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**MEETING SUMMARY  
MARYLAND GREENHOUSE GAS & CARBON  
MITIGATION WORK GROUP  
Meeting #7, February 21, 2008  
10:00 AM – 4:00 PM**

**Attendance:**

1. MWG Members:
  - Tad Aburn, *MDE/ARMA*, Chair
  - Paul Chan, *Citizen*
  - Joel Dunn, *The Conservation Fund*
  - Frank Heintz, *Citizen*
  - Brad Heavner, *Environment Maryland*
  - George Kelly, *Environmental Banc & Exchange*
  - Michael Li, *MEA*
  - Mike Malinoff, *City of Annapolis* (by phone)
  - John Quinn, *Constellation Energy*
  - Michael Replogle, *Environmental Defense*
  - Dr. Lise Van Susteren, *The Climate Project*
  
2. MD Department of Environment (MDE):
  - Liz Entwisle
  - Renee Fizer
  - Brian Hug
  - Paul Lang
  - Jim Lewis
  - Marcia Ways
  
3. Center for Climate Strategies (CCS):
  - Ken Colburn, *Facilitator*
  - Katie Pasko, *Assistant*
  - Joe Pryor, *Facilitator*

**Public and others in attendance:**

Bill Cunningham, *UJAE*  
Eileen McLellan, *Environmental Defense*

Joan Rohlf, MWCOG  
Howard Simons, MDOT  
Alana Wase, Sierra Club

**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 present to introduce themselves. This meeting was rescheduled from February 19<sup>th</sup> due to legislative hearings.

The MCCC will meet in three weeks, on March 20<sup>th</sup>. The Interim Report has been discussed at all levels of state government and is already having an effect on actions.

The schedule for the Final Report has been changed. The revised target date for MCCC to issue its report is June 15<sup>th</sup>, which means that the MWG must complete its work by the end of April to allow time for the MCCC to deliberate and approve the work and for the preparation and review of documents.

Several bills have been introduced in this session of the legislature. The global warming bill was favorably received at the hearing on February 19<sup>th</sup>. An Office of Climate Change was proposed, but MDE has suggested that it be studied for a few years. MDE will continue to work on goals utilizing the efforts of existing staff.

Ken Colburn reviewed the agenda for the meeting. The current status of all policy options will be reviewed. At this point, the quantifications for all options are independent of the others. The elimination of overlapping GHG reductions will be performed later in the process. At this meeting, the goal is to reach consensus and approve policies wherever possible.

Colburn explained that sections 1-4 of the Policy Option Template have been completed. The current focus of efforts is on quantification and feasibility issues.

Aburn stated that the Final Report highlight short, intermediate and long-term goals. Any adjustments to implementation schedules should be made in order to realize savings and GHG reductions sooner.

**Policy Option Draft Review****Agriculture, Forestry and Waste*****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**

There is insufficient data at present. When it arrives, quantification will proceed.

The MWG agrees to subtract emissions due to actual harvesting

***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**

The MWG supports this policy option, including emphasis on the benefits of improving the tree canopy. The TWG has not yet had the opportunity to formally approve this option.

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

Currently Maryland loses about 900 Ac/mo to development. Careful placement of riparian buffers can have water quality and nitrogen sequestration benefits.

The wetlands portion of the goal needs more quantification assistance.

In the footnotes in the POD, the TWG should not limit itself to RGGI rules. The types and ages of the trees and forests should be delineated. Planting will still be necessary in 2050.

***AFW-4 - Protection and Conservation of Agricultural Land, Coastal Wetlands and Forested Land*****Approved to proceed by MWG with no objections.**

There is a continued lack of available data for Wetlands and Coastal models, so these areas have not been quantified. The Coastal Protection Bill may generate good data.

There are three points made in the POD:

- Avoided clearing costs and GHG benefits
- Assume 25-75 yrs old, which is consistent with Maryland forests
- A protected forest is not necessarily managed forest.

The CO<sub>2</sub> levels in soils must be compared to other managed lands or at least noted. Emissions exist but not quantified.

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

**Approved to proceed by MWG**

Sequestration is difficult to quantify. The current focus is on GHG reductions from shipping costs.

There is a 'Buy Local' bill with a fiscal note before the Assembly.

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

**Approved to proceed by MWG.**

There is a lot of overlap with other TWGs. This overlap will be addressed in the future.

There are feasibility issues to this POD. Most farms in Maryland are too small and too spread out to justify the use of a digester. Over 500 head are required and farms average 75 head.

The use of pyrolysis should be explored.

The emissions required for energy production should be counted.

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

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

There is a lot of overlap with other TWGs. This overlap will be addressed in the future.

There is no clear recommendation for an upper bound.

The TWG suggests changing the Policy Design to a number of gallons basis.

The MWG reminded the TWG to keep the focus on GHG reduction, not the production of fuels, except as it pertains to reducing GHGs.

In Scenario B, an algae bioreactor is required. The MWG recommends scaling back the proposal to existing technologies.

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

**Approved to proceed by MWG.**

Add other benefits to the Benefits section.

Utilize cost estimates from the Chesapeake Bay program.

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

**Approved to proceed by MWG.**

There have been no changes since the last meeting. US data is being used where Maryland data is not available.

Add a suggestion for study under the Implementation section. There have been Maryland specific studies conducted.

Review the links in the footnotes to ensure that they still work.

## **Cross Cutting Issues**

The TWG concentrated on the Key Uncertainties and Elements section.

### ***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**

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

**Approved to proceed with no objections**

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

**Approved to proceed with no objections**

### ***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**

### ***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**

The MWG supports adding the concept of not exporting GHGs offshore.

At the end of the Policy Description add “identify, promote and finance these opportunities”.

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

**Approved to proceed with no objections**

***CC-11 - Evaluate Climate Change Policy Options to Determine Projected Public Health Risks, Costs, and Benefits***

**Approved to proceed with no objections**

***CC-12 – Review Institutional Capacity to Address Climate Issues, especially Leadership Development.***

**Approved to proceed with no objections**

## **Energy Supply**

Note that all quantifications presented are for that policy option. Any reductions due to multiple options have not yet been resolved.

The TWG is asked to segregate imported electricity from in-state generated power in the Inventory and Forecast, especially the Summary.

***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**

These calculations are based on reductions in coal usage. The tool is based solely on zoning and siting, which is a less powerful tool than others.

***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**

This option is not being quantified, but estimates could be created if the MWG wishes. Biomass co-firing is quantified in ES-8.

***ES-3 - GHG Cap and Trade***

**Approved to proceed with no objections**

Quantification will be started after this meeting.

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

**Approved to proceed with no objections**

The quantification is based on the ability to capture and store energy using a 60 MW coal plant. Current plants that do not meet the assumed baseline efficiency standard will have to be retro-fitted or rebuilt new.

***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 to proceed with no objections**

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

**Approved to proceed with no objections**

Review the tools used in order to keep the numbers as accurate as possible. Generated mix values can be found on the PSC website and PJM website.

The 2020 and 2050 vision should also be included.

There is an issue with the reliability of the infrastructure in 2011. There is only a low-end focus on renewable energy. Issues include efficiency, reliability and infrastructure.

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

**Approved to proceed with no objections**

The MWG recognizes that the Policy Design section is very aggressive.

Clearly differentiate the differences between the language of this POD and current proposed legislation.

There was discussion about leaving hydro power in the policy option. By retaining hydro, 50% of the goal would be reached. A goal of 20% in 2020 requires the use of hydro power. Incentives for new dams should be excluded.

Selling of renewable energy credits creates a subsidy by current ratepayers for future users.

The TWG must frame these concepts more precisely in the POD.

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

**Approved to proceed with no objections**

The title is misleading. The TWG is asked to split the policy option into A and B sections.

***ES-9 – Carbon (GHG) Tax***

**Approved to proceed with no objections**

The quantification has been done in parallel with the Cap & Trade calculations.

***ES-10 – Generation Performance Standards and/or Mitigation Requirements for Electricity***

**Approved to proceed with no objections**

The supply chain in Maryland currently puts WV coal generated power first. This impacts the division of imported versus in-state generated power.

Current generation standards can't favor one state over another. A standard can be set for all power sources. The MWG agrees to set the proposed standards lower than the current Maryland standard of approximately 1200 lbs CO<sub>2</sub>/MWh. The TWG should add a straight cap for all electricity, ramping it if necessary.

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

Chris James and Alice Napoleon presented an overview of all RCI policy options.

The TWG is unanimously recommending approval of RCI-1, 4, 6, 7 and 11. RCI-2 was approved with one abstention. RCI-3 has not yet been quantified.

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

#### **Approved to proceed with no objections**

Residential costs have gone up significantly so costs are higher in the POD, however, LEED construction costs are going down over time. The TWG will continue to review and revise the baseline and projections.

A member cited a report issued by the Urban Planning Institute, "Growing Cooler", as evidence that there will be a shift over the next 20 yrs. to higher density, small lot housing.

In Energy Savings Goals, the early savings represent the transition to LEED conversions, while later values represent higher costs for less benefit.

IECC guidelines are not necessarily a good assumption in Maryland as counties do not adopt building codes equally. This issue should be noted in Feasibility Issues. State resources would be required to make this option an early action option. A suggestion was made to use RGGI funds to train codes officers.

Cross reference the energy standards used in RCI and ES to ensure uniformity, etc.

LEED standards should be used as the 'business as usual' standard.

### ***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 \$100M funding level is not a constraining factor and is in conjunction with RCI-10. The figures used on pg. 15 are gross figures. The TWG is asked to define per capita figures vs. gross figures.

Solar hot water use should also be included in this option or RCI-10, perhaps in the Implementation section. Presently, there are small contributions from solar hot water in the state. Since Maryland has a major exporter of solar panels, this is an area that should be aggressively explored.

A question was raised regarding the use of solar hot water use.

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

**Approved to proceed with no objections**

There is not reliable data available to quantify this option. The TWG recommends that the state implement a pilot program with regular review of available research. The closest program to this proposal is the PaySave program in NH, which is still classified as a pilot program after five years. The NH program can't be used as a clean model, as they have added incentives and rebates to the program over its life. The indicators exist that savings will be realized for RCI-3.

The MWG does not object to with not quantifying this option.

There is a low cost loan program in Pennsylvania, Keystone Help. RGGI funds could potentially be used to provide initial seed money.

***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**

There is long term capital available worldwide for the construction of and conversion to energy efficient buildings.

LEED Gold standards should be implemented by 2012, with Platinum by 2020.

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

Change the note to "Assigned to CC-5"

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

Change the note to "Assigned to CC-5"

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

**Approved to proceed with no objections**

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

**Approved to proceed with no objections**

This is a very complicated issue. Replacing meters can't generally be done in a piecemeal fashion, as the utilities would want to install an entire area at once, or two sets of meters would be in use in the same area. Installation costs also are lower when installed in bulk.

Smart meters, with real-time pricing, are best suited for commercial and industrial applications. Generally, residences are non-responsive to time of day pricing. The emissions benefits are likely to be small.

Tiered pricing or a mix of regulatory and real-time pricing may be more beneficial.

Further efforts will be made to quantify this option.

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

**Assigned to ES-3**

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

**Approved to proceed with no objections**

This option overlaps with RCI-2. There is a EmPowerMD bill before the General Assembly which impacts this policy option. The results of legislative action should be included in the results if timely.

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

**Approved to proceed with no objections**

There is a growing concern that compact fluorescent bulbs have been linked to breast cancer. This was recently the subject of an Israeli study.

The target should be based on lumens and not a specific technology.

Movement away from incandescent bulbs should be encouraged, but not mandated.

## **Transportation and Land Use Policy Options**

Will Schroeder presented an overview of all TLU policy options. Several values were updated as noted under the each option.

There are three areas of focus: 1. Reduction of miles driven, 2. Cleaner fuels and 3. Improved vehicle efficiency.

A member stated that these proposals all work well for urban and suburban areas. Rural areas will see greatly increased costs, with little means of adapting to avoid costs under these proposals.

The TWG is asked to be aggressive with the goals and describe them adequately.

The impact of interstate traffic, especially freight, should also be addressed, for example, using rail instead of trucks.

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

#### **Approved to proceed with no objections**

Note that the total GHG reduction in 2020 is 9.9, not 8.7.

Increasing fuel prices will aid in reaching Area 1 targets, and provide revenue to implement other programs.

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

#### **Approved to proceed with no objections**

This option focuses on area 1, with a 7.6 ton reduction in GHGs.

The TWG is asked to further define how aggressively this option is structured versus the other two areas of focus.

In the Policy Design, the VMT goals should be changed to 2000 levels. Consider reducing the 6.9% goal in 2030 to 0 in 2030.

The MWG agrees to a 16% efficiency ceiling at this time. The Baltimore Planning Commission has stated that 10% is the maximum achievable.

### ***TLU-3 Transit***

#### **Approved to proceed with no objections**

By consensus, the MWG agreed to adopt a target of doubling transit ridership. Commuting accounts for 20% of all vehicular trips, so a 10% reduction in commuter trips is only a 2% drop in all trips. Reaching this goal will require aggressive efforts in education, smart growth, infrastructure, etc. A public/private partnership to reward performance standards for roads should also be considered.

### ***TLU-4 Low Greenhouse Gas Standard***

#### **Approved to proceed as presented with no objections**

The TWG currently recommends a 5% reduction instead of the prior 10% level. This is due to two major reasons: Maryland has a lower access to low carbon fuels than California and open land would have to be converted to biofuel production. A recent Science Journal article demonstrated that GHG have actually increased when land use is converted to corn or switch grass, since the food products still must be produced.

### ***TLU-5 Intercity Travel: Aviation, High Speed Rail, Bus***

#### **Approved to proceed with no objections**

No changes were made.

***TLU-6 Pay-as-you-Drive Insurance*****Approved to proceed with no objections**

The TWG decided that 100% penetration would be required to achieve the reduction goal.

***TLU-7 VMT Reductions*****Approved to proceed with no objections**

This is primarily a process goal, requiring counties and municipalities to actively address it. Conformity between all entities is necessary for it to succeed. Rewards and penalties will have to be included. As an example, downtown parking prices should be increased while commuter lot pricing is kept low.

***TLU-8 Bike and Pedestrian Infrastructure*****Approved to proceed with no objections**

No changes were made.

***TLU-9 Pricing Measures*****Approved to proceed with no objections**

This goal will be used to meet the overall GHG reduction goal. It can be structured differently depending on the numbers needed.

***TLU-10 Off-Road Engines/Vehicles*****Approved to proceed with no objections**

There is currently no provision for rewards or incentives for calm driving. Greater efficiencies can be achieved if quick starts and stops are eliminated. Data to support this is forthcoming.

If the TWG finds it more clear, this option will be divided into two parts, A and B. While the title is 'Off-Road', this option also covers on-road vehicular traffic.

***TLU-11 Evaluate the GHG Emissions Impacts of Major Projects*****Approved to proceed with no objections**

Add this option to the policy summary table. This is a non-quantified policy option. Retain the phrase "All new projects are to be assessed." Current projections do not include any impacts from major projects. At this time, tools do not exist to accurately measure CO<sub>2</sub>.

**Next Steps:**

Quantification will be expanded and reviewed.

**Future Meetings:**

The next meetings are scheduled for March 19 and April 22. A final meeting may be scheduled in May.