Mitigation Work Group

2020 Work Plan

Purpose

During its 2015 session, the Maryland General Assembly codified the Maryland Commission on Climate Change (MCCC) into law and charged the Commission with advising the governor and General Assembly on ways to mitigate the causes of, prepare for, and adapt to the consequences of climate change. The MCCC is chaired by Maryland Department of Environment (MDE) Secretary Ben Grumbles and consists of 24 members representing diverse interests in the State.

The Mitigation Work Group (MWG) is one of four work groups that support the objectives of the Commission. The purpose of the MWG is to recommend regulatory, market-based and voluntary programs to reduce greenhouse gas (GHG) emissions. These strategies are to be designed in support of a strong economy and job creation in Maryland.

Membership

The MWG is a balanced group co-chaired by three commission members (state agency, business representative, and environmental advocate), with administrative support provided by Maryland Department of the Environment (MDE) Climate Change Program staff.

2020 Priorities

The MWG is partially driven by the schedule set by the 2016 Greenhouse Gas Reduction Act (GGRA) legislation, which required MDE to present a draft plan to the governor and General Assembly by the end of 2019, outlining specific strategies to achieve the most recent benchmark GHG emission reduction requirement (40 percent reduction from 2006 levels by 2030). Furthermore, the plan has been developed in recognition of the United Nation's IPCC finding that developed countries must reduce GHG emissions between 80 to 90 percent below 1990 levels by 2050. The MWG members agree that such considerations for reductions beyond 2030 are important to achieving long-term emission reduction goals, especially when it comes to actions which may take longer to achieve results. Due to the significance of the GGRA Plan for the state's climate change mitigation targets in 2030 and beyond, the MWG has provided guidance and assistance to MDE during the development of the 2019 draft and intends to continue to do so in 2020 in order to produce the best plan for the state. However, the topics chosen by the MWG for discussion this year are not singularly applicable to this plan, and may more generally address future climate actions within Maryland. Accordingly, the 2020 MWG Work Plan focuses on finalizing the 40 by 30 plan and plotting a course to 2050. Appendix B contains more detail on the expected meeting topics, taken from the MWG's meeting discussions and recommendations. Below is an abbreviated version of the priorities in the 2020 work plan:

1. Conduct a robust analysis of the draft GGRA plan including updated policy scenarios and modeling for the final plan.

2. Ensure that proposed programs in the GGRA plan are compatible with achieving deeper reductions before 2050.
3. Review all proposed transportation measures, including the Transportation Climate Initiative (TCI).
4. Continue MDE and Maryland Energy Agency's (MEA) dialogue with MCCC on the progress of CARES and subsequent policy implementation
5. Analyze carbon sequestration measures, including the Maryland Healthy Soils Program and forestry management practices, to ensure a sustainable future for the natural and working lands in the State.
6. Assess how advanced and conventional biofuels could be a resource for the State
7. Identify and analyze new measures and emerging technologies as they become available for the States effort to achieve deeper reductions by 2050

Process

The MWG has access to a wide variety of internal and external assets, including the expertise and resources of MWG members, various State agencies, and the three other working groups of the Commission. In the past, the MWG has regularly sourced subject matter experts to inform its discussions and recommendations, and plans to continue doing so in 2020. Relevant information and analysis will be requested from appropriate state agencies or other institutions (public and private), as necessary to have robust discussions on the mechanisms and pathways called for under the individual topics listed in Appendix C of this document. The MWG will also coordinate with the Scientific and Technical Working Group (STWG), the Adaptation and Response Working Group (ARWG) and the Education, Communication and Outreach Working Group (ECO) on cross-cutting issues as appropriate.

The ultimate aim of each meeting - whether the context is discussion, analysis, identification, assessment, or evaluation - will be to develop an associated recommendation for the appropriate parties moving forward. It is the goal of the MWG to make these recommendations as specific as possible. Recommendations may call for execution of specific measures, programs, or pathways; or they may identify specific information needed to determine the appropriate measure, program, or pathway, and call for action related to gathering and analyzing such information.

Schedule of Meetings

Appendix C of this document provides a summary of MWG meeting topics for 2020.

APPENDIX A

MWG 1. GGRA Plan Review. MWG members expect to make comments on the *2019 GGRA Draft Plan* as they review it in early 2020.

MWG 2. Transportation Recommendation. As part of the process to meet the State's current light-duty electric vehicle (EV) and zero emission vehicle (ZEV) goals and projections, the Maryland Zero Emissions Electric Vehicle Infrastructure Council (ZEEVIC) should specifically research and study to improve understanding of ZEV equity considerations and infrastructure needs to facilitate increased ZEV ownership.

MWG 3. Transportation Recommendation. The Maryland Department of Transportation **(**MDOT), Maryland Department of the Environment (MDE), Maryland Energy Administration (MEA), Department of Budget and Management (DBM) and Department of General Services (DGS) are currently reviewing state fleet procurement procedures and practices, as well as the procurement of EVs and other ZEVs, and associated charging/filling station installation guidance and targets. The MCCC members recommend that the state also consider infrastructure funding through the Volkswagen Mitigation Plan as a precursor to fleet purchase along with ZEEVIC recommendations and state agency group reviewing best practices in procurement.

MWG 4. Transportation Recommendation. MDOT should continue providing technical support and coordination with regional partnerships and initiatives such as I-95 corridor coalition and, potentially, the Transportation Climate Initiative (TCI) to address transportation management and pricing issues of common interest. MDOT should affirm synergies and scale of regional level implementation of some transportation strategies for enhanced mobility, and GHG emission reductions are consistent with MDOT's investment prioritization criteria.

MWG 5. Transportation Recommendation MDOT will review the GHG impacts of shifts in mobility trends like congestion mitigation, bottleneck reduction, and travel reliability as a result of past, ongoing, and planned investments into Maryland's transportation network. This information will be shared with MWG/MCCC members for comment and feedback as it is developed.

MWG 6. Transportation Recommendation MDOT can strengthen partnerships and multimodal initiatives to support "Active Transportation," and Transportation Demand Management, and evaluate new tools and data techniques to support route planning for shared mobility options (car and bike sharing, dockless bikes, electric scooters). Provide research related to trends, needs, and opportunities that capture emerging trends.

MWG 7. Energy Recommendation. MEA and MDE should continue an open dialogue with the MCCC on the development of the Clean and Renewable Energy Standard (CARES) legislation and any subsequent policy implementation.

MWG 8. Buildings Recommendation. The MWG requests an update from the state on the "Maryland Leads by Example" energy-savings initiative, being developed in compliance with Governor Hogan's Executive Order 01.01.2019.08, Energy Saving Goals for State Government.

MWG 9. Land Use and Conservation Recommendation. The state should explore opportunities for resources for carbon sequestration including market-based cap and invest programs, such as The Regional Greenhouse Gas Initiative (RGGI), and/or other emerging policies.

MWG 10. Land Use and Conservation Recommendation. The state could initiate and coordinate with metropolitan planning organizations and local planning authorities a study of household and employment growth scenarios that achieve the land use and location efficiencies necessary to facilitate plan implementation.

MWG 11. Land and Materials Management Recommendation. Maryland should build partnerships to identify sustainable products from the forestry sector that can be used instead of higher impact materials, such as building materials, consumer products, and packaging.

APPENDIX B

2020 Detailed Meeting Priorities

(Subject to changes)

1. The GGRA Plan

- Review the comments on the GGRA Draft Plan and make adjustments as needed.
- Assess ways to enhance existing efforts to track key data and other indicators of GHG reduction strategies to monitor progress and ensure that the state is achieving the goals of the GGRA.
- Analyze the GGRA Plan to determine whether it promotes quality job creation in Maryland through its strategies and policies, and/or exploring what strategies might be employed to do so. Affirm or consider the definition of quality jobs, including the following: (1) family-sustaining wages and benefits; (2) a pathway for workers to form a union and engage in collective bargaining without fear of harassment or reprisal; (3) hiring opportunities for disadvantaged communities; (4) training and advancement opportunities.
- Analyze the GGRA Plan's equity considerations and discuss the utility of a distinct program to assess and address equity issues.
- Analyze the long-term implications of the 40 by 30 Plan and ensure that proposed programs are compatible with achieving potential goals, such as: an 80-90% reduction in GHG emissions, carbon neutrality by 2050, or deeper reductions as called for by the IPCC 1.5 report.

2. Transportation

- Discuss and analyze current efforts to analyze the concepts being developed through the Transportation Climate Initiative (TCI) to implement a market-based program to reduce GHG emissions from the transportation sector, and other similar program options.
- Continue to research and evaluate the GHG emission reduction potential of vehicle and infrastructure technologies, including connected and autonomous vehicles (CAV), EVs, and system operations. Evaluation should consider safety, congestion, and equity issues including public health, economic, and workforce impacts.
- Discuss and analyze the Electric Vehicle Infrastructure Council (EVIC) and the Zero Emission Vehicle (ZEV) MOU efforts to increase electric vehicle (EV) refueling infrastructure and EV sales in Maryland and on the East Coast, with an effort to maintain Maryland's leadership role on the East Coast.
- Discuss ways to enhance travel demand management (TDM) strategies and other strategies linked to smart growth and land use, active transportation, and inter-city travel. This should include an assessment on expanding public transportation investments, including existing Washington Metropolitan Area Transit Authority (WMATA) and Maryland Transit Authority (MTA) funding as well as projects that integrate transportation and more sustainable land use planning (e.g. Corridor Cities Transit, Red Line, MARC train expansion initiatives).
- Discuss and analyze the costs and benefits of deployment opportunities of ZEV school and transit buses in Maryland, including: (1) capital, maintenance and operating costs; (2) the viability of ZEVs, hybrid, and alternative fuel technologies; and (3) emissions reduction benefit summaries.

- Develop a conceptual schedule for these transitions in the transportation sector, which should take into account: carbon emissions (climate change); other emissions (general air quality); environmental and public health benefits; and impacts to both underserved and environmental justice communities. This effort should also include the projected rate of EV and ZEV adoption, identify capital and operating budget needs, as well as tools to make the transitions as timely, equitable and economically productive as possible.

3. Energy

- MEA and MDE will continue dialogue with the MCCC on the Clean and Renewable Energy Standard (CARES) legislation and any subsequent policy implementation.
- Discuss and determine the specifics of a feasible long-term pathway for the energy sector, including: reducing and/or ceasing production from Maryland's six large-scale coal electricity generators; reducing and/or ceasing the use of natural gas (without carbon capture) in the electricity sector; and increasing production from Maryland solar power. Develop a conceptual schedule for the timing of these critical transitions, which may include both a more realistic and a more ambitious pathway.
- Analyze and identify specific mechanisms for achieving the desired transition pathway (or, information needed to determine appropriate mechanisms), including potential details and logistics of: an enhanced renewable portfolio standard; an improved and/or expanded RGGI (either scope or breadth); a solar pathway that includes a blend of rooftop, community, and utility-scale solar; and energy efficiency targets.
- The bridge strategies and the timing of the bridge strategies should take into account: carbon emissions (climate change); other emissions (general air quality); environmental and public health benefits; impacts to both underserved and environmental justice communities; and impacts to communities and workers traditionally reliant on fossil fuel facilities.

4. Buildings

- Analyze and determine specific targets and timelines for decreasing emissions from residential and commercial buildings (or, information needed to determine such targets and timelines), including: annual building retrofit targets; specific energy efficiency targets; a timeline for requiring all new buildings be carbon neutral; and a timeline for replacing fossil-fuel heating systems with electric heating or other low-carbon systems.
- Analyze and identify specific mechanisms for decreasing emissions from residential and commercial buildings (or, information needed to determine appropriate mechanisms), including: expanding programs that support upgraded electric heating and cooling system; new programs to encourage combined heat and power; incentives and other strategies that support the replacement of fossil-fuel heating with electrical systems.

5. Land Use and Conservation

- The state must find opportunities for carbon sequestration, such as market-based cap and invest programs (like the Regional Greenhouse Gas Initiative) and other emerging policies.
- The state will initiate and coordinate with metropolitan planning organizations and local planning authorities to study the household and employment growth scenarios necessary to facilitate GGRA Plan implementation.

- The state will build new partnerships to identify sustainable products from the forestry sector and evaluate their potential to replace higher impact materials in areas such as building materials, consumer products, and packaging.
- Analyze and identify specific mechanisms to reduce net carbon emissions through agriculture (or, information needed to determine feasible mechanisms), such as: practices that sequester carbon by improving soil health (e.g., regenerative agriculture); mechanisms for a permanent source of funding for the healthy soils program; and enacting or extending a program which links renewable energy opportunities to climate-friendly agricultural practices.
- Analyze and identify mechanisms to achieve net forest and tree canopy gains in Maryland while also achieving the plan's goals related to energy distribution, transportation, land use and location efficiencies (or, information needed to determine feasible mechanisms), such as forest management, tree planting programs, a strengthened Forest Conservation Law, and linking such programs to Bay restoration efforts; and identify a target time frame for achieving specific goals.

6. Additional Items

- Continue to analyze strategies that would move the state towards zero waste concepts as expeditiously as practicable.
- Continue to discuss and analyze the state's efforts to challenge changes being proposed at the federal level that weaken key national programs to reduce GHG emissions (e.g., changes to the Clean Power Plan and changes to federal fuel efficiency and vehicle standards).
- Continue to explore methods of executing a general (systemic) carbon pricing program, including expanding/strengthening RGGI, and a TCI cap and invest program.

APPENDIX C

MWG Meeting Schedule* for 2020

(Subject to changes)

Month	Proposed Topic (Lead Agency)
January 21	2020 Work Plan Finalization (MDE) Transportation 1 - Transportation Climate Initiative/Clean Cars (MDE)
February 18	MCCC Meeting
February 25	MCCC Meeting Energy 1 - Clean and Renewable Energy Standard (MDE/MEA) (*May include other issues like coal-fired power plant retirements*)
March 17	Policy Scenario and Modeling Update for the final Plan (MDE)
April 20	MCCC Meeting
April 28	Energy 2 – Buildings/Energy Efficiency (DGS/MEA) (*May include other related issues like Environmental Justice, Low income assistance opportunities, and Heat Pumps*) and MWG Model Run Policy Scenario
May 12	Transportation 2 - Transportation Programs and TCI update (MDOT/MDE) (*May include electric buses, public transit, funding, and highway expansion*)
June 15	MCCC Meeting
June 23	Sequestration/Natural Lands and Emerging Tech (DNR/MDA/MDE) Land Use and Renewable Siting
July 14	Energy 3 - Energy, Energy Storage, and Financing– 2020 RECs (MDE/MEA)
August 18	RGGI Program Review, and Just Transition (MDE)
September 9	MCCC Meeting
September 24	Draft 2020 Recommendations (MDE)
October 6	FINAL 2020 Recommendations (MDE)
November 4	Work Plan
November 9	MCCC Meeting (MCCC Report due 11/15)
December 9	Work Plan, Other (MDE)

**The Work Group identified several other issues that may be added to the schedule at a later date. These include short-lived climate pollutants including methane and hydrofluorocarbon, the timeframe for the transition of the energy sector from fossil fuels to renewables, and the timeframe for the transition of the transportation sector from fossil fuel-based transportation to zero emission vehicle-based transportation.*