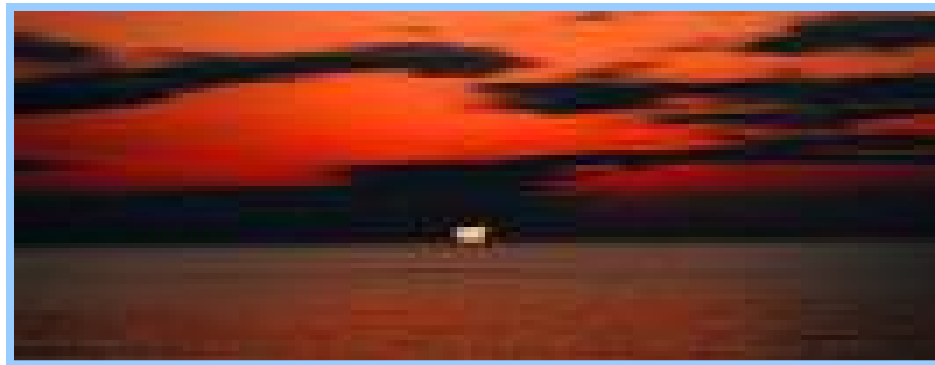




Department of the Environment

The Mitigation Working Group Update



Tad Aburn, Air Director, MDE

Commission Meeting – March 20, 2008





The Mitigation Working Group (MWG)

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



MWG - Quick Update

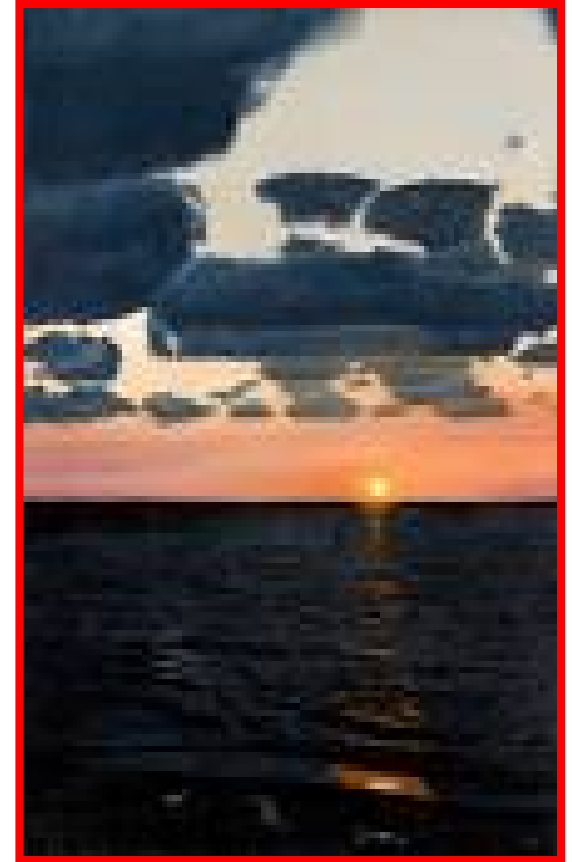
- MWG meetings
 - February 21
 - March 19
- Catalog of Strategy Options
 - originally 300 plus options
 - After priority setting process, narrowed to 53 priority options
- More detailed technical analyses of 53 priority options now under way





Technical Working Group Update

- Policy option development has remained dynamic
- Work finalized on the quantification of greenhouse gas reductions, costs and benefits for each proposal
- ***Vital that all state agencies participate to provide input on policy options at this point***



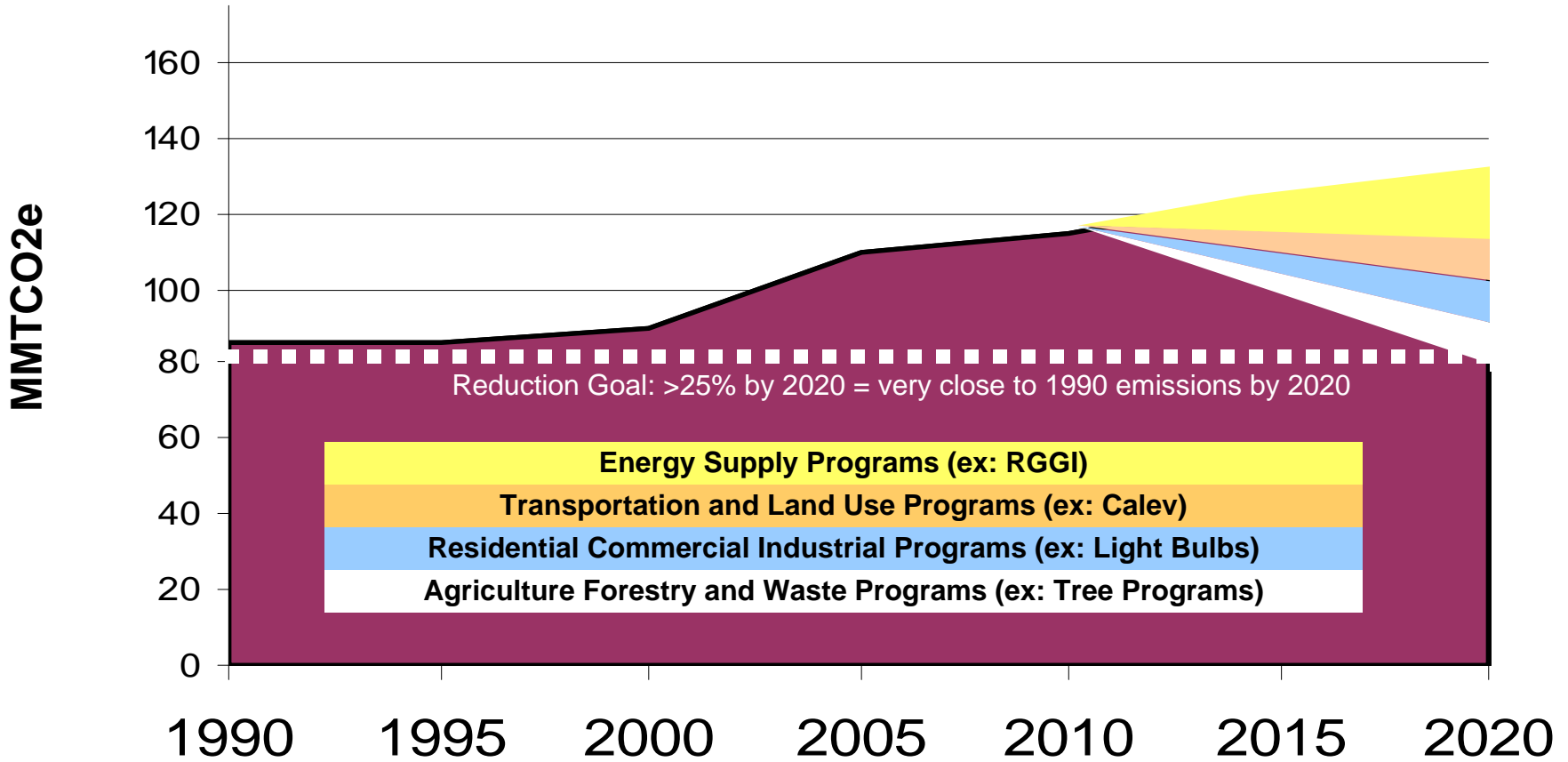
Policy Option Template

- Policy Description (Concept)
- Policy Design: Goals, Timing, Coverage
- Implementation Method
- Related Programs and Policies (BAU)
- Estimated GHG Reductions and Costs/Savings
- Additional (non-GHG) Benefits & Costs
- Feasibility Issues
- Status of Group Approval
- Barriers to Consensus, if any





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



For Demonstration Purposes Only



Government Lead By Example (Energy Efficiency & Green Buildings)

Residential Commercial Industrial Strategy #4

Improved design/construction/lighting in new/existing state/local government buildings, facilities, & operations

- “Green” power purchases
- Innovative financing options
- New “Green Building” construction standards
- Collect/monitor data on reduced energy use
- Energy use targets, potentially with a cap
- Carbon neutral bonds – no net increase in GHG’s



Projected GHG Reductions:

- 2012 = .3 MMtCO₂e
 - 2020 = 1.4 MMtCO₂e
 - 2008 thru 2020 = 7.6 MMtCO₂e (total)
- Projected to save \$455 million (2008 to 2020)
 - Save \$60 per every ton of CO₂ not emitted.



Cross-Cutting Strategy # 9 Promote Economic Development Opportunities Associated with Reducing GHG Emissions

- Create 2500 new jobs by 2015
- Maintain in-state businesses
- Green job benefits:
 - Low to mid skilled workers
 - require technical skills which pay decent wages
 - require local workers
- Buy locally produced goods, foods, & services
- DBED 2008 Task Force for 2010 implementation





Ag/ Forestry and Waste Strategies

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 Strategies

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 Strategies

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 Strategies

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 Strategies

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

- Continue to refine priority policy options and quantification approaches
- Continue to quantification GHG reductions and cost/ savings of policy options and aggregate benefits from correlated policies
- Finalize any revisions to the draft inventory and forecast
- MDE needs state agencies to continue to provide input/ correct policy assumptions/ etc.

MWG Schedule

- Continue review and input on policy options in April
- Finalize policy option analysis in May
- Report drafting and review – April through June
- Detailed Commission and Workgroup schedule to be discussed later



Questions?

