

# **Maryland Commission on Climate Change**

## **Mitigation Working Group**

2018 Work Plan

Updated 01/24/2018

### **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 MDE Secretary Ben Grumbles and consists of 26 members representing diverse interests in the State.

The Mitigation Working Group (MWG) is one of four working 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) staff. A complete membership roster is located in Appendix A of this document.

### **2018 Priorities**

The MWG is partially driven by the schedule set by the 2016 Greenhouse Gas Reduction Act (GGRA) legislation, which requires MDE to present a draft plan to the Governor and General Assembly by the end of 2018 outlining specific strategies to achieve the most recent benchmark GHG emission reduction requirement (40 percent reduction from 2006 levels by 2030). Furthermore, the Plan is being developed in recognition of the IPCC's finding that developed countries must reduce GHG emissions between 80 to 90 percent below 1990 levels by 2050. The MWG agrees 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 Draft Plan for the State's climate change mitigation targets in 2030 and beyond, the MWG intends to provide guidance and assistance to MDE both during the development process and after the draft plan is released, prior to finalization at the end of 2019. Accordingly, the 2018 MWG Work Plan focuses on refining and finalizing the recommendations the group has been building during 2016 and 2017, and taking actions to move these forward as appropriate, in order to support the Draft Plan and produce robust recommendations for the Commission's 2018 Annual Report. Appendix C contains more detail on the expected meeting topics, taken from both the MWG and Commission's 2017 recommendations, as well as discussion at the working group.

1. Discussion to prioritize additional analyses or specific methodology that the MWG may request of MDE or other State entities related to the 40 by 30 Draft Plan or GHG Inventory due in 2018.
2. Discussion regarding GHG emissions reduction opportunity from natural gas fuel conversion.
3. Discussion on jobs and the economy, especially related to labor and manufacturing in Maryland.
4. Discussion regarding the economic and environmental costs and benefits of a carbon market approach in various sectors, or a carbon fee and dividend.
5. Discussion related to the mitigation of GHG emissions from the transportation sector.
6. Discussion on ways to incorporate healthy soils into the 40 by 30 Draft Plan.
7. Active incorporation of considerations for environmental justice into each topical discussion.
8. Updates from MDE on the 40 by 30 Draft Plan.
9. Updates from MEA on the QECB and Commercial PACE sub-groups.

## **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. The past two years, the MWG regularly sourced subject matter experts to inform its analyses and discussion, and plans to continue doing so in 2018. 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. More specific opportunities for collaboration are laid out in the Proposed Meeting Schedule (Appendix D).

## **Schedule of Meetings**

Appendix D of this document provides a summary of MWG meetings scheduled for 2018, as well as tentative topics and action items.

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Appendix A

**Mitigation Working Group Membership**

<b>Leadership</b>	
<b>Michael Powell</b>	Co-Chair
<b>Tad Aburn</b>	Work Group Lead

<b>Representatives of Environmental Organizations</b>	
<b>Joe Uehlein</b>	Labor Network for Sustainability
<b>Anya Schoolman</b>	Community Power Network
<b>Jana Davis</b>	Chesapeake Bay Trust
<b>Arjun Makhijani</b>	Institute for Energy and Environmental Research
<b>Tamara Toles O’Laughlin</b>	Maryland Environmental Health Network
<b>Representatives of Academic Institutions</b>	
<b>Gerrit Knaap</b>	University of Maryland, National Center for Smart Growth
<b>Ben Hobbs</b>	Johns Hopkins University
<b>Representatives of Renewable and Traditional Energy Providers</b>	
<b>Anne Lindner</b>	Exelon
<b>R. Daniel Wallace</b>	Bithenergy
<b>Tom Weissinger</b>	Talen Energy
<b>Tom Dennison</b>	Southern Maryland Electric Cooperative
<b>John Quinn</b>	Baltimore Gas and Electric Company
<b>Representatives of Business Interests and Labor Organizations</b>	
<b>Michael Powell (co-chair)</b>	Gordon Feinblatt LLC
<b>Tom Ballentine</b>	NAIOP - Real Estate Development
<b>Mike Remsberg</b>	Trinity Consultants
<b>Drew Cobbs</b>	American Petroleum Institute
<b>Colby Ferguson</b>	Maryland Farm Bureau
<b>Jim Strong</b>	United Steelworkers
<b>Larry Kasecamp</b>	SMART Transportation Division
<b>Representatives of State and Local Government Agencies</b>	
<b>George “Tad” Aburn (working group lead)</b>	Department of the Environment
<b>Colleen Turner</b>	Department of Transportation
<b>Chris Rice</b>	Energy Administration
<b>Christine Conn</b>	Department of Natural Resources
<b>Susan Payne</b>	Department of Agriculture
<b>Tom Walz</b>	Department of Housing and Community Development
<b>Les Knapp</b>	Maryland Association of Counties
<b>Lisa McNeilly</b>	Baltimore Office of Sustainability

<b>Steering Committee</b>	
<b>George “Tad” Aburn</b>	Maryland Department of the Environment
<b>Michael Powell</b>	Business Community Representative
<b>Colleen Turner</b>	Maryland Department of Transportation
<b>John Fiastro</b>	Maryland Energy Administration
<b>Christine Conn</b>	Maryland Department of Natural Resources
<b>Susan Payne</b>	Maryland Department of Agriculture

## **Mitigation Working Group Recommendations from the 2017 Report**

### **The 40 Percent by 2030 Plan:**

- The Mitigation Working Group (MWG) acknowledges the importance of early collaboration on the 40 by 30 Plan, the draft of which is due at the end of 2018, and is continuing to seek input on any recommendations for additional programs or considerations, to be presented to the State in sufficient time for incorporation into the drafting process.

### **Enhanced Greenhouse Gas (GHG) Emissions Inventory:**

- The State should continue to pursue the most locally relevant and complete methods for calculating its GHG Emissions Inventory, including but not limited to consideration of (1) including the life-cycle emissions generated by out-of-state extraction, processing, and transportation of fossil fuels based on in-state consumption (both direct consumption of fuel as well as fuel used to generate electricity which is then consumed in-state); (2) utilizing NASA-sourced LiDAR to provide a more accurate estimate of site-specific carbon sequestration through planting forests, managing forests, and increasing urban tree canopy; and (3) applying advanced methods to generate a more accurate accounting of sequestration benefits from agricultural soil management practices.

### **Environmental Justice and Underserved Communities:**

- The MWG plans to continue to incorporate considerations for environmental justice in its recommendations for developing the 40 by 30 Plan, especially as it relates to underserved communities (both urban and rural) and populations considered especially vulnerable to the impacts of climate change (e.g. children and the elderly). The MWG encourages the State to also use this lens, particularly when examining the results of the health impacts study to be performed.
- To further inform this perspective, the MWG encourages MDE work with the Department of Natural Resources (DNR) and the Commission's Adaptation and Response Working Group (ARWG) in developing a personal query within the Coastal Resiliency Tool that would allow for spatially explicit demographic analysis of those that may be most heavily impacted by sea-level rise.

### **Clean Energy Businesses and Manufacturing Jobs, and Fossil Fuel Dependent Workers:**

- The MWG supports the promotion of green-energy manufacturing in-state that will directly provide sustainable, high quality jobs and generate additional jobs along the supply chain. This has the potential to not only put Maryland at the forefront of an emerging market but also reduce life-cycle emissions for renewable energy projects, both in state and in the surrounding area, by decreasing miles traveled and ensuring best practices during manufacturing.
- The manufacturing study required in 2020 under the 2016 Greenhouse Gas Emissions Reduction Act (GGRA) should explore the costs and benefits (both economic and environmental), as well as the general feasibility of: (1) potential modifications or enhancements to the current "buy local" provisions in the GGRA Plan, such as agreements in contracting for "Buy Maryland/Buy USA" and "Hire Maryland"; and (2) the development of an in-state supply chain to create lasting manufacturing and other jobs related to renewable infrastructure.
- The State should consider incorporating climate goals within its general procurement policies, requiring minimum qualifications for bidders related to attributes which will help meet the 40% by 2030 emissions reduction goals, while creating or maintaining quality jobs in the process.

## Appendix B

- In May 2017 the Maryland Public Service Commission (PSC) approved two offshore wind projects as eligible to issue offshore renewable energy credits. The MWG understands that in its approval the PSC considered the extent to which the projects provided for the use of skilled labor. This was in accordance with criteria for project evaluation set forth in the Public Utility article. The PSC approval order included contingencies related to the protection of Maryland workers and benefits to the State's economy. The MWG understands the relevance of appropriate contingencies and provisions relating to local labor and procurement language and will have discussions specific to these topics (including prevailing wages, labor agreements, and buy MD/USA procurement policies) and related costs and benefits, in 2018, to consider a position as it relates to future RPS/PSC agreements.
- To the extent possible, the jobs analysis for the Draft 40 by 30 Plan should include the quality of jobs (e.g. wages, benefits) and the quantity of jobs created by new initiatives, as well as where the additional jobs are likely to be located, and in what field of employment.
- Additional economics and jobs analyses should, if feasible, address the following topics: (1) workforce and economic considerations surrounding various emerging technologies in electricity generation/storage and advanced management strategies that decrease the total GHG burden of the electric grid; (2) numbers for actual expected displacement of workers, and geographic location; (3) how the future climate may impact worker productivity and construction seasons; (4) the quality of jobs that may replace fossil fuel industry work; and (5) the potential impacts of combined heat and power (CHP) on industrial operational costs and job retention.
- Additional analysis should be conducted, if feasible, regarding clean energy generation located in Maryland, including economic impacts, environmental impacts, workforce, etc., and opportunities to value reliable, efficient and clean energy resources for their environmental, health and economic qualities.

### **Healthy Soils and Carbon Sequestration:**

- An analysis of both current and additional practices should be undertaken to identify those practices appropriate to Maryland that increase soil health, as well as the co-benefits, including carbon sequestration, greenhouse gas mitigation, water quality improvement, ecological resilience, nutrient content, health impact, crop or animal yield, and economic profitability.
- The MWG, in concert with the ARWG, supports incentivizing a menu of Best Management Practices that improve soil health. In addition, co-benefits should be considered when developing strategies and allocating new resources for existing and planned programs.
- Within their respective roles and charges, the Maryland Commission on Climate Change (MCCC) and its four working groups should support the efforts of the Healthy Soil Consortium to inform Maryland farmers of not only the benefits of soil health, but also the programs and incentives that can be accessed to further the adoption of such practices.
- A determination should be made of the tools and metrics available for use in quantifying the potential for carbon sequestration and GHG reduction that can be achieved through the adoption of healthy soil practices.
- A cross-agency inventory should be conducted of Maryland programs that could prioritize and incentivize healthy soil practices for all scales of farming, including the home gardener.
- The MWG and ARWG support the development of pilot and/or demonstration projects to test innovative soil health practices, monitor results over time, and provide educational site locations.
- Alternative funding sources, such as RGGI, social/environmental impact bonds, or public/private partnerships, should be explored; and new funding, when available, should advance programs and practices that prioritize improved soil health.

## Appendix B

### **Innovative Financing:**

- The MWG sub-group lead by the Maryland Energy Administration (MEA) should continue discussion on actionable recommendations for changes to legislation that would help make Commercial PACE loans more attractive to borrowers, lenders, and banks, and increase usage in Maryland.
- The MWG sub-group lead by MEA should continue to work with the Maryland Association of Counties (MACo) and other appropriate parties to move forward with a decision regarding whether the counties wish to make use of the available Qualified Energy Conservation Bonds (QECBs), or if they will waive their allocations to be aggregated and distributed at the state level (in a manner to be discussed by the sub-group), to increase utilization of these funds.

### **Transportation:**

- The MWG recommends that the process for estimating mitigation strategies for the transportation sector be enriched to include synergies of different strategy bundles as well as the co-benefits of various strategies (e.g. social equity, public health, and other environmental benefits).
- Regarding emission modeling processes, MWG recommends that considerations be made for cross-sectoral consistency in assumptions for modeling future baseline and mitigation scenarios, particularly regarding land use and development; and that there be a continued evaluation of best available state-wide inputs, including geographic areas not presently covered by Metropolitan Planning Organization (MPO) travel models.
- The MWG recommends that the Maryland Department of Transportation (MDOT), MDE, MEA and the Department of General Services (DGS) review state fleet procurement procedures and practices and provide direction on electric vehicle (EV) procurement and EV charging station installation guidance and targets by October 2018.
- The MWG recommends researching the costs and benefits of supporting the rapid deployment of ZEV school and transit buses in Maryland. The analysis should include: (1) capital, maintenance and operating cost comparisons; (2) research into the viability of zero emission vehicles (ZEVs) as well as hybrid and alternative fuel technologies; and (3) emissions reduction benefit summaries.
- The MWG recommends that MDOT research the costs and benefits (economic and emissions) of applicable and effective strategies and strategy bundles geared towards decreasing vehicle miles traveled, including increasing public transportation ridership, providing transit access through first and last mile linkages, facilitating the integration of autonomous vehicles, increasing ride-sharing, and integrated land-use planning.

## 2018 Detailed Meeting Priorities

(subject to change based on working group decisions)

### State Agencies Additional Analyses (GHG Inventory/ 40 by 30 Plan)

Discussion on current methodology as well as potential additional analyses or methodology that the MWG may request of MDE or other State entities related to the 40 by 30 Draft Plan or GHG Inventory due in 2018. This may include those analyses recommended in the 2017 Report: (1) impacts\* of emerging technologies and management strategies in electricity sector being considered for GHG emission reduction; (2) valuation and impacts\* of clean energy generation in Maryland; (3) numbers and location of workers expected to be displaced by various measures in the Draft Plan; (4) how the future climate may impact worker productivity and construction seasons; (5) the quality of jobs that may replace fossil fuel industry work; (6) the potential impacts of combined heat and power on industrial operational costs and job retention; (7) those current and emerging practices to increase soil health in Maryland which also have co-benefits related to climate mitigation and adaptation; (8) advanced methods that may generate a more accurate accounting of sequestration benefits from the inventory categories of agriculture, forestry, and wetlands; (9) calculating life-cycle emissions generated by out-of-state extraction, processing, and transportation of fossil fuels based on in-state consumption.

### GHG Emission Reductions from Natural Gas Fuel Conversion

Discussion led by Maryland Energy Association (MEA) regarding GHG emission reduction opportunities from natural gas fuel conversion for electricity generation.

### The 40 by 30 Plan & Other Updates

Updates may include:

- An update led by MDE regarding the 40 by 30 Draft Plan, which may include the following: (1) additional information on the economic modeling process, with results as available; (2) considerations for environmental justice as it relates to underserved communities and populations considered especially vulnerable to the impacts of climate change; (3) the quality of jobs and the quantity of jobs created by any new initiatives being considered, as well as where the additional jobs are likely to be located and in what field of employment; (4) long-term strategies being considered to achieve zero net emissions over the subsequent two to three decades; and (5) changes in GHG emissions associated with population growth and expanded land development.
- An update from DGS regarding the possible inclusion of climate goals in the State procurement policy.
- An update from MEA regarding the Commercial PACE and QECB sub-group efforts.
- An update from MDOT regarding the modeling process for the transportation sector emissions.

### Labor and Manufacturing

Discussion may include the following: (1) how to promote manufacturing in-state in a way that creates sustainable, high-quality jobs related to renewable energy; (2) costs and benefits of including contingencies and provisions in local labor and procurement language such as prevailing wages, labor agreements, and buy Maryland/buy USA/hire Maryland policies.

### Carbon Markets and the Healthy Soils Initiative

Discussion regarding the impacts\* of a carbon market approach in various sectors, including: (1) a carbon fee and dividend program for the electricity sector; and (2) the regional market-based program being discussed at the Transportation Climate Initiative. The second part of this discussion will focus on the Healthy Soils Initiative.

### Transportation

Discussion led by MDOT may include the following: (1) State procurement procedures for electric (EV) and alternative fuel vehicles (and infrastructure) and the impacts\* of an enhanced strategy; (2) the impacts\* and feasibility of a program aimed at rapid deployment of zero emission vehicle (ZEV), hybrid, or alternative fuel school and transit buses; and (3) the impacts\* of various strategies and strategy bundles geared towards decreasing vehicle miles traveled.

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\* on the economy, jobs, and the environment.

## Appendix D

**MWG Draft Meeting Schedule for 2018**

Updated 01/12/2018

<b>Date/Time</b>	<b>Topic</b>		<b>Potential Collaboration Partners</b>	<b>Deliverables</b>
Thursday <b>February 1</b> 10am – 12pm	State Agencies Additional Analyses (GHG Inventory/ 40 by 30 Plan)		<ul style="list-style-type: none"> <li>E3</li> <li>State Agency Representatives</li> </ul>	
Thursday <b>March 1</b> 10am – 12pm	Labor and Manufacturing		<ul style="list-style-type: none"> <li>Alliance for American Manufacturing</li> </ul>	
Thursday <b>April 5</b> 10am – 12pm	Economic Modeling for the 40 by 30 Plan	Additional Updates	<ul style="list-style-type: none"> <li>MDE, MEA, MDOT, DGS</li> </ul>	
April 24th	Commission Meeting			
Thursday <b>May 3</b> 10am – 12pm	GHG Emission Reductions from Natural Gas Fuel Conversion		<ul style="list-style-type: none"> <li>MEA</li> </ul>	
Thursday <b>May 31</b> 10am – 12pm	Carbon Markets (Carbon Fee & Dividend/ TCI)	Updates to the Healthy Soils Initiative	<ul style="list-style-type: none"> <li>TCI</li> <li>Citizens' Climate Lobby</li> <li>MDA</li> </ul>	
June 19th	Commission Meeting			
Thursday <b>July 5**</b> 10am – 12pm	Transportation		<ul style="list-style-type: none"> <li>MDOT</li> </ul>	
Thursday <b>August 2</b> 10am – 12pm	Discussion on Recommendations		N/A	Draft of Recommendations (due to S.C. 8/23)
Thursday <b>August 30</b> 10am – 12pm	Discussion on Recommendations		N/A	Final Recommendations (due to S.C. first week of Sept)
September 18th	Commission Meeting			
Thursday <b>October 4</b> 10am – 12pm	Discussion on Report		N/A	Any Comments on Report Elements, Final Revisions to Recommendations
October 23rd	Commission Meeting			
Thursday <b>October 11</b> 10am – 12pm	Hold for Ad Hoc Meeting			
Thursday <b>November 1</b> 10am – 12pm	Discussion on Work Plan		N/A	Draft of Work Plan
November 7th	Commission Meeting			
Thursday <b>December 6</b> 10am – 12pm	Discussion on Work Plan		N/A	Draft of Work Plan

\*\*Alternative date of Wednesday, June 27th is held due to July 4th holiday