



Maryland Commission on Climate Change Scientific and Technical Working Group Meeting

Summary of July 13, 2016 Meeting

Meeting agenda and the STWG. The meeting was held at the University System of Maryland Office, Adelphi, Maryland. The agenda for the meeting follows this summary. Working Group members present were Ghassem Asrar, Don Boesch, Eric Davidson, Belay Demoz, Russ Dickerson, Gerrit Knaap, Fernando Miralles-Wilhelm, and Dave Vanko. Other attendees included David Costello, Lee Curry (MDE), Howard Feldman (API), Matt Fleming (DNR), Andrew Lazur (UMCP College of Agriculture and Natural Resources), Rubie Mize (UMCP College of Agriculture and Natural Resources). Participating by telephone were Brian Hug (MDE) and Dave Nemazie (UMCES). Chairman Boesch announced that members Antonio Busalacchi and Cindy Parker had moved out-of-state. Boesch had asked Dr. Miralles-Wilhelm, acting director of ESSIC to fill in for Busalacchi. He also indicating someone to add public health expertise with Dr. Parker's departure. Boesch noted that Dr. Dickerson and Dr. Jane Kirschling of the University of Maryland School of Nursing are in the processes of being appointed to the Commission by the Governor and that he has invited them to join the STWG. In addition, he was seeking to find someone with expertise in aspects of climate change and agriculture in order to meet the mandate for an assessment of agricultural impacts in the legislation codifying the Commission.

Climate Change Commission developments. Chairman Boesch reported that following the 2015 STWG meetings the Commission had focused on MDE's 2015 Greenhouse Gas Emissions Reduction Act Plan Update and the Commission's Annual Report. Based in part on the analysis the STWG provided, the Commission recommended extending the Greenhouse Gas Reduction Act and extending the objective of reducing emissions by 25% by 2020 to the next milestone of reducing emissions by 40% by 2030. This pathway is commitment with the commitments of the United States as part of the U.N. Paris Agreement. In its 2016 Session, the General Assembly passed and Governor Hogan signed the bill into law in April that makes the recommended commitment. Since that time, the Commission has focused mainly on discussions contributing to its next Annual Report due in December 2016. A particular focus has been on the prospect of controlling emissions of methane, a shorter-lived but more potent greenhouse gas than carbon dioxide. There have been widespread concerns that the increased production and use of natural gas may be resulting in increased methane emissions that counteracts the benefits of using this less carbon-intense fuel.

Work plan and 2016 tasks. A robust discussion followed that focused on how MDE conducts its emissions inventories for Maryland and whether there are better ways to project and track the state's greenhouse gas emissions. In particular, discussion focused on the most effective role for the STWG in suggesting new approaches for tracking and measuring emission and on opportunities for substituting renewable energy. These were considered longer term tasks that could be undertaken in 2017 while the STWG focused on the immediate tasks of measuring and

assessing methane emissions and updating climate change impacts assessments where new information has emerged since the STWG's 2008 report.

Scientific and technical vetting. STWG members will contact their colleagues and recommend scientists and engineers to serve on an informal vetting team that would serve as a sounding board and fact checker for the Commission's Education, Communication and Outreach (ECO) Working Group and other working groups as needed.

Climate change impacts assessments. Significant new climate impact assessments have been concluded since the STWG's 2008 Comprehensive Assessment of Climate Change Impacts in Maryland, including the IPCC's Fifth Assessment and the Third National Climate Assessment. The STWG believes that while a complete revision of its 2008 report may not be necessary and would take a major effort, it would be worthwhile to examine these newer assessment to see if there is new information that should be taken into account in Maryland's adaptation strategies. In particular, the IPCC Fifth Assessment introduced new scenarios of greenhouse gas emissions including one, called RCP 2.6, that simulates emissions reductions that would avoid 2°C global warming. In addition, there have been many recent publications relevant to future sea-level rise projections. Chairman Boesch offered to take the lead on this reconsideration of climate change impacts with inputs from other STWG members. On the near horizon, the Chesapeake Bay Program is attempting to assess how climate change (increased temperature and precipitation and sea-level rise) might affect the Total Maximum Daily Load of nitrogen, phosphorus and sediments delivered to the Bay sufficient to achieve water quality standards.

Methane emissions. STWG members discussed various issues relevant to methane emissions from Maryland, including emissions from hydrofracturing, measurements made with new sensors flown by aircraft that indicate hot spots associated with landfills, and mitigating methane emissions from agriculture waste management, and the prospects for deploying new continuous measurement systems. STWG members felt it important to know what emissions are from upstream sources of natural gas consumed in Maryland. There is also a need to better understand sources and sinks for the principal greenhouse gases, including carbon dioxide, methane and nitrous oxide, from natural as well as built systems in Maryland. The question of whether reducing black carbon emissions could contribute to limiting global warming was also raised. STWG committed to developing a brief report that would provide perspectives relevant to methane mitigation based on the most recent literature on methane emissions and the emissions inventories used by MDE.

Future tasks. The STWG will prepare two internal reports to provide advice to the Commission for consideration in its Annual Report on methane emission and on recent projections of climate change and sea-level rise for Maryland. On the longer term, the STWG will have to focus on the consideration of climate change in achieving the Chesapeake TMDL, climate change impacts to and greenhouse gas emissions from agriculture, more effective accounting for emissions, and social and economic aspects of climate change impacts and mitigation options.



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First Floor Conference Room, University System of Maryland Office, Adelphi

Agenda

- 10:00 am Introductions and review of agenda
- 10:10 am Climate Change Commission developments
 - 2015 Report
 - Greenhouse Gas Emissions Reduction Act of 2016
 - Membership and work plan
 - STWG membership
- 10:25 am STWG work plan and 2016 tasks
- 10:35 am Scientific and technical vetting team
- 10:45 am Climate change impacts assessments
 - Update of 2008 report based on IPCC, NCA, etc.
 - Impacts on agriculture (per MCCC Act)
 - Sea-level rise projections
 - Contributions to adaptation strategies
- 11:15 am Methane emissions and mitigation strategies
 - Summary of Mitigation Working Group deliberations
 - Tasks for STWG
- 11: 45 am Future tasks (e.g. GHG emission and sinks inventories, renewable energy opportunities, etc.)
- 12:00 pm Adjourn