

TO: Maryland Commission on Climate Change Mitigation Working Group

FROM: Joshua Tulkin, Director, Maryland Sierra Club on behalf of AIA Maryland, Audubon Mid-Atlantic, Baltimore County Progressive Democrats Club, Cedar Lane Environmental Justice Ministry, Chesapeake Climate Action Network, Chesapeake Physicians for Social Responsibility, Coalition for Smarter Growth, DoTheMostGood, Elders Climate Action Maryland Chapter, Green & Healthy Homes Initiative, Howard County Climate Action, Interfaith Power & Light (DC.MD.NoVA), Maryland Legislative Coalition, MLC Climate Justice Wing, NAACP Maryland State Conference, Environmental and Climate Justice Committee, Rewiring America, Safe Skies Maryland, Solar United Neighbors, Strong Future Maryland, Unitarian Universalist Legislative Ministry of Maryland

DATE: September 2, 2022

SUBJECT: Recommendations for the Maryland Commission on Climate Change Annual Report

Dear Maryland Commission on Climate Change Mitigation Working Group,

We understand that Maryland Department of the Environment (MDE) is looking for ways to build upon and supplement the previous Greenhouse Gas Emissions Reduction Act ([GGRA](#)) Plan to meet the new 60% greenhouse gas emissions reduction by 2031 target that took effect with the passage of the Climate Solutions Now Act of 2022. We offer the following recommendations for various sectors believing that they can help Maryland close the emissions gap between the 2030 GGRA set in 2017 (40% by 2030) and the new Climate Solutions Now Act goal (60% by 2031). The Federal Infrastructure and Inflation Reduction Acts provide unprecedented levels of federal funds to accomplish many of these goals. Maryland agencies and local governments should take maximum advantage of these funding opportunities.

We encourage the Maryland Commission on Climate Change to incorporate the following recommendations in its annual report and provide active support for them in actions with agencies, decisionmakers, and stakeholders throughout the year.

1) ELECTRICITY GENERATION

Moving to renewable energy and transitioning off dirty fossil fuel generation

- 1. Maryland should codify a commitment to zero emissions electricity for both a consumption and a production basis by 2040. Additionally, Maryland should aggressively encourage the Regional Greenhouse Gas Initiative states to reduce the regional CO₂ emissions cap to zero by 2040.**
 - The 2030 GGRA plan modeled for RGGI to achieve 100% reductions by 2040. (GGRA 2030 Plan, Appendix F, p. 11). But this goal isn't codified in RGGI yet.
 - A zero-emissions electricity requirement by 2040 would track what New York codified in its Climate Leadership and Community Protection Act (see N.Y. Pub. Serv. L. § 66-p) and what Connecticut recently codified on a consumption basis. While Maryland, as part of the PJM Regional Transmission Organization cannot fully control the generation mix in the regional grid (beyond its advocacy regarding the RGGI cap), it can put significant constraints on the emissions associated with the electricity it consumes and produces. Requiring 100 percent zero-emissions electricity on a consumption basis would require that load service entities in Maryland procure electricity exclusively from zero-emissions sources by 2040. Requiring 100 percent zero emissions electricity on a production basis would ensure that Maryland is not housing polluting power generators that sell their power out of state. A zero-emissions electricity requirement is critical to the achievement of Maryland's broader climate goals. Achieving deep decarbonization of sectors including transportation and buildings will require widespread use of electricity as the primary fuel in these sectors. Ensuring that the electricity relied upon is non-emitting will maximize the emissions benefit of electric vehicles and air- and ground-source heat pumps.

2. The Maryland General Assembly (hereafter referred to as “the legislature”) should mandate that the PSC implement a planning process for phasing out reliance on dirty fossil fuel generation in Maryland and replacing it with non-emitting resources such as renewable energy, energy storage, energy efficiency, demand response, and transmission solutions.

- Maryland 2030 GGRA model assumes a significant increase in clean energy, but the policy driver – the CARES ACT– was controversial and ultimately did not pass. Reducing fossil fuel use and increasing in-state renewable energy is critical, but requires planning and targeted policies. As seen in the 2030 GGRA model, participation in RGGI and the Clean Energy Jobs Act get us only part way to a 50% by 2030 reduction. Under the Climate Solutions Now Act (CSNA), Maryland must now reach a 60% reduction of greenhouse gasses by 2031. This will require new ambitious and concrete policies in the electricity sector.
- While Maryland has made significant progress in reducing coal-fired power generation in the state, several of Maryland’s coal plants are converting to burning other fossil fuels rather than retiring, in part due to local reliability needs for their capacity. In particular, the Baltimore area coal plants (Brandon Shores and Wagner) will convert to oil by 2025 due to localized grid needs. Maryland should initiate a process to proactively plan for the retirement of the dirtiest remaining fossil fuel generators in the state, with particular focus on those located in or near environmental justice communities and large population centers. A proactive planning process for the retirement of the dirtiest fossil fuel generators tracks processes planned for New York (see Governor Hochul 2022 State of the State Book (p. 150) and New York Climate Action Council Draft Scoping Plan (p. 155). Such a process would involve: (1) identification of facilities; (2) coordination with PJM to proactively identify reliability issues associated with the future retirement of fossil fuel generation facilities in Maryland; and (3) the development of a process (e.g., through a competitive all-non-emitting-resource solicitation) to procure resources to address those reliability needs.
- Relatedly, Maryland may want to proactively plan for transmission and other grid resource investments that will be needed to support the build-out of renewables to achieve the State’s RPS requirement and consider these grid improvements in conjunction with the improvements needed to alleviate reliance on the dirtiest fossil fuel-fired plants.

3. The legislature should amend the state’s Renewable Portfolio Standard (RPS) to improve its environmental performance and increase its greenhouse gas (GHG) reduction impact.

Maryland’s RPS suffers from two defects. First, it does not require qualifying electricity generation to be low-emitting. Second, utilities are electing to pay alternative compliance payments rather than meeting the solar carve-out. To remedy these defects:

- a. The legislature should modify the qualifications for the RPS to limit qualifying resources to those that are truly renewable *and* non-emitting.**
- b. Maryland should issue a RFPs for bundled RECs and energy from new renewable resources located in or deliverable directly into Maryland.** Connecticut has used this RFP approach to cover the bulk of its RPS compliance. If the State has concerns about the fact that most non-solar RECs are coming from projects located far from Maryland, the deliverability requirements for these resources could be modified to make them more similar to those for solar.

2) SOLAR

Maryland’s Renewable Portfolio Standard, as modified by the Clean Energy Jobs Act, requires 14.5% in-state solar generation by 2028. The GGRA 2030 plan models at least 14.5% by 2030 to achieve the 50% reduction. Achieving the CSNA goal of 60% reduction of greenhouse gas emissions by 2031 will require more

deployment of solar, yet Maryland is not currently on track to meet existing goals, let alone the more aggressive goals in the CSNA. Policies must be enacted to remove current barriers and accelerate deployment.

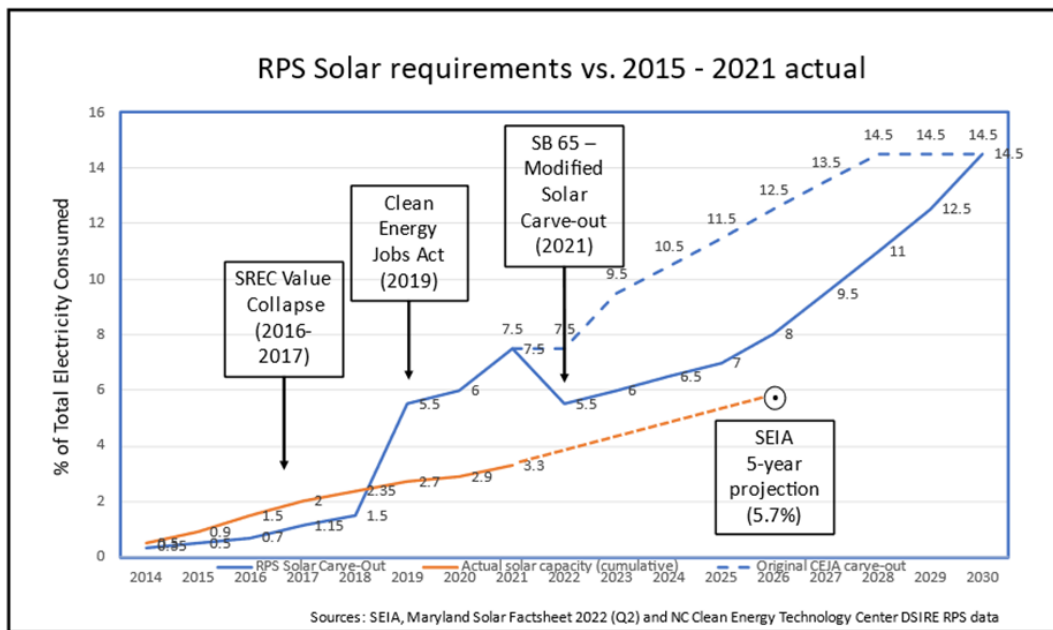
Proposals to accelerate Maryland’s solar energy development

The Solar Energy Industries Association estimates indicate that by mid-2022, Maryland will have roughly 1,650 MW of solar (all categories – residential, commercial, accessory, community, and utility-scale). The PSC calculates the 2030 solar requirement (14% of total consumed electricity) to be 6,200 MW. Even with 2021’s adjusted solar requirement, this means we need to build an average of 570 MW each year over the next 8 years – far more than we have ever built in a year. In response to this lagging progress, recommendations for potential actions are based on the following criteria:

- quantitative impact, in terms of accelerating solar build;
- feasibility – technical, financial, and political;
- time-sensitivity – are there actions that have to be taken in the coming year, or else there will be substantial negative impact from that failure to act?
- equity – inclusiveness of households that have been historically excluded from participation in renewable energy.

The recommendations in this section are informed by these considerations.

These recommendations are made in the context of Maryland’s lagging progress in solar energy development, as indicated in the graph below.



1. **The legislature should make the Community Solar pilot program a full, permanent program in 2023.** This is a top time-sensitive priority that needs to happen in 2023 for the below-listed reasons. (1) Under the pilot program, Community Solar development has become an active and substantial component of the solar industry in Maryland, with expansion limited by the pilot’s annual cap on allocated capacity. (2) The last allocation of solar project capacity under the pilot will happen in July, 2023. (3) The pilot program lasts 18 months after that, with no further opportunity for developers to

develop new business (each new project involves roughly two years of administrative and development processes before it can be built and come online). (4) The PSC's (technically inadequate) July 1st "study report" to the legislature indicated an intention to have further delay after the end of the pilot program, to do additional evaluation and studies. (5) The resulting lack of ability to develop new projects, and the uncertainty resulting from a program "pause" for evaluation, will effectively destroy the viability of Community Solar development in the state. (6) With the PJM 5 to 10 year "pause" in approval of larger solar projects, interrupting the development of Community Solar in Maryland will be an insuperable obstacle to achieving the state's solar targets. (7) Based on progress to date, we estimate that the Community Solar program, if continued, can contribute at least 100 MW of capacity development each year; with the recent legislatively approved increase in project size, that rate could increase, if adequate size sites are available. (8) Community Solar has the potential to be a major way to include low- and moderate-income households in the clean energy transition; with funds being generated for MEA through Alternate Compliance Payments, and the lessons learned from program experience to date, the effective inclusion of those households can be substantially increased.

2. **The legislature should provide additional incentives for solar development on "preferred sites" – residential and commercial rooftops, parking lots, and brownfields.** These sites have the potential to provide a substantial amount (not all) of the solar that Maryland needs to build. However, the relatively low value of Maryland SRECs (capped by the decreasing value of Solar Alternate Capacity Payments) and the limited economies of building relatively small projects on these sites have limited expansion of solar on these desirable sites, despite the Federal Investment Tax Credit and small additional state and local incentives. Options to consider include, but are not limited to:
 - Substantial (e.g., 25% of project cost) refundable state tax credit for new solar arrays on these sites ("refundable" would mean – like the child tax credit – that low-income households owning no or limited state taxes would get the value in cash)
 - An SREC "multiplier" for preferred sites (e.g., a residential array's output would be valued at 1.5 SREC units).
 - Increasing the cost of Solar Alternate Capacity Payments beyond the low and declining levels set by 2021 SB65, to increase SREC value. There are many examples of "upfront" incentives from other states that could be drawn on.
3. **The Maryland Energy Administration should provide/seek funding to offset end-user "Make Ready" costs associated with clean energy implementation.** While many costs of the transformation of our electricity distribution grid will be borne by utilities (generally passed on to ratepayers if not, hopefully, offset by federal infrastructure funds), and some – like interconnection costs – will be borne by large distributed electricity generators, other costs of clean energy technology expansion will be increasingly borne by end-users. These individual costs will become an increasing barrier to expansion of solar and other clean energy technologies. Three examples include: (1) Utilities presently apply a "cost-causation" approach to system upgrades; this means that if a homeowner wants to install solar on a circuit that already has other solar arrays on it and is near capacity, that homeowner's installation is seen to be the "causation" of the cost of a required system upgrade and they will have to pay that extra cost (this will be in the thousands of dollars above the cost of their own solar installation). (2) Electrification of many homes and businesses will require expensive upgrades to their installed wiring and power panels. (3) The same need to "heavy up" individual residential electric capacity will apply to many households who wish to benefit from the bidirectional charging capacity of an F-150 truck. The state may be able to get federal infrastructure or Inflation Reduction Act funding to support these "Make Ready" costs, especially for low-income households.
4. **The Public Service Commission should conduct a definitive "value of solar" proceeding.** While the PSC commissioned a "Value of Solar" analysis under PC 44, that study has not had a functional impact, for example, in evaluating the positive potential "locational benefit" of solar in distribution system planning or in establishing appropriate incentives that take into account the quantifiable value-added of solar in the energy transition. Other states, like Illinois, have undertaken such proceedings

with the involvement of relevant stakeholders, so that the outcomes are broadly accepted and can be used without argument in making policy decisions.

3) ENERGY EFFICIENCY/EMPOWER

1. **The legislature should pass legislation in 2023 to shift EmPOWER goals from kWh-based to GHG-emissions-based consistent with the consensus position in the Future Programming Work Group final report.** The Climate Solutions Now Act added a new paragraph at Pub. Utils. Art. 7-211(g)(2)(v) specifying that “For 2025 and thereafter, the core objective of the targeted reductions under this section shall include development and implementation of a portfolio of mutually reinforcing goals, including greenhouse gas emissions reduction, energy savings, net consumer benefits, and reaching underserved communities.” While the intent is laudable, the legislative language is insufficient and unclear. The timing isn’t consistent with the required timeline to implement financial incentives for fuel switching to support the Building Energy Performance Standards (BEPS) and the other electrification goals and MCCC recommendations. The PSC has made clear that it requires further legislative direction (PSC Recommendations on the Future of EmPOWER Maryland, July 2022). Waiting until 2025 would mean programmatic changes may not occur in 2026 or later, creating a delay in the alignment of EmPOWER goals with state goals.
2. **Urge legislature to enact, in 2023, critical changes to EmPOWER as recommended in 2021 MWG recommendation #2. Pass legislation in 2023 to:**
 - a. **Require PSC to sunset financial subsidies for fossil fuel appliances within EmPOWER starting in 2023.** This was part of the MCCC 2021 recommendations, but the legislature did not include this in the Climate Solutions Now Act (SB 528) in 2022. Earlier this year, Earthjustice and Office of People Council asked the PSC to include these in EmPOWER plans, but the PSC declined, claiming that legislative intent of SB 528 was unclear. The MCCC should urge the legislature to pass legislation to make this directive explicit. Gas powered furnaces, boilers, water heaters, dryers, stove tops and ovens account for most of the residential use of natural gas. They are replaced on cycles of as long as 20 years and need to be electrified prior to 2045 to meet Maryland’s climate goals. Starting soon will have a significant impact on future GHG emissions. Replacing them with electric appliances as they reach the end of life is a logical way to accomplish our climate goals. To reach the CSNA goal of 60% by 2031, financial incentives should be aligned immediately.
 - b. **Require PSC to require fuel-switching in the EmPOWER program starting in 2024.** Additionally, all EmPOWER audits should include a proposal to make the building electric ready (electric service panel, wiring), along with an offer of a 100% subsidy for electric ready implementation.
3. **The legislature should enact an HVAC appliance standard which prohibits fossil powered residential and commercial heating, ventilation, and air conditioning and water heater sales after 2030.**
 - a. **This is a necessary step to codify the MCCC’s 2021 recommendation 2D,** “Target 50% of residential heating, ventilation, and air conditioning and water heater sales to be heat pumps by 2025, 95% by 2030.” If we want to achieve our goal of heat pumps delivering 95% of heating, ventilation, air conditioning and water heaters by 2030, then we need to prohibit fossil powered residential and commercial heating, ventilation, air conditioning and water heater sales after 2030.
 - b. Further, to facilitate fuel switching when boilers and furnaces stop functioning requires buildings to be properly wired. To that end, **all EmPOWER audits should include a proposal to make**

the building electric ready (electric service panel, wiring), along with an offer of a significant subsidy for electric ready implementation.

- c. The vast majority of furnace, boiler and water heater replacements take place when the existing fossil fired appliance fails. To be ready to electrify heating, water heating and appliances, the home must be ready for the transition. To that end, **all home-retrofit and home health improvement work and audits should include a proposal to make the building electric ready (electric service panel, wiring), along with an offer of a significant subsidy for electric ready implementation.** By upgrading electric systems, at no cost to the homeowner, fuel switching can occur when furnaces, boilers and water heaters fail. **This should be included in the 2023 EmPOWER legislation.**

4. Urge legislature to enact a moratorium on integrating biogas into existing gas pipelines until an independent study can assess the GHG impact of biogas integration and consistency with state's GHG goals.

- Recently the PSC approved putting biogas into pipelines.¹ This runs counter to MCCC recommendations related to utility transition. An independent study is needed to measure the GHG impact of biogas, including the impact of leaks and the impact of burning the fuel, from the source (i.e. digestion), transmission, leaks, and combustion. The limited supply of biogas that will be available to Maryland should not be used for applications where electrified alternatives are readily available (e.g., for building heating/cooling and hot water; for light-duty vehicles, etc.) but rather should be prioritized for high heat industrial processes and other hard-to-electrify uses and locations. In particular, the potential availability of some amount of biogas does not justify perpetuating the use and expansion of gas infrastructure, which is vulnerable to leaks, costly to maintain, and a burden on gas ratepayers (especially low-income ratepayers).

4) BUILDING ELECTRIFICATION AND GAS DISTRIBUTION

1. Develop and implement a plan to increase the LMI-portion of EmPower to 40% (up from 10%).

- In 2021, the MCCC made a critical proposal to “Develop a Clean Heat Retrofit Program”² and a specific goal of “retrofitting 100% of low-income households by 2030” (recommendation 2A) while not increasing household energy burden.
- There is no time to lose to begin making progress towards this ambitious goal. Funds from the Federal Infrastructure and Inflation Reduction Act bills will help, but are not likely to be nearly enough. EmPOWER spends about \$326 million per year on energy efficiency, but only 7% (2020) is dedicated to low income households generally and just 2% of EmPOWER funds support comprehensive retrofits of affordable housing. The proportion dedicated to low income needs to rise dramatically to be equitable and to meet the low-income clean heat retrofit goal as well as support affordable housing in meeting the state's BEPS requirements.
- For Low- and Middle-Income (LMI) homeowners, EmPOWER should include programs that assist with whole home retrofits, which would streamline services to address issues in homes that impact health, safety, and efficiency. By addressing multiple issues in a home, including lead, pests, structural damage, and energy efficiency, EmPOWER can not only prepare homes for electrification upgrades, but can improve overall quality of life, improve health outcomes, and decrease cost burdens for residents. Additionally, residents with structural and safety issues in their homes may be turned away for weatherization and energy efficiency servicing. Therefore, whole home retrofit programs can increase participation rates in energy efficiency servicing.

¹ Supplement No. 479 to P.S.C. Md. G-9: Renewable Natural Gas Interconnection Service.

² MCCC 2021 Recommendation 2.

Legislation introduced in 2023 regarding EmPOWER should include language for a whole home retrofit pilot program.

- New York State's approach to supporting electrification in affordable housing is a model Maryland should consider. NYSEDA and the New York housing finance agency, Homes and Community Renewal (HCR), jointly administer the Clean Energy Initiative to support highly efficient and all-electric projects by providing additional funds to developers seeking financing through HCR's Low-Income Housing Tax Credits (LIHTC) programs. Projects can receive up to \$12,500/unit (capped at \$2.5 million per project). This funding is available in two separate components: a) \$10,000 per unit to offset the incremental design and capital costs of pursuing the scope of work; and b) \$2,500 per unit to fund the integrated design. Recipients also benefit from technical assistance. In February 2022, the program was expanded to include existing buildings, providing up to \$25,000/unit for partial or full electrification measures. The NYSEDA-HCR program is a departure from traditional energy efficiency program design and addresses some of the main challenges to driving advanced building construction in affordable housing. Traditional clean energy incentive programs provide rebates to offset the incremental costs of higher efficiency construction after construction is completed. This approach requires upfront capital that affordable housing developers often do not have. Furthermore, rebate incentives may not be viewed as a reliable funding source by the housing finance agency to be used to secure additional financing to cover the higher construction costs. In addition, rebate incentive amounts are typically determined once project design is completed after fuel-use and building design decisions have been made. By committing funding upfront, NYSEDA is providing a reliable funding source to offset the need for the developer to raise additional capital upfront. In addition, committing funding upfront, including funding for soft costs such as consulting services to assist with project scoping, ensures that incentives impact building system design decisions.

2. The legislature or PSC should authorize alternative business model experiments for utilities including heat/cooling as a service and on-bill financing of electrification.

- To achieve the MCCC recommendation 2, and jumpstart recommendation 4 ("Develop Utility Transition Plans"), the state should authorize the PSC to begin experiments to test other models to encourage electrification. A key to successful electrification will be to convince owners of rental housing (about 35% of total housing and 60% of low-income housing) to invest in heat pumps and weatherization. Since the landlord typically does not pay the electric bill, they have limited incentive to electrify. At the same time, providing heat and cooling as a service (either with air or ground source heat pumps) can provide gas utilities with an alternative business model, with potentially more assets under management than they currently have with gas infrastructure. Experiments and follow-up studies are needed to test and prove the business model. This will require legislation to authorize these experiments.

3. The legislature should direct the PSC to regulate utilities to achieve GHG reduction goals of 60% in 2031 (v. 2006) and Net Zero by 2045.

- The Climate Solutions Now Act sets a target of 60% reduction in Maryland GHG emissions by 2031 relative to levels in 2006.
- The electric and gas utilities will play a critical role in reaching this target. The PSC has requested that the legislature add GHG goals as a legislatively approved goal for EmPOWER. Collectively electric and gas consumption account for close to 40% of GHG emissions in Maryland. To achieve the targets of 60% reduction, utilities must be regulated to deliver significant reductions in GHG emissions. While continued closure of coal plants will play a role, electrification and efficiency will be critical to meeting the targets.

4. **To re-affirm MCCC 2021 Recommendation 4, “develop utility transition plans,” encourage the legislature to pass legislation to a) direct the PSC to create a “utility transition docket” to begin planning and b) “Require all gas utilities to fully depreciate their distribution infrastructure by 2045.”**
 - In order to achieve Net Zero by 2045 a significant portion or all of the gas distribution infrastructure will need to be retired. Therefore, the gas system should plan to recover its investments by that time. In 2022 gas companies argued against utility planning, but the MCCC Building Transition Study and recommendations of the MCCC were clear that utility planning is critical to protect low-income ratepayers. This point should be reaffirmed to the legislature.
5. **Suspend further funding authorization and implementation of the costly STRIDE initiative** and instead prioritize identification and targeted repair of Grade 3 leaks. Rather than investing enormous sums in the existing gas delivery infrastructure, assess opportunities to instead decommission the gas delivery system in geographically contiguous areas that can be fully electrified.
6. **Legislature should direct PSC to require all gas utilities to report on each leak quarterly, including grade and volume of each leak.**
 - In order to achieve Net Zero by 2045 a significant portion or all of the gas distribution infrastructure will need to be retired. Therefore, the gas system should plan to recover its investments by that time. In 2022 gas companies argued against utility planning, but the MCCC Building Transition Study and recommendations of the MCCC were clear that utility planning is critical to protect low-income ratepayers. This point should be reaffirmed to the legislature.
 - The GGRA calls for approximately a 10% reduction in building emissions from burning fossil fuels between 2020 and 2030. It also calls for reduced methane emissions from transmission and distribution (2.4.6.4). With leaks of methane under-reported and generating a significant portion of the greenhouse gas emissions from fuels delivered to buildings (on a 20-year basis), meeting the GGRA target, or the more aggressive target in the Climate Solutions Now Act will be virtually impossible. We can only address the problem and potentially meet the targets with adequate reporting.
 - Sources of Grade 3 leaks (high vol, enviro sensitive) should be repaired not replaced. We need to know where they are - determine if they are spending ratepayer money reasonably and make decisions about where to decommission gas infrastructure and where to repair it. Leaks in the distribution system are larger than the EPA has reported in Baltimore. With a timeframe of 20 years, they represent a significant portion of the GHG emissions from fossil gas. Reporting of leaks in Maryland fall significantly behind the leak reporting in other locations. With more accurate reporting, sound financial and environmental decisions can be made to repair, replace or retire gas infrastructure.
7. **Conduct an external evaluation of the capacity of the Public Service Commission (PSC) to effectively address environmental issues.** In 2021, the PSC’s mandate was changed to require the PSC to consider environmental issues when regulating public service companies. Specifically, under 2–113 (a) (2), in regulating public service companies, the PSC must consider protection of the global climate from continued short-term and long-term warming and the achievement of the State’s climate commitments for reducing statewide greenhouse gas emissions. The PSC lacks environmental expertise and thus cannot begin to assess the effect public service company proposals and actions may have on the environment. The PSC has acknowledged its inadequate capacity in this regard. The legislature should independently examine staffing and other aspects of the PSC to determine the changes necessary to enable the PSC to adequately perform its broader duties.

5) TRANSPORTATION

The transportation recommendations below have been signed on to and endorsed by 30 organizations.³ They encourage adoption of these recommendations to help Maryland close the emissions gap between the current Maryland Greenhouse Gas Reduction Act (GGRA) Plan that yields approximately 48% reductions by 2030 and the new GGRA goal of 60% reductions from 2006 levels by 2031. They emphasize that the state should prioritize the communities heavily impacted by transportation pollution and historically excluded from transportation decision making and infrastructure resources, including communities of color, low-wealth communities, rural communities, and people with disabilities, in the development and implementation of these policies. Items marked in * indicate an updated version of a recommendation from the Commission's reports in 2020 and 2021.

Transit & Land Use: Invest in public transit, bike, pedestrian, transportation demand management and other strategies that reduce vehicle miles traveled (VMT) through mode shift (shifting from using passenger cars to other cleaner modes of transportation like public transit).

Context: Electrification of vehicles alone will not allow the state to meet the transportation greenhouse gas reductions that are needed. For example, the 2021 National Capital Region Transportation Planning Board [Climate Change Mitigation Study](#) indicated that the Greater Washington region must reduce per capita driving (light duty VMT) 15-20% below the 2030 baseline forecast under the region's current transportation plan, ensure 50% of cars sold are EVs by 2030, and take additional actions to reduce emissions at least 50% by 2030. VMT per capita and total VMT were increasing prior to the COVID-19 pandemic in 2020 and have been increasing since 2021. Buses also produce 1/3 less CO₂ per passenger mile than cars. But that is based on average bus occupancy. Buses get far more efficient as ridership goes up (see figure 2 in this 2010 Federal Transit Administration report "[Public Transportation's Role in Reducing Greenhouse Gas Emissions](#)"). Also, since Maryland has a mandate in place to convert Maryland Transit Administration buses to zero emissions models, the advantage over trips in private vehicles will increase.

Throughout Maryland, public transit and other strategies to reduce VMT have been underfunded while investments in highway capacity that increases VMT continue to rise. In the [2023 list](#) of regional transportation projects planned over the next four years in the Baltimore area for example, there were zero dollars for transit capacity or commuter rail but \$900 million planned for expanding highway capacity. Also, operations budgets for transit agencies in Maryland are insufficient to provide service that is frequent and reliable enough to grow ridership.

To address this spending imbalance and reduce GHG emissions, we recommend the following:

- 1. The state should mandate that 50% of Surface Transportation Block Grant and National Highway Performance Program federal funds be used by state agencies and shared with cities and counties for public transit, bike and pedestrian infrastructure, and Transit Oriented Development programs.** These are formula grants that Maryland automatically receives from the federal government each year for transportation programs. Maryland's apportionment in FY 2022 was

³ ArchPlan Inc., Audubon Mid-Atlantic, Audubon Naturalist Society, Bikemore, Cedar Lane Environmental Justice Ministry, Central Maryland Transportation Alliance, Ceres, Chesapeake Climate Action Network, Climate Reality Montgomery County, Coalition for Smarter Growth, Disability Rights Maryland, Downtown Residents Advocacy Network (Baltimore), Elders Climate Action Maryland Chapter, Elizabeth Bunn, Glen Echo Heights Mobilization, Greenbelt Climate Action Network (GCAN), Labor Network for Sustainability, League of Women Voters of Maryland, Locust Point Community Garden, Maryland Conservation Council, Maryland League of Conservation Voters, Maryland Legislative Coalition, Maryland Nonprofits, Maryland PIRG, Maryland Sierra Club, MLC Climate Justice Wing, Mobilize Frederick, Montgomery Countryside Alliance, Prince George's County DSA, Strong Future Maryland, The Climate Mobilization Montgomery County Chapter (TCM MoCo), Transit Choices, Union of Concerned Scientists, Unitarian Universalist Legislative Ministry of Maryland, Washington Area Bicyclist Association.

\$203 million and \$418 million for the Surface Transportation Block Grant and National Highway Performance Program, respectively. 50% of these federal funds can be transferred to other programs.

2. **Maryland should set a goal for reducing VMT 20% under 2019 levels by 2030 and undertake modeling to determine the best alternative or combination of alternatives to reduce VMT.**
3. **Maryland should put in mechanisms to track and measure overall VMT as well as measure VMT reduction potential for each proposed transportation project.**
4. **To increase transparency of Maryland Department of Transportation (MDOT) spending to guide MDOT and local government planning and budgeting:**
 - a. **Require MDOT's Consolidated Transportation Plan (CTP) to include a breakdown of what percentage of total spending goes toward transit, walking and biking.**
 - b. **Require MDOT's CTP to include a breakdown of what percentage of total spending goes toward new capacity projects that increase the flow of vehicles and/or people versus system preservation that maintains the transportation assets we already have.**
 - c. **Require MDOT's future budget to show sources of all income including federal grants.**
5. **The legislature should take legislative action to encourage transit-oriented development, especially transit-oriented affordable housing, to reduce VMT. Such legislation could include:**
 - a. **Require a study to evaluate the use and effectiveness of Priority Funding Areas (PFAs) and designated Transit-Oriented Development (TOD) areas.** The study should review whether general plans, zoning, affordable housing funding, and other factors are aligned with PFAs and TOD designations.
 - b. **Create a mechanism to enforce counties' general plan's housing targets and ensure alignment between the general plan's land use and PFAs.**
 - c. **Encourage and allow accessory dwelling units and small multifamily housing in areas near transit centers.**
 - d. **Place caps on parking minimums for all multi-use buildings near transit, including offices and multi-family residential housing.**
6. **The state should take immediate action to address significant frequency and reliability issues of current transit service to grow ridership:**
 - a. **Increase frequency of service, including weekend and evening service on transit service throughout the state.** Fund transit operating budget increases to close operator shortages and support more frequent service as a strategy to grow ridership.
 - b. **The state legislature should strengthen WMATA's ability to provide rail and bus service, contingent on parallel action in DC and Virginia, by allowing WMATA to increase year-over-year operating expenditures by more than three percent.**
 - c. **In order to address the operator shortage, MTA, WMATA, and the Locally Operated Transit Systems (LOTS) should actively recruit, hire, and train additional transit operators with necessary incentives** including signing bonuses, and the state should help provide the funding for the transit agencies to do so.

- d. **Ensure funding and completion of the Frederick Douglass Tunnel Project that will dramatically reduce bottlenecks and speed up MARC & Amtrak Service on the Northeast Corridor.**
7. **The state should take the following actions to expand transit service, bike and pedestrian access to grow ridership:**
 - a. **Collaborate with the federal government to secure an updated plan, re-evaluation of the National Environmental Policy Act process, Record of Decision, and funding needed to complete the Red Line East-West light rail project in Baltimore.**
 - b. **Secure funding needed to implement the MARC Cornerstone Implementation Study and Investment Program, I-270 Corridor Forward Plan, Southern Maryland Rapid Transit plan, and MARC run through service to Virginia and Delaware.**
 - c. **Ensure the completion of the Purple Line.***
 - d. **Complete the cost and construction plan of extending MARC service into Western Maryland.** This was required under the Transit Safety & Investment Act in 2021 but no concrete action has been taken.
 - e. **Repurpose the existing Harry W. Nice Bridge for bike and pedestrian lanes.**
 8. **MDOT should make major changes to the Maryland Commuter Choice program*** to increase the number of employers participating from 10 employers (in 2021) to at least 500 starting in 2024, including Maryland's top 32 employers that each employ over 2,500 people. The commuter choice program includes a reimbursement of 50% of employers' costs (up to \$100 per employee) per month for offering employees qualified commuting benefits programs like transit, cash in lieu of parking, telework and more. Maryland should consider a mandate, similar to what [Washington D.C.](#) and [New Jersey](#) have, that employers of a certain size must offer sustainable commuter benefit options.
 9. **The Governor should revoke plans to expand I-495 and I-270 with private toll lanes, withdraw plans to build a third Bridge across the Chesapeake Bay,** and instead work on comprehensive congestion management plans that will reduce VMT.

Transportation electrification: Electrify light- medium-and heavy-duty vehicles.

Context: As of July 31, 2022, Maryland has only 52,966 registered EVs and is falling far behind the 2025 goal of 300,000 EVs registered. In addition, Maryland has not taken any significant steps to meet its goal of having 30 percent of all medium- and heavy-duty vehicle sales in Maryland zero emission vehicles by no later than 2030. This goal outlined in the Medium- and Heavy-Duty ZEV [Memorandum](#) of Understanding (MOU) was [modeled](#) by the Maryland Department of Environment as a critical tool to meet even 50% reductions by 2030. Maryland utility programs are also approaching their term ends and are vastly inadequate to meet the projected business as usual Light Duty Vehicle adoption rate of 34% rate by 2030, and the Medium- and Heavy-Duty ZEV MOU.

Therefore, we recommend the following:

1. **By 2023, Maryland should adopt the Advanced Clean Truck rule** which will require manufacturers to increase the sale of zero-emission trucks and school buses through 2035.
2. **By 2023, Maryland should adopt the Heavy-Duty Omnibus (low NOx) Regulation** that would dramatically reduce the pollutant nitrogen oxide by comprehensively overhauling exhaust emission standards, test procedures and other emissions-related requirements.

3. **By the end of 2022, Maryland should adopt California’s Advanced Clean Cars II standards** for 100% of new vehicles sold by 2035 to be zero emission.
4. **Starting in 2025, require the procurement of zero-emission buses for locally operated transit systems (LOTS),*** and either provide grants to help fund this or provide the administrative support for LOTS to secure grants from other sources such as the federal IIJA programs. The same training and worker protections contained in the legislation governing the transition for new MTA buses should apply to the LOTS.
5. **The legislature should allocate funding over a multi-year period dedicated to school bus electrification,** including charging infrastructure, and prioritizing school districts in environmental justice communities.
6. **The state should create a multi-agency and stakeholder (including utilities and school districts) working group to accelerate deployment of electric school buses** by providing technical assistance and support with applications for federal funding.
7. **The legislature should pass a bill**
 - a. **Setting certain requirements for newly constructed buildings to be wired for EV charging;**
 - b. **Allocating funding adequate to support the rapid increase in EV adoption** needed to meet Maryland’s transportation commitments and regulations or otherwise direct the PSC to authorize utility EVSE (electric vehicle supply equipment) programs* to this effect. This money should be used to deploy charging stations in a way that recognizes the power levels and physical needs of light-medium- and heavy-duty vehicles, and identify public and private charging locations that will meet the needs of commercial drivers, while also ensuring strong workforce and equity provisions.
 - c. **Directing the MD Office of Energy, MDOT, PSC and MDE to coordinate and take all reasonable steps to maximize the ability of MD entities to take advantage of federal funds,** such as the National Electric Vehicle Infrastructure Formula Grant and the Clean School Bus program including by providing administrative support for public entities’ grant applications.
8. **The PSC should require new utility EVSE program proposals to be submitted that are scaled to building/ supporting the EVSE needed for Maryland’s electrification regulations.** The PSC should also approve prudent proposals for publicly funded public chargers, incentives for off peak/managed charging, pass through requirements for fuel cost savings, and adoption of an open system for payment.

This list of recommendations is not all-encompassing of what we believe needs to be done in the state to mitigate climate pollution from the transportation sector. The state should conduct comprehensive, meaningful inclusive public engagement to ensure communities can shape the development of these and additional policies.