

**MINNESOTA CLIMATE CHANGE ADVISORY GROUP
RESIDENTIAL, COMMERCIAL & INDUSTRIAL
TECHNICAL WORKING GROUP**

JULY 17, 2007

SUMMARY OF PRIORITIES FOR FURTHER ANALYSIS

Ranking	Option No.	GHG Reduction Policy Option	Potential GHG Emissions Reduction	Cost per Ton	Other Consideration: Jobs, Fuel Imports, Externalities, Feasibility	Notes
1st	1.1	Maximize savings from utility Conservation Improvement Program (CIP)	H	L		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.
2nd	2.1	Improved uniform state-wide building codes for: (a) improved energy efficiency; (b) reduced greenhouse gas emissions; and (c) structural soundness *(S)	H	L		CIP, MPCA <u>MN Recent Actions List:</u> Residential and Commercial Building Code

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3 rd	2.4	<p>Green Building guidelines and standards:</p> <ul style="list-style-type: none"> Promote, incentivize or adopt green building guidelines and standards for all buildings. Require state and local buildings (including schools) to meet guidelines and standards. 	M	L		<p>Architecture 2030 guidelines require reductions in GHG emissions consistent with the following targets relative to a 2005 reference year:</p> <p>For retrofits to existing buildings, the reduction targets are 50% compared to existing buildings.</p> <p>For new buildings:</p> <table> <tr> <td>2007</td> <td>50% Reduction</td> </tr> <tr> <td>2010</td> <td>60% Reduction</td> </tr> <tr> <td>2015</td> <td>70% Reduction</td> </tr> <tr> <td>2020</td> <td>80% Reduction</td> </tr> <tr> <td>2025</td> <td>90% Reduction</td> </tr> <tr> <td>2030</td> <td>100% Reduction</td> </tr> </table>	2007	50% Reduction	2010	60% Reduction	2015	70% Reduction	2020	80% Reduction	2025	90% Reduction	2030	100% Reduction
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4 th	6.2	Incentives & resources to promote Combined Heat and Power (a.k.a. cogen)	H	L														
5 th	7.3	<p>Program to reduce emissions of non-fuel, high-global-warming-potential GHGs:</p> <ul style="list-style-type: none"> Promotion & funding for Process Optimization Use of lower-impact alternatives for coolants, refrigerants, aerosols, solvents and insulation, etc. Rulemaking by 	M	U		<p>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 CO₂e reduction in the rule making process, taking into account the availability of alternatives, and the cost of carbon credits on viable exchanges.</p>												

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		MPCA would phase out high-global-warming-potential gases				
6 th	1.6	Develop non-utility strategies and incentives to encourage energy efficiency and reduce greenhouse gas emissions.	H	L		Strengthen the energy reduction capability and increase funding for the Minnesota Technology Assistance Project so MNTAP can more effectively assist manufacturers and industry in reducing their energy use. Methods of reducing GHGs should be considered in the adoption of any changes to the building codes
7 th	1.9	Conservation Improvement-type Program for propane and fuel oil efficiency	H	L		Develop efficiency programs explicitly targeted at customers who use propane or fuel oil
8 th	4.3	Energy performance disclosure: <ul style="list-style-type: none"> • by sellers for buildings at time of sale; • by utilities upon request of buyer or lessee; • by utilities in all energy billing 	U	U		<p>Disclose energy use at time of the sale in KBTU/SF/Year, like an MPG rating for cars.</p> <p>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.</p> <p>Require utilities to provide perspective new owners with two years billing history of energy use.</p>

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<p style="text-align: center;">9th (34 Pts)</p>	<p style="text-align: center;">6.3</p>	<p>Promote technology-specific applications that reduce GHG emissions:</p> <ul style="list-style-type: none"> • Renewable, on-site distributed generation installations to achieve X% in public buildings and X% in private buildings. • 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. 	<p style="text-align: center;">U</p>	<p style="text-align: center;">U</p>		<p>Require X% of energy used in public buildings to be on-site renewable and provide incentives for private buildings to use at least X%</p>

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10 th	3.1	Support strong federal appliance standards and require high state standards for appliances not preempted by federal standards.	M	L		MN Housing currently encourages within its' architectural design standards, Energy Star appliances as well as encouraging site specific energy savings opportunities that arise.
11 th	4.1	Consumer education and professional training programs *(S)	H	L		DOC, MPCA MN Housing will provide an Occupant's Manual as well as Homeowner and New Resident Orientation that explains the intent, benefits, use and maintenance of green building features in affordable housing developments.