



Catalog of State Actions
Residential, Commercial and Industrial
 Draft Prepared for RCI Technical Working Group
 October 10, 2007

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><u>1/</u> Several measures may overlap in terms of emissions reductions and/or cost impacts. Estimates assume measures would be implemented independently from other measures.</p> <p><u>2/</u> Costs are denoted by a positive number. Cost savings (i.e., “negative costs”) are denoted by a negative number.</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 and peak load reduction)	H	Neg			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 (including peak load reduction)	M/H	Neg			
1.3	Energy Efficiency Funds (e.g., public benefit funds) administered by state agency, utility or 3 rd party	H	Neg			Regional Greenhouse Gas Initiative (RGGI) auction proceeds may be dedicated to EE.
1.4	Regional Market Transformation Alliance (including information clearinghouse)	M	Neg			
1.5	Low-cost loans for energy efficiency	M	L			
RCI-2	BUILDINGS					
2.1	Improved Building Codes for Energy Efficiency	H	U			Early action item? MD legislature interested in "green buildings?"

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2.2	Promotion and Incentives for Improved Design and Construction (e.g. LEED, green buildings, or minimum % improvement better than code) in the Private Sector	U	U			“standard 189” code: legislative interest?
2.3	Improved Design and Construction in new and existing state and local government buildings, “Government Lead-by-example”	L	U			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"	U	U			
2.5	Increased Use of Blended Cement (substituting fly ash or other pozzolans for clinker reduces CO ₂ emissions)	M	U			
2.6	Training and Education for Builders and Contractors (e.g. HVAC ¹ sizing, duct sealing)	H	Neg			
2.7	Energy Management Training/Training of Building Operators	H	Neg			
2.8	Mitigation/accounting for new buildings based on new direct and indirect demand growth	?	?			

¹ HVAC = Heating, Ventilation, and Air Conditioning

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RCI-3	APPLIANCE STANDARDS					
3.1	More Stringent Appliance/Equipment Efficiency Standards	L	Neg			
3.2	Support for Federal-level Appliance Efficiency Standards	U	U			
3.3	Phase out incandescent light bulbs in state	H	Neg			
3.4	Government lead-by-example on appliances and lighting	L	Neg			
RCI-4	EDUCATION AND OUTREACH					
4.1	Consumer, commercial and industrial education Programs	U	U			Include clearinghouse for consumers, contractors. Also how to access incentives. Address barriers to homeowners who install PV and are off-grid.
4.2	Energy Efficiency and Environmental Impacts Awareness and Instruction in School Curricula	U	U			
4.3	In-home energy displays	U	U			
4.4	Energy performance disclosure	U	U			
RCI-5	PRICING AND PURCHASING					
5.1	Green Power Purchasing for Consumers	M/H	L			
5.2	Net-metering for Distributed Generation and Combined Heat and Power	M	L			Some net metering in place, more underway at PSC.

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5.3	Rate structures and Technologies to Promote Reduced GHG Emissions (including inverted block rates)	L	L			
5.4	Bulk Purchasing Programs for Energy Efficiency or Other Equipment	L	Neg			
5.5	Pay-as-you-save programs to help consumers finance high efficiency appliances	?	?			
5.6	Consider decoupling and “smart thermostats”	?	?			
RCI-6	CUSTOMER-SITED DISTRIBUTED ENERGY AND COMBINED HEAT AND POWER					
6.1	Incentives to Promote Implementation of Renewable Energy Systems	U	U			
6.2	Incentives and Resources to Promote Combined Heat and Power (CHP, or “cogeneration”)	M/H	Neg			
RCI-7	GHG EMISSIONS-SPECIFIC GOALS AND POLICIES, INCLUDING PROCESS EMISSIONS					
7.1	GHG Cap and Trade Program (for RCI Sectors)	M/H	M/H			Regional Greenhouse Gas Initiative covers power sector; could be expanded to cover industry
7.2	GHG or Carbon Tax	M/H	M/H			
7.3	Switching to Lower GHG Fuels through Low Carbon Fuel Standard	?	M?			

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7.4	Policies and/or Programs Specifically Targeting Non-energy GHG Emissions	?	?			
7.5	Negotiated/Voluntary Emissions or Energy Savings Agreements	U	U			
7.6	Require all MD municipalities evaluate and consider strategies to minimize GHG impacts when making changes to local or regional comprehensive plans, zoning, site design standards, building codes, street design codes, and infrastructure investments and related contracting.	?	?			
7.7	Require evaluation and consideration of strategies to minimize GHG impacts when performing environmental impact studies, environmental assessments, and making regulatory approvals with a potential to have significant short or long-term impacts on GHGs.	?	?			

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RCI-8	TECHNOLOGY-SPECIFIC POLICIES					
8.1	White Roofs, Rooftop Gardens, Landscaping (including Shade Tree Programs), and solar electric panels.	M	L/M			MD has significant solar panel manufacturer in Frederick, MD
8.2	Focus on specific end-uses/technologies	U	U			
RCI-9	NON-ENERGY EMISSIONS (HFCS, PFCS, SF₆, CO₂ PROCESS EMISSIONS)					
9.1	Participation in Voluntary Industry-Government Partnerships	L/M	L			
9.2	Process Changes/ Optimization	L/M	Neg/L			
9.3	Leak Reduction /Capture, Recovery and Recycling of Process Gases	M	L			Sulfur hexafluoride gas in electric transmission is covered in RGGI offsets program.
9.4	Appliance Recycling/Pick-Up Programs	L	M/H			
RCI-10	OTHER					
10.1	Focus on specific market segments: existing homes (weatherization), new construction, apartments, low income, etc.	H	Neg			
10.2	State/ Municipal Energy Management (including aggregation and for demand response)	L	Neg			

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10.3	Industrial ecology/ by-product synergy	U	U			
10.4	Industrial Audits	L/M	Neg/L			
10.5	Green building tax credit (and/or move sources up in the permitting queue)	U	U			MD green building tax credit in place.
10.6	Provide incentives for contractors to add energy efficient appliances	U	U			
10.7	Prohibit new incinerators	U	U			
10.8	Improved recycling programs	U	U			Overlap with AFW
10.9	Promote eco-industrial parks	U	U			
10.10	Encourage replacement of inefficient industrial motors	U	U			
10.11	Home energy audits	M	Neg/L			
10.12	ZEV/ plug-in hybrids	U	U			Link to cross cutting issues or TLU. Could flatten demand curve
10.13	financing/banking (role of private v. public, performance terms)	U	U			Link to cross cutting issues