction and Resource Recovery Plan Goals and Metrics Recommendations,[18] which articulates a range of voluntary goals for the states and for each county to achieve by 2035, including:

- a 10% reduction goal in the amount of waste generated per capita ("**source reduction**"), and
- material-specific **recycling rate** goals for food scraps (60%), yard trimmings (85%), glass (55%), metal (75%), paper products (65%), and plastic (25%).

The Pathway report assumes only a 10% reduction from waste diversion efforts from 2026 **through 2050**, and briefly mentions a few policies that could be useful (promoting public education about zero waste and removing barriers to composting).

A state implementation plan must include meaningful consideration of zero waste strategies as a tool for emissions reduction, including setting more aggressive targets for source reduction through 2050.

---

[15] https://www.no-burn.org/wp-content/uploads/2022/11/zero-waste-to-zero-emissions_full-report.pdf
[16] ibid
[17] https://www.ipcc-nggip.iges.or.jp/public/2006gl/vol5.html
[18] https://mde.maryland.gov/programs/land/RecyclingandOperationsprogram/Documents/EO%20recommendations.pdf

The more aggressive targets should apply to each of Maryland's counties, and the counties should be required to report on their plans for achieving them in the mandated county recycling plans (Maryland Environmental Code §9–1703), as specified in the 2019 Waste Reduction and Resource Recovery Plan Goals and Metrics Recommendations.The Climate Pathway report should include recommendations for specific policies the state should adopt to promote source reduction, reuse and recycling (in anticipation of further development in the Implementation Plan). Example policies that have a track record elsewhere include: a statewide bottle deposit bill (which exists in ten states), bans on single-use plastics (e.g., eight states have banned single-use plastic bags), and extended producer responsibility programs (such as Maine's).

Recommendation: Create a disposal surcharge fee to support sustainable materials management policies.

A surcharge fee will provide dual benefits: incentivizing diversion and also generating revenue for prevention and diversion programs. States with disposal surcharges that fund recycling and composting programs, projects, infrastructure, and education include New Jersey, Pennsylvania, Minnesota, Wisconsin, North Carolina, Iowa, Ohio, and Indiana.

Recommendation: Ban synthetic turf sports fields that are a significant point source for GHG and cannot be recycled whereas the better alternative, grass sports fields, are net carbon sinks.

Source reduction is one of the more potent actions for reducing greenhouse gas (GHG) emissions. Each synthetic turf sports field consists of a 40,000 pound petroleum based rug and 400,000 pounds of inorganic infill. Each synthetic turf field must be removed and disposed of after about 8 years, is too toxic for municipal landfills, and cannot be burned in trash incinerators. A state-of-the-art grass sports field has similar playability, is a net carbon sink, is safer, and has lower costs.

Food Residuals Reduction, Recovery, and Recycling

Recommendation: Focus special attention on zero waste strategies for food residuals, identify aggressive goals for reducing food residuals, including preventing food waste, increasing recovery of edible food and recycling the remaining food waste.

Preventing food waste (i.e., source reduction) is one of the more potent actions for reducing greenhouse gas (GHG) emissions: Project Drawdown[19] ranks this as either the #1 or #3 global mitigation strategy, depending upon the choice of long-run mitigation scenario. This ranking reflects that food waste prevention avoids the GHG emissions that occur along the supply chain, including emissions from agricultural impacts to support the

[19] https://drawdown.org/solutions/table-of-solutions.

production of wasted surplus food through household consumption, as well as emissions from incineration or landfill disposal.

Food residuals generate very high rates of methane per ton disposed of in landfills. Residuals are the largest component of Maryland's municipal waste stream and have the second lowest recycling rate (22.7%), only exceeding plastics. Separate collection and composting of organic waste alone "can reduce methane emissions from landfills by 62%, even with moderate ambition."

Recovering edible food for hungry people can also supplement food security strategies, and recycling food and producing compost promotes carbon sequestration, improves the structure and health of the soil, helps retain moisture and nutrients, and reduces soil erosion.

The upstream supply chain effects of preventing wasted food will show up in the food and other sectors in the U.S. inventory (without attribution to waste prevention measures). We acknowledge that these reductions will show up in the state inventory only to the extent the upstream and downstream portions of the supply chain occur in the state.

Articulating a plan for implementing food residuals reduction, recovery, and recycling also sets up state and local jurisdictions to take advantage of the millions of dollars in federal and private funding becoming available for expanding organics management and recycling.

Recommendation: Implement other tested policies and programs[20] to promote food waste reduction by expanding the food residuals diversion mandate to restaurants and other food residual generators.

- Expand the scope of food residual diversion in the current mandate by including restaurants, lowering the coverage threshold of food waste generated per week, and phasing out the distance exemption (or at least increasing the radius within which generators are covered) *(see for example, Vermont, Massachusetts, California, New York and others*),
- Add requirements that food residual generators donate edible food (as in New York and California),
- Prioritize prevention strategies by requiring food residual generators to report on prevention strategies they have employed (as in California),
- Expand liability protections and tax incentives for food donation, and provide food safety guidance for food donation, and
- Standardize date labels on products currently sold in the state and clearly differentiate between safety and quality date labels

[20] https://cdn.sanity.io/files/34qvzoil/production/a517a31a81c38d76e897dd539bde3207affa164d.pdf

Recommendation: Provide technical assistance at no cost to commercial establishments generating food residuals, food recovery organizations and solid waste service providers (including guidance on federal sources of financial support) and providing public education for households about how to reduce and recycle food waste.

Trash Incineration

Recommendation: End Trash Incineration for Waste Disposal and Energy Production.

Montgomery County is one of only two jurisdictions in Maryland that rely on trash incineration as its principal waste management strategy. In Montgomery County, roughly 600,000 tons of waste are burned annually, 18 percent of which is plastic waste. For each ton of plastic burned, 1.43 tons of carbon dioxide are released into the atmosphere.[21] By not recommending that the Montgomery County and Baltimore City trash incinerators be closed, MDE is missing a critical opportunity to reduce greenhouse gases. The Pathway report's modeling shows that incinerators are more polluting than landfills, with Maryland's two trash incinerators contributing almost the equivalent of half of the GHG pollution emitted by all of the state's landfills combined by 2050.

In addition, allowing trash incineration to be included in the state's Renewable Portfolio Standard also fails to discourage this dirty form of energy and wrongly diverts Maryland's clean energy resources and incentives to climate polluting (and out of state) incinerators. A new peer-reviewed report found that incinerators emit more greenhouse gas emissions per unit of electricity produced than *any* other power source.[22]

Agriculture, Forestry, and Land Use

Montgomery County's Climate Action Plan addresses forestry and land use matters in terms of the role of forests and tree canopies in reducing GHG emission.

Recommendation: Ensure that data are collected, made available, and incorporated into the models so that the impact of current soil cultivation, farming practices, and trees and forest conservation can be included and recognized in the Climate Pathway report.

Regrettably, the report notes the lack of data available to adequately represent the impact of current state policies on GHG emission from the agricultural sector. This is disappointing and significant given that agriculture is the state's largest commercial industry (per p. 77 of the report). When will the ongoing studies be available and is the State providing adequate resources to carry out this analysis and modify models as needed?

[21] https://www.no-burn.org/wp-content/uploads/2022/11/zero-waste-to-zero-emissions_full-report.pdf
[22] https://journals.plos.org/climate/article?id=10.1371/journal.pclm.0000100

Recommendation: Modify existing models used to produce this report to include the impact of the existing forestry and land use laws and regulations.

With respect to measuring and accounting for the impact of carbon sequestration from healthy forests (Section 2.9 p. 78), it is disappointing that per the first sentence, “In the Current Policies scenario, no specific policies were modeled for this sector due to modeling constraints and lack of data (p.79)” The report notes that many policies addressing forestry and land use exist.

It is likely that existing programs will make a measurable contribution to carbon sequestration that will contribute toward meeting the State’s GHG emission reductions. But unless the models are modified to account for existing and future loss and gain of trees and forests, some GHG emissions will not be tracked.

Failing to improve modeling also puts existing laws at risk of being overridden by land use choices and development interests. A report that includes the sequestration value of forests and agriculture would send an important message to the State’s elected officials by stating the importance of assessing existing policies related to forest conservation and land use and ensuring that they are modified and enforced as needed to make a larger contribution to carbon sequestration as a reducer of GHG emissions.

Climate Coalition Montgomery County - Signatories

Organizational Signers:

350 Montgomery County
ACQ Climate (Ask the Climate Question)
Biodiversity for a Livable Climate
Chesapeake Climate Action Network
Elders Climate Action Maryland Chapter
Environmental Justice Ministry Cedar Lane Unitarian Universalist Church
Environmental Study Group
Glen Echo Heights Mobilization
Green Sanctuary Committee of the Unitarian-Universalist Church of Silver Spring
Montgomery County Faith Alliance for Climate Solutions
One Montgomery Green
Poolesville Green
Safe Healthy Playing Fields
Sugarloaf Citizens' Association
Transit Alternatives to Mid-County Highway Extended/M-83 (TAME)
The Climate Mobilization Montgomery County
Takoma Park Mobilization Environment Committee (TPMEC)
Zero Waste Montgomery County

Individual Signers:

Deborah Cohn, Bethesda, MD
Carol Jones, Silver Spring MD
Lucy McFadden, Bethesda MD