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**Cross-Cutting Issues Technical Work Group
Summary List of Pending Policy Options**

	Policy Option	GHG Reductions (MMtCO ₂ e)			Net Present Value 2007–2020 (Million \$)	Cost-Effectiveness (\$/tCO ₂ e)	Status of Option
		2010	2020	Total 2007–2020			
CC-1	GHG Inventories and Forecasts	<i>Not Quantified</i>					Pending
CC-2	State GHG Reporting	<i>Not Quantified</i>					Pending
CC-3	State GHG Registry	<i>Not Quantified</i>					Pending
CC-4	State Climate Public Education and Outreach	<i>Not Quantified</i>					Pending
CC-6	Options for State GHG Goals or Targets	<i>Not Quantified</i>					Pending
CC-7	The State’s Own GHG Emissions	<i>Not Quantified</i>					Pending

Note: Italicized text reflects questions or items still under consideration by the TWG as it continues its work on elaborating option descriptions. It also identifies revisions provided by a small group responding to comments provided by the full TWG during its May 2, 2007, meeting that subsequently have not been reviewed by the full TWG.

CC-1. GHG Inventories and Forecasts

Policy Description

Greenhouse gas (GHG) emissions inventories and forecasts are essential to understanding the magnitude of all emission sources and sinks (both anthropogenic and natural), the relative contribution of various types of emission sources and sinks to total emissions, and the factors that affect trends over time. The initial use for inventories and forecasts will be to inform state leaders and the public on statewide trends, opportunities for mitigating emissions or enhancing sinks, and verifying GHG reductions associated with implementation of Montana's Climate Action Plan. However, it is expected that other uses of the data will be identified as the program evolves. The responsibility for preparing GHG inventories and sinks should reside with the Department of Environmental Quality (DEQ) which has the expertise needed to systematically compile information on GHG sources and sinks using established methods and data sources. Other state agencies as well as private facilities (sources) will need to provide data to DEQ on a periodic basis. This program should be integrated with existing DEQ inventory and forecast functions as seamlessly as possible. Whenever possible, data from existing reporting systems will be used. Development of GHG emissions inventory and forecasting systems for Montana should take advantage of the substantial related expertise found in the state's colleges and universities. Opportunities for public participation by voluntary self-reporting of individual and community GHG reductions (with appropriate privacy protection) should be made available, even where the data are qualitative. The inventory and forecast will be an ongoing effort that will be improved over time, based on improvements to the accuracy and completeness of data needed to support this effort.

Policy Design

The CC TWG recommends that Montana develop its capacity for statewide emissions inventories and forecasts. Key elements are noted below. Additional information regarding important program characteristics is included in the accompanying *GHG Inventories and Forecasts Design Options Matrix*.

Goals:

- Develop a periodic, consistent, and complete inventory of emission sources and sinks on a continuing basis with forecasts. The time period for forecasts should cover a 20-year planning horizon to be consistent with other state planning efforts. The inventory and forecast should be updated once every two years and include the decennial years (e.g., 2010, 2020, 2030, etc.).
- Inventory of all natural and man-made emissions generated within the boundaries of the state (i.e., production-based inventory approach) as well as emissions associated with energy imported and consumed in the state (i.e., consumption-based inventory approach).
- Provide a projection of the emissions from the same source categories and on the same basis into the future for a realistic forecast of what the emissions will be in future years, reflecting expected growth and application of scheduled and expected mitigation options.

- Provide a basis for documenting reductions and credits “by difference” from year to year.

Timing: The program should be implemented as soon as possible, as allowed by funding. The process should be updated to reflect significant reductions or increases, beginning with every year for major point (Title V) sources and every two years for other sources.

Parties Involved: All emission sources and sinks (both anthropogenic and natural) should be included.

Other: Provide user-friendly options for estimating GHG emission reductions by individuals, families, and communities. Methods will be recommended for voluntary use and self-reporting. The data will parallel other, more scientifically rigorous reporting. The intent is to encourage awareness, understanding and broad participation in reducing state GHG emissions by citizens and communities.

Implementation Mechanisms

Under development.

Related Policies/Programs in Place

Under development.

Types(s) of GHG Reductions

Establishing a GHG inventory and forecasting function within state government is an enabling policy to encourage tracking, management, and ultimately reduction of GHG emissions. It does not reduce GHG emissions itself per se. Public disclosure of GHG emissions may encourage sources to reduce emissions.

Estimated GHG Savings and Costs per MTCO₂e

This option could be considered an administrative and enabling function of the Climate Action Plan (including enabling any future cap and trade options) and will incur overhead costs but not directly reduce emissions per se except where these data motivate reductions for public relations by individual companies or sources.

Data Sources: Many.

Quantification Methods: Several – will be designed to follow standard, comparative and accepted approaches that allow exchange/sale of emission credits should this become a need in Montana.

Key Assumptions: *Reporting will establish a baseline for GHG emissions and provide a monitoring tool for assessing the efficacy of the Climate Action Plan. Adjustments will be made in the Plan as certain techniques prove more or less beneficial than projected. Downward trends will allow for further incentives to be developed for sectors that show continuous improvement. Effective emission sinks can be identified and augmented. Public participation will inform and involve citizens in the overall goal of GHG emission reductions. Forecasting will allow state officials to plan for, implement and monitor necessary additions emission sources or sinks to the emission cycle.*

Key Uncertainties

- Adequacy of on-going funding for a statewide GHG inventory and forecasting function.

- Quality and quantity of existing data that will be useful and can be effectively integrated into a uniform reporting system.
- Quality and timeliness of emission sink quantification and inclusion of all potential sinks.
- Most effective frequency of reporting.

Additional Benefits and Costs

TBD

Feasibility Issues

- Incorporating the reporting and forecasting efforts into the existing workload demands within the DEQ.
- Gathering the required data in a timely and consistent manner.
- Where self-reporting is the best method of obtaining data, overcoming reticence to report accurately for fear of retribution or financial disincentives.
- Maintaining the skills and expertise to accurately forecast based on trends, particularly in the early years of reporting.

Status of Group Approval

Pending

Level of Group Support

TBD

Barriers to Consensus

TBD

CC-2. State Greenhouse Gas Reporting

Policy Description

A GHG reporting system is designed to provide for the measurement and then reporting of emissions. GHG reporting can help sources identify emission reduction opportunities and manage risks associated with possible future GHG mandates by moving “up the learning curve.” GHG reporting is typically a precursor for sources to participate in GHG reduction programs and a GHG emission reduction registry. Moreover, a reporting system (coupled with an associated registry) would enable sources to secure “baseline protection” so as to allow reductions to be credited under a future emission reduction program.

Tracking and reporting of GHG emissions would also help in the construction of periodic state GHG inventories. Reporting and the related inventory function will also provide valuable information for assessing the efficacy of measures implemented to reduce GHG.

Tracking GHG emission performance will make it easier for sources to receive recognition and “goodwill” for successful emission reduction efforts.

In order to encourage awareness, understanding, and broad participation on the part of the public, self-reporting by individuals and communities should be allowed although self-reporting by individuals and communities would not be subject to the same standards necessary to ensure accuracy as reporting of GHG emissions by sources for inclusion in a registry. (This is considered further in CC-4, *Public Education and Outreach*.)

Finally, developing a GHG reporting program could enable the state to influence the development of GHG reporting practices throughout the region and nation and build consistency with other state or regional GHG reporting programs.

Policy Design

The CC TWG recommends that Montana develop GHG reporting requirements and opportunities for its sources and citizens. Key elements are noted below. Additional information regarding important program characteristics is included in the accompanying *GHG Reporting Design Options Matrix*.

- Subject to consistently rigorous quantification, GHG reporting should not be constrained to particular sectors, sources, or approaches, in order to encourage GHG mitigation activities from all quarters.
- Mandatory GHG reporting should be phased in by sectors as rigorous, standardized quantification protocols, base data, and tools become available, and as responsible parties become clear. Entities should be allowed to report GHG emissions voluntarily before mandatory reporting applies to them; and the state, municipalities, and other jurisdictions should be allowed to report emissions associated with their own activities and any programs they may implement.

- Mandatory reporting of direct emissions¹ should be required for stationary sources with an existing reporting requirement under Montana DEQ regulations 17.8.1701 through 17.8.1705. Reporting of emissions associated with purchased power and heat² should be phased in, and voluntary reporting of other indirect emissions³ should be allowed. Provisions should also be made for voluntary self-reporting by individuals and communities as considered further in CC-4, *Public Education and Outreach*.
- Reporting should be applicable to all sources (e.g., combustion, processes, vehicles, etc.) but using common sense regarding de minimis emissions.
- The goal should be reporting of GHG emissions on an organization-wide basis within Montana but with greatest possible detail by facility, in order to facilitate baseline protection.
- Reporting should occur annually on a calendar-year basis for all six traditional GHGs and, to the extent possible, for black carbon.
- Every effort should be made to maximize consistency with federal, regional, and other states' GHG reporting programs.
- Development of GHG emissions inventory and forecasting systems for Montana should take advantage of the substantial related expertise found in the state's colleges and universities.
- GHG emissions reports should be verified through self-certification and Montana DEQ spot-checks; to qualify for future registry purposes, reports should undergo third-party verification.
- Project-based emissions reporting should be allowed, when properly identified as such and quantified with equally rigorous consistency.
- The reporting program should provide for appropriate public transparency of reported emissions.

Goals: Implementation of a Montana GHG Reporting Program as early as possible.

Timing: As soon as possible, preferably by 2008.

Parties Involved: Initially, mandatory for stationary sources with air quality permit; voluntary for other direct and indirect sources.

Implementation Mechanisms

Utilization of existing DEQ regulations, which require all entities with an air quality permit to report emissions of regulated pollutants on an annual basis. Reporting protocols and opportunities for parties not subject to existing reporting requirements will need to be developed, probably by DEQ.

Related Policies/Programs in Place

Many sources in Montana report criteria pollutant emissions in order to comply with various federal and state regulatory programs. Most electric generating units are also required to report

¹ Defined as "Scope 1" emissions in the *GHG Protocol*.

² Defined as "Scope 2" emissions in the *GHG Protocol*.

³ Defined as "Scope 3" emissions in the *GHG Protocol*.

CO₂ emissions to the Energy Information Administration (EIA). Some sources may report GHG emissions on a voluntary basis to federal, state, or privately-run programs. Otherwise, there is no broad, statewide GHG reporting program in Montana.

Types(s) of GHG Reductions

GHG reporting is an enabling policy to encourage management, and ultimately reduction, of GHG emissions. It does not reduce GHG emissions itself per se.

Estimated GHG Savings and Costs per MTCO₂e

The reporting components of this policy option would help position Montana entities for participation in an emissions trading program should one develop in the future, leading to cost savings. Although establishment of a credible reporting program is essential for participating in a trading program, these elements do not reduce GHG emissions themselves.

Key Uncertainties

Uncertainties exist with respect to quantification of some GHG emissions from some sources, but standard quantification protocols are rapidly being developed and accepted widely. There remain significant uncertainties with respect to how various state, regional, and/or federal GHG reporting programs may develop.

Additional Benefits and Costs

Not applicable.

Feasibility Issues

None Cited.

Status of Group Approval

Pending.

Level of Group Support

TBD

Barriers to Consensus

TBD

CC-3. State Greenhouse Gas Registry

Policy Description

A GHG registry enables measurement and recording of GHG emissions reductions at a macro- or micro-scale level in a central repository with a “transaction ledger” capacity to support tracking, management, and “ownership” of emission reductions as well as to encourage GHG reductions. It also assists with baseline protection and/or the crediting of actions by implementing programs and parties in relation to possible emissions reduction goals. And, it will provide a mechanism for regional, multi-state, and cross-border cooperation. Subject to appropriately rigorous quantification, participation in a GHG registry should not be constrained to particular sectors, sources, or approaches so as to encourage GHG mitigation activities from all quarters. In particular, a GHG registry should be able to incorporate activities associated with all of the options that the CCAC approves, whether reflective of reductions in emissions of GHGs or increases in biological or geological sequestration of carbon.

Policy Design

The CC TWG recommends that Montana develop or join a GHG registry for the benefit of its sources and citizens. Key elements are noted below. Additional information regarding important program characteristics is included in the accompanying *GHG Registry Design Options Matrix*.

Goals: The TWG recommends that Montana actively engage with other states in developing a regional or national GHG registry that will comprehensively meet the state’s needs. If no regional or national multi-state registry option will fully meet Montana’s needs, the state should still join and participate to the greatest extent possible, and develop whatever supplemental registry capacity is required to meet the remaining specific needs of Montana. Together, these approaches should incorporate the activities associated with all options the CCAC recommends, provide adequate quality verification, and allow project-level reporting. Ongoing operating costs should be borne by participants. Recommendations for key registry design characteristics build off the GHG Reporting policy option (CC-2). Key elements include:

- Geographic applicability at least at the statewide level and as broadly (i.e., regionally or nationally) as possible.
- Allowing sources to start as far back chronologically as good data exists, as affirmed by third-party verification, and allowing registration of project-based reductions or “offsets” that are equally rigorously quantified.
- Incorporating adequate safeguards to ensure that reductions are not double-counted by multiple registry participants, and providing appropriate transparency.
- Striving for maximum consistency with other state, regional, and/or national efforts; greatest flexibility as GHG mitigation approaches evolve; and providing guidance to assist participants.
- Allowing the state to register reductions associated with its programs, direct activities, or efforts, including ownership of emission reductions associated with the properties (stationary and mobile) it owns or leases, and participate in emission trading. The

revenue associated with the sale of emission reduction credits generated by the state could be used to support the GHG emission inventory, forecasting, and reporting functions within state government.

Timing: As soon as possible after a GHG reporting program is operating.

Parties Involved: Coverage should include all entities that can verify ownership of GHG emission reductions.

Implementation Mechanisms

The program should be overseen by MT DEQ. Incremental staffing and resource requirements are expected to be minimal if Montana joins a regional or national GHG registry (i.e., able to be addressed by existing staff up to perhaps an additional one-quarter full-time equivalent (FTE) staff person); they could be significant otherwise. Ongoing operating costs are expected to be borne or shared by participants benefiting from the registry.

Related Policies/Programs in Place

Under development.

Types(s) of GHG Reductions

Under development.

Estimated GHG Savings and Costs per MTCO₂e

Not applicable.

Key Uncertainties

There remain significant uncertainties with respect to how various state, regional, and/or federal GHG registry programs may develop. Involvement in early registry implementation – as issues are deliberated among states – will advantage Montana in their ultimate outcome.

Additional Benefits and Costs

None Cited.

Feasibility Issues

None Cited.

Status of Group Approval

Pending.

Level of Group Support

TBD

Barriers to Consensus

TBD

CC-4. State Climate Public Education and Outreach

Policy Description

Explicitly articulated public education and outreach can support GHG emissions reduction efforts at all levels in the context of emissions reduction programs, policies, or goals. Public education and outreach is vital to fostering a broad awareness of climate change issues and effects (including co-benefits, such as clean air and public health) among the state's citizens. Such awareness is necessary to engage citizens in actions to reduce GHG emissions. Public education and outreach efforts should integrate with and build upon existing outreach efforts involving climate change and related issues in the state. Ultimately, public education and outreach will be the foundation for the long-term success of all the policy actions proposed by the CCAC as well as those which may evolve in the future.

Policy Design

The TWG recommends that the State lead by example in its own education and outreach activities by establishing a pro-active public education and outreach capability, and using it to target education and outreach activities to five specific audiences:

- Policymakers (legislators, regulators, executive branch, agencies) – because implementation of climate actions hinges on policymakers' approval.
- Younger Generations – by integrating climate change into educational curricula, post-secondary degree programs, and professional licensing programs.
- Community Leaders and Community-Based Organizations (e.g., institutions, municipalities, service clubs, social and affinity groups, non-governmental organizations, etc.) – in order to recognize leadership, share success stories and role models, and expand climate involvement and participation within civic society.
- General Public – to increase awareness and engage citizens in climate-stabilizing actions in their personal and professional lives.
- Industrial and Economic Sectors – in order to recognize leadership; share success stories and role models; and expand climate involvement and participation within the business community.

Additional specific public education and outreach suggestions are provided in the accompanying *GHG Education Design Options Matrix*.

Goals: The overarching goal is a wholesale shift in public consciousness away from uninformed consumerism to commitment to choices that enhance personal, community, and statewide health, and contribute to productive, thriving natural systems. To support monitoring of this goal, it is recommended that the state conduct a voluntary survey of a cross-section of Montana residents' lifestyles to elucidate the level of awareness of sources of individual GHG emissions and steps currently being taken, if any, to reduce them. The survey will provide a baseline for a parallel, more qualitative report that will accompany the more technical reporting by non-residential

sectors. An initial thought piece on the approach for such a survey is provided as an attachment to this policy option.

Timing: Public education and outreach efforts should commence as rapidly as possible and continue evolving and spreading over time; these efforts need to be institutionalized and made permanent.

Parties Involved: Public education and outreach should involve and apply to all parties, levels, and sectors.

Implementation Mechanisms

Montana's state climate education and outreach efforts should initially be overseen largely by Montana DEQ, with support from other state agencies and Montana colleges and universities as available, but should involve many parties; over time, responsibility should expand to all sectors. Incremental staffing and resource requirements are recommended, reflective of the state's major commitment to climate action. This should include at least two additional FTE's, one dedicated to planning, coordination, and the measurement of progress in the implementation of the overall CCAC recommendations and plan, and a second dedicated to public education and outreach efforts, maintaining a strong web-based presence, and coordinating with related volunteer, community, and other groups.

The web-based application would provide a method for communities and individuals to network and share information. It would serve as an education tool, by including information on the science of climate change, in different forms (FAQs, articles, links, etc.). It would serve as an organizing tool by providing information about Montana-specific problems and solutions, successes and failures, information about activities and groups in each region, funding opportunities, etc.

Outreach to that portion of the population which does not inhabit cyberspace on a regular basis will need to be accomplished through Public Service Announcements, newspapers, posters, speakers for senior groups and groups and settings serving lower income persons. Individuals at the local level would be trained to provide hands-on training in using the web-based application for those with less familiarity with the technology, using computers provided at libraries, senior centers and schools.

Those parts of the final plan which are adopted administratively or referred to the legislature will be summarized in an informal style, in a brief inexpensive publication to inform the general public. The reading level should be that of a general circulation newspaper, with enough specificity that citizens may understand what they can expect from governments and corporations, what they may contribute to the effort, and how they may benefit from personal and societal efforts at GHG reductions. The publication will be distributed through varied and cost-effective means, as newspaper inserts, and in government offices, libraries, schools and colleges, and on business premises that agree to participate.

Related Policies/Programs in Place

None Cited.

Types(s) of GHG Reductions

Not applicable.

Estimated GHG Savings and Costs per MTCO₂e

Not applicable.

Key Uncertainties

None Cited.

Additional Benefits and Costs

None Cited.

Feasibility Issues

None Cited.

Status of Group Approval

Pending.

Level of Group Support

TBD

Barriers to Consensus

TBD

ATTACHMENT

CC-4 State Climate Public Education and Outreach

LIVING IN MONTANA SURVEY

The “Living in Montana Survey” will be designed to obtain inputs from state residents regarding designs, participation levels, and effects of Montana’s Greenhouse (GHG) management actions. The survey will be used to measure the extent to which state residents take actions to personally reduce GHG emissions, the kinds of actions they are taking and not taking, and their satisfaction with GHG management outcomes. The survey also will develop citizen input regarding public’s support for (or opposition to) and willingness to participate in future GHG initiatives.

The “Living in Montana” survey instrument and sample will be scientifically designed to allow for measurements of behaviors and attitudes in overall Montana. The “Living in Montana Survey” is expected to be administered using a “mail-out survey.” The survey instrument will be four pages in length, using mainly “close-ended questions.” A major focus of survey questions will be to identify and quantify of sources of Montana’s home area and personal transportation related GHG emissions. Other survey emphases will be to learn about Montana citizens’ existing participation-in GHG management activities and potentials for recruiting state residents to take new GHG management activities. The survey form should take respondents about 10-15 minutes to complete.

The “Living in Montana Survey” will be administered to a large sample population. Initially, we will be seeking about 3,120 survey respondents; this assumes a 60 percent response rate to 5,200 mailed-out questionnaires. The use of large sample size will allow for more accurate statistical analyses of overall survey results. The large survey sample also will allow better analyses of attitudes and behavior patterns for Montana’s subpopulations and geographic sub-areas. Greater understanding of locations, socioeconomic characteristics, and motivations of persons who are likely to implement in greenhouse gas management, will help to improve the effectiveness of public and private GHG policies.

The “Living in Montana Survey” process will culminate with preparation of the “Living in Montana Report.” This report will provide clear, non-political summaries of question results. The “Living in Montana Report” will provide users with summary-tabulations for each survey question. Where appropriate, survey outcomes also will be presented will be using graphics and explanatory text.

It is hoped that results of the “Living in Montana Survey” will be highly publicized. “Living in Montana Report” will be distributed to the Montana media. Newspapers, and television and radio stations will be encouraged run features. Access to survey information will allow Montanans to self-evaluate their responses to the state’s global warming issues.

An important survey task will be to identify GHG policies which are most and least productive. Survey results also will be diagnosed to identify differences in behaviors and opinions of key sub-groups. Survey results will provide Montana with useful feedback about successes and

values of GHG controlling actions. Survey results will allow Montanans to learn from each other- knowledge through their successes. Survey results also will provide GHG program administrators with better knowledge about factors which most influence GHG actions by Montanans.

Many Montana residents are likely to seek their own personal copies of the “Living in Montana Report,” and/or access to “Living in Montana Survey” data. ccess to survey results is likely to be sought by Montana household members, students, business operators, elected officials, government and utility officials, and others.

GHG survey results will also be made available to Montana residents via the state’s “Greenhouse Gas Website.” Citizens will be able to obtain to download a copy of the Living in Montana Report” from the state’s “Greenhouse Gas Website.” By distributing the “Living in Montana Report” by means of the internet, the DEQ will save thousands of dollars in publication and mailing costs.

The “Montana Greenhouse Gas Website” will also allow citizens to access more detailed tables and graphics of the survey results. Reviewers will be able to review and download data for key sub-tabulations of survey results. As proposed, the “Living in Montana Survey,” will be repeated over time. Reviewers also will be able to compare survey responses in two year cycles. Trends in Montana’s GHG management will be identified by comparing responses within one survey cycle to responses to similar questions posed in the survey two-years later.

During initial years of Montana’s Greenhouse Gas initiative, the “Living in Montana Survey” will be repeated on a two-year cycle. The survey’s cycle is likely to extend to four or five years as Montana’s GHG program matures.

An evolving idea will encourage Montanans using the DEQ Website to review the “Living in Montana Survey data,” to develop similar information about GHG emissions from their own housing area and personal transportation. While still logged to the GHG Survey Website, interested citizens would be afforded opportunity to fill out similar survey questions (not identical) describing characteristics of their own housing area and transportation emissions. Respondents could submit the completed survey over the internet. It may be possible to provide participants with instantaneous feedback on their household and transportation emission patterns. Respondents and DEQ staff would be afforded opportunities to work further.

Alternative:

Another website approach will provide user-friendly calculators so people can evaluate how well their current choices in energy use and product purchases contributes to GHG levels in the state. Use of the calculators is voluntary and private. Submittal of personal household and transportation information would be voluntary.

CC-6. Options for State Greenhouse Gas Goals or Targets

NOTE: This policy option has not been developed, pending quantification results from other TWGs.

Policy Description

The CCAC recommends that Montana establish a statewide, economy-wide GHG reduction target to reduce GHG emissions to [<past_date>] levels by [<future_date1>], and to an additional [x] % reduction below those levels by [<future_date2>]. In lieu of establishing a specific target sooner than [<future_date1>], the CCAC also strongly recommends the early and aggressive implementation of the CCAC recommendations, along with a corresponding set of incentives to promote early adoption.

Policy Design

Under development.

Goals: Under development.

Timing: Under development.

Parties Involved: Under development.

Implementation Mechanisms

None Cited.

Related Policies/Programs in Place

Under development.

Types(s) of GHG Reductions

Under development.

Estimated GHG Savings and Costs per MTCO₂e

Under development.

Key Uncertainties

Future growth rate in emissions, particularly after 2020, as well as the timing and scope of implementation of the CCAC recommendations for specific policy options.

Additional Benefits and Costs

None Cited.

Feasibility Issues

None Cited.

Status of Group Approval

Pending.

Level of Group Support

TBD

Barriers to Consensus

TBD

CC-7. The State's Own GHG Emissions (Lead by Example)

CC-7.1. Establish a Target for Reducing the State's Own GHG Emissions

Policy Description

State government is responsible for providing a multitude of services for the public that are delivered through very diverse operations and result in wide-ranging GHG emission activities. State government can take the lead in demonstrating that reductions in GHG emissions can be achieved through analysis of current operations, identification of significant GHG sources, and implementation of changes in technology, procedures, behavior, operations, and services provided. The state can also encourage and/or incept reductions by others in a variety of ways.

The establishment of broad-ranging goals for GHG reductions for state government will be helpful for setting an example and building expectations, but actual reductions must be realized at the agency level. Disaggregating the State's own GHG emissions to the agency level and requiring annual agency-specific reports on GHG reduction progress would be an effective way to measure and manage the State's emissions. A multi-agency group should oversee the on-going climate efforts of state agencies, providing direction, guidance, resources, shared approaches, and recognition to agencies and employees working to reduce the State's GHG emissions.

Policy Design

The State should establish GHG reduction targets for its on GHG emissions. State agencies first need to develop agency-specific GHG emissions inventory data. This will become the baseline data for ongoing emission reduction activities and measurement which will be summarized in annual reports by each agency. Agency reports will be aggregated into a summary report reflecting State GHG emissions.

Goals: Reduce GHG emissions from Montana state operations by ____% from ____ levels by 20__.

Timing: The first annual report by agencies will reflect agency-level inventories. The second annual report should reflect initial progress in reducing GHG emissions as agencies begin to plan and implement operational changes. Future annual reports should show further progress in reducing agency GHG reductions.

Parties Involved: Coverage should include all operations of all state agencies.

Implementation Mechanisms

Several possible implementation opportunities exist. Assuming adequate support from management in each agency and sufficient funding, efforts should focus on fleshing out GHG reduction baselines and plans and could include memoranda of understanding (MOUs), green procurement policies, training programs for agency facility managers, agency recognition and awards programs, performance evaluations, etc.

A Kick-Off Campaign could kick-start the Lead by Example effort and include educational and promotional activities and materials to explain personal and institutional responsibilities for changing behaviors and operations to achieve reductions in GHG emissions. The Governor's Office or the Department of Environmental Quality could be responsible for developing and coordinating the Kick-Off Campaign, and ongoing Lead by Example efforts. The Campaign should be started after completion of agency-specific GHG inventories, and at the start of the first significant state-wide efforts at changing operations and policies to achieve GHG reductions.

Related Policies/Programs in Place

The Lead By Example-Sustainable Government Committee is a multi-agency body made up of government leaders and representatives from industry, environmental, and public interest groups. This Committee is a joint responsibility of the Department of Environmental Quality and the Department of Administration. The Committee is responsible for providing direction, guidance, resources, and recognition to agencies and employees working on waste reduction, recycling, and sustainable operations in state government as required by the IWM Act. This Committee's work and goals complement the work on GHG and could absorb the responsibility for overseeing on-going state climate efforts.

Types(s) of GHG Reductions

Steps to reduce energy demand would reduce all GHGs related with energy production. Support for renewable energy and cleaner energy will also help lower all GHGs associated with energy production. Improving existing recycling efforts would result in an associated reduction in GHG emissions from processing new materials. Transportation and fleet management could lower vehicle emissions, as would converting fleets to run on alternative fuels (e.g., biofuels).

Estimated GHG Savings and Costs per MTCO_{2e}

Not quantified.

Key Uncertainties

Agency participation

Additional funding will likely be needed to accomplish this task effectively.

Additional Benefits and Costs

Education, recognition, and possibly lower operating costs.

Feasibility Issues

Same as uncertainties.

Status of Group Approval

Pending.

Level of Group Support

TBD

Barriers to Consensus

TBD

CC-7.2. Climate-Neutral Bonding

Policy Description

This policy option is being incorporated into and quantified by the RCI TWG.

CC-7.3. Require Evaluation of GHG Emissions in Environmental Studies

Policy Description

Environmental studies, such as environmental Assessments (EA) and Environmental Impact Statements (EIS), are written analyses of the potential impacts of state actions on the quality of the human environment. An EA is prepared to determine whether an EIS is required. An EIS is a detailed statement of the environmental impacts of a proposed action. It is prepared when there is a potential for significant impacts on the quality of the human environment. Requiring consideration of GHG emissions to be included as part of EA and EIS processes and documents would provide data comparing reference case GHG emissions to estimates of future GHG emissions under each proposed development option. Such information could be helpful in targeting development decisions that minimize GHG emissions or pointing out the need for authority to regulate GHG emissions.

Policy Design

Agencies will be instructed to include in environmental study documents data regarding reference case and estimated future GHG emissions. This information will guide officials and developers in choosing technologies and activities which result in development that protects the environment and reduces additional contributions of GHGs.

When acting as a co-lead or cooperating agency in the preparation of federal EAs and EISs, the State will encourage the federal agency to include GHG emissions as an issue of concern in the analyses of proposed actions.

Goals: To make informed decisions encouraging development that produces the least GHG emissions.

Timing: Implementation may begin immediately with state-wide department directives.

Parties Involved: State agencies, development proponents, and the public.

Implementation Mechanisms

Agency personnel who complete environmental studies will be given training and resources to understand and develop protocols for establishing GHG emission baselines and estimating emissions from proposed future development activities.

Related Policies/Programs in Place

Air quality/permitting personnel at DEQ already look at various air emissions for proposed projects that require environmental studies. DEQ personnel have air emissions databases in place already that could be slightly modified to look at GHG emissions.

Types(s) of GHG Reductions

All six pollutants of concern could be reduced depending upon the future projects analyzed in EISs and the State's regulatory authority. The amount that would be reduced is unknown.

Estimated GHG Savings and Costs per MTCO₂e

Not applicable.

Key Uncertainties

Some activities may not have currently inventoried GHG emissions or ways to accurately assess future emissions. Projections and analyses may depend on estimates based on similar activities. No known effective mitigation measures may exist for reducing emissions from certain activities. The State might not have the authority to require reductions in emissions.

Additional Benefits and Costs

Adds approximately one to two days to analyses, depending on availability of data. Current personnel are sufficiently skilled to provide the expertise to develop or find the data. Decision-makers can make better-informed decisions that could contribute to the overall GHG reduction goals of this document. The public will be better informed and better able to contribute substantive input in the planning process.

Feasibility Issues

Implementation does not require legislative action, additional personnel or additional funding.

Status of Group Approval

Pending.

Level of Group Support

TBD

Barriers to Consensus

TBD

CC-7.4. Consider Joining Chicago Climate Exchange

NOTE: This policy option is under significant discussion in the TWG and is likely to be substantially changed from the text below.

Policy Description

State government is responsible for providing a multitude of services for the public that are delivered through very diverse operations and result in wide-ranging GHG emissions. Montana can take the lead in achieving GHG emissions reductions – by the state itself and more broadly throughout its economy – and may be able to influence the national debate over appropriate responses to climate change by joining the Western Regional Climate Action Initiative (WRCAI), which is a regional cap-and-trade effort, and by considering whether to join the Chicago Climate Exchange (CCX), which is a voluntary, market-based carbon reduction and trading program.

WRCAI is a joint effort by the states of Washington, Oregon, California, Arizona, and New Mexico (since joined by the Canadian province of British Columbia) to develop a regional GHG reduction goal, identify market-based mechanisms by which it can be achieved, and participate in a regional or national GHG registry. It is likely that WRCAI could play a significant role in the eventual design of a national cap-and-trade program.

By joining WRCAI, Montana would commit to more broadly applicable GHG reductions – both geographically and among economic sectors – and participate in the development of mechanisms for achieving these goals, including offsets, which are typically terrestrial sequestration actions to increase the absorption of carbon dioxide (CO₂) as a result of land management activities. Joining WRCAI will give Montana the opportunity to help define the nature and quality of terrestrial offsets over a large region of the country, helping to ensure that terrestrial offsets play an appropriate role in achieving the GHG reduction goals established by WRCAI and then, subsequently, under a national regime.

CCX's membership includes three other states, along with many U.S. cities and dozens of corporations. Joining CCX would require a reduction in the State of Montana's own GHG emissions of 6% (from 1998-2001 levels) by 2010. Joining CCX could provide potential revenue for the state through GHG reductions achieved on state-owned grazing and forest trust lands. As a condition for joining CCX, Montana would likely seek eligibility for a portion of its required reductions to be achieved from state trust lands through offsets from agricultural and forestland sequestration projects. By developing and utilizing such offsets and ensuring that these do, in fact, constitute actual reductions in emissions, Montana would get early experience on this learning curve, allowing it to become a "ground floor" player in terrestrial CO₂ offset markets. Ultimately, this could encourage more CO₂ reductions to be made in Montana and could provide additional revenues to the state as well as private landowners and tribal authorities.

CCX is a private entity, and its offset practices and protocols may differ in important respects from those ultimately adopted by states, regional efforts, or the federal government. Balancing this potential shortcoming, joining CCX would enable Montana entities to gain advance

experience with developing offsets and participating in offset markets during the period that WRCAI's offset policies are being developed.

Policy Design

The CCAC recommends that the State of Montana join WRCAI and consider whether to take advantage of the trading platform provided by CCX. The aspirations and reach of the WRCAI, coupled with the techniques developed and applied by the CCX, may very well produce more effective, less costly outcomes than either entity would produce alone.

Goals: *Join WRCAI (with respect to Montana's economy-wide GHG emissions) and consider joining CCX (with respect to state government GHG emissions), and in either case, commit to meeting their respective GHG emission reduction obligations.*

Timing: *Montana should join WRCAI and decide whether to join CCX as expeditiously as possible.*

Coverage of parties: *For WRCAI, coverage should include all sectors ultimately agreed to by the participating states, for CCX, coverage should include all operations of all state agencies.*

Implementation Mechanisms

Initial implementation should probably be accomplished through executive order. Involvement in the WRCAI will likely require participation by the Governor's office or its designee. Ongoing Montana DEQ involvement is likely to be required to develop and update GHG emissions inventories and for further development of potential GHG reduction activities. The Montana Department of Natural Resources and Conservation (DNRC) should undertake and assist in the development of terrestrial carbon offsets, particularly as they may apply on state grazing and forest trust lands.

Related Policies/Programs in place

Under development.

Types(s) of GHG Reductions

Under development.

Estimated GHG Savings and Costs per MTCO₂e

Under development.

Key Uncertainties

None Cited.

Additional Benefits and Costs

None Cited.

Feasibility Issues

None Cited.

Status of Group Approval

Pending.

Level of Group Support

TBD

Barriers to Consensus

TBD