

Meeting Summary
Virginia's Commission on Climate Change
Adaptation and Sequestration Workgroup (ASWG)

Wednesday, July 30, 2008, 1-4 p.m.

Director's Conference Room, Virginia Institute of Marine Science
Gloucester Point, Virginia

ASWG members present: The Honorable Joseph Bouchard (Chair), The Honorable John W. Daniel, II, The Honorable R. Creigh Deeds, The Honorable Penelope A. Gross, Mr. Michael L. Lipford, Dr. Roger Mann, and Mr. William A. "Skip" Stiles.

ASGW members absent: The Honorable Frank Wagner, Mr. Dale Gardner, and The Reverend Richard Cizik.

Welcoming remarks and introductions were made.

Chairman Bouchard began with an overview of the Adaptation and Sequestration Workgroup mission and scope. The initial charge as given by Secretary of Natural Resources, L. Preston Bryant, Jr., was "This work group will look at things that the state, local governments, and citizens will need to do to adapt to the effects of climate change that cannot be avoided by reducing greenhouse gas emissions." This also ties back into many of the initial five charges that Governor Kaine issued in Executive Order 59, which includes:

- Inventory the amount of and contributors to Virginia's greenhouse gas emissions, including emissions projections through 2025.
- Evaluate the expected impacts of climate change on Virginia's citizens, natural resources and economy.
- Identify climate change approaches being pursued by other states, regions and the federal government.
- Identify what Virginia needs to do to prepare for the likely consequences of climate change.
- Identify any actions (beyond those identified in the Virginia Energy Plan) that need to be taken to achieve the 30 percent greenhouse gas reduction goal.

There was discussion on determining a working definition for "adaptation." Workgroup members reviewed several example definitions used by other groups and ultimately agreed upon the following: "*Actions taken or decisions made in response to actual or expected climate changes to society, ecology, or economy. Adaptation decreases vulnerability, or increases resilience, to impacts.*"

For the topic of sequestration, the Workgroup members felt that this group would focus its efforts on the carbon capture and storage potential of natural systems (e.g., forests, wetlands, agricultural lands) and land management options. Another workgroup, potentially Electricity Generation, was identified as being a better fit for discussions regarding more technological options for carbon capture and storage (e.g., clean coal technologies and underground storage). Members discussed available information on specific sequestration values and potential for

natural systems. There was discussion about the current literature providing very wide ranges for potential sequestration values for wetlands. Messrs. Lipford and Stiles were charged with looking at the available literature to identify a reasonable estimate for the carbon sequestration potential for Virginia's wetlands. They will report back to the full Workgroup at its next meeting, August 27. The Workgroup also discussed the role of forest systems in sequestering carbon dioxide. According to the Department of Forestry (DOF), Virginia loses approximately 27,000 acres of forest per year to land conversion. This is out of the nearly 16 million acres of forestland in the state. DOF estimates that Virginia forests sequester about 20 million metric tons of carbon dioxide each year. To better understand the role of Virginia's forests and the pressures facing them, members requested a copy of the latest Virginia State of the Forest report (2007) and the Forest Inventory Assessment (FIA). Both of these documents should be available at the Workgroup's next meeting. Members recognized that wetlands, forests, and other natural systems are not only critical habitat but also important natural sinks for carbon dioxide and other greenhouse gases. A final plan should emphasize their role in mitigation as well as protection measures for these natural sinks.

Members discussed the potential impact for many of its recommendations on local governments. The group believes that local governments are on the front line of adaptation planning but do not currently have the authority they need to deal with this issue. Any recommendations the Workgroup develops will take that into consideration.

Workgroup members discussed a general outline for its final report, and agreed the report should include the following sections:

1. Introduction
2. State role
3. Top priorities for action now
 - a) For sequestration recommendations, estimate carbon storage potential
 - b) For those actions to be taken at the state level, discuss costs and benefits associated with each action
4. Additional information that is needed, and state's role (if any) in gathering this information
5. Future directions and next steps

Members discussed the process of identifying the costs and benefits associated with each action. They recognized that by not planning in advance or taking actions to minimize impacts of climate change, the state and its residents may actually pay more in the long term. A new University of Maryland study analyzing the cost of inaction on adaptation planning in eight other states has been published. This report has been distributed to workgroup members and is available at www.cier.umd.edu/.

Most Virginia localities do not have current or accurate elevational data to use for planning purposes. Light Detecting and Ranging (LIDAR) data is generally recognized as the best tool to fill this need. The cost of acquisition and post-processing was discussed. A phased approach to

provide LIDAR data for the entire state was recommended, with the first priority being the coastalzone. Collecting LIDAR data for Virginia's coastal zone would cost approximately \$4 million. The first phase could begin in 2009 when Virginia Geographic Information Network begins updating its Virginia Base Map photography. Counties will then be offered the option of adding LIDAR to the regular aerial photography being collected.

There currently is no unified database system for Virginia resources that are likely to be impacted by climate change. The group recommended developing a comprehensive approach to data distribution and access. This could be done through a new Climate Office for the state or by having members of the Governor's Cabinet collaborate on climate issues. Such an office or program could coordinate a statewide data dissemination system and other materials related to climate change impacts on Virginia. The state should define strategic principles for state planning efforts; for example, Virginia is planning for a sea level rise of X feet by Y year, an X temperature increase, and a change of X in weather patterns. These would be the drivers for adaptation planning. There was agreement among workgroup members to use Intergovernmental Panel on Climate Change (IPCC) numbers for sea level rise and temperature increase predictions, using the 50% IPCC estimate for sea level rise. These have been widely peer reviewed and accepted. The workgroup recognized that these numbers may change over time as the IPCC and others collect additional data and refine their models. Messrs. Stiles and Bouchard and Dr. Mann agreed to look into what the IPCC estimates are and present them at the next workgroup meeting.

Workgroup staff will refine the list of topics and outline and distribute them prior to the August meeting.