



Memo

To: Montana Climate Change Action Committee Members  
From: The Center for Climate Strategies  
CC: Montana Department of Environmental Quality  
Subject: Preparation for the Third Meeting of the Montana Climate Action Plan Advisory Committee Meeting on December 14, 2006  
Date: December 14, 2006

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At our third meeting of the Montana Climate Action Plan Advisory Committee (CCAC) on Thursday, December 14, 2006, we will focus on review and approval of the draft “priority for analysis” mitigation options. Based on this discussion and any adjustments made by the CCAC, the Technical Work Groups (TWGs) will begin work on draft mitigation option straw proposals for future policy development and quantification. At our meeting, the CCAC will also briefly review ongoing work on the draft Montana greenhouse gas emissions inventory and forecast.

As preparation for our meeting, please review the attached lists of TWG suggested draft mitigation option “priorities for analysis” and other background documents posted to the project website at: [www.mtclimatechange.us](http://www.mtclimatechange.us).

In terms of overall progress, the CCAC has completed key milestones since its launch on July 13, 2006, including:

- Identification of a full range of potential Montana options for mitigation of greenhouse gas emissions, including over 300 possible state actions
- TWG identification, by balloting, of 50 initial priorities for analysis of draft mitigation options
- Review and revisions to the statewide inventory and forecast of greenhouse gas emissions

The next stage of the CCAC process will include completion of the following milestones:

- Approval of a full range of initial priorities for analysis of draft mitigation options
- Formulation of “straw proposals” for the design of these initial draft mitigation options for consideration by the CCAC at its fourth meeting
- Completion of the first round of economic analysis of draft mitigation options by CCS, and identification of early consensus recommendations
- Review and revision of mitigation option design, analysis, and draft options as needed

- Final approval of CCAC mitigation option recommendations
- Final approval of the statewide inventory and forecast of greenhouse gas emissions

### Summary of CCAC Progress and Next Steps:

#### Status of Draft Mitigation Options

Original Number of Potential Options Presented to the CCAC from the CCS Catalog of States Actions	251
Updated Number of Potential Options on the CCS Catalog of States Actions, Including CCAC Additions	300+
Current Number of “Priority for Analysis” Draft Potential Mitigation Options for Analysis	50
• Residential, Commercial and Industrial	11
• Energy Supply	13
• Transportation and Land Use	10
• Agriculture, Forestry and Waste	10
• Cross Cutting Issues	6

#### Next Steps

Approve Straw Proposals for Draft Mitigation Option Design	CCAC Meeting #4
Present First Round of Analysis of Draft Mitigation Options and Identify Early Consensus Recommendations	CCAC Meeting #5
Approve final CCAC Mitigation Option Recommendations	CCAC Meeting #6
Deliver Final Report to MT DEQ	July 2007

**Table 1.**  
**Residential Commercial and Industrial Technical Work Group**  
**Summary List of Pending Mitigation Options**

<b>Proposed Option #</b>	<b>Proposed Option Name</b>	<b># From Catalog of States Actions</b>
<b>RCI-1</b>	Demand Side Management Programs, Efficiency Funds and Requirements	A.1 (1.1, 1.2, 1.3, 4.1, 4.2, 6.4, 6.6, 9.2, 9.8, 9.11)
<b>RCI-2</b>	Market Transformation and Technology Development Programs	A.2 (1.4, 4.1, 4.2, 6.6)
<b>RCI-3</b>	State Level Appliance Efficiency Standards and State Support for Improved Federal Standards	B.1 (1.4, 2.1, 2.2, 4.1, 4.2)
<b>RCI-4</b>	Building Energy Codes	C.1 (3.1, 3.3, 3.4, 4.1, 4.2, 6.6, 9.2)
<b>RCI-5</b>	“Beyond Code” Building Design Incentives and Mandatory Programs	C.2 (3.2, 3.3, 4.1, 4.2, 6.6, 9.1, 9.2, 9.3, 9.4, 9.5, 9.7, 9.8, 9.11)
<b>RCI-6</b>	Consumer Education Programs	D.1 (4.1)
<b>RCI-7</b>	Support for Implementation of Clean Combined Heat and Power	F.1 (5.3, 6.2, 9.7)
<b>RCI-8</b>	Support for Renewable Energy Applications	F.2 (5.3, 5.4, 6.1, 6.3, 9.7)
<b>RCI-9</b>	Carbon Tax	G.5 (7.5, 8.1, 8.3 through 8.5, 9.5, 9.6)
<b>RCI-10</b>	Industrial Energy Audits and Recommended Measure Implementation	H.1 (6.6, 9.5, 9.6, 9.7)
<b>RCI-11</b>	Low income energy efficiency programs	H.2 (9.2, 9.8)



**Table 2.**  
**Energy Supply Technical Work Group**  
**Summary List of Pending Mitigation Options**

<b>Proposed Option #</b>	<b>Proposed Option Name</b>	<b># From Catalog of States Actions</b>
<b>ES-1</b>	Environmental portfolio standard (renewables and energy efficiency)	1.1
<b>ES-2</b>	Renewable energy incentives (biomass, wind, solar, geothermal)	1.5
<b>ES-3</b>	Research and development (R&D), including R&D for energy storage and advanced fossil fuel technologies	1.8, 1.11, 3.5
<b>ES-4</b>	Incentives and barrier removal (including interconnection rules and net metering arrangements) for combined heat and power (CHP) and clean distributed generation (DG)	2.1, 2.4
<b>ES-5</b>	Incentives for advanced fossil fuel generation (IGCC and/or fuel cells) and carbon capture and storage (CCS), including combined hydrogen and electricity production with carbon sequestration	3.1, 3.4
<b>ES-6</b>	Efficiency improvements and repowering of existing plants	5.1
<b>ES-7</b>	Demand-side management (RCI TWG will take lead for analysis, with ES TWG providing review)	5.4
<b>ES-8</b>	CO <sub>2</sub> tax (to be considered jointly with RCI TWG)	6.1
<b>ES-9</b>	GHG cap and trade	6.2
<b>ES-10</b>	Generation performance standards or GHG mitigation requirements for new (and/or existing) power plants with/without GHG offsets	6.3
<b>ES-11</b>	Methane and CO <sub>2</sub> reduction in oil & gas operations, including fuel use and emissions	8.1, 8.2, 8.4

	reduction in venting and flaring	
<b>ES-12</b>	GHG reduction in refinery operations, including in future coal-to-liquids refineries	New option
<b>ES-13</b>	CO <sub>2</sub> capture and storage or reuse (CCSR) in O&G operations, including refineries and coal-to-liquids operations	8.3

**Table 3.**  
**Transportation and Land Use Technical Work Group**  
**Summary List of Pending Mitigation Options**

<b>Proposed Option #</b>	<b>Proposed Option Name</b>	<b># From Catalog of States Actions</b>
<b>TLU 1</b>	Tailpipe GHG Standards	1.1.1
<b>TLU 2</b>	CO2 Based Vehicle Registration Fees	1.3.3
<b>TLU 3</b>	Infill and Brownfield Redevelopment	2.1.1
<b>TLU 4</b>	Transit Oriented Development	2.1.2
<b>TLU 5</b>	Smart Growth Planning	2.1.3
<b>TLU 6</b>	Bicycle and Pedestrian Infrastructure	2.2.4
<b>TLU 7</b>	Expand Transit Infrastructure	2.2.5
<b>TLU 8</b>	Low GHG Fuel Standard	2.4.1
<b>TLU 9</b>	Biofuel Expansion	2.4.3
<b>TLU 10</b>	Alternative Fuel Infrastructure Development	2.4.4

**Table 4.**  
**Agriculture, Forestry, and Waste Management Technical Work Group**  
**Summary List of Pending Mitigation Options**

<b>Proposed Option #</b>	<b>Proposed Option Name</b>	<b># From Catalog of States Actions</b>
<b>AFW-1</b>	Agricultural Soil Carbon Management Programs	3.1, 3.2, 3.3
<b>AFW-2</b>	Biodiesel Production (incentives for feedstocks and production plants)	1.2
<b>AFW-3</b>	Ethanol Production	1.4
<b>AFW-4</b>	Incentives for Maintenance of Conservation Reserve Program (CRP) Acreage	3.6
<b>AFW-5</b>	Preserve Open Space & Working Lands	4.2, 4.3, 6.1
<b>AFW-6</b>	Forest Health Programs for Carbon Management	6.12, 6.13, 6.14, 6.15, 6.16, 6.17
<b>AFW-7</b>	Expanded Use of Forest Biomass Feedstocks for Energy Use	8.1, 8.2, 7.2
<b>AFW-8</b>	Afforestation and Reforestation Programs	6.3, 6.4 (Reforestation)
<b>AFW-9</b>	Improved Management and Restoration of Existing Stands	6.5, 6.4 (Restoration)
<b>AFW-10</b>	Expanded Use of Wood Products for Building Materials	7.3, 7.4

**Table 5.**  
**Cross-Cutting Issues Technical Work Group**  
**Summary List of Pending Mitigation Options**

<b>Proposed Option #</b>	<b>Proposed Option Name</b>	<b># From Catalog of States Actions</b>
<b>CC-1</b>	GHG Inventories and Forecasting	1.1
<b>CC-2</b>	GHG Reporting	2.1
<b>CC-3</b>	GHG Registry	3.1
<b>CC-4</b>	Public Education and Outreach	4.1, 4.2, 4.3, 4.4, 4.5, 4.6
<b>CC-6</b>	GHG Reduction Goals and Targets	6.1
<b>CC-7</b>	State GHG Emissions	7.1, 7.2, 7.3

## SAMPLE DRAFT MITIGATION OPTION TEMPLATE

### AFW-x Policies to Promote Ethanol Production

#### Mitigation Option Description

Trees, crops and other plants convert atmospheric carbon to carbohydrate or fiber stocks that can be converted to liquid fuels, such ethanol. The use of these renewable, biological fuels can offset fossil fuel use and reduce associated net carbon dioxide emissions. Production incentives for the conversion of crops, forest sources, animal waste and other sources to ethanol through existing or new technologies can increase the level of ethanol use in future markets.

#### Mitigation Option Design

- **Goals:** Several projects are being proposed in Montana that would result in the production of x million gallons of ethanol annually in Montana by 200x. Production incentives could increase this amount by x% beyond expected levels in 20xx, and x% by 20xx.
- **Timing:** Startup in 20xx and ramp up to higher levels in 20xx and 20xx, consistent with goals.
- **Coverage of parties:** Suppliers of feedstocks, ethanol producers and distributors. Associated agencies would include: xxx...
- **Other:** As needed, identify incentives that encourage the growing and supply of feedstocks, and the utilization of ethanol in transportation markets across the state.

#### Implementation Mechanisms

TBD

#### Related Policies/Programs in Place

TBD

#### Types(s) of GHG Reductions

Net reduction in CO<sub>2</sub> emissions.

#### Estimated GHG Savings and Costs per MtCO<sub>2e</sub>

TBD

- **Data Sources:** TBD
- **Quantification Methods:** Full life cycle analysis with supply/demand equilibrium adjustments.

- **Key Assumptions:** TBD

**Key Uncertainties**

TBD

**Additional Benefits and Costs**

TBD

**Feasibility Issues**

TBD

**Status of Group Approval**

TBD

**Level of Group Support**

TBD

**Barriers to Consensus**

TBD