

Table XX.
Cross-Cutting Issues Policy Work Group
Summary List of Pending Policy Options

#	Name of Policy Option	Status
CC-1	GHG Inventories and Forecasts	Pending
CC-2	GHG Reporting	Pending
CC-3	GHG Registry	Pending
CC-4	Statewide GHG Reduction Goals and Targets	Pending
CC-5	<u>State and Local Government</u> GHG Emissions (Lead by Example)	Pending
CC-6	Comprehensive Local Government Climate Action Plans	Pending
CC-7	Public Education and Outreach	Pending
CC-8	Tax and Cap Policies	Pending
CC-9	Seek Funding for Implementation of CAP Recommendations	Pending
CC-10	Adaptation and Vulnerability	Pending

CC-1 GHG Inventories and Forecasts

Policy Description

Greenhouse gas (GHG) emissions inventories and forecasts are essential for 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. Inventories and forecasts help 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 action plan initiatives. Responsibility for preparing GHG inventories and sinks often resides with the environmental agency, which typically has the expertise needed to systematically compile information on GHG sources and sinks using established methods and data sources. Inventory and forecast efforts should be on-going over time reflecting improvements to the accuracy and completeness of data collected.

Policy Design

The CC PWG recommends that the state institute a formal GHG inventory and forecast function within the DPHE, to be assisted by other state agencies as needed.

• Goals:

- Develop a periodic, consistent, and complete inventory of emission sources and sinks and an accompanying forecast of future GHG emissions in at least 5 and 10 year increments extending at least 20 years into the future. The GHG forecast should reflect projected growth as well as the implementation of scheduled mitigation options, and should, through differences year-to-year, provide a basis for documenting and illuminating trends in state GHG emissions.
- Develop a consistent protocol for preparing the inventory and forecast. In forecasting future GHG emissions, treatment of uncertainties should be transparent, as consistent as possible across sectors and time, and to the extent possible, reflect multiple scenarios.
- Inventory all natural and man-made emissions generated within the boundaries of the state (i.e., a production-based inventory approach) as well as emissions associated with energy imported and consumed in the state (i.e., a consumption-based inventory approach).

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

—• Coverage of parties: All GHG emission sources and sinks (both anthropogenic and natural) should be included in the inventory and forecast.

—• Other: Not applicable.

Implementation Mechanisms

[Insert text as appropriate]

Related Policies/Programs in Place

[Insert text as appropriate]

Types(s) of GHG Reductions

[Insert text as appropriate]

Estimated GHG Savings and Costs per MTCO_{2e}

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 CAP recommendations for specific policy options.

Additional Benefits and Costs

[Insert text as appropriate]

Feasibility Issues

[Insert text as appropriate]

Status of Group Approval

[Pending or Completed]

Level of Group Support

[Insert text as appropriate]

Barriers to Consensus

[Insert text as appropriate]

CC-2 State Greenhouse Gas Reporting

Policy Description

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 typically 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). Further, collaboration with other states in the development of a GHG reporting program could influence the development of GHG reporting practices throughout the region and nation and build consistency and reciprocity with other state or regional GHG reporting programs.

Policy Design

The CC PWG recommends that the state develop GHG reporting ~~requirements and opportunities for its-all~~ sources. Mandatory reporting should be required for significant sources as determined by the DPHE. Key elements are noted below Elements that the DPHE may wish to include are:

- Subject to consistently rigorous quantification, opportunity to voluntarily report GHG emissions should be open to all sources (e.g., combustion, processes, vehicles, etc.) using common sense regarding de minimis emissions. In order 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. 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.
- The goal should be reporting of “organization-wide emissions within the state” but with greatest possible “granularity” 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.
- 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.

¹ Defined as “Scope 1” emissions in the *GHG Protocol*.

² Defined as “Scope 2” emissions in the *GHG Protocol*.

- 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 DPHE 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.

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

2. Timing: As soon as possible, preferably by 2008.

3. Coverage of parties: As universal as possible.

Implementation Mechanisms

Reporting protocols, opportunities, and, in the case of mandatory reporting, underlying regulatory requirements.

Related Policies/Programs in Place

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

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 MTCO_{2e}

Not applicable.

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

This policy option – particularly when coupled with CC-3 *GHG Registry* – will help provide Colorado entities with “baseline protection” and position them for participation in an emissions trading program should one develop in the future, leading to cost savings. Although establishment of or participation in credible reporting and registry programs is

³ Defined as “Scope 3” emissions in the *GHG Protocol*.

essential for participating in a trading program, these elements do not reduce GHG emissions themselves.

Feasibility Issues

[Insert text as appropriate]

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 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, to enable potential recognition, baseline protection, and/or the crediting of actions by implementing programs and parties in relation to possible emissions reduction goals, and to provide a mechanism for regional, multi-state, and cross-border cooperation. Subject to appropriately rigorous quantification, GHG registration should not be constrained to particular sectors, sources, or approaches so as to encourage GHG mitigation activities from all quarters.

Policy Design

~~Generally, the CC PWG recommendation notes that the non-State of calls for Colorado has to participate in joined the effort to develop a national or regional GHG registry such as the developing multi-state GHG registry through *The Climate Registry*. Being a charter state in this effort should help ensure that Colorado’s needs and priorities are addressed in the course of *The Climate Registry*’s development. To the extent that Colorado’s needs may not be fully met by *The Climate Registry*, Colorado should consider developing supplemental or ancillary registry capacity or opportunity, or if this is not possible, the development of a state GHG registry with adequate quality verification, project level reporting capability, and operating costs borne primarily by participants.~~

~~Recommendations for key registry design characteristics build off the GHG Reporting policy option (CC 2). Key elements include~~ 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 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 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/or national efforts; greatest flexibility as GHG mitigation approaches evolve; and providing guidance to assist participants.
- **Goals:** Implementation of ~~a Colorado GHG Reporting Program~~ a GHG registry for Colorado sources as ~~early soon~~ as possible.
 - **Timing:** As soon as possible ~~after GHG reporting is operating.~~

- **Coverage of parties:** Probably overseen by Colorado DPHE; costs shared by participants benefiting from the registry.

Implementation Mechanisms

[Insert text as appropriate]

Related Policies/Programs in Place

[Insert text as appropriate]

Types(s) of GHG Reductions

[Insert text as appropriate]

Estimated GHG Savings and Costs per MTCO_{2e}

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 collaborating states – will advantage Colorado in terms of ultimate outcomes.

Additional Benefits and Costs

[Insert text as appropriate]

Feasibility Issues

[Insert text as appropriate]

Status of Group Approval

Pending.

Level of Group Support

TBD.

Barriers to Consensus

TBD.

CC-4 Statewide GHG Reduction Goals and Targets

Policy Description

NOTE: All red text reflects only illustrative sample language.

NOTE: Reminder – may wish to consider various scenarios when this is deliberated.

The overarching purpose of the CAP stakeholder effort is to develop recommendations for actions that can be taken in Colorado to reduce the state’s contribution and vulnerability to a changed climate. Following the development, review, and approval of a current and comprehensive inventory and forecast of Colorado GHG emissions from 1990 to 2020, statewide GHG emissions reduction goals and/or targets for future time periods should be established and implemented. The GHG reduction goals or targets recommended by the CAP should be consistent with the parallel goal of an efficient, robust CO economy. Within this framework, a statewide goal or target can provide vision and direction, as well as a basis for implementation of CAP policy recommendations and regular periodic assessments of progress toward reaching the statewide goal.

Policy Design

[Insert text as appropriate]

- **Goals:** Reduce statewide GHG emissions by ____% from ____ levels by 20__ [or ____% per year from 20__ through 20__].
- **Timing:** [Insert text as appropriate]
- **Coverage of parties:** [Insert text as appropriate]

Implementation Mechanisms

[Insert text as appropriate]

Related Policies/Programs in Place

- Governor Ritter’s “Greening Government” Executive Orders (4/16/07).

Types(s) of GHG Reductions

[Insert text as appropriate]

Estimated GHG Savings and Costs per MTCO_{2e}

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 CAP recommendations for specific policy options.

Additional Benefits and Costs

[Insert text as appropriate]

Feasibility Issues

[Insert text as appropriate]

Status of Group Approval

Pending

Level of Group Support

TBD.

Barriers to Consensus

TBD.

CC-5 The State's Own State and Local Government GHG Emissions (Lead-by-Example)

Policy Description

State and local government is responsible for providing a multitude of services for the public that are delivered through diverse operations and result in wide-ranging GHG emission activities. State and local government can take the lead in demonstrating that reductions in GHG emissions can be achieved by analyzing its-their own current operations, identifying significant GHG sources, and implementing changes in technology, procedures, behavior, operations, and the services provided. ~~S~~The state and local governments can also encourage and/or incent GHG reductions by others in a variety of ways.

Policy Design

The CC PWG recommends that state and local governments should establish GHG reduction targets for its-their own GHG emissions. The establishment of broad-ranging goals for reducing governments' own GHG emissions will be helpful in both setting an example and building expectations. Actual reductions will typically be realized at the individual agency level, so d. ~~Disaggregating the state's individual government's~~ own 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 state's-government's progress in reducing its GHG emissions. GovernmentState agencies or departments would first need to develop agency- or department-specific GHG emissions inventory data. This ~~will-would~~ become the baseline data for ongoing emission reduction activities and measurement, which would be summarized in annual reports by each agency or department. Agency-Agency and/or department reports ~~will-would~~ be aggregated into a summary report reflecting state GHG emissions. A multi-agency group should oversee the on-going climate efforts of the government's state-agencies or departments, review their performance, and provide direction, guidance, resources, shared approaches, and recognition to agencies or departments and their employees that are working to reduce the state's-government's GHG emissions.

***NOTE:** The PWG discussed three ways to approach goals, shown as the options below:*

- Goals: (Option A) Reduce GHG emissions from Colorado state operations by _____% from _____ levels by 20____.
 - Goals: (Option B) State should do as well or better as called for in CC-4.
 - Goals: (Option C) Something else...
- ~~—Goals: Reduce GHG emissions from Colorado state operations by _____% from _____ levels by 20____.~~

- **Timing:** The state’s efforts to lead-by-example in reducing its own GHG emissions should start immediately. The first annual report by agencies will necessarily reflect initial 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.
- **Coverage of parties:** Coverage should include all operations of all state agencies and all departments of local governments.

Implementation Mechanisms

- Public education and outreach to state agencies and employees.
- Performance reviews and recognition of agency progress.
- Procurement of low-GHG products.

Related Policies/Programs in Place

[Insert text as appropriate]

Types(s) of GHG Reductions

Not applicable.

Estimated GHG Savings and Costs per MTCO_{2e}

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 CAP recommendations for specific policy options, including those associated with the state’s own GHG emissions.

Additional Benefits and Costs

[Insert text as appropriate]

Feasibility Issues

[Insert text as appropriate]

Status of Group Approval

Pending

Level of Group Support

TBD.

Barriers to Consensus

TBD.

CC-6 Comprehensive Local Government Climate Action Plans

Policy Description

A number of local governments in Colorado have already taken the initiative to address climate change in their communities. Aspen, Boulder, Ft. Collins, and Frisco are just a few examples of local communities that are establishing clear carbon reduction goals and developing plans to reduce carbon emissions. Additionally, several communities are members of the Rocky Mountain Climate Organization (RMCO), and many have signed the Mayors Climate Protection Agreement. The CAP strongly encourages all local communities in Colorado to develop such plans and/or become a member of the RMCO. Additionally, the CAP sees a strong role for the state, RMCO, and other non-governmental organizations in promoting carbon reduction initiatives by local governments and in serving as a clearinghouse for local government initiatives.

~~Colorado is blessed with not only a spectacular environment and comfortable climate, but also with an unusual degree of energy and climate related expertise and interest possessed by its citizens. In several locales, this expertise has manifested itself in the development and adoption of local and county government climate change actions and action plans.~~ The state government, local government associations, RMCO and others could help spread the successful actions and efforts of some local jurisdictions broadly to others through several means, such as workshops and conferences, a website clearinghouse, education and outreach to public and municipal officials, recognizing local government GHG emission reduction achievements, etc.

Policy Design

The CC PWG recommends that Colorado promote adoption of community climate action plans by all local governments to help achieve state carbon reduction goals. The PWG further recommends that these locally-adopted plans be used to stimulate equivalent carbon reduction initiatives by the private sector and non-governmental entities in each community. Elements to consider include: *[insert list from Tom Moore]*

~~Under development.~~

- **Goals:** ~~A(1) Promote adoption of community climate action plans by all local governments in Colorado to help achieve state carbon reduction goals. (2) Use the locally adopted plans to stimulate equivalent carbon reduction initiatives by the private sector and non-governmental entities in each community. [Insert text as appropriate].~~
- **Timing:** ~~[Insert text as appropriate] TBD.~~
- **Coverage of parties:** ~~[Insert text as appropriate] Cities, towns, counties, and regional Councils of Governments (COGs).~~

Implementation Mechanisms

[Insert text as appropriate]

Related Policies/Programs in Place

[Insert text as appropriate]

Types(s) of GHG Reductions

[Insert text as appropriate]

Estimated GHG Savings and Costs per MTCO_{2e}

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 CAP recommendations for specific policy options.

Additional Benefits and Costs

[Insert text as appropriate]

Feasibility Issues

[Insert text as appropriate]

Status of Group Approval

Pending

Level of Group Support

TBD.

Barriers to Consensus

TBD.

CC-7 Public Education and Outreach

Policy Description

Public education and outreach can provide significant GHG emission reduction through direct individual action, as well as broad public support for other GHG 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~~Colorado 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 state and local outreach efforts involving climate change and related issues in ~~the state~~Colorado. Ultimately, public education and outreach will be the foundation for the long-term success of all the mitigation actions proposed by the CAP as well as those which may evolve in the future.

Policy Design

The CC PWG recommends that the State and local communities lead by example in its own education and outreach activities by establishing a pro-active public education and outreach capabilities, ~~and using it them~~ to target education and outreach activities to at least the five specific audiences below. Ideas for specific public education and outreach activities are provided in the accompanying attachment.

NOTE: Per above sentence, make the long list of E&O activities in the Catalog an attachment to this option.

1. Policymakers (legislators, regulators, executive branch, agencies) – because implementation of climate actions hinges on policymakers' approval.
 - [Insert an example (e.g., from the long list in the Catalog) and a local community program illustration of it.]
2. Younger Generations – by integrating climate change into educational curricula, post-secondary degree programs, and professional licensing programs.
 - [Insert an example (e.g., from the long list in the Catalog) and a local community program illustration of it.]
3. Community Leaders & Community-Based Organizations (e.g., institutions, municipalities, service clubs, social & 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.
 - [Insert an example (e.g., from the long list in the Catalog) and a local community program illustration of it.]

- 4. General Public – to increase awareness and engage citizens in climate actions in their personal and professional lives.
 - The CC PWG recommends that Colorado implement a statewide program to encourage and structure voluntary individual actions to reduce GHG emissions. Such a program might be called “Colorado Climate Keepers” and echo models in other states and local communities, such as the “10% Challenge” program in Burlington, VT.
 - [Insert an example (e.g., from the long list in the Catalog) and a local community program illustration of it.]
- 5. 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.
 - [Insert an example (e.g., from the long list in the Catalog) and a local community program illustration of it.]

~~Specific public education and outreach suggestions are provided in an accompanying attachment.~~

- **Goals:** ~~Not applicable~~ Implementation of the programs cited above.
- **Timing:** Public education and outreach efforts should commence as rapidly as possible.
- **Coverage of parties:** State government, local governments, RMCO and others. Probably coordinated largely by Colorado DPHE, but involving many parties.

Implementation Mechanisms

Public education and outreach.

Related Policies/Programs in Place

[Insert text as appropriate]

Types(s) of GHG Reductions

Not applicable.

Estimated GHG Savings and Costs per MTCO_{2e}

Not applicable.

Key Uncertainties

Not applicable.

Additional Benefits and Costs

[Insert text as appropriate]

Feasibility Issues

[Insert text as appropriate]

Status of Group Approval

Pending

Level of Group Support

TBD.

Barriers to Consensus

TBD.

CC-8 Tax and Cap Policies

Policy Description

~~***NOTE: All red text reflects only illustrative sample language. NOTE: This option was NOT approved for further consideration by the CAP at its May 3, 2007 meeting, so it will be deleted in the next version of this document.***~~

~~Tax and cap policies (typically considered as carbon taxes and cap-and-trade programs respectively) can be among the most economically effective means to reduce GHG emissions. By internalizing costs that are currently not assessed (i.e., are “externalized”), such policies create financial incentives for entities to reduce their emissions—reducing emissions reduces costs.~~

~~A carbon tax would be relatively simple and easy to implement and would apply to all sectors. Utilities would pay it based on their smokestack emissions and pass the cost to consumers in their monthly electric bill. Individuals would pay it when they fill up cars with gasoline. A carbon tax would also encourage efficiency improvement in all sectors. A carbon tax does not necessarily mean a net increase in the cost of living, because revenues could be “recycled” to lower other, currently assessed taxes.~~

~~Cap-and-trade programs typically establish an upper limit on emissions (the “cap”), usually lower than current emissions, which creates the drive for reductions. Also established are “allowances” or “rights to emit” which are allocated or auctioned to covered sources. Sources need to match their emissions to the amount of allowances that they hold, but can trade allowances freely among themselves. The result is that sources that find it least expensive to reduce emissions “overcomply” (i.e., have more allowances than they need) and can sell allowances to sources for which making reductions would be more expensive. This dynamic encourages sources to pioneer innovative ways to make reductions, so they will need fewer allowances and may even be able to profit by selling allowances. The broader the universe of sources (e.g., types of sources covered, geographical region covered, etc.), the more likely it is that cost differences will be found, thereby reducing the overall cost of the program.~~

Policy Design

~~[Insert text as appropriate]The CC PWG will not quantify potential reductions from either of these approaches, but will follow the identification and characterization of these policy options in other PWGs and may make recommendations to the CAP as necessary to ensure that these policies are considered in its final report.~~

- ~~• **Goals:** [Insert text as appropriate]~~
- ~~• **Timing:** [Insert text as appropriate]~~
- ~~• **Coverage of parties:** [Insert text as appropriate]~~

Implementation Mechanisms

[Insert text as appropriate]

Related Policies/Programs in Place

[Insert text as appropriate]

Types(s) of GHG Reductions

[Insert text as appropriate]

Estimated GHG Savings and Costs per MTCO_{2e}

Not applicable.

Key Uncertainties

[Insert text as appropriate]

~~Substantial uncertainty surrounds future growth rates in GHG emissions, particularly beyond 2020, as well as the timing and scope of implementation of CAP recommendations for specific policy options.~~

Additional Benefits and Costs

[Insert text as appropriate]

Feasibility Issues

[Insert text as appropriate]

Status of Group Approval

~~Pending~~ Not approved for further consideration as a CAP policy option.

Level of Group Support

~~TBD.~~ Unanimous consent.

Barriers to Consensus

TBD.

CC-9 Seek Funding for Implementation of CAP Recommendations Establish a Clearinghouse to Seek Investment Capital and Philanthropic Funding for Reducing GHG Emissions and Supporting Development of the New Energy Economy in Colorado

Policy Description

The intent of this policy option is to encourage and facilitate the involvement of funding and investment sources, business interests, and entrepreneurs in pursuing business opportunities associated with GHG reductions and global warming solutions as quickly and as significantly as possible. The creation of a clearinghouse-like entity may make it possible to match technology developers and other climate solution entrepreneurs with necessary financing more effectively and expeditiously. As a result, Colorado's ability to identify and secure early business opportunities associated with climate change may be enhanced, increasing its global competitive advantage and job creation within the state.

Potential funding sources include philanthropic organizations, high net worth individuals, or others interested in supporting innovative, environmentally effective market solutions. Recognizing that fortunes are likely to be made in the "new energy economy," for-profit investors, pension funds, mutual funds, and/or venture capitalists may be looking to fund similar business opportunities. Although technology entrepreneurs are often cited as offering potential global warming solutions, equally progressive solutions may lie in the fields of law, accounting, marketing, production, and even government relations and lobbying. The objective of this policy option is to leverage Colorado's specific talents for global warming solutions into securing the business opportunities and market advantages that well-supported "early bird" efforts are likely to reap in a carbon-constrained world.

Policy Design

The CC PWG recommends that the state ~~government~~ (together with ~~other local~~ governments as desired) establish ~~this a~~ clearinghouse to seek investment capital and philanthropic funding for reducing GHG emissions and supporting development of the new energy economy in Colorado. This clearinghouse should be established with a small office and staff to execute its purposes and functions.

- **Goals:** ~~{Insert text as appropriate}~~ Establish the clearinghouse described above.
- **Timing:** ~~{Insert text as appropriate}~~ As soon as possible
- **Coverage of parties:** ~~{Insert text as appropriate}~~ State and local governments and agencies, philanthropic entities, entrepreneurs, venture capitalists and other investment entities, etc.

Implementation Mechanisms

~~{Insert text as appropriate}~~

Related Policies/Programs in Place

[Insert text as appropriate]

Types(s) of GHG Reductions

[Insert text as appropriate]

Estimated GHG Savings and Costs per MTCO_{2e}

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 CAP recommendations for specific policy options.

Additional Benefits and Costs

[Insert text as appropriate]

Feasibility Issues

[Insert text as appropriate]

Status of Group Approval

Pending

Level of Group Support

TBD.

Barriers to Consensus

TBD.

CC-10 Adaptation and Vulnerability

Policy Description

RMCO will start a list of vulnerabilities and necessary responses to seed additions by the PWG. Result will either be the Policy Description and Policy Design, or an appendix to a short Description and Design statement akin to that below. The state should prepare a comprehensive climate vulnerability assessment.

Because of the build-up in the atmosphere of long-lived GHGs that already has occurred, Colorado will experience the effects of climate change for years to come, even if immediate action is taken to reduce future GHG emissions. As such, it is essential that the state develop a strategy to manage and adapt to the projected impacts of ongoing climate change, particularly where the state is most vulnerable, e.g., water supply issues.

Policy Design

While taking action to reduce GHG emissions in Colorado, the state also should explore, develop, and implement a state climate change adaptation strategy that identifies the potential near-term and short-term impacts of climate change scenarios affecting the State, outlines steps that should be taken to respond to those impacts, and coordinates these steps with response plans and efforts that are underway or may be contemplated at other agencies or organizations or through other initiatives.

A comprehensive state climate change adaptation strategy should include time- and program-based goals, characterization of the potential risks and costs of inaction, and the potential costs, benefits, and co-benefits associated with specific policy and program actions and time periods.

The state should consider appointing a task force or advisory group to develop recommendations for the state adaptation strategy. Moreover, the state should direct state agencies and other appropriate institutions to identify and characterize potential current and future risks in Colorado to human, natural and economic systems, including potential risks to water resources, temperature sensitive populations and systems, energy systems, transportation systems, vital infrastructure and public facilities, and natural lands (such as forests and farmland).

Adaptation measures that also help mitigate GHG emissions should be given priority in the state climate change adaptation strategy, particularly water conservation and efficiency, forest and agriculture conservation and management, energy production and use, facility siting and management, infrastructure development, and efficient transportation and land use systems. These actions should be linked to implementation of other specific recommendations of this CAP to the greatest extent possible.

Finally, the state climate change adaptation strategy should be reviewed and updated on a regular basis.

- **Goals:** Not applicable.
- **Timing:** Public education and outreach efforts should commence as rapidly as possible.
- **Coverage of parties:** Probably overseen largely by Colorado DPHE, but involving many parties.

Implementation Mechanisms

- Public education and outreach
- Potential recommendations for incentives
- Potential recommendations for codes and standards

Related Policies/Programs in Place

[Insert text as appropriate]

Types(s) of GHG Reductions

Not applicable.

Estimated GHG Savings and Costs per MTCO_{2e}

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 CAP recommendations for specific policy options. Significant uncertainty also prevails regarding the nature, magnitude, timing, and frequency of the climate impacts that Colorado is likely to experience.

Additional Benefits and Costs

[Insert text as appropriate]

Feasibility Issues

[Insert text as appropriate]

Status of Group Approval

Pending

Level of Group Support

TBD.

Barriers to Consensus

TBD.