

DRAFT: May 5, 2009

**BACKGROUND INFORMATION REQUESTED BY THE MAG AT APRIL 2, 2009 MEETING ON
CC-2: Establish Goals for Statewide GHG Emissions**

The following discussion provides the MAG with some additional context for CC-2 (current text attached).

- It shows how GHG reduction actions proposed by two of the mitigation TWGs (Forestry/Agriculture/Waste and Transportation/Land Use) would contribute to proposed GHG Emission Goals. The Energy Supply and Demand TWG and Oil and Gas TWG quantifications will be incorporated when they are available.
- It also shows how the goals proposed by the TWG align relative to other state GHG emission goals and targets.
- It discusses how federal action could affect the setting of goals.

I. Potential reductions from quantified TWG actions appear to meet approximately half of the GHG emissions reductions required for Alaska to achieve an emissions reduction goal of 20% below 2005 emissions by 2020 and stay on the path to meet a goal of 80% below 2005 emissions by 2050.

Figure 1. Potential 2025 GHG Emissions Reductions from Quantified TWG Actions

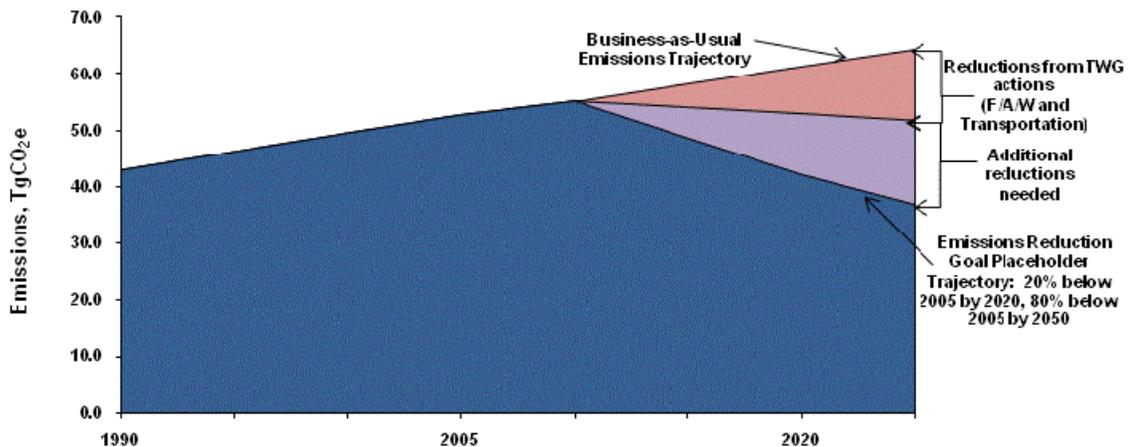


Figure 1 illustrates the potential 2025 GHG emissions reductions from the TWG actions which have been quantified as of May 5, 2009. The top line illustrates the potential GHG emissions trajectory assuming no action is taken (“Business-as-Usual”).¹ The bottom line represents the GHG emissions trajectory assuming a near-term goal of 20% below 2005 emissions by 2020 and a longer-term goal of 80% below 2005 emissions by 2050 (“Emissions Reduction Goal Placeholder”).² The wedge formed between the Business-as-Usual trajectory and the Emissions Reductions Goal Placeholder trajectory illustrates the emissions reductions needed for Alaska to meet the proposed emissions reduction goal path. The

¹ This trajectory through 2020 is based on values from the “Alaska Greenhouse Gas Inventory and Reference Case Projections 1990-2020”. The post-2020 trajectory is a straight-line estimate for illustration only (this will be updated with projected 2025 values, as they become available).

² The CC TWG has proposed a range of potential goals for Alaska based on the range of goals established by other entities. This line is meant only to illustrate the potential emissions reduction trajectory represented by two of these proposed goals, and not to pre-determine what these goals might be.

portion of the wedge in pink represents the potential reductions from proposed actions that have been quantified in the Forestry/Agriculture/Waste and Transportation/Land Use sectors, totaling 12.73 MMtCO₂e (approximately half of the 2025 target reduction of 25.80 MMtCO₂e.)³ The area in purple represents the approximate amount of remaining reductions needed to achieve the proposed emissions reduction goal path. Table 1 on the following page shows the specific contributions from these two TWGs.

Table 1. 2025 Reductions from Quantified TWG Actions (TLU and F/A/W)

2025 Reduction Summary	(MMtCO ₂ e)	%
2025 Target reductions	25.80	100%
Catalogued reductions		
Transportation	2.53	10%
Forestry/Ag/Waste	10.20	40%
Total	12.73	49%
<i>Remaining reductions*</i>	<i>13.1</i>	<i>51%</i>

II. An illustration of the potential GHG emissions reductions potential from a range of various long-term GHG emissions reduction goals.

Figure 2 illustrates the potential GHG emissions reductions for various 2050 GHG emissions reduction goals. The top line illustrates the potential GHG emissions trajectory assuming no action is taken (“Business-as-Usual”).⁴ The bottom four lines illustrate the range of potential GHG emissions trajectories needed for Alaska to achieve a near-term GHG emissions reduction goal of 20% below 2005 by 2020, and a range of long-term emissions reductions goals ranging from a less stringent goal (60% below 2005 by 2050) to a more stringent goal (80% below 1990 by 2050).

³ The 2025 target reduction of 25.8 MMtCO₂e represents an estimate to approximate the GHG reduction potential, and is based on the difference between the “Business-as-Usual” trajectory and the “Emissions Reduction Goal Placeholder.” See footnotes 1 and 2 for a description of how these trajectories were approximated.

⁴ As with Figure 1, the Business-as-Usual trajectory in this graph through 2020 is based on values from the “Alaska Greenhouse Gas Inventory and Reference Case Projections 1990-2020”. The post-2020 trajectory is a straight-line estimate for illustration only (this graph could be updated with projected 2050 values, if available).

Figure 2. Potential GHG Emissions Reduction Range for Various 2050 GHG Emissions Reduction Goals

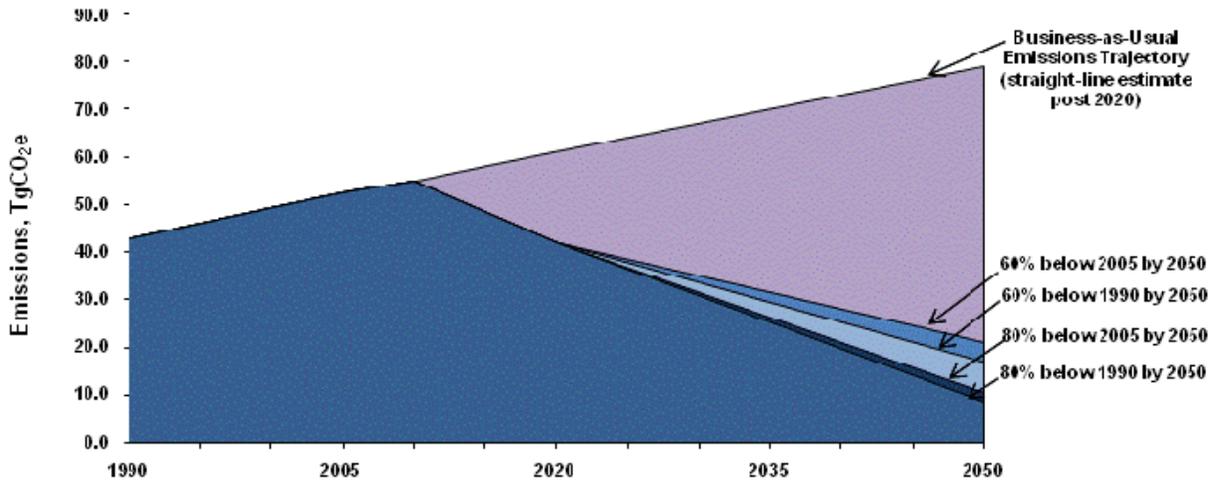


Table 2 contains the values for the total annual and percentage increase and decrease of emissions in a Business-as-Usual scenario, and under a range of the potential GHG emissions reduction goals using 2005 as the reference case that have been proposed by the Cross-Cutting TWG.⁵ This range of goals is 14-20% below 2005 by 2020, and 60-80% below 2005 by 2050.

Table 2. Business-as-Usual and Potential GHG Emissions Reductions from Proposed Goals

Year	BAU Emissions		Emission Reductions	
	Total annual emissions(MMtCO ₂ e)	(% increase/decrease from 2005)	Total annual emissions(MMtCO ₂)	(% increase/decrease from 2005)
1990	43.0	---	43.0	---
2005	52.8	---	52.8	---
2010	55.2	+ 4.5%		
2012	N/A			Begin to reduce
2020	61.5	+ 16.6%	45.4 to 42.2	- 14 to 20%
2025**	64.5 (est)	+ 22.2% (est)	38.7 (est)	-26.8 (est)
2050	N/A		21.1 to 10.6	- 60 to 80%

III. Other states’ GHG emission goals and targets provide some comparison to help Alaska propose a goal or target.

The following tables show other states’ GHG emission goals and targets, roughly ranked by the strength of the goal. GHG emission targets are set into law and bind the state to meeting that target, while a goal sets the policy direction for the state but does not obligate the state to meeting that goal. In Table 3, some potential goals for Alaska are highlighted to show where they would fall compared to the strength of other states’ goals.

⁵ Bolded values in Table 2 are derived from values for 1990, 2005, 2010 and 2020 found in the “Alaska Greenhouse Gas Inventory and Reference Case Projections 1990-2020” prepared for Alaska by the Center for Climate Strategies (CCS) in February 2007, and the refinements issued by Alaska DEC report in January 2008, available at http://climatechange.alaska.gov/docs/ghg_ei_rpt.pdf. 2025 values are estimated using simple straight-line estimates solely to approximate reduction potential from quantified TWG actions in Figures 1 and 2.

Table 3. State Goals (Aspirational, not mandatory)

State	Baseline Year	Goal Year	Goal
VT	1990	2012	25% below
		2028	50% below
		2050	75% below
AK	1990	2020	14-20% below
		2050	60-80% below
MT	1990	2020	At baseline
		2050	80% below
IL	1990	2020	At baseline
		2050	60% below
NY	1990	2010	5% below
FL	2000	2017	At 2000 baseline
	1990	2025	At 1990 baseline
		2050	80% below 1990 baseline
AZ	2000	2020	At baseline
		2040	20% below
CO	2005	2020	20% below
		2050	80% below
AK	2005	2020	14-20% below
		2050	60-80% below
MN	2005	2015	15% below
		2025	30% below
		2050	80% below
UT	2005	2020	At baseline

Table 4. State Targets (Stated in Legislation)

State	Baseline Year	Target Year	Target
CT	1990	2010	At baseline
		2020	10% below
		2050	75% below
MA	1990	2010	At baseline
		2020	10% below
		2050	75% below
RI	1990	2010	At baseline
		2020	10% below
		2050	75% below
OR	1990	2020	10% below
		2050	75% below
CA	1990	2020	At baseline
WA	1990	2020	At baseline
		2035	25% below
		2050	50% below
NM	2000	2012	At baseline
		2020	10% below
		2050	75% below
NH	1990	2010	At baseline
		2020	10% below
ME	1990	2010	At baseline
		2020	10% below
NJ	1990	2020	At 1990 baseline
	2006	2050	80% below 2006 baseline

IV. Federal Action on Establishing Climate Goals seems likely in the future.

Obama Administration. In the federal budget released in February 2009, the Obama Administration suggested a 14% reduction in emissions below 2005 levels by 2020.

The American Clean Energy and Security Act of 2009. In March 2009, Congressmen Henry Waxman (D-CA) and Edward Markey (D-MA) introduced the American Clean Energy and Security Act of 2009, which would establish a national GHG emission cap-and-trade program. This bill, if passed, would require that emissions be reduced 20% below 2005 levels by 2020, a 42% reduction by 2030 and an 80% reduction by 2050.

CC-2. Establish Goals for Statewide GHG Emission Reductions

Policy Description

The State of Alaska should set a goal similar to that promoted by U.S. Climate Action Partnership (USCAP) that both recognizes Alaska's unique emissions profile and the emerging dynamics of a federal GHG emission regulatory program. In addition, the State of Alaska should set a baseline of emissions that will help measure progress toward these goals.

Countries, regions and companies worldwide committed to reversing the effects of climate change have set goals or targets as a mechanism to ensure that emission reductions are achieved. Many of these governmental and corporate entities have done so in response to the UN's Intergovernmental Panel on Climate Change which has determined that an 80% reduction (below 1990 levels) in GHG emission by 2050 is necessary to keep CO₂ levels below 450 parts per million. Members of the United States Climate Action Partnership (USCAP), an alliance of major companies and climate and environmental groups that includes BP America, ConocoPhillips and Shell, have agreed to their own emission reductions targets, and have also reached consensus on the need for a regulated, economy-wide market-driven approach to climate protection that includes emission reductions for total U.S. emissions and for capped sectors. USCAP recommends the following emission reduction targets and timetable, which it believes are achievable at manageable costs to the economy when enacted along with offset and other cost containment measures:

- 97%-102% of 2005 levels by 2012
- 80%-86% of 2005 levels by 2020
- 58% of 2005 levels by 2030
- 20% of 2005 levels by 2050

Several states have already established state-specific goals and targets to reduce their emissions beginning in 2012, reaching 60-80 percent reductions by 2050.⁶ More recently, President Obama has publicly announced his intent to “establish strong annual targets that set us on a course to reduce emissions to their 1990 levels by 2020 and reduce them an additional 80% by 2050.” One hundred and fifty two members of Congress have signed a letter expressing strong support for these same levels of emission reductions. Draft legislation currently circulating in Congress includes the same goals articulated by President Obama.

⁶ States with state-specific goals and targets include Arizona, California, Colorado, Connecticut, Oregon, Florida, New Mexico, Illinois, Minnesota, Utah and Washington. At this time, California is the only state with a mandatory economy-wide emissions cap that includes enforceable penalties. The Pew Center website contains detailed information on emissions targets and other activities at the state level: www.pewclimate.org/what_s_being_done/in_the_states/state_action_maps.cfm

In Alaska, the Center for Climate Strategies found that, as of 2005, there are likely over 50 million metric tons (MMt) of gross GHG emissions generated from Alaskan sources. Over 40% of these emissions result from burning carbon based fuels at industrial sites. Another major finding of the report is that nearly 40% of the state-wide greenhouse gas emissions come from the transportation sector, mostly from jet fuel consumption. Of the remaining 20%, about 7% is non-combustion related emissions from the fossil fuel industries and 7% from electricity consumption/generation (for all uses). The remainder is divided between commercial and residential (non-electrical) energy needs. On a per capita basis, Alaska activities emit about 82 MTCO₂ annually; significantly higher than the national average of 25 MTCO₂ per year.

Given that almost half of Alaska's emissions are a result of fossil fuel industrial activity, it is important to note that BP America, ConocoPhillips and Shell Oil, in addition to agreeing to the goals promoted by USCAP, have all issued strong statements regarding climate change and emission goals. Here are a few excerpts:

- Robert Malone, President of BP America noted before the House Select Committee on Energy and Global Warming (April 2008) that “Congress should set climate policy goals and allow the market to decide which technologies best deliver upon the objectives it sets”.
- BP America notes that in 1998 we set a target to cut emissions from our own operations to 10% below 1990 levels by 2010 – a target we reached nine years early.
- Jim Mulva, CEO of ConocoPhillips noted in his remarks to an energy conference (Feb. 2008) that “the industry must also recognize that the ways it provides energy must change. In the near term, we should reduce the carbon intensity of our own energy consumption. We can do this by continually improving efficiency and using more low-carbon and renewable fuels.
- Shell America notes on their website that they were one of the first energy companies to acknowledge the threat of climate change; to call for action by governments, our industry and energy users; and to take action ourselves. Shell America has reduced their GHG emission by nearly 25% compared to 1990.

Given these following indisputable facts:

1. Alaska is a premier energy state and the only Arctic state.
2. Alaska is experiencing the effects of climate change more than other state.
3. Alaska's major industry and source of GHG emissions supports policy goals to begin reducing GHG emissions by 2012, with reductions up to 10 percent by 2017 and incremental goals thereafter that reduce GHG emissions by 60-80% below 1990 levels by 2050.
4. There is a strong likelihood that national legislation will contain similar goals and that Alaska will strive to be part of the national solution.

The State of Alaska should set a goal similar to that promoted by USCAP that both recognizes Alaska's unique emissions profile and the emerging dynamics of a federal GHG emission regulatory program. "Goal" in this context is meant as an aspiration for the State as a whole and does not imply that these goals should become mandatory. It should be noted that these goals will 1) be reviewed after waste energy audits have been completed for Alaska's major emission sources and 2) do not account for emissions that may be added as a result of the operation of the natural gas pipeline. Once emission effects of the natural gas pipeline are known, then these goals will be modified to account for this important energy project.

In addition, obtaining an accurate baseline of GHG emissions or energy consumption in Alaska will be necessary to measure Alaska's success in combating climate change and meeting its GHG emission reduction goals. Under any future carbon cap-and-trade program, carbon emission allowances may be allocated based on the GHG emissions baseline established. It will be crucial to have accurate data when establishing a cap-and-trade program to "avoid over-allocation of carbon allowances and to create the necessary market scarcity."⁷

Policy Design

Goals

- Similar to the USCAP goal, the State of Alaska adopts a goal of beginning to reduce GHG emissions by 2012, with reductions of 14-20% by 2020, and with an aim to reduce GHG emissions by 60-80% below 1990 levels by 2050. The CC TWG recognizes that these goals are the minimum, but offer a starting point for Alaska to enter the national stage on climate change mitigation. The CC TWG will refine these goals as the work is completed in the sector specific TWGs.
- The State of Alaska will establish a GHG emissions baseline and refine it based on updates from any mandatory reporting program and GHG inventories (CC-1) to measure progress on goals.

Timing and Parties Involved

To respect the bottom-up planning process established by the Governor's Climate Change Subcabinet, the CC TWG is advancing this recommendation to the Mitigation Advisory Group (MAG). As part of the evaluation process for all options being forwarded to the MAG, this option should be accepted knowing that the final review of this recommendation will occur at the end of the planning process. Acceptance of this option ensures that the recommendation of the Cross Cutting TWG is accepted in the process. A final review at the end of the planning process (just prior to submitting all recommendation to the Climate Change Subcabinet) will allow the MAG to have a 'reality check' based on a composite analysis of the mitigation options proposed by all of the TWGs for Alaska.

⁷ *Recommendations for Designing a Greenhouse Gas Cap-and-Trade System for California.* Recommendations of the Market Advisory Committee to the California Air Resources Board, June 30, 2007.

Implementation Mechanisms

How this option would be implemented is still to be determined, and will likely depend on the discussion from the MAG and other TWGs. An example of how it could be implemented is the approach taken in Oregon. Oregon's Climate Change Integration Act established Oregon's GHG reduction goals in statute (e.g. by 2020, reduce GHG levels that are 10% below 1990 levels), as well as provided funding for establishing Oregon's mandatory GHG reporting rule.⁸

Related Policies/Programs in Place

See the Option Description for goals that have been set by other U.S. states, organizations and members of industry in Alaska.

Key Uncertainties

The key uncertainty associated with this option is how it could interface with any federal legislation that may occur in the near future. It is possible that the U.S. Congress would pass legislation that would require a GHG emission cap across all states. If this were to happen, Alaska would decide whether they wanted to meet that cap or set a goal to go even further in reductions.

Benefits

By setting a GHG emissions goal, Alaska will be on par with many other U.S. states. Working to meet these goals could put Alaska in a more advantageous position if and when national rules on emissions reductions are enacted.

Costs

Costs for adopting this option could be zero if the MAG and Sub-cabinet agree to these proposed goals. If additional work is needed to help stakeholders agree to goals for GHG emission reductions, there would be some moderate costs (\$10,000 - \$50,000) to facilitate a workgroup of these stakeholders and develop a decision.

Feasibility Issues

These goals should be evaluated against other Mitigation TWGs recommended options for reducing greenhouse gas emissions to ensure this reduction goal is feasible for the state to undertake.

Status of Group Approval

TBD – [until MAG moves to final agreement]

Level of Group Support

TBD – [until MAG moves to final agreement]

Barriers to Consensus

TBD – [undetermined until final vote by the MAG]

⁸ Oregon Department of Environmental Quality "GHG Reporting Rule", Oregon Administrative Rule 340-215-0010.
<http://www.deq.state.or.us/aq/climate/docs/FinalGHGRule.pdf>

CC-6. Coordinate Implementation of Alaska's Efforts to Address Climate Change

Policy Description

Responding to climate change and reducing GHG emissions will require a dedicated and coordinated effort. Better coordination can promote efficiencies and effectiveness in the following areas:

- Tracking climate change efforts across State agencies in Alaska;
- Communicating between State of Alaska and other efforts (e.g., federal activities);
- Responding to expected federal initiatives on climate change
- Providing access to information and education resources

To achieve the above, a coordinating entity is needed. This could be an Alaska Climate Change Coordinating Committee under the Subcabinet or a designated person or office that brings together representatives of State agencies. It is recommended that the Subcabinet ensure coordination of the work already started through the Advisory Committee process. If a committee or lead office is not identified, the Subcabinet should authorize a Task Force to continue to identify ways to ensure coordination among state agencies, especially on policy and strategy coordination and responses to federal inquiries and reporting requirements. With a strong coordination effort, resources and funding can be identified, secured, and leveraged to further Alaska's climate change policies and goals.

Policy Design

Goals

The goals of coordinating climate change activities in Alaska include the following:

- Provide focus to State agency efforts as recommendations of the Subcabinet are implemented
- Ensure that the State agency development of position papers, guidance documents, policies, procedures, and standards to establish and implement federal and state climate change programs are coordinated
- Provide consistent information on climate change mitigation technology and regulatory guidance to industry and the public;

- Ensure the Subcabinet’s Climate Change Strategy efforts are coordinated with the Alaska Energy Plan (see CC-4), the Alaska Municipal League, industry, the Western Climate Initiative and advisory groups working on climate change efforts in Alaska;
- Provide a primary point of contact for federal agencies addressing climate change in Alaska.

Activities

- Support a GHG emission reporting program and associated inventories (see CC-1) as mandated by federal or state policies;
- Develop state government partnerships with private citizens, businesses, and local governments;
- Promote “actions” for state agencies to take to address climate change (see CC-3).
- Provide access to information by continuing to support the Alaska Climate Change Strategy Web site. (Consider evolution to a Portal to provide additional information and functionality as a clearinghouse of climate change information, resources, and education materials among state agencies).

Timing and Parties Involved

This coordination effort should be initiated as soon as possible after approval by the Subcabinet of the Alaska Climate Change Strategy. Key to success of the effort will be identifying and maximizing partnerships within State Agencies, and with federal, private and public programs. The Governor and the Governor’s Office, OMB, the Climate Change Sub-Cabinet, and representatives of key State Departments, including ADEC, ADFG, ADNR, and DCCED should be involved. In 2009, the Subcabinet should assess current resources and identify lead staff. Resources and staff should be committed by the end of 2009 to address the coordination goals and activities listed above. Many groups will be partners and beneficiaries of this coordinating body:

- *Alaska State Legislature*
- *Alaska Climate Change Strategy Subcabinet*
- *State Agencies*
- *Alaska Municipal League*
- *Tribes*
- *Alaska Energy Authority*
- *Federal Agencies*
- *University of Alaska*
- *Public*
- *Alaska Elementary and Secondary Schools*
- *Industry*

Implementation Mechanisms

To establish an Alaska Climate Change Coordinating Program, authorization to lead the effort must be provided by the Subcabinet. Additionally, funding for activities may be required. The Subcabinet should submit legislative or budget documentation necessary to procure the resources

and authority to charter this coordination effort. The ADEC will continue to have responsibilities for permitting, database, and reporting tools for administering a GHG Reporting Program (see CC-1).

Related Programs/Policies in Place

Creating a coordinating function with the mission of tracking climate change and coordinating the State's response will help to ensure the success of the other policies in the Alaska Climate Change Strategy. Staff tasked with this effort can also serve as key liaisons and resources for the private sector if or when the State enacts regulations governing GHG emissions or reporting. A Web portal would serve as an information hub to provide outreach for preparing for and responding to climate change, and for efforts to monitor, measure and research climate change.

Many state agencies already have existing staff that deal with climate change issues and outreach. This option will not fund these positions or create new ones within these agencies, but would serve to coordinate and complement these activities.

Key Uncertainties

Challenges include engaging all agencies with responsibilities for addressing climate change, establishing clear responsibilities for coordinating roles, identifying needed funding to carry out the coordination, organizing information to present to the public, and identifying processes to maintain and update a Web site.

Benefits

Creating a coordination function is essential to track and provide some cohesion to the state's response to the Subcabinet recommendations. It will also help to educate businesses, agencies, and individuals seeking knowledge about climate change programs and policies. Finally, it will provide a means for state agencies to share information and coordinate interactions with on climate change with the federal government.

Costs

Costs primarily entail resources for personnel to provide the point of coordination, including salaries and benefits, and potentially contracting costs to develop materials and support a Web portal.

Feasibility Issues

Key feasibility issues include identifying a funding source and appropriately coordinating across existing programs. In addition, the effort needs to be flexible and generate sufficient political will to be effective and sustained.

Status of Group Approval

TBD – [until MAG moves to final agreement]

Level of Group Support

TBD – [until MAG moves to final agreement]

Barriers to Consensus

TBD – [undetermined until final vote by the MAG]