

## Catalog of State Actions Residential, Commercial, and Industrial (RCI) Policy Working Group

A catalog of state-level, GHG-reducing actions and policy options prepared by the Center for Climate Strategies (CCS) and the Rocky Mountain Climate Organization based on actions undertaken or considered by Colorado and other states, including regional, state, local and private actions.

### Key To Future Rankings of Options in the Tables that Follow:

Potential GHG Emission Reductions <u>1/</u>	Potential Cost or Cost Savings <u>1/ 2/</u>
<b>High (H):</b> At least 1.0 million metric tons (MMt) carbon dioxide equivalent (CO <sub>2</sub> e) per year by 2020 (~1% of current Colorado emissions)	<b>High (H):</b> \$50 per metric ton CO <sub>2</sub> e (tCO <sub>2</sub> e) or above
<b>Medium (M):</b> From 0.1 to 1.0 MMtCO <sub>2</sub> e per year by 2020	<b>Medium (M):</b> \$5-50/tCO <sub>2</sub> e
<b>Low (L):</b> Less than 0.1 MMtCO <sub>2</sub> e per year by 2020, or 1 MMtCO <sub>2</sub> e by 2050	<b>Low (L):</b> Less than \$5/tCO <sub>2</sub> e
<b>Uncertain (U):</b> Not able to estimate at this time	<b>Uncertain (U):</b> Not able to estimate at this time
1/ Several measures may overlap in terms of emissions reductions and/or cost impacts. Estimates assume measures would be implemented independently from other measures. 2/ Costs are denoted by a positive number. Cost savings (i.e., “negative costs”) are denoted by a negative number.	

#### Definition of “Priorities for Analysis”:

- **High:** High priority options will be analyzed first.
- **Medium:** Medium priority options will be analyzed next, time and resources permitting.
- **Low:** Low priority options will be analyzed last, time and resources permitting.

#### Notation of Options:

**Options marked with an asterisk (\*) indicate options that are at least partially “base case” policies, i.e., that have been considered or undertaken at some level in Colorado. Distinctions are made between statewide (S) and local (L) policies where appropriate.**

**Options marked with two asterisks (\*\*) indicate options that have been proposed for consideration.**

**Options that are marked with AZ, MT, and/or NM are substantially similar to options that were included in Arizona or New Mexico’s final plan(s) or are under consideration in Montana.**

**Table 1 - Residential, Commercial, Industrial (RCI)**

Option No.	GHG Reduction Policy Option	Priority for Analysis	Potential GHG Emissions Reduction	Potential Cost or Cost Savings	Ancillary Impacts, Feasibility Considerations	Notes
<b>RCI-1</b>	<b>ENERGY EFFICIENCY PROGRAMS, FUNDS, AND GOALS</b>					
1.1	Utility Demand Side Management (DSM) Programs for electricity, natural gas, propane, fuel oil *		H	L		AZ, MT, NM – indicates that the option is included in the Arizona, Montana, and/or New Mexico state climate action plans
1.2	Energy Efficiency Funds (e.g. Public Benefit Funds) administered by State agency, utility, or 3rd party (e.g. Energy Trust) *		H	L		AZ, MT, NM
1.3	Energy Efficiency Requirements (e.g. Utility Savings Goals or Energy Portfolio Standards) *		H	L		AZ <sup>1</sup> , MT, NM

<sup>1</sup> The final report recommended including energy efficiency in an integrated resource planning process.

Option No.	GHG Reduction Policy Option	Priority for Analysis	Potential GHG Emissions Reduction	Potential Cost or Cost Savings	Ancillary Impacts, Feasibility Considerations	Notes
1.4	Market transformation and technology development programs *		M	L		MT, NM
<b>RCI-2 APPLIANCE STANDARDS</b>						
2.1	Expansion of State-level Appliance Efficiency Standards **		M	L		AZ, MT, NM
2.2	Support for Federal-level Appliance Efficiency Standards **		M	L		AZ, MT, NM
<b>RCI-3 BUILDINGS</b>						
3.1	Improved Building Codes * (L)		H	L		AZ, MT, NM <sup>2</sup>
3.2	Promotion and Incentives for Improved Design and Construction (e.g. LEED <sup>3</sup> , green buildings) *(S,L)		M	L		AZ, MT, NM <sup>4</sup>

<sup>2</sup> Separately, NM recommended that building energy codes be modified to require new residential buildings and new commercial buildings to be configured for, and to include plumbing and wiring for mounting and installation of, solar hot water heaters and solar photovoltaic (PV) panels. Also, it recommended New Mexico should modify building energy codes to require new residential buildings and new commercial buildings with substantial water heat demand to install solar water heaters. (NM RCI-7B and 7C)

<sup>3</sup> LEED = Leadership in Energy Efficiency Design, a national building certification program.

<sup>4</sup> State-funded or other government buildings would be subject to energy performance requirements.

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<b>RCI-3 BUILDINGS (CONTINUED)</b>						
3.3	Training and Education for Builders and Contractors (e.g. HVAC <sup>5</sup> sizing, duct sealing) *(S,L)		M	L		NM
3.4	Training of Building Code and other Officials in Energy Code Enforcement (L)		M	L		NM
3.5	Building Commissioning and Recommissioning, including Energy Tracking and Benchmarking *(S,L)		M	L		
3.6	Energy Management Training/Training of Building Operators *(S,L)		L	L		NM
3.7	Increased Use of Blended Cement (substituting fly ash or other pozzolans for clinker reduces CO <sub>2</sub> emissions)		L	U		
3.8	Reduction of Emissions from Diesel Engines Used in New Construction Developments		M	U		

<sup>5</sup> HVAC = Heating, Ventilation, and Air Conditioning

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<b>RCI-4 EDUCATION AND OUTREACH</b>						
4.1	Consumer education programs *(S,L)		L	M		MT, NM
4.2	Introduce in School Curriculum *(L)		L	M		AZ, NM
<b>RCI-5 PRICING AND PURCHASING</b>						
5.1	Green Power Purchasing *(L)		L	M		NM
5.2	Bulk Purchasing Programs for Energy Efficiency or other Equipment (Public or Private sector) *(S,L)		M	L		
5.3	Net-metering policies *(S,L)		M	M		AZ
5.4	Time of Use Rates *(L)		L	L		AZ, MT, NM
<b>RCI-6 TECHNOLOGY-SPECIFIC POLICIES</b>						
6.1	Incentives for Renewable Energy Applications (Solar roofs, water heaters, etc.) *(L)		M	M		MT, NM
6.2	Clean Combined Heat and Power **		H	L		AZ, MT, NM
6.3	Promotion and Tax or Other Incentives (e.g. EnergyStar, credits for solar hot water) *(L)		M	L		
6.4	Appliance Recycling/Pick-Up Programs *(L)		M	L		
6.5	White Roofs, Rooftop		L	L		

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	Gardens, and Landscaping (including Shade Tree Programs) *(L)					
<b>RCI-6</b>	<b>TECHNOLOGY-SPECIFIC POLICIES (CONTINUED)</b>					
6.6	Focus on specific end-uses/technologies: window AC units, lighting, water heating, plug loads, networked PC management, power supplies, motors, pumps, boilers, etc. Consumer products programs, may include incentives, retailer training, marketing and promotion, education, etc. *(L)		M	L		
<b>RCI-7</b>	<b>NON-ENERGY EMISSIONS (HFCS, PFCS, SF<sub>6</sub>, CO<sub>2</sub> PROCESS EMISSIONS)</b>					
7.1	Participation in Voluntary Industry-Government Partnerships *(S,L)		L	L		
7.2	Process Changes/Optimization *(S)		M	U		
7.3	Leak Reduction /Capture, Recovery and Recycling of Process Gases *(S)		U	U		
7.4	Use of Alternative Gases (other HFCs, hydrocarbon		U	U		AZ, NM

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	coolants/refrigerants, etc.)					
7.5	Cement Industry: Use of Alternative Fuels		U	U		
<b>RCI-8</b>	<b>GHG EMISSIONS-SPECIFIC GOALS AND POLICIES</b>					
8.1	Support for switching to less carbon-intensive fuels (coal and oil to natural gas or biomass)		M	M		AZ
8.2	Industry-Specific Emissions Cap and Trade Programs		L	M		NM
8.3	Voluntary emissions targets *(L)		L	L		NM
8.4	Small-source Aggregation		L	L		
8.5	Negotiated Emissions or Energy Savings Agreements		L	L		
8.6	Local government program for voluntary emissions targets by businesses *(L)		L	L		
<b>RCI-9</b>	<b>OTHER</b>					
9.1	Government Agency Requirements and Goals (including procurement) *(S,L)		L	L		AZ, MT, NM
9.2	Focus on specific market segments: existing homes (weatherization), new construction, apartments,		M	L		MT

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	low income, etc. *(S,L)					
9.3	Reinvestment Fund		M	L		
9.4	Municipal Energy Management *(L)		L	L		
9.5	Focus on Small and Medium Enterprises (SMEs) *(S,L)		L	L		
9.6	Industrial ecology/ by-product synergy		L	L		
9.7	Industrial Audits		M	L		MT