



Department of the Environment

The Mitigation Working Group Update



Tad Aburn, Air Director, MDE
Commission Meeting – January 17, 2008



The Mitigation Working Group (MWG)

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|---|-----------------------------|
| AES Warrior Run | Ed Giugliano |
| Annie Casey Foundation | Scot Spencer |
| Baltimore City Community College | Dr. Michelle Harris Bondima |
| BP Solar | John F. Szallay |
| Citizen | Frank Heintz |
| Citizen | Dr. Paul Chan |
| City of Annapolis | Mike Mallinoff |
| Constellation Energy | John Quinn |
| Curtis Engine & Equipment | Thomas Koch |
| DJ Consulting | Debra Jacobson |
| Environment Maryland | Brad Heavner |
| Environmental Banc & Exchange | George Kelly |
| Environmental Defense | Michael Replogle |
| Frostburg State University | Johnathan Gibraltar |
| Johns Hopkins, Bloomberg School of Public Health | Dr. Cindy Parker |
| Maryland Petroleum | Drew Cobbs |
| Mirant | Robert E Driscoll |
| Mirant | Misty Allen |
| Montgomery County Council | Nancy Floreen |
| Natural Resource Defense Council | Elizabeth Martin-Perera |
| Parsons Brinckerhoff | Uri Avin |
| Rummel Klepper & Kahl | William Hellmann |
| Synergics Energy | Richard D'Amato |
| The Climate Project | Dr. Lise Van Susteren |
| The Conservation Fund | Joel Dunn |
| Transitions Energy | William Chandler |
| UM, Center for Integrative Environmental Research | Matthias Ruth |
| WL Gore | William Livingston |
| Yellow Transportation | Mark Joseph |





Participants From State Agencies

"Topic Area Experts"

- **Maryland Department of Agriculture**
 - Royden Powell, John Rhoderick, Louise Lawrence
- **Maryland Department of Environment**
 - Brian Hug, Renee Fizer, Liz Entwistle, Marcia Ways
- **Maryland Department of Natural Resources**
 - Zoe Johnson, John Sherwell, Sean McGuire, Pete Dunbar, Dan Rider
- **Maryland Department of Planning**
 - Joe Tassone, Jason Dubow
- **Maryland Department of Transportation**
 - Howard Simons
- **Maryland Energy Administration**
 - Michael Li, Crissy Godfrey, Chris Rice
- **Maryland Public Service Commission**
 - John DeFelice, Scott Everngam, Robert Howatt, Jerry Hughes
- **University System of Maryland**
 - Don Boesch, John Frece



MWG - Quick Update

- MWG meetings
 - November 30 '07
 - January 15 '08
- Catalog of Options – originally 300 plus options, voting process leaned to 53
- Straw proposals being developed for each option





TWG Update

- Lots of calls for the 5 Technical Workgroups (TWGs)
- 2 TWG meetings held at MDE
 - Transportation & Land Use
 - Residential Commercial Industrial Use
- Straw proposal development has been very dynamic
- Currently working on the quantification of GHG reductions, costs and benefits for each straw proposal



Stepwise Planning Process

1. Develop inventory and forecast of emissions - Ongoing
2. Identify a full range of possible actions - Sept. 28
3. Identify initial priorities for analysis - Oct. 26
4. Develop straw proposals - Nov. 30
5. Quantify GHG reductions and costs/savings
6. Evaluate externalities, feasibility issues - Jan. 15
7. Develop alternatives to address barriers
8. Aggregate results - TBD
9. Iterate to final agreements - TBD
10. Finalize and report recommendations - TBD



Policy Option Template

- Policy Description (Concept)
- Policy Design (Goals, Timing, Coverage)
- Implementation Methods
- Related Programs and Policies (BAU)
- Estimated GHG Reductions and Costs/Savings
 - Data Sources, Methods and Assumptions
 - Key Uncertainties
- Additional (non-GHG) Benefits and Costs, as Needed
- Feasibility Issues, if Needed
- Status Of Group Approval
- Level of Group Support
- Barriers to Consensus, if any



Ag/ Forestry and Waste

1. Forest Management for Enhanced Carbon Sequestration
2. Managing Urban Trees and Forests for Greenhouse Gas Benefits
3. Afforestation, Reforestation and Restoration of Forests and Wetlands
4. Protection & Conservation of Ag Land, Coastal Wetlands and Forested Land
5. “Buy Local” Programs
6. Expanded Use of Forest and Farm Feedstock and By-Products for Energy Production
7. In-State Liquid Biofuels Production
8. Nutrient Trading with Carbon Benefits





Energy Supply

1. Promotion of Renewable Energy
2. Technology-Focused Initiatives for Electricity Supply
3. GHG Cap and Trade
4. Combined Capture Storage and Reuse Requirements/
Policies
5. Clean Distributed Generation
6. Integrated Resource Planning
7. Renewable and/ or Environmental Portfolio Standard
8. Efficiency Improvements and Repowering Existing Plants
9. Carbon (GHG) Tax
10. Generation Performance Standards



Residential, Commercial and Industrial

1. Improved Building and Trade Codes for Energy Efficiency
2. Demand Side Management/ Energy Efficiency Programs
3. Low Cost Loans for Energy Efficiency
4. Improved Design, Construction, Appliances, and Lighting in New and Existing State and Local Government Buildings (Government Lead by Example)
5. Energy Efficiency and Environmental Impacts Outreach
6. Promotion and Incentives for Improved Design and Construction (LEED, Green Buildings, etc.) in Private Sector
7. More Stringent Appliances/ Equipment Efficiency Standards
8. Rate Structures and Technology to Promote Reduced GHG Emissions (Including Peak Pricing and Inverted Block Rates)
9. GHG or Carbon Tax
10. Energy Efficiency Resource Standards (EERS)
11. Phase Out Incandescent Light Bulbs in State





Transportation and Land Use

1. Carbon Fuels Tax
2. Land Use and Location Efficiency
3. Transit
4. Low Greenhouse Gas Fuel Standard
5. Intercity Travel: Aviation, High Speed Rail, Bus
6. Pay As You Drive Insurance
7. VMT Reductions
8. Bike and Pedestrian Infrastructure
9. Pricing Measures
10. Off-Road Engines/ Vehicles
11. Evaluate the GHG Emission Impacts of Major Projects



Cross-Cutting Issues

1. GHG Inventory and Forecasting
2. GHG Reporting and Registry
3. Statewide GHG Reduction Goals and Targets (Complete)
4. State and Local Government GHG Emissions (Lead by Example)
5. Public Education and Outreach
6. Tax and Cap Policies
7. Seek Funding for Implementation and MWG Recommendations
8. Participate in Regional and Multi-State GHG Reduction Efforts
9. Promote Economic Development Opportunities Associated with Reducing GHG Emissions in Maryland
10. "After Peak Oil" Initiative
11. Evaluate Climate Change Policy Options to Determine Projected Public Health Risks, Costs and Benefits
12. Innovative Financing Efforts





Next Steps

TWGs

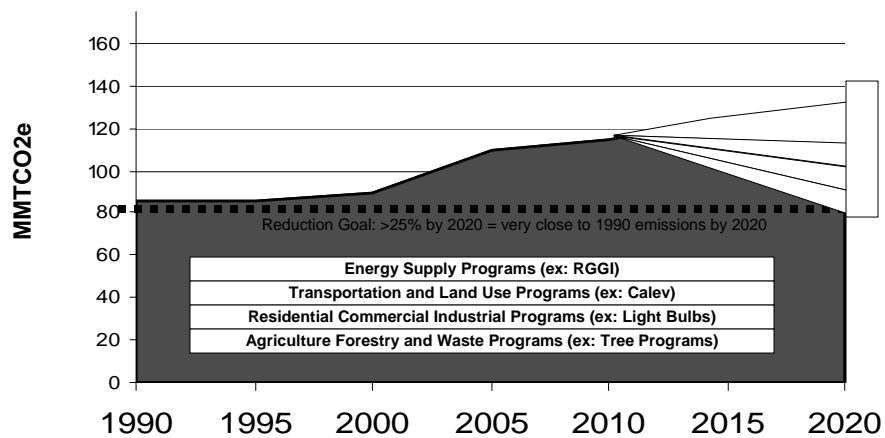
- Refine priority policy options and quantification approaches based on MWG review
- Revise quantification GHG reductions and cost/ savings of priority policy options
- Revisions to the draft inventory and forecast

MWG

- Review and approve consensus policy options
- Review and approve quantification of priority policy options
- Review aggregation of policy options
- Review and approve proposed revisions to the inventory and forecast



How to do we get to our 2020 Goals? – Hypothetical Example



For Demonstration Purposes Only



Questions?

