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Residential, Commercial, Institutional and Industrial Technical Working Group

Options with High Priority for Analysis

February 13, 2007

The table below lists the options that the RCII (Residential, Commercial, Institutional and Industrial) TWG recommended to the Climate Change Advisory Committee (CCAC) as being high priority for further elaboration and analysis, based on the RCII TWG call on 11/14. The CCAC reviewed this list of options during its meeting on 12/14 and accepted all the recommended options plus added to additional options. Changes made by the CCAC are included in the table below.

Numbers in parentheses in the first column of the table below refer to Option numbers from the Residential, Commercial and Industrial memo on “Consolidation of Catalog of Montana RCI Options”, which in return refers back to the TWG’s “Catalog of State-Level GHG Reduction Policy Options” (both of which are available on http://www.mtclimatechange.us/Residential_Commercial.cfm under the documents for the 11/14 call).

Also included in the Table are the names of those who have volunteered to work with others to prepare descriptions and designs for one or more high-priority options.

Templates for descriptions of each of the RCII Priority Policies are provided following the Summary Table. In these descriptions, CCS facilitators have prepared rough draft text for the “Policy Description” section of each of these options, but please note that this text is intended only as a starting point, and changes and edits to the text to reflect the ideas and concerns of the TWG and the CCAC are desired and encouraged.

Volunteers for the options in “Bin A” and “Bin B” met by teleconference on January 17, 2007 and discussed several of the options in each Bin. Outcomes of those meetings are summarized with each relevant option (see the January 26 version of this document posted on the project website for highlighted text that indicates the input from the volunteer group calls). In some cases, CCS facilitators have provided some additional text and questions in *italics* for RCII TWG members to consider as they review and further develop the options.

During the RCII TWG meeting on January 26, 2007, the group discussed input from the volunteer group calls and provided additional suggestions for options not covered in the volunteer calls. Text edited or added based on input received during the TWG teleconference is indicated below in blue highlight.

Table X.
Residential, Commercial, Institutional and Industrial Technical Work Group
Summary List of Recommended High Priority Mitigation Options

#	Mitigation Option Name	Preliminary List of Drafting Volunteers
Bin A	Energy Efficiency Programs and Policies	Terry Holzer, Steve Loken, Dave Ryan, Krista Partridge
RCII-1 (old A.1)	Demand Side Management Programs, Efficiency Funds and Requirements	Terry Holzer, Steve Loken, Dave Ryan, Krista Partridge.
RCII-2 (old A.2)	Market Transformation and Technology Development Programs	(Same as RCII-1)
RCII-6 (old D.1)	Consumer Education Programs	Dave Ryan, Krista Partridge, Terry Holzer
RCII-10 (old H.1)	Industrial Energy Audits and Recommended Measure Implementation	Dave Ryan
RCII-11 (old H.2)	Low income energy efficiency programs	Dave Ryan, Terry Holzer
RCII-13 (new option)	Metering technologies with opportunity for load management and choice ²	
Bin B	Codes, Standards, and Building Design	Andy Epple, Brian Green, Terry Holzer, Steve Loken, Lisa Peterson
RCII-3 (old B.1)	State Level Appliance Efficiency Standards and State Support for Improved Federal Standards	Brian Green
RCII-4 (old C.1)	Building Energy Codes	Andy Epple, Brian Green, Lisa Peterson

RCII-5 (old C.2)	“Beyond Code” Building Design Incentives and Mandatory Programs	Terry Holzer, Steve Loken, Andy Epple
RCII-12 (new option)	State Lead by Example ¹	Brian Green
Bin C	Clean Energy and GHG Policy	Jeff Chaffee, Terry Holzer, Pat Judge, Steve Loken, Eric Merchant, Dave Ryan, Wayne Kenefick
RCII-7 (old F.1)	Support for Implementation of Clean Combined Heat and Power	Dave Ryan, Steve Loken
RCII-8 (old F.2)	Support for Renewable Energy Applications	Pat Judge, Dave Ryan, Eric Merchant
RCII-9 (old G.5)	Carbon Tax	Pat Judge, Eric Merchant, Terry Holzer, Jeff Chaffee

Notes 1. State Lead by Example (LBE) could include energy efficiency programs for government operations, beyond-code building requirements (for example, Climate Neutral), CHP or renewable support or requirements. State LBE programs were previously implicitly included in RCII-1, RCII-5, RCII-7 and RCII-8.

2. This option could include smart meters that provide information to consumers on both the costs of and generation mix to provide electricity on a real time basis, plus ability for customers to choose their dispatch preference (for example, see the ENEL Contatore Elettronico program offered in Italy)

[MITIGATION OPTIONS DESCRIPTION TEMPLATE TO BE COMPLETED FOR EACH HIGH PRIORITY MITIGATION OPTION, STARTING WITH THE “DESIGN” AND “DESCRIPTION” ELEMENTS]

RCII-1 Demand Side Management Programs, Efficiency Funds and Requirements

Policy Description

This policy option involves increasing the efficiency of electricity and natural gas use in Montana through Demand Side Management (DSM) programs, funds, and/or requirements. This option focuses on what are typically termed DSM activities – programs, usually delivered by utilities or government-designated agencies, designed to reduce energy consumption and/or change the timing of energy use. Examples of DSM programs include technical assistance for and implementation of energy efficiency and renewable energy measures, electrical (and in some cases fuel) demand response, alternative rate schedules, and research activities. Note that, the activities described for this option may also support implementation of other options recommended by the CCAC, such as RCII-11 and RCII-12.

Policy Design

This policy design is focused on increasing energy efficiency programs through the State utilities, and is linked with the energy efficiency element of Energy Supply TWG option (ES-1), “Environmental Portfolio Standard (EPS).” ES-1 (as discussed at the ES TWG meeting on January 25th) would require that each utility capture 100% of its cost-effective energy efficiency over a period of 15 years.

(Note: TWG members on the January 26th call indicated a preference for following the ES-1 design, rather than focusing on increased funds for the Montana USB as it is currently configured. The volunteer group meeting on January 17 suggested considering the expansion of the Montana Universal Systems Benefit (USB) fund from its current level (in 2003, Montana electric utilities spent about 1.25% of revenue on energy efficiency, according to a recent report from American Council for an Energy Efficient Economy¹). A significant fraction of existing USB spending, however, goes toward benefits other than energy-efficiency/energy conservation as indicated below. At the January 26 TWG meeting, TWG members expressed concerns that the USB might not be the most effective mechanism for capturing potential energy efficiency gains, a concern also articulated by some ES TWG members at their most recent meeting. The TWG

¹ [ACEEE's 3rd National Scorecard on Utility and Public Benefits Energy Efficiency Programs: A National Review and Update of State-Level Activity.](http://www.aceee.org/store/proddetail.cfm?CFID=890318&CFTOKEN=19241194&ItemID=405&CategoryID=7)

<http://www.aceee.org/store/proddetail.cfm?CFID=890318&CFTOKEN=19241194&ItemID=405&CategoryID=7>

members suggested that energy supply TWG option, ES-1, as developed in parallel, would be a better vehicle for achieving energy efficiency gains.)

- **Goals/Timing:** The goals for this option follow the goals from the ES-1 option
 - Require each investor-owned utility (IOU) in the State to
 - By 2010, identify its achievable cost-effective energy conservation for the subsequent 10 years
 - Implement a plan to achieve 100% of its cost-effective energy conservation by 2025
 - Update its energy-efficiency assessment and plan regularly, possibly every two years.
 - *Although not discussed on during the RCII TWG call, the ES option also includes requirements for the co-operatives: Require each co-operative utility in the State to*
 - *By 2015, identify its achievable cost-effective energy conservation for the subsequent 10 years*
 - *Implement a plan to achieve 100% of its cost-effective energy conservation by 2025*
 - *Update its energy-efficiency assessment and plan regularly, possibly every two years.*
- **Parties Involved:** Investor-owned utilities, electric cooperatives, Montana PSC, state government.

Implementation Mechanisms

The goals noted above would be implemented through an Environmental Portfolio Standard, to be adopted on the basis of legislation, regulation or other agreement.

New or expanded state tax credits may provide an additional means of increasing investments in energy efficiency, particularly for appliances and equipment such ground-source heat pumps that require a significant initial outlay on the part of consumers.

Effective implementation of expanded DSM programs may require a larger pool of qualified and reliable contractors to implement energy efficiency measures. Owners of homes and commercial buildings must also be educated to understand the benefits of energy conservation/improved energy-efficiency/DSM. Consumer and specialist education are therefore important as supporting mechanisms to enable implementation of this policy.

It is expected that additional energy efficiency programs might focus on:

- Promote ground-sources heat pumps and other technologies for heating and cooling of buildings, including homes, churches, schools, and commercial buildings, as applicable.

- Provide expanded residential and commercial energy audit programs, and offer incentives and assistance for building owners to follow up on audit recommendations.
- Conserve space-conditioning energy by promoting weatherization (insulation, high-efficiency window systems, and other measures) of homes and other buildings.
- Promote and expand water heater demand-control programs to reduce peak period electrical energy use, and promote the use of higher-efficiency water heaters.
- Promote the use of compact fluorescent lamps (CFLs) and other high-efficiency lighting and lighting control systems, including applications in the commercial sector.
- Promote ENERGY STAR appliances.
- Promote energy-efficient construction standards for new homes.
- Expand existing effective energy efficiency activities.

Note that this listing of options is not meant to preclude any existing or future DSM options that might be applicable to Montana—it is intended only as a list of promising examples for use of expanded USB funds or funds otherwise earmarked for energy efficiency investments. In many cases, examples of such programs already exist, but could be expanded in scope and effectiveness with additional resources.

(The following point emerged from the Volunteer group's discussion of the USB and may be no longer relevant assuming the above policy design is adopted.) A mechanism is needed to ensure that money is being spent well – in other words, that spending of monies collected through the USB achieves appropriate levels of energy savings. One approach is to specify the goal in annual energy savings (kWh).

Related Policies/Programs in Place

As part of its 1997 restructuring legislation, Montana established its Universal System Benefits Program (USBP). Beginning January 1, 1999, all electric utilities began annually contributing 2.4% of their 1995 revenues to the USBP. This is an amount equivalent to \$14.9 million annually, collected at a rate of 1.1 mills per kilowatt-hour. The funds support energy efficiency, renewable-energy resources, low-income energy assistance, and renewable-energy research and development. The distribution of the funds among these programs for NorthWestern Energy (formerly Montana Power Company), the first utility to submit a plan for implementation, was established by the Montana Public Service Commission (PSC) in February 1999:

- Large Customer Rebate - \$2.5 million or 29%;
- Market Transformation - \$1.1 million or 13%;
- Local Conservation - \$1.8 million or 21%;
- Low-Income Assistance (includes energy efficiency measures) - \$1.8 million or 21%;
- Renewable-Energy Resources - \$1.1 million or 13%; and
- Research and Development - \$225,000 or 3%.

Already, NorthWestern Energy programs have lead to the installation of PV on residences, schools fire stations and commercial facilities throughout the state. NorthWestern Energy funding is also going toward buy-downs for central wind generation facilities. lectric cooperatives and Montana-Dakota Utilities Co. also contribute to the USBP.

Montana's USBP is effective until December 31, 2009, when it is scheduled to “sunset”. Utilities may spend all or a portion of the funds on internal programs, or they may opt to contract or fund these programs externally. Large industrial customers with average monthly demand loads exceeding 1,000 kilowatts also fall under the law and may choose to "self-direct" the funds that would normally go to the USBP to internal energy programs.²

At present, some utilities, including NorthWestern, have shifted some of what were previously USB funds spent on energy efficiency into their rate base, and are thus supporting energy-efficiency programs in the same manner that electricity supply resources are supported.

[Insert additional text as appropriate]

Types(s) of GHG Reductions

[Insert text as appropriate]

Estimated GHG Reductions and Costs (or Cost Savings)

CCS facilitators will review information from NW Power and Conservation Council on cost-effective energy conservation to estimate electricity savings.

- **Data Sources:**
- **Quantification Methods:**
- **Key Assumptions:**

Key Uncertainties

[Insert text as appropriate]

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

² Database of State Incentives for Renewables and Efficiency.
http://www.dsireusa.org/library/includes/incentive2.cfm?Incentive_Code=MT01R&state=MT&CurrentPageID=1&RE=1&EE=1

[Insert text as appropriate]

Barriers to Consensus

[Insert text as appropriate]

RCII-2 Market Transformation and Technology Development Programs

Policy Description

Market transformation is a relatively new term for energy efficiency programs that focus on voluntary efforts implemented by non-utility organizations to encourage greater uptake by consumers (residential, commercial, and industrial, as well as the professionals that service energy-using equipment) of cost-effective energy efficiency practices. Market transformation also seeks to ensure sufficient supplies of technologies and practitioners to meet the subsequent increased demand for energy efficiency. As such, a market transformation program is designed to create a situation where the bulk of the private market automatically adopts or incorporates technologies or techniques that result in improved energy efficiency. The goal of a market transformation and technology development program is to put energy efficiency technologies and practices into a position where they will be demanded by the public, chosen by builders and manufacturers, and provided by retailers and contractors. Methods of transformation can be different for each technology or technique, but often revolve around public and private review of quality and effectiveness, including partnerships between government agencies, retailers, manufacturers, and non-governmental agencies. Market transformation programs can be statewide or regional.

Policy Design

Market transformation is an important goal for Montana, and an important mechanism to cost-effectively bring energy-efficient products and services to consumers. It is recognized, however, that Montana constitutes a limited market, by itself, for energy-efficient products. As a result, Montana should focus its efforts on joining, supporting, or increasing its participation in regional market transformation alliances (the Northwest Energy Efficiency Alliance and the Midwest Energy Efficiency Alliance are examples). This could include, as applicable, working to extend market transformation efforts currently focused on specific parts of the state to consumers statewide, as well as expanding the number and types of different energy-efficient products included in market transformation efforts in Montana.

- **Goals:** By 2009, put in place mechanisms to allow broaden coverage of market transformation programs in Montana both to additional geographic areas and with regard to technologies covered. *Is consideration of a specific energy savings target desirable³?*
- **Timing:** as above

³ The Northwest Power Planning Council (NPPC) may have information on Market Transformation within its most recent Power Plan.

- **Parties Involved:**
- **Other:** [Insert text if/as appropriate]

Implementation Mechanisms

Important implementation mechanisms for this Option include (*partial list at present*):

- Consumer education
- Electricity and gas pricing (to encourage purchase of higher-efficiency appliances and equipment or control systems)

Related Policies/Programs in Place

The Northwest Energy Efficiency Alliance (NEEA, www.nwalliance.org) is a non-profit corporation supported by electric utilities, public benefits administrators, state governments, public interest groups and energy efficiency industry representatives. These entities work together to make affordable, energy-efficient products and services available in the marketplace.⁴

NEEA participation is limited, in principle, to utilities west of the continental divide (in Bonneville Power Administration's (BPA) service area). NorthWestern Energy, Bonneville Power Administration, electric cooperatives in the BPA service area are all partners in NEEA and provide some funding. The electric co-operatives outside the BPA service area and Montana Dakota Utility are not partners.

The Midwest Energy Efficiency Alliance uses a similar model of partners and goals but does not currently cover Montana, only extending as far west as Illinois. However, utilities in the eastern portion of Montana might find stronger connections with programs in this area. www.mwalliance.org.

Types(s) of GHG Reductions

[Insert text as appropriate]

Estimated GHG Reductions and Costs (or Cost Savings)

[Insert text as appropriate]

- **Data Sources:**
- **Quantification Methods:**
- **Key Assumptions:**

Key Uncertainties

[Insert text as appropriate]

Additional Benefits and Costs

⁴ http://www.nwalliance.org/aboutus/index_aboutus.aspx

[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]

RCII-3 State Level Appliance Efficiency Standards and State Support for Improved Federal Standards

Policy Description

Appliance efficiency standards reduce the market cost of energy efficiency improvements by incorporating technological advances into base appliance models, thereby creating economies of scale. Appliance efficiency standards can be implemented at the state level for appliances not covered by federal standards, or where higher-than-federal standard efficiency requirements are appropriate.⁵ Regional co-ordination for state appliance standards can be used to avoid concerns that retailers or manufacturers may 1) resist supplying equipment to one state that has advanced standards or 2) focus sales of lower efficiency models on a state with less stringent efficiency standards.

Policy Design

In recognition of the fact that Montana represents, on its own, a relatively limited market for appliances and equipment, this policy is designed to encourage the State to work with other States and with regional entities⁶, as applicable, to:

- Review federal appliance standards, and work with federal agencies and others toward raising federal appliance and equipment energy efficiency standards where applicable.
- Implement, in concert with other states, higher-than-federal energy efficiency standards for appliances where technological advances allow. Analyses of possible energy efficiency standards that can be enacted at the State-level are available at www.standardsasap.org. Draft legislative language can be found at http://www.apolloalliance.org/strategy_center/model_legislation/eelegis.cfm.
- Develop and implement standards for residential-sector appliances not currently covered by federal standards.
- Develop and implement standards for commercial-sector appliances and equipment not currently covered by federal standards.

⁵ In recent years, Arizona, Oregon, and Washington, among other states, adopted state standards for several appliances; this led to the inclusion of standards for these appliances in the 2005 federal Energy bill.

⁶ It was suggested that the TWG review any activities that the Northwest Energy Efficiency Alliance have underway with regard to improving energy efficiency standards.

It is anticipated that the process of setting higher energy-efficiency standards in Montana, in concert with other States, will encourage higher Federal standards and higher-volume manufacturing of higher-efficiency appliances and equipment, resulting in wider distribution and likely lower prices for these devices.

- **Goals:**
 - Review of standards and report to Governor by 2008, with adoption of changes in standards by 2009 (activities designed to be timed to coordinate with consideration of energy matters by the Montana State Legislature).
- **Timing:** as above.
- **Parties Involved:**
 - Electric and gas utilities
 - State Government Agencies, including the Department of Environmental Quality and the Department of Commerce
 - Appliance Manufacturers and appliance/equipment industry representatives
- **Other:** [Insert text if/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 Reductions and Costs (or Cost Savings)

[Insert text as appropriate]

- **Data Sources:**
- **Quantification Methods:**
- **Key Assumptions:**

Key Uncertainties

[Insert text as appropriate]

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]

RCII-4 Building Energy Codes

Policy Description

Building energy codes specify minimum energy efficiency requirements for new buildings or for existing buildings undergoing a major renovation. Given the long lifetime of most buildings, amending State and/or Local Building Codes to include minimum energy efficiency requirements and periodically updating energy efficiency codes could provide long-term GHG savings. Implementation of building energy codes, particularly when much of the building occurs outside of urban centers, can require additional resources.

Policy Design

The proposed policy to improve energy-efficiency-related elements of building codes in Montana, so as reduce the amount of fossil energy input needed to operate buildings in the State, includes the following elements:

- Undertake a comprehensive review of existing building codes in Montana to determine where increased energy efficiency can be achieved.
- Increase standards such that the minimum performance of new and substantially-renovated buildings, both commercial and residential, is at least 10 percent higher by 2012 than that required by today's building codes (IECC 2003, see below), and 20 percent higher by 2020.
- Work toward achieving "carbon-neutral" status for new buildings by 2030, with an interim target of a 50 percent reduction in fossil energy use, relative to current standards, by 2020. Reductions in greenhouse gas emissions related to building energy use can be achieved through a combination of increased energy efficiency, switching to low- and no-carbon fuels (including solar energy) for previously fossil-fueled end-uses, purchases of "green power" from off-site providers, and/or installing on-site power generation fueled by renewable energy sources.
- Encourage the use of recycled and local building materials.
- Express energy efficiency standards on a per-unit floorspace basis for commercial buildings, and on a per-dwelling-unit basis for residential buildings.

- Periodically and regularly (no less frequently than every 3 years) review building codes, including energy efficiency requirements of building codes, to assure that they stay up-to-date.⁷
- Offer, and require as appropriate, education to equip building code officials, builders, designers, and others to effectively implement building energy code improvements.
 - **Goals:** see above
 - **Timing:** see above
 - **Parties Involved:**
 - Building Codes Council (which includes representatives from the League of Cities and Towns as well as builders, engineers, local government officials, and representatives of State agencies)
 - Citizens/consumer advocates (including expanding Council membership to include citizen representation)
 - Department of Labor and Industry
 - Department of Environmental Quality
 - **Other:** [Insert text if/as appropriate]

Implementation Mechanisms

- Education is expected to be a significant component of improving building codes. It may be necessary to increase the training of code officials, builders, and others, as well as providing consumer education on building energy use. Continuing education programs for builders and others may be helpful in improving compliance with new codes.
- Institute a statewide building permit program to ensure consistency with regard to code application and enforcement among buildings built both in urban and rural areas.
- Consider providing additional code enforcement to improve understanding of/compliance with more rigorous energy-efficiency codes.

Related Policies/Programs in Place

The Building Codes Council is expected to consider, at its meeting in 2007, updating building energy codes to the 2006 IECC (International Energy Conservation Code) from the current (recently adopted) 2003 version.

Recent legislative interest in State energy-efficiency building codes is indicated by the 2003 Montana Senate Joint Resolution (No. 13), which called for a “an interim study to investigate options for improving energy efficiency building codes laws and other energy efficiency and

⁷ It is expected that the role of State agencies in the code review process will largely be to set it in motion.

conservation practices.”⁸ However, it appears that this study was not set as a priority, at that time, and funding was not provided.

Types(s) of GHG Reductions

[Insert text as appropriate]

Estimated GHG Reductions and Costs (or Cost Savings)

[Insert text as appropriate]

- **Data Sources:**
- **Quantification Methods:**
- **Key Assumptions:**

Key Uncertainties

[Insert text as appropriate]

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]

⁸ See <http://data.opi.mt.gov/bills/2003/billhtml/SJ0013.htm>.

RCII-5 “Beyond Code” Building Design Incentives and Mandatory Programs

Policy Description

This policy provides incentives and targets to induce the owners and developers of new and existing buildings to improve the efficiency with which energy and other resources are used in those buildings, along with provisions for raising targets periodically and resources to help achieve the desired building performance. Many “Green Building” programs have been developed that define standards for efficient energy and resource use and that encourage demand for these green buildings through recognition, incentives and government mandates.⁹ This policy includes elements to encourage the improvement and review of energy use goals over time, and to encourage flexibility in contracting arrangements to encourage integrated energy- and resource efficient design and construction.

Policy Design

A combination of financial and regulatory incentives would be used to provide incentives for owners and developers of new and existing buildings to improve their structures or to build new structures that exceed energy efficiency (and net greenhouse-gas emissions) provisions of building codes in force.

- **Goals:**

- *To aid in developing goals for this option, CCS facilitators will review green building goals in other states, including the California Green Buildings initiative, and report back to the TWG.*
- *Improve X% of existing residential units in Montana to save an average of Y% of net greenhouse gas emissions relative to existing practice by the year 20XX.*
- *Improve X% of existing commercial floorspace in Montana to save an average of Y% of net greenhouse gas emissions relative to existing practice by the year 20XX.*
- *Provide incentives such that X% of new or substantially remodeled residential units in Montana exceed building energy and greenhouse gas emissions codes in force by an average of Y% by the year 20XX.*

⁹ Existing programs include EPA’s ENERGY STAR Homes and Leadership in Energy and Environmental Design (LEED).

- *Provide incentives such that X% of new or substantially remodeled commercial floorspace in Montana exceeds building energy and greenhouse gas emissions codes in force by an average of Y% by the year 20XX.*
- **Timing:** [See above]
- **Parties Involved:**
 - State and Local government permitting agencies
 - Utilities
 - Financial Services Industries
 - Building Industries
- **Other:** [Insert text if/as appropriate]

Implementation Mechanisms

Implementation mechanisms, as noted above, could include a combination of financial assistance, special regulatory or administrative consideration for buildings projects that achieve “beyond code” performance, and other types of incentives. Specific examples of such mechanisms are as follows:

- Offering programs to adjust “impact fees” or “connection fees”—such as reduced fees for sewer and water hook-ups for homes that use less hot and cold water—for new and upgraded existing buildings that meet specific higher-than-code energy efficiency standards. Municipalities could be compensated for fees reduction out of a revolving loan fund or by some other mechanism. Develop systems and programs that recognize reduced impacts, and adjust fees accordingly. Such fees adjustments could be made by utilities, municipalities, or other entities, as applicable.
- Offer regulatory advantages, such as “fast-track” (expedited review) processing of applications, for buildings certified as having “beyond code” energy efficiency and environmental performance.
- Develop systems and programs that reward “beyond code” energy efficiency/emissions reduction improvements, including “green mortgages”, or adding “points” in project review processes for building features that meet or exceed environmental targets.
- Consider property tax adjustments that waive all or a portion of additional taxes on investments to improve building performance to “beyond code” levels.

Related Policies/Programs in Place

[Insert text as appropriate]

Types(s) of GHG Reductions

[Insert text as appropriate]

Estimated GHG Reductions and Costs (or Cost Savings)

[Insert text as appropriate]

- **Data Sources:**
- **Quantification Methods:**
- **Key Assumptions:**

Key Uncertainties

[Insert text as appropriate]

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]

RCII-6 Consumer Education Programs

Policy Description

The ultimate effectiveness of emissions reduction activities in many cases depends on providing information and education to consumers, as well as to future consumers (primary and secondary school students), regarding the energy and greenhouse gas emissions implications of consumer choices. Public education and outreach is vital to fostering a broad awareness of climate change issues and effects (including co-benefits, such as clean air and public health) among the state's citizens. Such awareness is necessary to engage citizens in actions to reduce GHG emissions. Public education and outreach efforts should integrate with and build upon existing outreach efforts involving climate change and related issues in the state. Ultimately, public education and outreach will be the foundation for the long-term success of all of the mitigation actions proposed by the CCAC, as well as those that may evolve in the future.

In addition, in order to effectively implement many of the other options in the residential, commercial, institutional and industrial sectors, as well as in other sectors, specific and targeted education, outreach, and licensing requirements will be required for professionals in, for example, a variety of building-related and other trades in order to ensure that those professionals have the expertise to support aggressive GHG mitigation options in Montana.

Policy Design

Elements of the design for this policy will include:

- Offer consumer education related to energy efficiency and the environmental consequences of energy and other choices.
- Work with the Office of Public instruction and others to develop and implement curricula for primary and (particularly) secondary schools that educates students so that they can evaluate the implications of consumption choices.
- Implement and enhance professional education and certification programs for teachers and for those involved in providing products and services related to energy use and greenhouse gas emissions, so as to build the statewide pool of individuals trained to support RCII and other policy options. This training for professionals (including architects, engineers, builders, code inspectors, lighting and HVAC¹⁰ equipment installers, and others) who advise

¹⁰ Heating, Ventilation, and Air Conditioning.

the public on energy choices is seen as a crucial component to the success of other RCII initiatives.

Education of consumers, and of those who advise them on energy choices, is seen as crucial to making sure that intelligent choices are made related to energy use¹¹.

- **Goals:**
- **Timing:** Synchronize education initiatives with development and implementation of other RCII options so that those who will make decisions related to energy efficiency and GHG emissions reduction, and those who will implement improvements, will have the background to do so effectively.
- **Parties Involved:**
 - Utilities
 - Government Agencies (Local, State, and Federal)
 - Private entities
 - Primary and Secondary Schools
 - Building Trade organizations
- **Other:** [Insert text if/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 Reductions and Costs (or Cost Savings)

[Insert text as appropriate]

- **Data Sources:**
- **Quantification Methods:**
- **Key Assumptions:**

Key Uncertainties

[Insert text as appropriate]

¹¹ Note that there is overlap between this RCII option and some of the elements of an option (CC-4) being elaborated by the Cross-Cutting TWG.

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]

RCII-7 Support for Implementation of Clean Combined Heat and Power

Policy Description

Distributed generation with clean combined heat and power (CHP) systems reduces fossil fuel use and greenhouse gas emissions both through the improved efficiency of the CHP systems, relative to separate heat and power technologies, and by avoiding transmission and distribution losses associated with central power stations that are located far away from where the electricity is used. Implementation of these systems by residential, commercial, institutional and industrial energy consumers should be encouraged through a combination of regulatory changes and incentive programs.

Policy Design

The Energy Supply TWG is developing a similar option, information from that group will be provided to the RCII TWG.

[Insert text as appropriate]

- **Goals:**
- **Timing:**
- **Parties Involved:**
- **Other:** [Insert text if/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 Reductions and Costs (or Cost Savings)

[Insert text as appropriate]

- **Data Sources:**
- **Quantification Methods:**

- **Key Assumptions:**

Key Uncertainties

[Insert text as appropriate]

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]

RCII-8 Support for Renewable Energy Applications

Policy Description

Distributed electricity generation sited at residences and commercial and industrial facilities, and powered by renewable energy sources (typically solar but also wind and hydro), displaces fossil-fueled generation and avoids electricity transmission and distribution losses, thus reducing greenhouse gas emissions. This policy can also encourage consumers to switch from using fossil fuels to using renewable fuels in applications such as water, process, and space heating, as well as to supply new energy services using fuels that produce low or no GHG emissions. Increasing the use of renewable energy applications in homes, businesses, and institutions in Montana can be achieved through a combination of regulatory changes and incentives. **[NOTE THAT RELATED OPTIONS ARE BEING CONSIDERED IN THE ENERGY SUPPLY TWG]**

Policy Design

[Insert text as appropriate]

- **Goals:**
- **Timing:**
- **Parties Involved:**
- **Other:** [Insert text if/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 Reductions and Costs (or Cost Savings)

[Insert text as appropriate]

- **Data Sources:**
- **Quantification Methods:**
- **Key Assumptions:**

Key Uncertainties

[Insert text as appropriate]

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]

RCII-9 Carbon Tax

(To be considered jointly with ES TWG)

Policy Description

A CO₂ tax would be a tax on each ton of CO₂ emitted from an emissions source covered by the tax. A CO₂ tax could be imposed upstream based on carbon content of fuels (e.g. fossil fuel suppliers) or at the point of combustion and emission (e.g. typically large point sources such as power plants or refineries). Taxed entities would pass some or all of the cost on to consumers, change production to lower emissions, or a combination of the two. As the suppliers respond to the tax, consumers would see the implicit cost of CO₂ emissions in products and services, and would adjust their behavior to purchase substitute goods and services that result in lower CO₂ emissions. CO₂ tax revenue could go completely to state revenue and be used in a variety of ways such as income tax reduction or policies and programs to assist with CO₂ reductions. CO₂ tax revenue can also be directed to helping the competitiveness of industries or assisting communities most affected by the tax.

Policy Design

The RCII TWG will coordinate with the Energy Supply TWG in considering and developing this option. The ES TWG has expressed the sense that a regional/national approach would be far preferable to Montana-alone tax (which should likely not be considered).

(At the request of the ES TWG, the CCS team is gathering additional information on the status of GHG emission taxes in US and Europe (levels, coverage, and achievements), and will provide this to the RCII TWG as well. The possibility of having a cross-group volunteer call to discuss carbon tax and cap-and-trade will be explored.)

[Insert text as appropriate]

- **Goals:**
- **Timing:**
- **Parties Involved:**
- **Other:** [Insert text if/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 Reductions and Costs (or Cost Savings)

[Insert text as appropriate]

- **Data Sources:**
- **Quantification Methods:**
- **Key Assumptions:**

Key Uncertainties

[Insert text as appropriate]

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]

RCII-10 Industrial Energy Audits and Recommended Measure Implementation

Policy Description

This policy option includes providing industrial-sector energy technical assistance (energy audits) to identify and recommend options for reducing fossil energy and electricity use, and for reducing non-energy emissions of GHGs. For example, an agency could be set up, or housed at an existing post-secondary institution, that hires experts who will visit industrial sites to assess current practices and equipment and provide recommendation for reducing GHG emissions. A combination of incentives, expertise, and information to implement recommended options are included in the policy to encourage the operators of industrial-sector facilities to follow up on audit recommendations.

Policy Design

(TWG members suggested further talks with industry representatives and others for develop goals for this option. Potential contacts include John Campbell, NorthWestern Energy, Don Quander (Large Customer Group), Holland and Hart, and Dave Ryan, CCAC member.)

[Insert text as appropriate]

- **Goals:**
- **Timing:**
- **Parties Involved:**
- **Other:** [Insert text if/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 Reductions and Costs (or Cost Savings)

[Insert text as appropriate]

- **Data Sources:**

- **Quantification Methods:**
- **Key Assumptions:**

Key Uncertainties

[Insert text as appropriate]

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]

RCII-11 Low income energy efficiency programs

Policy Description

Energy efficiency programs are a key component of other RCII options, and energy efficiency programs typically yield significant economic benefits (as well as greenhouse gas emissions reductions) to consumers that participate. Low-income consumers, however, are frequently unable to participate in energy efficiency programs due to a lack of funds to pay for improvements or, in the case of renters, an inability to either make changes to their residences or fully benefit from any cost savings. In recognition of this barrier, this policy urges the implementation of programs specifically targeted to the needs of low-income residents for services such as weatherization, updating or repairing inefficient appliances, and funding for renewable energy systems. These programs could be designed so as to offer low-income residents energy efficiency services with a minimum of up-front costs, and should be marketed through an aggressive campaign of outreach to low-income households and communities. Programs designed to work with both landlords and tenants could also be considered.

Policy Design

(TWG members suggested talking to people currently involved in developing low-income programs. Proposed contacts include Jim Morton, Human Resource Development Council District XI; Jackie Boyle, AARP Montana; Kathy Hadley, National Center for Appropriate Technology)

- **Goals:**
- **Timing:**
- **Parties Involved:**
- **Other:** [Insert text if/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 Reductions and Costs (or Cost Savings)

[Insert text as appropriate]

- **Data Sources:**
- **Quantification Methods:**
- **Key Assumptions:**

Key Uncertainties

[Insert text as appropriate]

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]

RCII-12 State Lead by Example

Policy Description

The Montana State Government can provide leadership in moving the State toward a stock of buildings with much higher energy efficiency, and toward improving efficiency in the operations of State buildings. The proposed policy provides energy efficiency targets that are much higher than code standards for new State-funded and other Government buildings, includes elements to encourage the improvement and review of efficiency goals over time, and to encourage flexibility in contracting arrangements to encourage integrated energy-efficient design and construction. Targets are also provided for the upgrading of energy efficiency in existing State government facilities. **[MAY INCLUDE ONE OR BOTH OF THE NEXT TWO SENTENCES IF APPLICABLE]** In addition, “green power” use targets for new and existing State facilities are provided in this policy to help encourage the use of electricity generated from renewable resources like the sun, wind and organic matter. Also included in this option is a program for the bulk purchase of appliances and equipment with higher-than-standard energy efficiency by public agencies.

Policy Design

Key elements of this policy include:

- New State government buildings should be LEED-certified **at the “silver” level**¹².
- State government purchasers should purchase Energy Star-Certified appliances and equipment where available.

[Note that this option was only very briefly discussed during the “Bin B” teleconference call on 1/17]

The Cross-Cutting TWG suggested having the option include a requirement carbon-neutral bonding. Climate Neutral Bonding will require that any building projects financed with the issuance of state bonds result in no net increase in greenhouse gas (GHG) emissions. For example, if a new construction project funded by the government is projected to result in an emissions increase, there must be GHG emissions offsets within the state. Offsets could include, on-site renewable energy development, renewable energy purchases, energy efficiency (in

¹² “LEED” is Leadership in Energy and Environmental Design. See www.usgbc.org. Note also that an analysis by KEMA of DSM options for buildings in Montana is currently underway.

existing state buildings), carbon sequestration (tree planting) and switching to cleaner or renewable fuels.

[Insert text as appropriate]

- **Goals:** Reduce per-unit-floor-area consumption of grid electricity and natural gas by 20 percent by 2020 in existing buildings, and by 40 percent in new buildings by 2020. These requirements should be phased in over time.
- **Timing:** See above. *Begin implementing program by 20XX, with full implementation as above.*
- **Parties Involved:**
- **Other:** [Insert text if/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 Reductions and Costs (or Cost Savings)

[Insert text as appropriate]

- **Data Sources:**
- **Quantification Methods:**
- **Key Assumptions:**

Key Uncertainties

[Insert text as appropriate]

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]

RCII-13 Metering technologies with opportunity for load management and choice

Policy Description

Providing energy consumers with price and other information via metering that allow consumer to more clearly identify the outcomes of their choices is a potentially useful tool in improving energy efficiency, reducing greenhouse gas emissions, and saving consumers money in Montana. This policy encourages the implementation of electricity metering technologies and tariff systems, including real-time energy pricing and rates that reflect the cost and greenhouse gas implications of the resources that must be used to provide power, that provide consumers incentives to manage their energy consumption so as to both reduce costs and GHG emissions.

Policy Design

(The option was discussed at the Jan 26 TWG without resolution on design. Suggestions included smart meters, time of use rates and inclining rate structure. One TWG member has volunteered to provide additional information for developing this option.)

[Insert text as appropriate]

- **Goals:**
- **Timing:**
- **Parties Involved:**
- **Other:** [Insert text if/as appropriate]

Implementation Mechanisms

[Insert text as appropriate]

Related Policies/Programs in Place

NorthWestern Utilities offered a pilot program in Missoula on Time-of-Use rates.

[Insert text as appropriate]

Types(s) of GHG Reductions

[Insert text as appropriate]

Estimated GHG Reductions and Costs (or Cost Savings)

[Insert text as appropriate]

- **Data Sources:**

- **Quantification Methods:**
- **Key Assumptions:**

Key Uncertainties

[Insert text as appropriate]

Additional Benefits and Costs

Benefits

Costs

To the extent that low-income households may be covered by new metering and rate policies, low-income residents may be adversely affected, as they often live in substandard rental housing that uses a significant amount of energy, but they lack both the ability and incentive to upgrade appliances, heating equipment, or the building envelope.

[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]