

**Residential, Commercial, and Industrial Technical Work Group  
Summary List of Draft Priority Policy Options for Analysis**

Draft Option #	Draft Policy Option Name	Straw Proposal Volunteers
RCI-1	Maximize savings from utility Conservation Improvement Program (CIP)	
RCI -2	Improved uniform state-wide building codes for: (a) improved energy efficiency; (b) reduced greenhouse gas emissions; and (c) structural soundness	
RCI -3	Green Building guidelines and standards: <ul style="list-style-type: none"> <li>• Promote, incentivize or adopt green building guidelines and standards for all buildings</li> <li>• Require state and local buildings (including schools) to meet guidelines and standards</li> </ul>	
RCI -4	Incentives & resources to promote Combined Heat and Power (a.k.a. cogen)	
RCI -5	Program to reduce emissions of non-fuel, high-global-warming-potential GHGs: <ul style="list-style-type: none"> <li>• Promotion &amp; funding for Process Optimization</li> <li>• Use of lower-impact alternatives for coolants, refrigerants, aerosols, solvents and insulation, etc.</li> <li>• Rulemaking by MPCA would phase out high-global-warming-potential gases</li> </ul>	
RCI -6	Develop non-utility strategies and incentives to encourage energy efficiency and reduce greenhouse gas emissions.	
RCI -7	Conservation Improvement-type Program for propane and fuel oil efficiency	

<b>Draft Option #</b>	<b>Draft Policy Option Name</b>	<b>Straw Proposal Volunteers</b>
RCI -8	Energy performance disclosure: <ul style="list-style-type: none"> <li>• By sellers for buildings at time of sale</li> <li>• By utilities upon request of buyer or lessee</li> <li>• By utilities in all energy billing</li> </ul>	
RCI -9	Promote technology-specific applications that reduce GHG emissions: <ul style="list-style-type: none"> <li>• Renewable, on-site distributed generation installations to achieve X% in public buildings and X% in private buildings</li> <li>• Efficient transformers on the customer side of the meter</li> <li>• Passive solar heating</li> <li>• White roofs, rooftop gardens, and landscaping (including shade tree programs)</li> <li>• Specific consumer products (e.g., window AC units, lighting, water heating, plug loads, networked PC management, power supplies, motors, pumps, boilers, etc.)</li> <li>• Geothermal heat pumps that are at least 3.2 COP and 14.1 EER</li> </ul>	
RCI -10	Support strong federal appliance standards and require high state standards for appliances not preempted by federal standards.	
RCI -11	Consumer education and professional training programs	

## Draft Policy Option Template

### RCI-1 Maximize Savings from the Utility Conservation Improvement Program (CIP)

#### Policy Description

Implement cost-effective programs to reduce energy use; target rebates to overcome market barriers; maximize convenience to program participants; capture overall system efficiencies, not just equipment efficiencies; joint utility efforts to achieve market transformation; ongoing research, evaluation and analysis; complement government and non-utility efficiency programs; and seek to remove any disincentives or regulatory barriers to energy efficiency.

#### Policy Design

##### Goals:

- **Timing:** When should the program begin? When must goals be achieved?
- **Parties Involved:** Who is covered by the program?
- **Other:**

#### Implementation Mechanisms

How should the program be implemented?

#### Related Policies/Programs in Place

Xcel's CIP Program.

#### Types(s) of GHG Reductions

Reductions from avoided fossil-fuel electricity generation.

#### Estimated GHG Reductions and Net Costs or Cost Savings

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Full life-cycle analysis with supply/demand equilibrium adjustments on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

### **Key Uncertainties**

TBD – [as needed and approved by the TWGs]

### **Additional Benefits and Costs**

TBD – [as needed and approved by the TWGs]

### **Feasibility Issues**

TBD – [as needed and approved by the TWGs]

### **Status of Group Approval**

Pending – [until MCCAG moves to final agreement at meeting #5 or #6]

### **Level of Group Support**

TBD – [blank until MCCAG meeting #5]

### **Barriers to Consensus**

TBD – [blank until final vote by the MCCAG]

## **Draft Policy Option Template**

### **RCI-2 Improved uniform state-wide building 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. Potential elements of a policy to include building codes include:

- Require high-efficiency appliances in new construction and retrofits.
- Training of building code and other officials in energy code enforcement.

Potential measures supporting this option can include consumer education, improved enforcement of building codes, training for builders and contractors, and development of a clearinghouse for information on and to provide access to software tools to calculate the impact of energy efficiency and solar technologies on building energy performance.

## Policy Design

### Goals:

- **Timing:** When should the building codes be revised? What goals are to be achieved?
- **Parties Involved:** What buildings or projects are covered by the codes?
- **Other:**

## Implementation Mechanisms

How should the code revisions be implemented?

## Related Policies/Programs in Place

Building codes in place.

## Types(s) of GHG Reductions

Reductions from avoided fossil-fuel combustion for electricity and heating.

## Estimated GHG Reductions and Net Costs or Cost Savings

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Full life-cycle analysis with supply/demand equilibrium adjustments on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

## Key Uncertainties

TBD – [as needed and approved by the TWGs]

## Additional Benefits and Costs

TBD – [as needed and approved by the TWGs]

## Feasibility Issues

TBD – [as needed and approved by the TWGs]

## Status of Group Approval

Pending – [until MCCAG moves to final agreement at meeting #5 or #6]

## Level of Group Support

TBD – [blank until MCCAG meeting #5]

## Barriers to Consensus

TBD – [blank until final vote by the MCCAG]

## Draft Policy Option Template

### RCI-3 Green Building Guidelines and Standards Based on Architecture 2030

## 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 providing resources to building industry professionals to help achieve the desired building performance. This policy can include 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.

Additional potential elements of this option include:

- Target new, renovated, and/or existing buildings (retrofits).
- Set a cap on consumption of energy per unit area of floorspace for new buildings.
- Encourage building commissioning and recommissioning, including energy tracking and benchmarking.
- Provide incentives, in the form of tax credits, DSM program support, financing incentives (such as “green mortgages”), or other inducements for retrofit of existing residential and commercial buildings.
- Encourage the use of alternative and local building materials and practices.

Potential supporting measures for this option include training and certification of building professionals, consumer and primary/secondary education, performance contracting/shared savings arrangements, and setting up of a clearinghouse for information on and access to software tools to calculate the impacts of energy efficiency and solar technologies for buildings.

## Policy Design

### Goals:

- **Timing:** When should the program begin? When must goals be achieved?
- **Parties Involved:** Who is covered by the program?

- **Other:**

### **Implementation Mechanisms**

How should the program be implemented?

### **Related Policies/Programs in Place**

Sustainable building guidelines for new state buildings; MN Housing's integrated design process.

### **Types(s) of GHG Reductions**

Reductions from avoided fossil-fuel combustion for electricity and heating.

### **Estimated GHG Reductions and Net Costs or Cost Savings**

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Full life-cycle analysis with supply/demand equilibrium adjustments on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

### **Key Uncertainties**

TBD – [as needed and approved by the TWGs]

### **Additional Benefits and Costs**

TBD – [as needed and approved by the TWGs]

### **Feasibility Issues**

TBD – [as needed and approved by the TWGs]

### **Status of Group Approval**

Pending – [until MCCAG moves to final agreement at meeting #5 or #6]

### **Level of Group Support**

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### **Barriers to Consensus**

TBD – [blank until final vote by the MCCAG]

## Draft Policy Option Template

### RCI-4 Incentives & Resources to Promote Combined Heat and Power (CHP)

#### Policy Description

Combined heat and power (CHP) systems reduce 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 moving power from central power stations that are located far away from where the electricity is used. Potential elements of this option include:

- Promotion of the use of gas-fired CHP systems
- Promotion of the use of biomass-fired CHP systems
- Creation/expansion of markets for, and incentives designed to promote implementation of, CHP units in capacities suitable for residential, commercial, and industrial users.
- Provision of tax benefits, attractive financing arrangements, and other incentives to promote CHP technologies.

Potential supporting measures for this option include training/certification of installers/contractors, net metering and other pricing arrangements, establishment of clear, and consistent interconnection standards, and creation/support of markets for biomass fuels.

#### Policy Design

##### Goals:

- **Timing:** When should the program begin? When must goals be achieved?
- **Parties Involved:** Who is covered by the program?
- **Other:**

#### Implementation Mechanisms

How should the program be implemented?

#### Related Policies/Programs in Place

None.

#### Types(s) of GHG Reductions

Reductions from avoided emissions from more efficient delivery of heat and electricity to buildings on-site.

### **Estimated GHG Reductions and Net Costs or Cost Savings**

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Full life-cycle analysis with supply/demand equilibrium adjustments on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

### **Key Uncertainties**

TBD – [as needed and approved by the TWGs]

### **Additional Benefits and Costs**

TBD – [as needed and approved by the TWGs]

### **Feasibility Issues**

TBD – [as needed and approved by the TWGs]

### **Status of Group Approval**

Pending – [until MCCAG moves to final agreement at meeting #5 or #6]

### **Level of Group Support**

TBD – [blank until MCCAG meeting #5]

### **Barriers to Consensus**

TBD – [blank until final vote by the MCCAG]

## **Draft Policy Option Template**

### **RCI-5 Program to Reduce Emissions of Non-Fuel, High Global Warming Potential Gases**

#### **Policy Description**

Program to reduce non-energy emissions of high-potential GHGs:

- Promotion & funding for Process Optimization
- Use of Alternative Gases (other HFCs, hydrocarbon coolants/refrigerants, etc.)
- Rulemaking to phase out high potential gases.

Rulemaking would a) address the emission on a lifetime cycle basis, b) require elimination of such gases, on a phased basis, where this can be done for no cost, c) require elimination or reduction of such gases by the use prudent managerial practices or by substitution of other substances/means at reasonable cost, and d) determine reasonable cost per ton of CO<sub>2</sub>e reduction in the rule making process, taking into account the availability of alternatives, and the cost of carbon credits on viable exchanges.

## Policy Design

### Goals:

- **Timing:** When should the program begin? When must goals be achieved?
- **Parties Involved:** Who is covered by the program?
- **Other:**

## Implementation Mechanisms

How should the program be implemented?

## Related Policies/Programs in Place

None.

## Types(s) of GHG Reductions

Reductions of high global warming potential gases .

## Estimated GHG Reductions and Net Costs or Cost Savings

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Full life-cycle analysis with supply/demand equilibrium adjustments on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

## Key Uncertainties

TBD – [as needed and approved by the TWGs]

## Additional Benefits and Costs

TBD – [as needed and approved by the TWGs]

**Feasibility Issues**

TBD – [as needed and approved by the TWGs]

**Status of Group Approval**

Pending – [until MCCAG moves to final agreement at meeting #5 or #6]

**Level of Group Support**

TBD – [blank until MCCAG meeting #5]

**Barriers to Consensus**

TBD – [blank until final vote by the MCCAG]

**Draft Policy Option Template**

**RCI-6 Develop Non-Utility Strategies and Incentives to Encourage Energy Efficiency and Reduce GHG Emissions**

**Policy Description**

Similar to RCI-1, but aimed at implementation by other than Utilities.

**Policy Design**

**Goals:**

- **Timing:** When should the program begin? When must goals be achieved?
- **Parties Involved:** Who is covered by the program?
- **Other:**

**Implementation Mechanisms**

How should the program be implemented?

**Related Policies/Programs in Place**

Xcel's CIP Program.

**Types(s) of GHG Reductions**

Reductions from avoided fossil-fuel electricity generation.

**Estimated GHG Reductions and Net Costs or Cost Savings**

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Full life-cycle analysis with supply/demand equilibrium adjustments on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

### **Key Uncertainties**

TBD – [as needed and approved by the TWGs]

### **Additional Benefits and Costs**

TBD – [as needed and approved by the TWGs]

### **Feasibility Issues**

TBD – [as needed and approved by the TWGs]

### **Status of Group Approval**

Pending – [until MCCAG moves to final agreement at meeting #5 or #6]

### **Level of Group Support**

TBD – [blank until MCCAG meeting #5]

### **Barriers to Consensus**

TBD – [blank until final vote by the MCCAG]

## **Draft Policy Option Template**

### **RCI-7 Conservation Improvement-Type Program for Propane and Fuel Oil Efficiency**

### **Policy Description**

Implement cost-effective programs to reduce propane and fuel-oil use; target rebates to overcome market barriers; maximize convenience to program participants; capture overall system efficiencies, not just equipment efficiencies; joint efforts to achieve market transformation; ongoing research, evaluation and analysis; complement government, utility and non-utility efficiency programs; and seek to remove any disincentives or regulatory barriers to energy efficiency.

### **Policy Design**

#### **Goals:**

- **Timing:** When should the program begin? When must goals be achieved?
- **Parties Involved:** Who is covered by the program?
- **Other:**

### **Implementation Mechanisms**

How should the program be implemented?

### **Related Policies/Programs in Place**

Xcel's CIP Program.

### **Types(s) of GHG Reductions**

Reductions from avoided propane and fuel oil combustion.

### **Estimated GHG Reductions and Net Costs or Cost Savings**

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Full life-cycle analysis with supply/demand equilibrium adjustments on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

### **Key Uncertainties**

TBD – [as needed and approved by the TWGs]

### **Additional Benefits and Costs**

TBD – [as needed and approved by the TWGs]

### **Feasibility Issues**

TBD – [as needed and approved by the TWGs]

### **Status of Group Approval**

Pending – [until MCCAG moves to final agreement at meeting #5 or #6]

### **Level of Group Support**

TBD – [blank until MCCAG meeting #5]

### **Barriers to Consensus**

TBD – [blank until final vote by the MCCAG]

## Draft Policy Option Template

### RCI-8 Energy Performance Disclosure

#### Policy Description

Energy performance disclosure:

- by sellers for buildings at time of sale; and
- by utilities upon request of buyer or lessee;

Disclose energy use at time of the sale in KBTU/SF/Year, like an MPG rating for cars.

Develop a task force to a uniform utility billing format that educates consumer about incremental cost of energy. Also include information on the environmental impacts of energy.

Require utilities to provide perspective new owners with two years billing history of energy use.

#### • by utilities in all energy billing Policy Design

##### Goals:

- **Timing:** When should the program begin? When must goals be achieved?
- **Parties Involved:** Who is covered by the program?
- **Other:**

#### Implementation Mechanisms

How should the program be implemented?

#### Related Policies/Programs in Place

None.

#### Types(s) of GHG Reductions

Reductions from avoided fossil-fuel electricity generation and fuels combustion.

### **Estimated GHG Reductions and Net Costs or Cost Savings**

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Full life-cycle analysis with supply/demand equilibrium adjustments on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

### **Key Uncertainties**

TBD – [as needed and approved by the TWGs]

### **Additional Benefits and Costs**

TBD – [as needed and approved by the TWGs]

### **Feasibility Issues**

TBD – [as needed and approved by the TWGs]

### **Status of Group Approval**

Pending – [until MCCAG moves to final agreement at meeting #5 or #6]

### **Level of Group Support**

TBD – [blank until MCCAG meeting #5]

### **Barriers to Consensus**

TBD – [blank until final vote by the MCCAG]

## Draft Policy Option Template

### RCI-9 Promote Technology-Specific Applications to Reduce GHG Emissions

#### Policy Description

Promote technology-specific applications that reduce GHG emissions:

- Efficient transformers on the customer side of the meter;
- passive solar heating;
- white roofs, rooftop gardens, and landscaping (including shade tree programs) \*(L);
- specific consumer products (e.g., window AC units, lighting, water heating, plug loads, networked PC management, power supplies, motors, pumps, boilers, etc.);
- geothermal heat pumps that are at least 3.2 COP and 14.1 EER

#### Policy Design

##### Goals:

- **Timing:** When should the program begin? When must goals be achieved?
- **Parties Involved:** Who is covered by the program?
- **Other:**

#### Implementation Mechanisms

How should the program be implemented?

#### Related Policies/Programs in Place

None.

#### Types(s) of GHG Reductions

Reductions from avoided fossil-fuel electricity generation and heat generation.

#### Estimated GHG Reductions and Net Costs or Cost Savings

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Full life-cycle analysis with supply/demand equilibrium adjustments on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

#### Key Uncertainties

TBD – [as needed and approved by the TWGs]

### **Additional Benefits and Costs**

TBD – [as needed and approved by the TWGs]

### **Feasibility Issues**

TBD – [as needed and approved by the TWGs]

### **Status of Group Approval**

Pending – [until MCCAG moves to final agreement at meeting #5 or #6]

### **Level of Group Support**

TBD – [blank until MCCAG meeting #5]

### **Barriers to Consensus**

TBD – [blank until final vote by the MCCAG]

## **Draft Policy Option Template**

### **RCI-10 Support Strong Federal Appliance Standards and Require High State Standards in the Absence of 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.<sup>1</sup> Regional coordination 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.

Potential elements of an appliance efficiency standards policy include:

- Establishment and enforcement of higher-than-federal state-level appliance and equipment standards (or standards for devices not covered by federal standards).
- Joining with other states in adopting higher standards.

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<sup>1</sup> 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.

- Requiring high-efficiency appliances in new construction and retrofits.

Consumer education is a potential supporting measure for this option.

## Policy Design

### Goals:

- **Timing:** When should the program begin? When must goals be achieved?
- **Parties Involved:** Who is covered by the program?
- **Other:**

## Implementation Mechanisms

How should the program be implemented?

## Related Policies/Programs in Place

None.

## Types(s) of GHG Reductions

Reductions from avoided fossil-fuel electricity generation.

## Estimated GHG Reductions and Net Costs or Cost Savings

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Full life-cycle analysis with supply/demand equilibrium adjustments on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

## Key Uncertainties

TBD – [as needed and approved by the TWGs]

## Additional Benefits and Costs

TBD – [as needed and approved by the TWGs]

## Feasibility Issues

TBD – [as needed and approved by the TWGs]

## Status of Group Approval

Pending – [until MCCAG moves to final agreement at meeting #5 or #6]

**Level of Group Support**

TBD – [blank until MCCAG meeting #5]

**Barriers to Consensus**

TBD – [blank until final vote by the MCCAG]

## Draft Policy Option Template

### RCI-11 Consumer Education and Professional Training Programs

#### Policy Description

For consumers:

The ultimate effectiveness of emissions reduction activities in many cases depends on providing information and education to consumers regarding the energy and GHG 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 in their personal and professional lives. 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 Minnesota CCAG, as well as those that may evolve in the future.

For professionals:

This option refers to an education and outreach program for building professionals to encourage incorporation of energy-efficiency and greenhouse gas emissions-reduction considerations. This program could expand on the monthly education programs currently provided in MN. Examples include:

- Start programs to train builders and contractors on proper heating and air conditioning sizing and installation.
- Mandate that State Boards of Licensing for building professionals cover knowledge of the improved building codes and building energy performance requirements reflected in various policy options in licensing exams.
- Implement code training and technical assistance for builders and architects.

#### Policy Design

**Goals:**

- **Timing:** When should the program begin? When must goals be achieved?
- **Parties Involved:** Who is covered by the program?

- **Other:**

### **Implementation Mechanisms**

How should the program be implemented?

### **Related Policies/Programs in Place**

None.

### **Types(s) of GHG Reductions**

Reductions from avoided fossil-fuel electricity generation.

### **Estimated GHG Reductions and Net Costs or Cost Savings**

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Full life-cycle analysis with supply/demand equilibrium adjustments on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

### **Key Uncertainties**

TBD – [as needed and approved by the TWGs]

### **Additional Benefits and Costs**

TBD – [as needed and approved by the TWGs]

### **Feasibility Issues**

TBD – [as needed and approved by the TWGs]

### **Status of Group Approval**

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### **Level of Group Support**

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### **Barriers to Consensus**

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