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Catalog of State Actions Residential, Commercial and Industrial Working Group

DRAFT

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

Important Note: The GHG Reduction Policy Options below are numbered solely for convenience in referencing them. Their numbers do NOT reflect a ranking or prioritization of the policy options.

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>
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
<p><small>1/ Several measures may overlap in terms of emissions reductions and/or cost impacts. Estimates assume measures would be implemented independently from other measures.</small></p> <p><small>2/ Costs are denoted by a positive number. Cost savings (i.e., “negative costs”) are denoted by a negative number.</small></p>	

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.

Residential, Commercial and Industrial (RCI)

Option No.	GHG Reduction Policy Option	Potential GHG Emissions Reduction	Cost per Ton	Externalities, Feasibility Considerations	Priority for Analysis	Notes / Related Actions in Maryland
RCI-1	ENERGY EFFICIENCY PROGRAMS, FUNDS, AND GOALS					
1.1	Demand-Side Management (DSM)/Energy Efficiency Programs, Funds, or Goals for Electricity (including expansion of existing programs)					Empower Maryland sets statewide goal of reducing per capita energy use by 15% electricity use by 2015.
1.2	Demand-Side Management (DSM) Energy Efficiency Programs, Funds, or Goals for Natural Gas, Propane, and Fuel Oil					
1.3	Energy Efficiency Funds (e.g., public benefit funds) administered by state agency, utility or 3 rd party					Regional Greenhouse Gas Initiative (RGGI) auction proceeds may be dedicated to EE.
1.4	Regional Market Transformation Alliance					
1.5	Low-cost loans for energy efficiency					
RCI-2	BUILDINGS					
2.1	Improved Building Codes for Energy Efficiency					
2.2	Promotion and Incentives for Improved Design and Construction (e.g. LEED, green buildings) in the Private Sector					

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2.3	Improved Design and Construction in new and existing state and local government buildings, "Government Lead-by-example"					Maryland Building Council to establish energy efficiency standards for state-funded projects. State buildings required to reduce energy use by 15% by 2015.
2.4	Support for Energy Efficient Communities Planning, "Smart Growth"					
2.5	Increased Use of Blended Cement (substituting fly ash or other pozzolans for clinker reduces CO ₂ emissions)					
2.6	Training and Education for Builders and Contractors (e.g. HVAC ¹ sizing, duct sealing)					
2.7	Energy Management Training/Training of Building Operators					
RCI-3	APPLIANCE STANDARDS					
3.1	More Stringent Appliance/Equipment Efficiency Standards					
3.2	Support for Federal-level Appliance Efficiency Standards					
3.3	Phase out incandescent light bulbs in state					

¹ HVAC = Heating, Ventilation, and Air Conditioning
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3.4	Government lead-by-example on appliances and lighting					
RCI-4	EDUCATION AND OUTREACH					
4.1	Consumer, commercial and industrial education Programs					
4.2	Energy Efficiency and Environmental Impacts Awareness and Instruction in School Curricula					
4.3	In-home energy displays					
4.4	Energy performance disclosure					
RCI-5	PRICING AND PURCHASING					
5.1	Green Power Purchasing for Consumers					
5.2	Net-metering for Distributed Generation and Combined Heat and Power					Some net metering in place, more underway at PSC.
5.3	Rate structures and Technologies to Promote Reduced GHG Emissions					
5.4	Bulk Purchasing Programs for Energy Efficiency or Other Equipment					
5.5	Pay-as-you-save programs to help consumers finance high efficiency appliances					
RCI-6	CUSTOMER-SITED DISTRIBUTED ENERGY AND COMBINED HEAT AND POWER					
6.1	Incentives to Promote Implementation of Renewable Energy Systems					

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6.2	Incentives and Resources to Promote Combined Heat and Power (CHP, or “cogeneration”)					
RCI-7	GHG EMISSIONS-SPECIFIC GOALS AND POLICIES, INCLUDING PROCESS EMISSIONS					
7.1	GHG Cap and Trade Program (for RCI Sectors)					Regional Greenhouse Gas Initiative covers power sector; could be expanded to cover industry
7.2	GHG or Carbon Tax					
7.3	Switching to Lower GHG Fuels through Low Carbon Fuel Standard					
7.4	Policies and/or Programs Specifically Targeting Non-energy GHG Emissions					
7.5	Negotiated/Voluntary Emissions or Energy Savings Agreements					
RCI-8	TECHNOLOGY-SPECIFIC POLICIES					
8.1	White Roofs, Rooftop Gardens, Landscaping (including Shade Tree Programs), and solar electric panels.					MD has significant solar panel manufacturer in Frederick, MD
8.2	Focus on specific end-uses/technologies					
RCI-9	NON-ENERGY EMISSIONS (HFCS, PFCS, SF₆, CO₂ PROCESS EMISSIONS)					
9.1	Participation in Voluntary Industry-Government Partnerships					
9.2	Process Changes/ Optimization					

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9.3	Leak Reduction /Capture, Recovery and Recycling of Process Gases					Sulfur hexafluoride gas in electric transmission is covered in RGGI offsets program.
9.4	Appliance Recycling/Pick-Up Programs					
RCI-10	OTHER					
10.1	Focus on specific market segments: existing homes (weatherization), new construction, apartments, low income, etc.					
10.2	Municipal Energy Management					
10.3	Industrial ecology/ by-product synergy					
10.4	Industrial Audits					
10.5	Green building tax credit					MD green building tax credit in place.
10.6	Provide incentives for contractors to add energy efficient appliances					
10.7	Prohibit new incinerators					
10.8	Improved recycling programs					
10.9	Promote eco-industrial parks					
10.10	Encourage replacement of inefficient industrial motors					
10.11	Home energy audits					