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**MEETING SUMMARY  
MARYLAND GREENHOUSE GAS & CARBON  
MITIGATION WORK GROUP  
Meeting #5, November 30, 2007  
9:00 AM – 3:30 PM**

**Attendance:**

1. MWG Members:

Tad Aburn, *MDE/ARMA*, Chair

Misty Allen, *Mirant*

Uri Avin, *Parsons Brinckerhoff*

Dr. Michelle Harris Bondima, *Baltimore City Community College*

Joel Dunn, *The Conservation Fund*

Nancy Floreen, *Montgomery County Council*

Ed Giugliano, *AES Warrior Run*

Frank Heintz, *Citizen*

Brad Heavner, *Environment Maryland*

Debra Jacobson, *DJ Consulting*

George Kelly, *Environmental Banc & Exchange*

Michael Li, *MEA*

Bill Livingston, *W L Gore*

Elizabeth Martin, *Natural Resources Defense Council*

Mike Malinoff, *City of Annapolis* (by phone)

Dr. Cindy Parker, *Johns Hopkins Bloomberg School of Public Health*

John Quinn, *Constellation Energy*

Matthias Ruth, *UM CIER*

Dr. Lise Van Susteren, *The Climate Project*

2. MD Department of Environment (MDE):

Liz Entwisle, MDE

Brian Hug, MDE

3. Center for Climate Strategies (CCS):

Ken Colburn, *Facilitator*

Katie Pasko, *Assistant*

Joe Pryor, *Facilitator*

James Wilson, *Facilitator*

Public and others in attendance:

Adreinne Attalimi, *MD Coal*  
Madeleine Carmichael, *observer*  
Bill Cunningham, *UJAE*  
Jerry Hughes, *PSC*  
Howard Simons, *MDOT*  
Mark Southerland, *Verser (DNR-PPRP)*

**Background documents:**

All posted at: [http://www.mdclimatechange.us/GHG\\_Carbon\\_Mitigation\\_WG.cfm](http://www.mdclimatechange.us/GHG_Carbon_Mitigation_WG.cfm).

1. Agenda
2. Overview Presentation
3. Draft Policy Option Catalogs and Descriptions
  - a. Agriculture, Forestry and Waste Management
  - b. Energy Supply
  - c. Residential, Commercial and Industrial
  - d. Transportation and Land Use
  - e. Cross Cutting Issues

**Discussion items and key issues:**

Tad Aburn welcomed all the members and asked all to introduce themselves. He informed the group that the Interim Report was not presented to the Commission on November 14<sup>th</sup>, as the meeting was cancelled due to the Special Session of the General Assembly. The meeting has been rescheduled for December 4<sup>th</sup> in Bethesda.

Aburn reminded the group of the 2050 vision and goal. His new challenge is to ask how the strategy for each proposed policy option will play in 2012 and 2015, while still keeping the 'large and long' view.

Colburn reviewed the agenda, including the process and timeframes. At this meeting, the MWG will review the Policy Options templates for each TWG. The TWGs have begun the process of filling in the templates for each policy option, especially the policy descriptions and design sections. The MWG is asked to approve each draft. Voting will be Unanimous, Supermajority or Majority. A supermajority vote is support by approximately two-thirds of those present. At this meeting, five no

The entire Catalog included over 300 items, which was been reduced approximately 55 proposed Policy Options. The TWGs have been creating Straw Proposals, expanding on the basic idea expressed in the policy option title. The goal for this meeting is to review the Straw Proposals, which then allows the TWGs to proceed further on the approved proposals. The next steps are to begin quantification of GHG reductions and costs, evaluate feasibility issues and develop

alternatives as necessary. After this next portion of the process is completed, CCD facilitators will consolidate the results and eliminate double-counting of reductions.

Straw Proposals include a brief description of the policy and implementation features, as well as estimates of the anticipated GHG reductions to be achieved and the cost of such reductions.

Colburn stated that the format of each TWG presentation would be a review of the policy options led by the facilitator, aided by members of the TWG. The review will be followed by discussion and decisions of each policy option. Any proposals not approved at this meeting will be eliminated from further discussion, unless the MWG ‘resurrects’ the proposal at a later meeting.

### **Update on IPCC Synthesis Report**

Colburn reviewed the IPCC Draft Report for the group. Key points outlined include:

Observed changes in climate and their effects

- Warming of the climate system is unequivocal

Causes of Change

- Global GHG concentrations have increased markedly as a result of human activities since 1750; now far exceed pre-industrial levels
- Discernible human influences extend beyond average temperature to other aspects of climate
- Anthropogenic warming has *likely* had a discernible influence on changes in many physical and biological systems.

Projected climate change & its impact

- Much higher confidence in TAR projections
- Continued emissions would cause further warming and induce changes this century very likely larger than those of the 20th century
- Impacts mostly negative; could be abrupt and/or irreversible

### **Introduction to Policy Option Discussion**

Gloria Flora opened the discussion with the issue of quantification. Not all proposals have easily identified metrics on which to base calculations. Each TWG will identify, whenever possible, the metrics available and the assumptions used to model the proposed policy option. It is understood that not all options will be easy to quantify.

#### ***Agriculture, Forestry and Waste***

Gloria Flora led the presentation and discussion. She stated that the TWG reordered the numbers of the policy options.

Each option is summarized below:

#### ***AFW-1 - Forest Management for Enhanced Carbon Sequestration with Mitigation of Forest Loss Due to Insects, Disease, Pests and Invasive Species***

**Approved to proceed by MWG with inclusion of insects.**

This option emphasizes the importance of maintaining carbon sinks. The TWG feels that a wider understanding of this issue is needed and will write a short paper on the topic to be included in its report.

Note that the formerly separate 'Insect Policy' has now been tied to options AFW-1 & 2.

Aburn asked if the long term goals were discussed in this draft. They will be included in the quantification portion of all options. He feels that "no net loss" is a good starting point, but the implementation should also include increasing forested lands over 2006 levels. The Chesapeake Foundation report on Maryland can provide needed data, including goals for 2020.

Education issues will be addressed in conjunction with Cross-Cutting.

***AFW-2 - Managing Urban Trees and Forests for Greenhouse Gas Benefits with Mitigation of Forest Loss Due to Insects, Disease, Pests and Invasive Species*****Approved to proceed by MWG with inclusion of insects.**

A baseline is needed for quantification of this policy option. DNR is working with CCS to provide the required data. A member recommended that the American Forestry Approach used in Annapolis would be a good method.

Aburn emphasized that urban tree canopies help reduce urban temperatures by providing shade coverage, leading to significant energy savings.

***AFW-3 - Afforestation, Reforestation and Restoration of Forests and Wetlands*****Approved to proceed by MWG.**

Flora explained that trees need 6-18 years of growth before they achieve significant carbon sequestration levels.

The members agreed that fee-in-lieu programs for preserving undeveloped land should be a last resort. The land should be preserved whenever possible.

Quantification can utilize the Chesapeake Bay Forest Commission figures. Any double counting will be reviewed and eliminated later in the process.

Members were reminded to use terms carefully, as many have specific definitions according to RGGI and other programs.

***AFW-4 - Protection and Conservation of Agricultural Land, Coastal Wetlands and Forested Land*****Approved to proceed by MWG.**

The members were reminded that TWGs are not responsible for determining funding sources for policy options. Exploration of policy options should not be limited by lack of funding.

***AFW-5 - "Buy Local" Programs for Sustainable Agriculture, Wood and Wood Products***

**Approved to proceed by MWG.**

The TWG recommends that Maryland produce 80% of its food by 2050.

***AFW-6 - Expanded Use of Forest and Farm Feedstocks and Bi-Products for Energy Production***

**Approved to proceed by MWG.**

Concerns were expressed by members that deforestation not be stimulated by these proposals.

Members agreed that proposed implementation strategies not create programs that duplicate existing programs.

***AFW-7 - In-State Liquid Biofuels Production***

**Approved to proceed by MWG with inclusion of lifecycle issues.**

Other states' efforts should also be reviewed as part of the policy goals, as well as value-added by-products production.

Members agreed that balance was needed in the recommending and promoting the use of biofuels and the protection of farmlands. Increased biofuel demand could result in less fallow land.

Flora stated that the AFW TWG focus is on cellulosic, not food-based ethanol. There should be consideration of lifecycle biofuels, such as switchgrass. Using a percent better approach will aid quantification of plans.

***AFW-8 - Nutrient Trading with Carbon Benefits***

**Approved to proceed by MWG. The TWG is asked to elaborate on the concepts described.**

Maryland is developing regulations for a non-point trading system, however there is no state cap on nutrient trading.

***AFW-9 - Waste Management through Source Reduction & Advanced Recycling***

**Approved to proceed by MWG.**

There are implementation issues in rural areas, as it is more difficult to recycle efficiently or at all. A member pointed out that Montgomery County has a goal of 50% recycling, but has been unable to progress beyond 30-40%.

Initial consumption reduction efforts should be further elaborated. For example, members are asked to bring reusable coffee mugs to future meetings.

### ***Cross Cutting Issues***

#### ***CC-1 - GHG Inventory and Forecasting***

**Approved to proceed with no objections**

#### ***CC-2 - GHG Reporting and Registry***

**Approved to proceed with no objections**

#### ***CC-3 - Statewide GHG Reduction Goals and Targets***

**Approved to proceed with no objections**

The TWG recommends that reporting should be done every other year.

#### ***CC-4 - State and Local Government GHG Emissions (Lead-by-Example)***

**Approved to proceed with no objections**

This option is the same as RCI-4.

#### ***CC-5 - Public Education and Outreach***

**Approved to proceed with no objections**

Note that forest carbon sequestration – Lead by Example must be included in the Final Report.

#### ***CC-6 – Tax and Cap Policies***

**Approved to proceed with no objections**

#### ***CC-7 – Review Institutional Capacity to Address Climate Issues Including Seeking Funding for Implementation of MWG Recommendations***

**Approved to proceed with no objections**

A review of other states should also be included. RGGI funds are available for some programs. Other creative thoughts on funding are encouraged.

#### ***CC-8 – Promote and Participate in Regional, Multi-State and National GHG Reduction Efforts***

**Approved to proceed with no objections**

#### ***CC-9 - Promote Economic Development Opportunities Associated with Reducing GHG Emissions in Maryland***

**Approved to proceed with no objections**

A volunteer to lead this small group is still needed, therefore, the policy option template is still tentative.

#### ***CC-10 - Develop Tools to Explicitly Address Policy Issues in an “After Peak Oil” Context***

**Approved to proceed with no objections**

The creation of a State Advisory Council is recommended. This would also serve as an implementation mechanism for CC-11.

***CC-11 - Evaluate Climate Change Policy Options to Determine Projected Public Health Risks, Costs, and Benefits*****Approved to proceed with no objections**

Maryland currently has a Council of Environmental Justice. However, it has no directive to broadly review health issues in the context of environmental issues.

***CC-12 – Review Institutional Capacity to Address Climate Issues, especially Leadership Development.*****Approved to proceed with no objections*****Energy Supply***

Jeff Wennberg and Donna Boysen presented a brief overview of the Energy Supply TWG Policy Option Descriptions.

***ES-1 - Promotion of Renewable Energy Sources, including Zoning, Siting, Incentives to Promote Centralized Facilities, Long-term Contracting and Performance-based Contracting*****Approved to proceed with no objections**

This is an unclear goal, with soft directives. It should be more specific in its language if possible.

***ES-2 - Technology-focused Initiatives for Electricity Supply (Biomass Co-firing, Energy Storage, Fuel Cells, Landfill Gas, Clean Energy Incentives)*****Approved to proceed with no objections**

The goal of this policy option is to create a set of policies as an umbrella to foster development of low GHG electric production, implemented by a small staff in an appropriate state agency. As an example, there is currently no CO<sub>2</sub> capturing technology available. It could be called the Technology Transfer Office, out of MDE.

The TWG is asked to explore the possibility of dropping this option because it can't be quantified and make a recommendation.

***ES-3 - GHG Cap and Trade*****Approved with no objections**

The TWG has not yet reached consensus on this policy option. It calls for an auction of allowances, with the funds used to develop energy efficiency and clean energy programs. Such a program in Maryland would cut across all sectors in all counties of the state, unlike RGGI, which only deals in electricity.

Allocation characterization has yet to be completed. Some members of the MWG support a cap and trade program versus a preset blanket reduction at all facilities.

The TWG is asked to work toward consensus as quickly as possible.

Models to quantify these programs exist and can be run with other variables. Placeholder dates can be used until more definitive data is available.

The MWG decided to leave this policy option in this TWG.

***ES-4 - CCSR Incentives, Requirements and/or Enabling Policies including Administration, Regulation, Liability and Incentives)***

**Approved with no objections**

Implementation is recommended as early as possible, with a final goal of 2020.

***ES-5 - Clean Distributed Generation Standards, Incentives and Barrier Removal, including Combined Heat and Power (CHP), District Heating and Cooling, Landfill Gas, Solar, Fuel Cells and others***

**Approved with no objections**

Members asked if this could be accomplished earlier than proposed. The goal is to reach 50% of the technical potential in 2025.

***ES-6 - Integrated Resource Planning (IRP) including Re-Regulation, if necessary, and/or a State Energy Plan***

**Approved with no objections**

This is a very broad, wide-ranging goal. The overlap between a State Energy Plan and existing government programs needs to be addressed.

***ES-7 - Renewable and/or Environmental Portfolio Standard and/or Energy Efficiency Portfolio Standard***

**Approved with no objections**

Strengthen RPS to 20%, with an acceleration and intensification of existing programs. If the legislature passes a similar bill in this session, then the TWG should incorporate those regulations in its calculations. It should also review the parameters and data for each county.

***ES-8 - Efficiency Improvements and Repowering Existing Plants***

**Approved with no objections**

No comments were made.

***ES-9 – Carbon (GHG) Tax*****Approved with no objections**

The TWG is directed to analyze this option on a sector basis. Market costs should also be included.

TWG members generally prefer a cap and trade program, but will accept this or other such programs as preferable to no action.

***ES-10 – Generation Performance Standards and/or Mitigation Requirements for Electricity*****Approved with no objections**

There is much overlap with other policy options. This option also includes imported electricity.

**Transportation and Land Use Policy Options**

Jim Wilson presented an overview of all TLU policy options. He explained that the TWG is largely focusing on fuels, with a secondary focus on travel reduction.

TLU-2 and 7 are closely linked and include time vs. VMT/capita calculation.

It was noted that leaf blowers are not included on this list of engines. The TWGs will determine where household engines should be incorporated, in TLU or RCI.

***TLU-1- Increased Fuel Tax***

The TWG has proposed increasing the fuel tax \$0.15/year up to a total of \$2. in addition to the current state taxes. Some members felt that a \$5-6 increase is needed to impact behavior. A member suggested that the proposed tax start at \$0.15/year and be indexed over time.

Members noted that the annual revenue will decrease as behavior changes. Current revenue projections are \$500M in 2009 up to \$2.7B in 2020.

**TLU-2 Land Use and Location Efficiency**

The 1990 VMT per capita should be used as the goal. Achieving this goal will be a challenge, as 10% is a very good reduction. The average is 3-4%, based on 25 year studies in Europe.

The Inventory and Forecast report will be utilized in reviewing this goal.

The TLU is asked to review their calculations and look more closely at benchmark values.

## **Residential, Commercial, Industrial Policy Options**

Chris James presented an overview of all RCI policy options. Highlights of the TWG meeting held on Monday, 26 November 2007 are included. RCI 2 and 11 are being worked together, as there is much overlap.

Many of these recommendations are high level and unquantifiable.

### ***RCI-1 - Improved Building and Trade Codes for Energy Efficiency***

**Approved to proceed with no objections**

Add “and trades” to the line beginning ‘Potential elements’.

### ***RCI-2 - Demand-Side Management (DSM)/Energy Efficiency Programs, Funds, or Goals for Electricity and Natural Gas (Including Expansion of Existing Programs and Peak Load Reduction)***

**Approved to proceed with no objections**

The goal of this policy option was changed to combine it with RCI-11. Gains in efficiency are being calculated.

### ***RCI-3 - Low-cost Loans for Energy Efficiency***

This is an example developed by CCS. A volunteer is still needed to lead the small group.

### ***RCI-4 - Improved Design, Construction, Appliances, and Lighting in New and Existing State and Local Government Buildings: “Government Lead-by-Example”***

**Approved to proceed with no objections.**

### ***RCI-5 - Energy Efficiency and Environmental Impacts Awareness and Instruction in School Curriculum***

**Approved to proceed with no objections**

Delete the last three words of the policy name “in School Curriculum”.

### ***RCI-6 - Promotion and Incentives for Improved Design and Construction (e.g., LEED, Green Buildings, or Minimum % Improvement Beyond Code) in the Private Sector***

**Approved to proceed with no objections**

### ***RCI-7 - More Stringent Appliance/Equipment Efficiency Standards (State-level, or Advocacy for Regional or Federal-level Standards)***

This is an example developed by CCS. A volunteer is still needed to lead the small group.

### ***RCI-8 - Rate structures and Technologies to Promote Reduced GHG Emissions (Including Peak Pricing and Inverted Block Rates)***

**Approved to proceed with no objections**

Rate structures should be designed to reduce peak power demand and to reduce overall demand.

The TWG is looking for guidance on which assumptions the MWG would prefer to see focused upon. Frank Heinz will talk to Chris about this topic. For example, NJ has two rate structures. The question of timing the implementation of smart meters was also raised.

***RCI-9 - GHG or Carbon Tax***

**Approved to proceed with no objections**

The TWG is directed to work with the ES TWG to prevent duplication.

***RCI-10 – White Roofs, Rooftop Gardens, and Landscaping (including Shade Tree Programs) and Solar Electric Panels***

**Approved to proceed with no objections**

The TWG is asked to take the components of this policy option and include them in RCI-4 and RCI-6. The issue of rooftop gardens can be moved to AFW.

***RCI-11 – Energy Efficiency Resource Standard (EERS)***

**Approved to proceed with no objections**

This is explicitly linked to energy sales and therefore easy to predict and quantify.

Change ‘per capita demand’ to ‘per capita sales’.

Change ‘utilities’ to ‘load-serving entities’.

***RCI-12 – Phase Out Incandescent Light Bulbs in State***

**Approved to proceed with no objections**

No changes were made.

RCI and TLU need to resolve responsibility for assessing small engine impacts.

**Next Steps:**

1. The MWG will be divided among four Technical Work Groups (TWGs):
  - Agriculture, Forestry and Waste
  - Cross Cutting Issues
  - Energy Supply
  - Transportation and Land Use
2. Each member of the MWG is asked to indicate their preferences for assignment to the TWGs. Preference forms were distributed at the meeting and will also be sent by e-mail to the members.
3. The facilitators will distribute a draft catalog of policy options to each TWG before its first meeting. Each member is asked to add any additional items that appear to be missing from the catalog as soon as possible in order to keep the process moving forward.
4. The group is asked to be as comprehensive and creative as possible at this stage as well as throughout the process in addressing climate change issues.

**Future Meetings:**

1. Unless notified otherwise, future meets of the Work Group will be Sept 7th, Sept 28th, and October 26th. Locations are to be determined.
2. Schedules for the technical groups will be distributed as soon as the roster of participants has been established. These technical groups are expected to meet frequently between MWG sessions, in person or by conference call.