



Cross-Cutting Issues Technical Work Group

Summary List of Pending Policy Options

	Policy Option	GHG Reductions (MMtCO ₂ e)			Net Present Value 2007–2025 (Million \$)	Cost-Effectiveness (\$/tCO ₂ e)	Status of Option
		2010	2025	Total 2007–2025			
CC-1	GHG Inventories, Forecasting, Reporting, and Registry	<i>Not Quantified</i>					Complete
CC-2	Statewide GHG Reduction Goals and Targets	<i>Not Quantified</i>					Pending
CC-3	State and Local Government GHG Emissions (Lead by Example)	<i>Not Quantified</i>					Complete
CC-4	Public Education and Outreach	<i>Not Quantified</i>					Complete
CC-5	Tax and Cap Policies	<i>Not Quantified</i>					Transferred to Cap and Trade TWG
CC-7	Participate in Regional and Multistate GHG Reduction Efforts	<i>Not Quantified</i>					Complete
CC-8	Encourage the Creation of a Business-Oriented Organization To Share Information and Strategies, Recognize Successes, and Support Aggressive GHG Reduction Goals	<i>Not Quantified</i>					Complete
CC-9	Dedicate Greater Public Investment to Climate Data and Analysis	<i>Not Quantified</i>					Complete
CC-10	Facilitate the Development of an Effective Carbon Credit System for Minnesota	<i>Not Quantified</i>					Being addressed by Cap and Trade TWG
CC-11	Create a Market Advisory Group	<i>Not Quantified</i>					Transferred to Cap and Trade TWG

GHG = greenhouse gas; MMt = million metric tons; CO₂e = carbon dioxide equivalent; \$/tCO₂e = dollars per metric ton of carbon dioxide equivalent.

Note: There is no policy option CC-6, because this catalog option was determined not to be a priority for analysis by the MCCAG.

NOTE: The Minnesota CC Technical Work Group notes that a number of the recommendations contained herein may entail costs to state government to implement. Resources will need to be provided to successfully carry out these initiatives.

CC-1. GHG Inventories, Forecasting, Reporting, and Registry

Policy Description

Greenhouse gas (GHG) emission inventories are essential for understanding the magnitude of all emission sources and sinks (both anthropogenic and natural), for estimating the relative contribution of various types of emission sources and sinks to total emissions, for informing state leaders and the public on statewide trends, and for assisting with verifying GHG reductions associated with implementation of action plan initiatives.

GHG forecasts, built on solid inventories, help to predict likely impact scenarios, identify the factors that affect trends over time, and highlight opportunities for mitigating emissions or enhancing sinks.

GHG reporting reflects the measurement and reporting of GHG emissions to support tracking and management of emissions. GHG reporting can help sources identify emission reduction opportunities and reduce risks associated with possible future GHG mandates by moving “up the learning curve.” Tracking and reporting of GHG emissions can also help in the construction of periodic state GHG inventories. GHG reporting is a precursor for sources to participate in GHG reduction programs, opportunities for recognition, and a GHG emission reduction registry, as well as to secure “baseline protection” (i.e., credit for early reductions).

A GHG registry enables recording of GHG emission reductions in a central repository with “transaction ledger” capacity to support tracking, management, and “ownership” of emission reductions; establish baseline protection; enable recognition opportunities; and provide a mechanism for regional, multistate, and cross-border cooperation. Properly designed registry structures also provide a foundation for possible future trading programs.

Policy Design

The state should institute formal GHG inventory and forecast and GHG reporting functions within the Minnesota Pollution Control Agency (MPCA), to be assisted by other state agencies as needed.

Goals:

- Develop a periodic, consistent and complete inventory of emission sources and sinks at least once every two years. To the degree that data and methods allow, the inventory should include all natural and man-made emissions generated within the boundaries of the state (e.g., a production-based inventory approach), as well as emissions associated with energy imported and consumed in the state (e.g., a consumption-based inventory approach). Through performance metrics and differences in year-to-year emissions, the inventory should provide a way of documenting and illuminating trends in state GHG emissions.
- Develop a protocol for use in preparing the statewide emission and sink inventory. This should include a consistent protocol for evaluating the state’s progress in meeting the goals

of the Next Generation Energy Act of 2007, which should logically form the basis for inventory reporting of electricity sector emissions under a consumption-based approach.

- Biennially provide a summary of statewide emission and sink trends and progress toward the goals of the 2007 Next Generation Energy Act to the legislature.
- Develop a periodic, consistent, and complete forecast of future GHG emissions in at least 5- and 10-year increments extending at least 20 years into the future. MPCA should periodically assemble the GHG forecasts, which should reflect projected growth as well as the implementation of scheduled mitigation projects. In the forecasting of future GHG emissions, the treatment of uncertainties should be transparent, should be as consistent as possible across sectors and time, and, to the extent possible, should reflect multiple scenarios. The estimation methods should be consistent with those used to develop the emission inventory and should reflect best practice.
- Develop a standardized protocol for the periodic forecasting of statewide GHG emissions.

Timing: This function should be implemented as soon as possible as allowed by current funding and should be enhanced over time.

Parties Involved: All GHG emission sources and sinks (both anthropogenic and natural) should be included in the GHG inventory and forecast.

Other:

The state should develop GHG reporting opportunities for all sources. Mandatory reporting noted above should be required for significant sources as determined by MPCA, using common sense regarding de minimis emissions. Following are elements that MPCA may wish to consider:

- Subject to consistently rigorous quantification, the opportunity to voluntarily report GHG emissions should be open to all sources (e.g., combustion, processes, vehicles) using common sense regarding de minimis emissions. To encourage GHG mitigation activities from all quarters, reporting should not be constrained to particular sectors, sources, or approaches.
- GHG reporting requirements should be phased in by sectors as rigorous, standardized quantification protocols, base data, and tools become available, and as responsible parties become clear. Mandatory reporting by significant sources as determined by MPCA should eventually be required, but entities should be allowed to report GHG emissions voluntarily before mandatory reporting applies to them. The state, municipalities, and other jurisdictions should be allowed to report emissions associated with their own activities and any programs they may implement.
- The goal should be reporting of “organization-wide emissions within the state” but with the greatest possible “granularity” 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.

- Reporting of direct emissions¹ should be required, reporting of emissions associated with purchased power and heat² should be phased in, and voluntary reporting of other indirect emissions³ should be allowed.
- Every effort should be made to maximize consistency with federal, regional, and other states' GHG reporting programs.
- GHG emissions reports should be verified through self-certification and MPCA spot-checks; to qualify for future registry purposes, reports should undergo third-party verification.
- Reporting of expected increases or decreases of emissions should be mandated.
- Project-based emissions reporting should be allowed, when properly identified as such and when quantified with equally rigorous consistency.
- The reporting program should provide for appropriate public transparency of reported emissions.

The state has joined the effort to develop a national GHG registry through *The Climate Registry*. Being a charter state in this effort should help ensure that Minnesota's needs and priorities are addressed in the course of *The Climate Registry's* development. To the extent that Minnesota's needs may not be fully met by *The Climate Registry*, the state should consider developing supplemental or ancillary registry capacity or opportunity. Elements to consider 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 exist, as affirmed by an independent third-party verification, and allowing registration of project-based reductions that are equally rigorously quantified.
- Incorporating adequate safeguards to ensure that reductions aren't double-counted by multiple registry participants; providing appropriate transparency; and allowing the state to be a valid participant for reductions associated with its programs, direct activities, or efforts.
- Striving for maximum consistency with other state, regional, and national efforts; allowing for the greatest flexibility as GHG mitigation approaches evolve; and providing guidance to assist participants.

Goals: Implementation of a GHG registry for Minnesota sources as soon as possible.

Timing: As soon as possible.

Parties Involved: Probably overseen by MPCA; costs shared by participants benefiting from the registry.

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*.

Implementation Mechanisms

See the items above. The elements of this option are the foundation of a climate action program in Minnesota. Therefore, they will, require an adequate investment of resources by the state to accomplish them. In particular, MPCA will need additional resources to implement key elements of the recommendations from this process.

Related Policies/Programs in Place

MPCA has a long-standing program in place for preparing and updating GHG emission inventories for all sectors and GHG pollutants. Governor Pawlenty has recently signed the Midwestern Regional Greenhouse Gas Reduction Accord.

Type(s) of GHG Reductions

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

Estimated GHG Savings and Costs per MtCO_{2e}

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 will not directly reduce emissions per se except where these data motivate reductions for public relations by individual companies or sources.

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

Data Sources: Many.

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

Key Assumptions: Reporting will establish a baseline for GHG emissions and will 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 of emission sources or sinks to the emission cycle.

Key Uncertainties

Many uncertainties are associated with maintaining an inventory of the many natural sources of GHG emissions, For example:

- How will potential requirements eventually emanating from a federal GHG reduction program affect the Minnesota climate programs?
- Will political leadership ensure the adequacy and timeliness of resources to implement this option?

Additional uncertainties will most likely arise as implementation proceeds.

Additional Benefits and Costs

See above.

Feasibility Issues

None cited at this time. The state will need to ensure the accuracy of out-of-state GHG production inventories and to avoid double counting of GHG emissions in registries. The state will need to be clear about the distinction between its projections and forecasting functions.

Status of Group Approval

Complete.

Level of Group Support

Unanimous.

Barriers to Consensus

Not applicable.

CC-2. Statewide GHG Reduction Goals and Targets

Policy Description

NOTE: Further analysis is on hold until the other TWGs completed their quantification of GHG reductions.

Article 5 of the Next Generation Energy Act of 2007 (S.F. 145) establishes goals for Minnesota to reduce statewide GHG emissions across all sectors producing those emissions, to levels at least 15% below 2005 levels by 2015, at least 30% below 2005 levels by 2025, and at least 80% below 2005 levels by 2050. The levels will be reviewed based on the climate change action plan study. In addition, Article 1 of the act establishes that Minnesota's energy policy requires that (1) the per capita use of fossil fuel as an energy input be reduced by 15% by 2015, through increased reliance on energy efficiency and renewable energy alternatives; and (2) 25% of the total energy used in the state be derived from renewable energy resources by 2025.

Policy Design

Established in Next Generation Energy Act of 2007.

Goals: As noted above. Periodic updates may be needed.

Timing: As soon as possible.

Parties Involved: State government, municipalities, citizen's groups, nongovernmental organizations, and commercial, industrial, economic, and educational sectors.

Implementation Mechanisms

The policy option descriptions from the individual Technical Work Groups (TWGs) suggest specific implementation mechanisms. Many are regulatory, requiring executive action or further legislation. However, the very scale associated with comprehensively addressing climate change suggests that there are essential nonregulatory aspects to implementation as well, such as education and engagement of the general public, municipalities, and the commercial, industrial, economic, and educational sectors in the state at many levels (as discussed further in CC-4).

In all sectors, improvements in energy efficiency directly reduce fuel costs, giving payback on investment to the user. However, funding the up-front costs of efficiency measures is likely to require a diverse range of innovative funding mechanisms and incentives to ensure sufficiently rapid penetration of the market to achieve the year 2025 goal of a 30% reduction in GHG emissions from the state.

Related Policies/Programs in Place

GHG emission reduction goals have been established by Governor Pawlenty and the Minnesota Legislature. The Governor has recently signed the Midwestern Regional Greenhouse Gas Reduction Accord.

Type(s) of GHG Reductions

All.

Estimated GHG Savings and Costs per MtCO₂e

Not applicable.

Key Uncertainties

Projected data uncertainties associated with 2050 forecasts.

Additional Benefits and Costs

Not applicable.

Feasibility Issues

Not applicable.

Status of Group Approval

Pending – [until MCCAG moves to final agreement at meeting #8]

Level of Group Support

TBD – [blank until MCCAG meeting #8]

Barriers to Consensus

TBD – [blank until final vote by the MCCAG]

CC-3. State and Local Government GHG Emissions (Lead by Example)

Policy Description

In many areas, the Minnesota state government is already leading by example to obtain GHG emission reductions. State and local governments are 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 and local governments 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. State and local governments can also encourage and provide incentives for reducing GHG emissions by others in a variety of ways.

The support of broad-ranging goals for GHG reductions for state government through the goals established below and those that already exist through the Interagency Pollution Prevention Advisory Team (IPPAT) will be helpful for setting an example and building expectations, with actual reductions realized at the state agency level. Disaggregating the state's own GHG emissions to the agency level and showing the results in the annual IPPAT report on GHG reduction progress is an effective way to measure and manage the state's emissions. A multiagency group oversees the ongoing 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

State and local governments should establish reduction targets for their own GHG emissions. The establishment of broad-ranging goals for reducing governments' GHG emissions will be helpful in both setting an example and building expectations. Because actual reductions will typically be realized at the individual agency level, disaggregating individual government's GHG emissions to the agency or department level, and requiring annual agency- or department-specific reports on GHG reduction progress can be an effective way to measure and manage each agency's progress toward reducing its emissions. Government agencies or departments first developed agency- or department-specific GHG emissions inventory data. This became the baseline data for ongoing emission reduction activities and measurement, which are summarized in annual IPPAT reports by each agency or department. IPPAT oversees the ongoing climate efforts of the state government's agencies and departments; reviews their performance; and provides direction, guidance, resources, shared approaches, and recognition to agencies or departments and their employees who are working to reduce the state government's GHG emissions.

Goals:

- Each state agency will, in consideration of its current and projected building stock:
 - Determine and quantify its current and projected energy consumption and associated GHG emissions from such consumption.

- Develop and propose a plan to reduce its statewide GHG emissions associated with its building stock commensurate with its pro-rata share of the statewide GHG reduction goals established in the 2007 Next Generation Energy Act.
- Provide the plan to IPPAT.
- Report annually to IPPAT its progress toward its GHG reduction goals in buildings.
- Each state agency will, in consideration of its current and projected transportation stock:
 - Quantify and establish the same goals for its transportation stock described above for its building stock.
 - Provide the plan to IPPAT.
 - Report annually to IPPAT its progress toward its GHG reduction goals in transportation.

The state should develop appropriate guidelines and tools for utilizing the environmental impact assessment processes to assess and promote reductions of GHG emissions. Environmental Assessment Worksheets (EAWs) and Environmental Impact Statements (EISs) are written analyses of the potential environmental impacts of a proposed action or project in Minnesota. Including consideration of GHG emissions as part of EAW and EIS processes and documents would enable comparison of reference-case GHG emission levels to future GHG emission levels as a result of proposed projects. Such information could be helpful in targeting development decisions that minimize GHG emissions or in pointing out the need for authority to regulate GHG emissions. Agencies should utilize state-developed guidelines and tools in EAW and EIS documents comparing reference-case and estimated future GHG emissions. This information will guide officials and developers in choosing technologies and activities that result in development that protects the environment and reduces additional contributions of GHGs.

Additionally, the existing directives of IPPAT, along with the following Executive Orders, should be continued and enhanced:

04-02, Providing Direction to State Agencies Regarding State Contracting Procedures

04-08, Providing for State Departments To Take Actions To Reduce Air Pollution in Daily Operations (Clean Air Minnesota provisions)

04-10, Providing for State Departments To Improve Fleet and Travel Management

05-16, Providing for Energy Conservation Measures for State-owned Buildings

06-03, Requiring State Agencies To Increase the Use of Renewable Fuels

Timing: The state's efforts to lead by example in reducing its own GHG emissions have already begun through IPPAT's actions and the above-listed Executive Orders. The baseline information and emission reductions from the prior years are already recorded. Future annual reports should show further progress in reducing agency GHG emissions.

Parties Involved: Coverage should include all operations of all state agencies and all departments of local governments.

Implementation Mechanisms

- Public education and outreach to state and local government agencies and employees.
- Performance reviews and recognition of agency progress.
- Procurement of low-GHG products.
- Quantifiable, sustainable, and measurable building energy conservation improvements corresponding to the agency's pro rata share of the 1.5%/year energy conservation goal established in the 2007 Next Generation Energy Act.
- Transportation energy conservation improvements sufficient to accomplish the GHG reduction goals established in the Goals section, above.

Related Policies/Programs in Place

Descriptions to follow regarding programs of the following entities: the Metropolitan Council, the cities of Minneapolis and St. Paul, and 24 other member cities in the U.S. Mayors Climate Protection Agreement, through ICLEI (Local Governments for Sustainability [formerly International Council for Local Environmental Initiatives]), the Minnesota Department of Commerce (MDOC), energy efficiency (EE) and conservation improvement programs (CIPs), MPCA Sustainability Conference information, and Explore Minnesota. The Governor has recently signed the Midwestern Regional Greenhouse Gas Reduction Accord.

Type(s) of GHG Reductions

Steps to reduce energy demand would reduce all GHGs related to 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 would lower vehicle emissions, as would converting vehicle fleets to run on alternative fuels (e.g., biofuels).

Estimated GHG Savings and Costs per MtCO₂e

Not applicable.

Key Uncertainties

Substantial uncertainty surrounds future growth rates in GHG emissions, particularly beyond 2020, as well as the timing and scope of implementation of the Minnesota Climate Change Advisory Group's (MCCAG's) recommendations for specific policy options, including those associated with the state's own GHG emissions. The state will also need to determine to what types of projects the GHG emissions analysis should be applied as part of EAW or EIS processes.

Additional Benefits and Costs

These recommendations require development of credible guidelines and tools that will result in additional costs to project sponsors and appropriate state and local agencies.

Feasibility Issues

Developing an agreed-upon framework in the beginning will be important, to ensure a cost-efficient procedure for collecting data.

Status of Group Approval

Complete.

Level of Group Support

Unanimous.

Barriers to Consensus

Not applicable.

CC-4. Public Education and Outreach

Policy Description

Explicitly articulated public education and outreach can support GHG emission reduction efforts at all levels in the context of emission reduction programs, policies, or goals, by fostering a broad awareness of climate change issues and effects (including co-benefits, such as clean air and public health), and engaging citizens, businesses, and institutions 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, and should make the public aware of GHG emissions associated with products produced outside of Minnesota and the United States. Ultimately, public education and outreach will be the foundation for the long-term success of the policy actions proposed by the MCCAG as well as those that may evolve in the future.

Policy Design

The state should build upon current educational efforts and action campaigns of state agencies, utilities, and nonprofit organizations that understand each others' offerings and should use these enhanced resources to educate and encourage all sectors within Minnesota—such as residential, commercial, and educational—to take action.

State Education Initiatives

Minnesota has a long history of environmental education. The state should work through existing organizations by encouraging them to incorporate education about climate change and the role of GHG emissions into their existing educational efforts. The states initiatives should focus on being the primary mechanism for providing mitigation, awareness, and understanding of climate change and the role humans play in causing it.

Current Efforts

Environmental Education Advisory Board

Minnesota's Environmental Education Advisory Board (EEAB) was created by the 1990 Environmental Education Act (M.S. 1998, Chap. 115A.072) to promote environmental literacy for all Minnesota citizens. EEAB advises the Governor through MPCA, state agencies, organizations, and citizens. A major vehicle is the implementation of *A GreenPrint for Minnesota: State Plan for Environmental Education*. The third edition of the *GreenPrint*, which is being revised, will list four or five main objectives for the state.

EEAB consists of 20 members—11 citizen representatives and 9 government agency representatives. One citizen member from each of the 8 congressional districts and 3 citizen at-large members comprise the citizen members (2 of the citizen members must be classroom teachers). They serve two-year terms. EEAB also has a representative from each of the following: MPCA, Department of Education, Department of Agriculture, Department of Health, Department of Natural Resources, Board of Water and Soil Resources, Environmental Quality Board, Board of Teaching, and the University of Minnesota Extension Service.

Environmental Learning in Minnesota Fund

The Environmental Learning in Minnesota Fund is a current EEAB initiative to develop a fund to provide fiscal resources for environmental education in Minnesota. The fund would enable schools, environmental learning centers, residential environmental learning centers, science museums, colleges and universities, and various local government entities to educate Minnesota citizens and businesses about critical issues in the global warming discussion. While this effort is still in the exploratory stage, EEAB is currently discussing with the Minnesota Association for Environmental Education the potential for a public–private partnership to manage and administer the fund. Although the details of this initiative are still fluid, revolving funding priorities and joint administration are expected to be part of the final program.

Minnesota Scope and Sequence

Environmental Literacy Scope and Sequence (March 2002, also due for revision in 2008) is designed to help create opportunities for mainstreaming environmental education in a way that has not been possible before. It provides a systems approach to environmental education that can focus the efforts of teachers and other educators to unify their many independent efforts to achieve the goal of environmental literacy. Because the *Scope and Sequence* is based on both state and national standards, it enables environmental educators to build, adapt, or integrate curricula and assessments that are most appropriate for their particular grade level or audience.

Sharing Environmental Education Knowledge Partnership

Sharing Environmental Education Knowledge (SEEK) is a partnership of more than 130 organizations that provide environmental education to Minnesota citizens. The partnership's main communication tool is a Web site (www.seek.state.mn.us) that includes a resource directory with over 1,500 resources, a news area, jobs and internship information, training opportunities, a calendar of statewide activities (for both the public and educators,) regional pages, and other information areas. SEEK members are nonprofit and for-profit businesses, and municipal, state, and federal government entities.

Utility Programs

Utility CIPs should be strengthened to provide education about specific, direct actions consumers can take to reduce their energy use and emissions.

Nonprofit Organizations

Minnesota nonprofit organizations, such as the Will Steger Foundation, Fresh Energy, Sierra Club, and Center for Energy and Environment (CEE), have been promoting education and action on climate change for many years. CEE has developed the Minnesota Energy Challenge as a way for people to form partnerships and take action about climate change. The Minnesota Environmental Initiative has supported a number of conferences on energy and the environment, and also provides environmental education in conjunction with the Hamline University Center for Global Environmental Education. The state should not duplicate these initiatives.

Goals: The overarching goal is to raise awareness about global warming and promote individual action to reduce the Minnesota's overall GHG emissions.

Timing: Public education and outreach efforts should commence now.

Parties Involved: Rather than create a new agency the legislature should include MDOC as a member of the EEAB and also include GHG education as part of the EEAB mission. Because EEAB membership is prescribed by statute language, and addition of MDOC would require legislation. This addition would ensure that any energy-related education assisted or initiated by MDOC is represented in a cohesive, coordinated manner and is supported by the state plan for environmental education, the *GreenPrint*. The MDOC should ensure that utility CIPs include effective energy education and are designed to complement the activities of nonprofit organizations. Additionally, counties may want to consider including educational initiatives about global warming as part of their Select Committee on Recycling and the Environment (SCORE)-funded programs.

Implementation Mechanisms

See above.

Related Policies/Programs in Place

See above.

Type(s) of GHG Reductions

Not applicable.

Estimated GHG Savings and Costs per MtCO₂e

Not applicable.

Key Uncertainties

These initiatives are designed to support implementation of other options, but their impacts are difficult to measure.

Additional Benefits and Costs

Not quantifiable at this time.

Feasibility Issues

Distinguishing between GHG education initiatives and GHG reduction policies/programs will be important.

Status of Group Approval

Complete.

Level of Group Support

Unanimous.

Barriers to Consensus

Not applicable.

CC-5. Tax and Cap Policies

Policy Description

The MCCAG approved as priority policy options for analysis Energy Supply-X (ES-X) (GHG Cap and Trade) and ES-11 (Carbon [GHG] Tax). The ES TWG will quantify the emission reductions and costs or cost savings associated with these options. The Cross-Cutting (CC) TWG has requested that the ES TWG strongly consider a multisector, regional approach in the development of the design elements and quantification of these options.

This option will be addressed by the Cap-and-Trade TWG.

CC-7. Participate in Regional and Multistate GHG Reduction Efforts

Policy Description

Regional approaches undertaken in collaboration with partner states or other organizations can offer broader and more economically efficient opportunities to reduce GHG emissions across Minnesota's economy. Several options for regional, market-based GHG reduction strategies should be considered in Minnesota, such as joining the Western Climate Initiative or the Northeast States Regional Greenhouse Gas Initiative, instituting a new midwestern states GHG initiative, considering the California vehicle standards, and cost-sharing on multistate initiatives.

Policy Design

Goals: Ensure the cost-effective reduction of GHG emissions to at least the reduction levels set forth in Minnesota statute, in a manner that maximizes public benefits and induces innovation in energy efficiency and sustainable energy technologies and avoids inequitable impacts.

Timing: By February 1, 2008, the Administration must report to the state legislature on its investigation into regional GHG reduction opportunities. By August 1, 2009, Minnesota should either join an existing GHG reduction initiative or institute and join a new midwestern states GHG initiative that will ensure that Minnesota achieves the goal stated above.

Parties Involved: The Governor and his staff should implement the legislative directive (see below) and inform the chairs and ranking minority members of the legislative committees with jurisdiction over energy and environmental finance and policy.

Implementation Mechanisms

Next Generation Energy Act, S.F. No. 145, Article 5, Sec. 2, Subd. 6 (Regional activities). To the extent possible, Minnesota must, with other states in the Midwest, develop and implement a regional approach to reducing GHG emissions from activities in the region, including consulting on a regional cap-and-trade system.

Related Policies/Programs in Place

Next Generation Energy Act, S.F. No. 145, Article 5, Sec. 2, Subd. 6 (Regional activities). See above. Also, Governor Pawlenty has recently signed the Midwestern Regional Greenhouse Gas Reduction Accord and the Midwestern Energy Security and Climate Stewardship Platform.

Type(s) of GHG Reductions

Not applicable.

Estimated GHG Savings and Costs per MtCO₂e

Not applicable.

Key Uncertainties

Joining another regional entity should not compromise the achievement of Minnesota's goal.

Additional Benefits and Costs

There will be additional environmental and economic co-benefits associated with the state's participation in a regional GHG emission reduction initiative that meets Minnesota's goals, including the opportunity to reduce GHG emissions in an economically efficient manner, the identification of additional areas for cooperation within specific sectors (e.g., transportation), and the reduction of other non-GHG pollutants associated with the production and use of energy.

Feasibility Issues

None cited at this time.

Status of Group Approval

Complete.

Level of Group Support

Unanimous.

Barriers to Consensus

Not applicable.

CC-8. Encourage the Creation of a Business-Oriented Organization To Share Information and Strategies, Recognize Successes, and Support Aggressive GHG Reduction Goals

Policy Description

Successful state GHG reduction efforts are highly dependent on the active participation of the business community, particularly in the energy, agriculture, transportation, development, and manufacturing sectors. In Minnesota, there are many progressive corporations that are anxious to participate in broad-scale efforts to reduce GHG emissions. To facilitate a strategic approach that has a significant impact, a statewide proactive business organization should be formed to promote energy efficiency and GHG reduction opportunities.

Policy Design

Goals: The Next Generation Energy Act of 2007 established general goals for GHG emission reductions and an aggressive specific annual goal of reducing energy consumption by 1.5%. A new business strategy that aggressively promotes options to improve energy efficiency by Minnesota's businesses will help achieve these goals.

Timing: As soon as possible.

Parties Involved: The Minnesota Chamber of Commerce (Chamber), energy utilities, MDOC, energy conservation experts, and individual businesses across the state.

Implementation Mechanisms

In 1993, the Chamber created a business waste reduction program called Minnesota Waste Wise. Since then, hundreds of businesses have participated to reduce waste generation and improve recycling and reuse rates. The Chamber is now using the Waste Wise model for a new energy conservation and efficiency program that will promote the use of energy utility CIPs through education and outreach, technical assistance, and recognition programs. The Chamber is consulting with energy utilities, business consumers, and MDOC on program development. Funding will be sought from MDOC CIP grant funds.

Related Policies/Programs in Place

Energy utilities' CIPs, Minnesota Waste Wise, ENERGY STAR.

Type(s) of GHG Reductions

CO₂ and other GHGs.

Estimated GHG Savings and Costs per MtCO₂e

Not applicable.

Key Uncertainties

Must secure funding.

Additional Benefits and Costs

Not quantifiable at this time.

Feasibility Issues

None identified at this time.

Status of Group Approval

Complete.

Level of Group Support

Unanimous.

Barriers to Consensus

Not applicable.

CC-9. Dedicate Greater Public Investment to Climate Data and Analysis

Policy Description

To calibrate GHG mitigation policies, it is critical that decision makers and Minnesota citizens understand how climate change is currently affecting and will in the future affect the state's natural resources and economy. Much of the data and information needed to make such an assessment is being collected by various departments and entities in the state. MPCA and the Minnesota Departments of Natural Resources, Agriculture, and Employment and Economic Development should assess and identify the gaps in ongoing data collection that would need to be filled to monitor, track, and assess climate change impacts in Minnesota. The departments should develop recommendations for filling these data gaps and suggest the best approach (possibly under the coordination of the University of Minnesota) for periodically assessing how intensely Minnesota is being and is likely to be affected by climate change.

Policy Design

Goals: Develop a plan for periodically assessing the recent and projected impacts of climate change on Minnesota natural resources and economic activity. The assessment would focus on (but not be limited to) impacts on water resources and quality, air quality, landscape change, forest resources and health, ecosystem health, species diversity, fish and wildlife and their habitats, agricultural productivity, recreation and other amenities, human disease, and settlement. The assessment should treat impacts arising from climate changes of the present and recent past, and impacts that are likely or possible 30–50 years into the future, and should rely on the best available regional climate data and assessments.

Timing: The recommendations should be developed for submittal to the state legislature by January 2009.

Parties Involved: MPCA and the Minnesota Departments of Natural Resources, Agriculture, and Employment and Economic Development; other state agencies; federal land managers; and academic researchers at public and private universities and colleges in Minnesota.

Implementation Mechanisms

An appropriate process needs to be developed, including stakeholder participation.

Related Policies/Programs in Place

See above.

Type(s) of GHG Reductions

Not applicable.

Estimated GHG Savings and Costs per MtCO₂e

Not applicable.

Key Uncertainties

Adequacy of funding.

Additional Benefits and Costs

Not quantifiable at this time.

Feasibility Issues

None cited at this time.

Status of Group Approval

Complete.

Level of Group Support

Unanimous.

Barriers to Consensus

Not applicable.

CC-10. Facilitate the Development of an Effective Carbon Credit System for Minnesota

Policy Description

Minnesota could develop an offset program as a state-led or private effort. Under this policy, the preferred approach is for entities to participate in an official state-recognized registry. However, for entities not covered by the registry, the policy would allow for offsets to be submitted as a way to opt in to GHG emission allowance markets or trading systems. Such offsets would be registered using approved protocols or (in the absence of protocols) an application for approval of specific projects on a case-by-case basis. The effectiveness of such offsets is likely to help determine their value and utility for participants. In particular, concerns about measurement, permanence, additionality, and enforceability must be resolved in the protocol-setting process. Such measures as categorical exclusions and temporary credits for certain types of emission-reducing actions should be considered. However, the administrative burden and/or transaction costs that could be imposed could have a countervailing (dampening) effect, leading to an overall increase in costs.

Policy Design

Goals: Enable a wide range of quality offsets to be generated, preferably in Minnesota, with the applicability of such offsets to be determined as state, regional, national, and international GHG reduction efforts continue to develop. Criteria for such an offset system in Minnesota might include those described in the cap-and-trade Webinar (real, surplus [additional], verifiable, permanent, and enforceable).

Timing: By January 1, 2009, establish an offset program that includes at least the major sectors for which existing GHG emission reduction protocols exist or are developed for use by Minnesota entities. To the extent that Minnesota's participation in *The Climate Registry* will enable certain sectors and entities to participate in offset creation, they would not be included in the separate offset program under this policy.

Parties Involved: MDOC and MPCA along with other appropriate partners. The offset program tracking and administration could be formed with the same agency structure as envisioned for the state's participation in *The Climate Registry*. A stakeholder and public comment process should be employed during 2008 to determine types of offsets and relevant protocols for inclusion.

Other: Consider a state purchase of offsets using an RFP (request for proposals) process to jump start the market versus strong advocacy for rapid development of national or regional offset systems.

Implementation Mechanisms

Legislative authorization for the agency-based offset program, including funding for staff and associated stakeholder processes. Consider the need for protocol development; approval

processes, such as applications or third-party verification; and possible participant funding for protocols and/or verification.

Related Policies/Programs in Place

Climate inventories and registries, and county or municipal offset efforts.

Type(s) of GHG Reductions

A wide variety, including forestry and land use, process and end-use efficiency, and innovative technologies (e.g., hybrid vehicle conversions).

Estimated GHG Savings and Costs per MtCO₂e

Basically unknown at this time. Note that offsets, if sold to out-of-state emission markets with binding regulatory regimes (such as the European Union), could be used by others, and such offsets would not lead to overall emission reductions. Only emissions that are recorded and retired permanently in Minnesota or sold into voluntary emission markets, such as the Chicago Climate Exchange, are actually “real and additional” GHG reductions. Concerns about the permanence of land use and other behaviors introduce further uncertainty, as does the permissibility of offsets for use in a potential mandatory GHG emission reduction program.

Key Uncertainties

The willingness of Minnesota actors to undertake offset investments, the stringency of offset accounting and resulting “quality” of the offsets, ties to external markets and pricing, and public (agency) versus private (nonprofit or for-profit) oversight and program administration.

Additional Benefits and Costs

Probably unquantifiable co-benefits from emission reduction actions; benefits for actors to develop GHG accounting, option evaluation, and institutional infrastructure to facilitate GHG emission reduction efforts; and the potential to pave the way for other policies.

Feasibility Issues

The time and resources needed to develop an offset program and any required protocols or verifications.

Status of Group Approval

Pending – [until MCCAG moves to final agreement at meeting #8]

Level of Group Support

TBD – [blank until MCCAG meeting #8]

Barriers to Consensus

TBD – [blank until final vote by the MCCAG]

CC-11. Create a Market Advisory Group

Note: This option will be addressed by the Cap-and-Trade TWG. The CC TWG would like to remain involved in reviewing this option and explore whether the scope of such a group can be broader than just cap and trade.

Policy Description

The MCCAG should consider establishment of a Market Advisory Group, consisting of experts to provide guidance to the state on the design of market-based compliance programs to manage GHG emissions. California has formed a Market Advisory Committee (MAC) to help formulate a GHG cap-and-trade system in the state. The MAC has developed a set of guiding principles and an initial set of recommendations for a California cap-and-trade program. It is recommended that Minnesota evaluate the MAC to determine whether it can be used as an example for developing a Minnesota Market Advisory Group that would provide expert guidance to the state on the design of market-based compliance programs to manage GHG emissions.

Policy Design

None identified since the transfer of this option to the Cap-and-Trade TWG.

Implementation Mechanisms

None identified since the transfer of this option to the Cap-and-Trade TWG.

Related Policies/Programs in Place

None identified since the transfer of this option to the Cap-and-Trade TWG.

Type(s) of GHG Reductions

None identified since the transfer of this option to the Cap-and-Trade TWG.

Estimated GHG Savings and Costs per MtCO_{2e}

None identified since the transfer of this option to the Cap-and-Trade TWG.

Key Uncertainties

None identified since the transfer of this option to the Cap-and-Trade TWG.

Additional Benefits and Costs

None identified since the transfer of this option to the Cap-and-Trade TWG.

Feasibility Issues

None identified since the transfer of this option to the Cap-and-Trade TWG.

Status of Group Approval

Not applicable.

Level of Group Support

Not applicable.

Barriers to Consensus

Not applicable.