



Montana Climate Change Advisory Committee Meeting #3

December 14, 2006

Today's Agenda

- Introductions
- Update on Recent Climate Actions
- Review and Approval of Draft Priorities for Analysis Mitigation Options
- Update and Discussion of the Montana Emissions Inventory & Forecast
- Next Steps for Technical Work Groups
- Public Input and Announcements
- Agenda, Time and Date for Next Meeting

Ten Step Work Plan

- Get organized
- Develop initial GHG inventories and forecasts
- Identify possible GHG mitigation options
- **Identify initial priorities for first round evaluation**
- Draft straw design proposals for draft mitigation options
- Evaluate GHG reduction potential, cost/cost savings
- Identify potential barriers to consensus, alternatives
- Modify, add or subtract mitigation options as needed
- Evaluate cumulative results of mitigation options
- Finalize emissions projections, recommendations and report language

Residential, Commercial, Industrial

- **RCI-1:** Demand Side Management Programs, Efficiency Funds and Requirements
- **RCI-2:** Market Transformation and Technology Development Programs
- **RCI-3:** State Level Appliance Efficiency Standards and State Support for Improved Federal Standards
- **RCI-4:** Building Energy Codes
- **RCI-5:** “Beyond Code” Building Design Incentives and Mandatory Programs
- **RCI-6:** Consumer Education Programs
- **RCI-7:** Support for Implementation of Clean Combined Heat and Power
- **RCI-8:** Support for Renewable Energy Applications
- **RCI-9:** Carbon Tax
- **RCI-10:** Industrial Energy Audits and Recommended Measure Implementation
- **RCI-11:** Low income energy efficiency programs

Energy Supply

- **ES-1:** Environmental portfolio standard
- **ES-2:** Renewable energy incentives
- **ES-3:** Research and development (R&D), including energy storage and advanced fossil fuel technologies
- **ES-4:** Incentives and barrier removal for combined heat and power and clean distributed generation
- **ES-5:** Incentives for advanced fossil fuel generation and carbon capture and storage (CCS)
- **ES-6:** Efficiency improvements and repowering of existing plants **ES-7:** Demand-side management (RCI TWG will take lead for analysis, with ES TWG providing review)
- **ES-8:** CO2 tax (considered jointly with RCI TWG)
- **ES-9:** GHG cap & trade
- **ES-10:** Generation performance standards
- **ES-11:** CH4 & CO2 reduction in oil & gas operations
- **ES-12:** GHG reduction in refinery operations, including in future coal-to-liquids refineries
- **ES-13:** CO2 capture & storage or reuse (CCSR) in O&G operations

Break



Transportation

- **TLU 1:** Light Duty Vehicle GHG Emissions Standards
- **TLU 2:** CO2 Based Vehicle Registration Fees
- **TLU 3:** Urban Infill and Brownfield Redevelopment
- **TLU 4:** Transit Oriented Development
- **TLU 5:** Smart Growth Planning and Tools
- **TLU 6:** Bicycle and Pedestrian Infrastructure
- **TLU 7:** Expand Transit Infrastructure and Increased Transit Service
- **TLU 8:** Low GHG Fuel Standard
- **TLU 9:** Biofuel Expansion: Ethanol blends for Light Duty Vehicles
- **TLU 9:** Biofuel Expansion: Biodiesels for Heavy Duty Vehicles
- **TLU 10:** Alternative Fuel Infrastructure Development

Agriculture, Forestry & Waste Management

- **AFW-1:** Agricultural Soil Carbon Management Programs
- **AFW-2:** Biodiesel Production (incentives for feedstocks and production plants)
- **AFW-3:** Ethanol Production
- **AFW-4:** Incentives for Maintenance of Conservation Reserve Program (CRP) Acreage
- **AFW-5:** Preserve Open Space & Working Lands
- **AFW-6:** Forest Health Programs for Carbon Management
- **AFW-7:** Expanded Use of Forest Biomass Feedstocks for Energy Use
- **AFW-8:** Afforestation and Reforestation Programs
- **AFW-9:** Improved Management and Restoration of Existing Stands
- **AFW-10:** Expanded Use of Wood Products for Building Materials

Cross Cutting Issues

- **CC-1:** GHG Inventories and Forecasting
- **CC-2:** GHG Reporting
- **CC-3:** GHG Registry
- **CC-4:** Public Education and Outreach
- **CC-6:** GHG Reduction Goals and Targets
- **CC-7:** State GHG Emissions

Next Steps TWGs - Sample Draft Mitigation Option

- Mitigation Option Description
- Mitigation Option Design (Goals, timing, participants)
- Implementation Mechanisms
- Related Policies/Programs in Place
- Type(s) of GHG Reductions
- Estimated GHG Savings and Costs per MtCO₂e
- Key Uncertainties
- Additional Benefits and Costs
- Feasibility Issues
- Status of Group Approval
- Level of Group Support
- Barriers to Consensus

Break



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RCI - Inventory & Forecast

- Status
 - Industrial process emissions have been updated with better information on production
 - Revisions need to be reviewed by TWG
- Suggested revisions
 - None identified

ES - Inventory & Forecast

- Status
 - Data request sent to utilities for contract information
- Suggested revisions
 - New scenario (high fossil fuel production) being developed
 - Some revisions likely for reference case, electricity sales and amount of new generation
 - Revisions and resulting emissions need to be reviewed by TWG

TLU - Inventory & Forecast

- Status
 - Forecast of vehicle miles of travel (VMT) has been only significant issue raised for discussion and potential revision.
- Suggested revisions
 - MT DOT has proposed using alternative method for VMT forecast, based upon historical trend. Plans for TWG to discuss and make consensus recommendation to CCAC for next meeting.

Forestry - Inventory & Forecast

- Status
 - Input data updated, with negligible impact on original estimates (decrease ~0.07%)
 - Most recent FIA data for 2005 included
 - Modifications to past inventory data for some forest types
 - Explored implications of FIA changes to forest definition; determined negligible impact for MT
- Suggested revisions
 - None identified to date, but conferral with the US Forest Service is ongoing

Agriculture - Inventory & Forecast

- Status
 - TWG not identified any issues
- Suggested revisions
 - State-level soil carbon flux estimates for 1997 have been identified by CCS and could be added (-2.28 MMTCO₂e/yr)

Waste - Inventory & Forecast

- Status
 - TWG not identified any issues
- Suggested revisions
 - None identified

Break



TWG Next Steps

- Develop suggested straw mitigation option design proposals
 - Draft volunteers
 - Suggest goals, timing, participants
- Review and suggested revisions, if any, of Montana GHG inventory and forecast

Public Input, Announcements

Next CCAC Meeting

- Agenda:
 - Review and approve TWG suggested straw design proposals for mitigation options
 - Review and approve any TWG suggested updates to the Montana emissions inventory and projection
- February 8, MT

