

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

A catalog of state-level, GHG-reducing actions and policy options based on actions undertaken or considered by state, local and private actors.

Key to Future Rankings of Options in the Tables that Follow:

Potential GHG Emission Reductions*	Potential Cost or Cost Savings*†
High (H): At least 1.0 million metric tons (MMt) carbon dioxide equivalent (CO ₂ e) per year by 2020	High (H): \$50 per metric ton CO ₂ e (tCO ₂ e) or above
Medium (M): From 0.1 to 1.0 MMtCO ₂ e per year by 2020	Medium (M): \$5-50/tCO ₂ e
Low (L): Less than 0.1 MMtCO ₂ e per year by 2020, or 1 MMtCO ₂ e by 2050	Low (L): Less than \$5/tCO ₂ e
Uncertain (U): Not able to estimate at this time	Negative (Neg): Net cost savings
	Uncertain (U): Not able to estimate at this time

*Several measures may overlap in terms of emissions reductions and/or cost impacts. Estimates assume measures would be implemented independently from other measures.

†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.

Option No.	GHG Reduction Policy Option	Potential GHG Emissions Reduction	Cost per Ton	Externalities, Feasibility Considerations	Priority for Analysis	Notes / Related Actions in MI
RCI-1	ENERGY EFFICIENCY PROGRAMS, FUNDS, AND GOALS					
1.1	Utility Demand-Side Management (DSM) for Electricity (including expansion of same)					DSM Pilot programs for electricity
1.2	Utility Demand-Side Management (DSM) for Natural Gas, Propane, and Fuel Oil					
1.3	Non-Utility Demand-Side Management (DSM) Programs for Electricity					
1.4	Energy Efficiency Funds (e.g. public benefits funds) administered by state agency, utility, or third party (e.g. Energy Trust)					Customer Choice and Electricity Reliability Act (2000) provides funding for shut-off protection and Energy Efficiency.
1.5	Regional Market Transformation Alliance					
1.6	Reduced cost or free residential energy audits					
1.7	Reduced cost energy audits for businesses					
1.8	Low-cost Loans and Rebates for Energy Efficiency improvements					The Customer Choice and Electricity Reliability Act of

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						2000 authorized the creation of a Low-Income and Energy Efficiency Fund, administered by the Michigan Public Service Commission. The purpose of the fund is to provide shut-off protection for low-income customers and to promote energy efficiency by all customer classes.
1.9	Saving energy, savings sales tax					
1.10	Reduce energy use by 10% in state owned buildings					ED 2005-06 directs MI state facilities to reduce energy use by 10% by 2009; 20% by 2016; ED 2007-6 directs DMB to reduce energy expenditures by 10% vs. FY06
1.11	Other Funding Mechanisms					
1.12	Decoupling utility revenues					
RCI-2	BUILDINGS					
2.1.1	Improved Building Codes for Energy Efficiency – New Construction					
2.1.2	Improved Building Codes for Energy					

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	Efficiency - Renovation					
2.2	Training of building code and other officials in energy code enforcement					
2.3	Improved Design and Construction, "Government Lead-by-example"					ED 2005-06 directs MI state facilities to reduce energy use by 10% by 2009; 20% by 2016; ED 2007-6 directs DMB to reduce energy expenditures by 10% vs. FY06
2.4	Increased Use of Blended Cement (substituting fly ash or other pozzolans for clinker)					
2.5	Support for Energy Efficient Communities Planning, "Smart Growth"					Several "Smart Growth" projects are underway in Michigan.
2.6	Promotion and Incentives for Improved Design and Construction (e.g. LEED, green buildings) in the Private Sector					
2.7	Feebate program to encourage energy efficiency in building design					
2.8	Incentives for retrofit of existing residential buildings					

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2.9	Training and Education for Builders and Contractors (e.g. HVAC ¹ sizing, duct sealing)					
2.10	Energy Management Training/Training of Building Operators					
2.11	Certification or Energy Efficiency Rating for Existing Buildings					
RCI-3	APPLIANCE STANDARDS					
3.1	Expansion of State-level Appliance Efficiency Standards					
3.2	Support for Federal-level Appliance Efficiency Standards					
3.3	Require high-efficiency appliances in new construction and retrofits					
3.4	Lighting efficiency					
3.5	Consumer electronics standby losses					
3.6	Water heaters					
3.7	Decommission old refrigerators in residences					
3.8	Home Heating appliance standards					

¹ HVAC = Heating, Ventilation, and Air Conditioning

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	and awareness					
3.9	Commercial appliances					
3.10	Electric motors and pumps for commercial and industrial use					
RCI-4	EDUCATION AND OUTREACH					
4.1	Consumer Education Programs					
4.2	Energy Efficiency School Curriculum					4 th – 7 th grade state curriculum to educate re: energy choices
4.3	Truth in Advertising Campaign					
4.4	In-home energy displays and advanced metering					
4.5	Governor’s energy conservation campaign					
RCI-5	PRICING AND PURCHASING					
5.1	Green or Low-Carbon Power Purchasing for Consumers					Six utilities offer ‘green power’ products to customers
5.2	Net-metering for Distributed Generation					State Net Metering policy (U-15316); being studied by commission
5.3	Time of use rates					

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5.4	Tiered (increasing block) rates for electricity and natural gas use					
5.5	Bulk Purchasing Programs for Energy Efficiency or Other Equipment					
5.6	Feed-in tariff					
RCI-6	CUSTOMER-SITED DISTRIBUTED ENERGY AND COMBINED HEAT AND POWER					
6.1	Incentives to Promote Implementation of Renewable Energy Systems					Wind Working Group Collaborative was formed by the Michigan Public Service Commission and the DLEG, Energy Office with over 50 stakeholders. This collaborative has created the Wind Siting Guidelines for small- and large-wind systems.
6.2	Incentives and Resources to Promote Combined Heat and Power (a.k.a. cogen)					
6.3	Efficient transformers on the customer side of the meter					
6.4	Incentives for passive solar heating					

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6.5	White Roofs, Rooftop Gardens, and Landscaping (including Shade Tree Programs)					
6.6	Focus on specific end-uses/technologies					Michigan Renewable Energy Program (MREP) was established under Section 10r(6) of 2000 PA 141. The MREP, is charged with informing customers of the availability and value of using renewable energy generation, the potential for reduced pollution, promoting the use of existing renewable energy sources, and encouraging the development of new renewable energy facilities.
6.7	Passive solar heating design					
6.8	Solar water heating					
6.9	Appliance Recycling/Pick-Up Programs					
RCI-7	NON-ENERGY EMISSIONS (HFCs, PFCs, SF₆, CO₂ PROCESS EMISSIONS)					
7.1	Voluntary Industry-Government					

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	Partnerships					
7.2	Promotion & funding for Leak Reduction / Capture, Recovery and Recycling of Process Gases					
7.3	Promotion & funding for Process Changes/Optimization					
7.4	Use of alternative gases (other HFCs. Hydrocarbon coolants/refrigerants, etc)					
RCI-8	GHG EMISSIONS – SPECIFIC GOALS AND POLICIES					
8.1	Support for switching to less carbon-intensive fuels (coal and oil to natural gas or biomass)					
8.2	Sector-specific emissions cap and trade program					
8.3	Negotiated Emissions or Energy Savings Agreements					
8.4	Local government program for voluntary emissions targets by businesses					
8.5	Provide tools and information for residents, businesses and communities to perform GHG					

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	inventories					
8.6	Encourage greater use of state forests for biomass					
RCI-9	OTHER					
9.1	Government agency requirements and goals					ED 2006-04 "Electric Conservation Measures for State Departments and Agencies"
9.2	Reduce energy use by 10% in state-owned buildings					ED 2005-06 directs MI state facilities to reduce energy use by 10% by 2009; 20% by 2016; ED 2007-6 directs DMB to reduce energy expenditures by 10% vs. FY06
9.3	State building carbon neutral requirement					
9.4	Municipal Energy Management					
9.5	Statewide effort to retrofit existing buildings (residential, commercial, public, and industrial) for energy efficiency					
9.6	Focus on specific market segments					

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9.7	Energy efficiency reinvestment funds					
9.8	Industrial audits					
9.9	Focus on Industrial ecology / by-product synergy					
9.10	Local government lead-by-example					Ann Arbor is installing LED street lights to reduce energy use by 50%
9.11	Industrial process assistance					