Maryland Commission on Climate Change
Scientific and Technical Working Group Meeting

Summary of April 26, 2017 Meeting

Meeting agenda and participants. The meeting was held at the University System of Maryland Office, Adelphi, Maryland. The agenda for the meeting follows this summary. Members of the Scientific and Technical Working Group (STWG) present in person or by teleconference were Ghassem Asrar, Don Boesch, Belay Demoz, Russ Dickerson, Gerrit Knaap, Fernando Miralles-Wilhelm, and Dave Vanko. Nicole Carlozo (Department of Natural Resources, DNR), Jess Herpel (Department of the Environment, MDE) and Pat Harcourt (University of Maryland Center for Environmental Sciences) were also in attendance and Brian Hug (MDE) participated by telephone.

Climate Change Commission developments. Chairman Boesch provided an overview of developments relevant to the work of the Maryland Commission on Climate Change (MCCC) since the last STWG meeting in October 2016. The Commission's 2016 Annual Report incorporated information provided by the STWG on methane emissions and projections of sea-level rise and included the STWG's report as an appendix. The 2017 Session of the Maryland General Assembly resulted in the enactment of several relevant statutes, notably an increase in the renewable portfolio standard to 25% by 2020 and a prohibition on hydrofracturing for natural gas extraction. With the question of methane releases from fracking aside for the foreseeable future, MDE is developing plans to control methane emissions from natural gas compressors and from landfills. A week earlier the MCCC approved the work plans for its four working groups and adopted a schedule for completion of its 2017 Annual Report that requires the completion of draft inputs from the working groups in September. During the year MDE will be reporting to the MCCC on the development of the Action Plan for implementing the Greenhouse Gas Reduction Act of 2016, requiring a 40 percent reduction in Maryland's emissions by 2030. A draft of the plan is scheduled for release in late 2018 and input by the MCCC is required prior to that draft.

2017 Work Plan. The STWG focused its discussion around the specific tasks included in its 2017 Work Plan: setting up a scientific vetting team, selectively updating climate impact projections, and strategically improving the technical effectiveness of the inventory of sources and sinks of greenhouse gases.

Scientific and technical vetting team. Dr. Boesch reported that the chair of the Education, Communication and Outreach (ECO) Working Group expressed great interest in using scientific experts under the auspices of STWG to review communication materials for scientific accuracy. Ms. Carlozo indicated that the Adaptation and Response Working Group (ARWG) found a particular need for scientific vetting on issues related to the health impacts of climate change. Ms. Harcourt will consider various requests and develop a categorization of specific topics that

will be distributed to the STWG members to populate a roster with recommended experts who will be "on-call" for rapid review and consultation.

Climate change impact assessments. The STWG will selectively update its assessment of climate change impacts and currently has no plans to undertake a comprehensive assessment comparable to what it did in 2008. STWG members will review more recently completed climate change impact assessments for Delaware and the District of Columbia to uncover relevant new or more accurate information pertinent to Maryland. While the ARWG plans to broaden its attention to focus more on adaptation strategies that go behind coastal vulnerabilities and resilience, it remains interested in sea-level rise projections in light of increasing evidence of polar ice loss. As mentioned before, the ARWG is also particularly interested in human health impacts.

Technical effectiveness of inventory of GHG sources and sinks. As the emissions from power generation are well quantified, the discussion of the potential STWG contributions focused on three areas:

- Follow up on quantification of methane emissions based on direct measurements, possibly including concerns raised about emissions from the Accident Gas Storage Field in Western Maryland. Dr. Dickerson is in sustained consultation with MDE on this front.
- Transportation-related emissions and their relationship to growth and development. Dr. Knaap summarized the work of the National Center for Smart Growth Research and Education (NCSGRE) at the University of Maryland that suggested that future transportation-related emissions may be under-estimated. The models used are statewide, while those used by the Maryland Department of Transportation (MDOT) were built for the Baltimore-DC metropolitan regions. Dr. Knaap will be continuing a dialog with MDOT's technical experts on this issue and the STWG will arrange for presentations at its June 2017 meeting.
- Greenhouse gas sources and sinks from forested, wet and agricultural systems are particularly important because of the need to enhance greenhouse gas sinks by carbon sequestration in forests, wetlands and agricultural soils. The STWG discussed the opportunity to use research findings to better quantify emissions of greenhouse gases, including nitrous oxide, from agriculture in Maryland. Because of the broad-based interest in the Healthy Soils initiative as a means to sequester carbon, improve soil fertility and conserve water there is a need to rigorously quantify the extent and longevity of soil storage. The newly emerging market for carbon offsets demands effective accountability for carbon sequestration.

In addition, the STWG discussed broader implications for inventories, alternatives and offsets of the presentation made at the MCCC meeting a week earlier on the University of Maryland, College Park's Climate Action Plan 2.0.

Threats to the climate change science enterprise in Maryland. STWG members are very concerned about the threats to climate change science posed by the drastic reductions in federal funding included in the Office of Management and Budget's FY 2018 Budget Blueprint. These include significant reductions to NASA's Earth Science portfolio, including the cancellation of four Earth science missions (satellites), and to NOAA's climate change research and polar

satellite observations. Not only would these degrade the capacity of the scientific community to observe, diagnose and project climate changes, but the diminished investments would have a disproportionately large impact on the climate change enterprise in Maryland with its NASA and NOAA laboratories and robust university research programs supported by federal appropriations. The STWG will develop a brief report on the effects of threatened reductions to present to the MCCC at its June meeting.

Scheduling and focus of June 2017 meeting. The next STWG meeting is scheduled for Tuesday, June 20 at 10 am. The meeting will include presentations on three strategic issues:

- Current and projected emissions from the transportation sector, including modeling by MDOT and the NCSGRE.
- An overview of the MDE emissions inventory by Brian Hug with a special focus on sources and sinks from forests, wetlands and agriculture.
- Scoping for a comprehensive assessment of greenhouse gas sources and sinks, potential impacts and adaptation strategies for the agriculture sector in Maryland.

Public comments. Opportunity for comments from the general public was provided, but there no members of the public present or on the conference phone to offer comments.