

# Kentucky Climate Action Plan Council



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## Catalog of State GHG Reduction Policy Actions Residential, Commercial, and Industrial (RCI)

A catalog of state-level, greenhouse gas (GHG)-reducing actions and policy options prepared by the Center for Climate Strategies (CCS) and the Kentucky Climate Action Plan Council, based on actions undertaken or considered in state-wide climate change action plans by multi-stakeholder groups in a wide cross-section of U.S. states and by state, local, and private participants.

### Key to Future Rankings of Options in the Tables That Follow:

Potential GHG Emission Reductions <sup>1</sup>	Potential Cost or Cost Savings <sup>1, 2</sup>
<b>High (H):</b> At least 1.0 million metric tons (MMt) carbon dioxide equivalent (CO <sub>2</sub> e) per year by 2020	<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 to \$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

<sup>1</sup> Several measures may overlap in terms of emissions reductions and/or cost impacts. Estimates assume measures would be implemented independently of other measures.

<sup>2</sup> 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.

***Important Note: The state actions are numbered in this catalog solely for convenience in referencing them. Their numbers do NOT reflect a ranking or prioritization of the actions.***

## Residential, Commercial, and Industrial (RCI)

*Note that this listing will be developed more fully during the CCI TWG process. TWG members are encouraged to provide input on policies and programs in place in Kentucky to assist in defining baselines. The “Notes” column should be used to record recently enacted policies and programs in Kentucky relevant to state actions in the catalog.*

Option No.	Greenhouse Gas (GHG) Reduction Policy Option	Potential GHG Emissions Reduction	Cost per Ton	Externalities, Feasibility Considerations	Priority for Analysis	Notes / Related Actions in Kentucky
<b>RCI-1</b>	<b>ENERGY EFFICIENCY PROGRAMS, FUNDS, AND GOALS</b>					
1.1	Utility Demand-Side Management (DSM) Programs for Electricity					DSM is a component of the Energy Efficiency Resource Standard (EERS), one of four major action items in KY’s energy strategy.
1.2	Utility Demand-Side Management (DSM) Programs for Natural Gas, Propane, and Fuel Oil					DSM is a component of the KY EERS.
1.3	Non-Utility Demand-Side Management (DSM) Programs for Electricity (Munis, Co-ops, etc.)					DSM is a component of the KY EERS.
1.4	Energy Efficiency Funds (e.g., Public Benefit Funds) Administered by State Agency, Utility, or Third Party (e.g., Energy Trust)					PBF is a component of the KY EERS.
1.5	Regional Market Transformation Through Alliances, Technology Development Programs, and Education			Include research and technology.		
1.6	Reduced-Cost or Free Residential Energy Audits					

Option No.	Greenhouse Gas (GHG) Reduction Policy Option	Potential GHG Emissions Reduction	Cost per Ton	Externalities, Feasibility Considerations	Priority for Analysis	Notes / Related Actions in Kentucky
1.7	Reduced-Cost Energy Audits or Technical Assistance for Commercial Businesses					
1.8	Reduced-Cost Energy Audits or Technical Assistance for Industry Sectors					Overlaps with 9.7.
1.9	Low-Cost Loans for Energy Efficiency Improvements			Loan programs' success depends heavily on programs' design.		
1.10	Saving Energy, Savings Sales Tax			Sales tax holidays often simply shift sales from one period to another.		Tax incentives cited as a possible component of the KY EERS.
1.11	Reduce Energy Use by 10% or More in State-Owned Buildings					- Some overlap with 9.1. - Government lead-by-example (GLE) is one of four major action items in KY's energy strategy; recommended targets are 15% reduction in energy consumption from 2009 levels by 2015 and 25% by 2025.

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1.12	Encourage Integrated Lean Manufacturing and Energy Use Reduction Technical Assistance to Industrial and Commercial Facilities					
1.13	Develop Investment Tax Credits for Energy Efficiency Improvements in Industrial or Commercial Facilities					Tax incentives are cited as a possible component of the KY EERS.
1.14	Inverted Block Rates to Encourage Energy Efficiency					Also included as 5.4.
<b>RCI-2</b>	<b>BUILDINGS AND FACILITIES</b>					
2.1	Improved Building Codes for Energy Efficiency			Affects only new buildings or substantial retrofits.		High Performance Building Advisory Committee to set aggressive standards for state buildings as part of GLE.
2.2	Training of Building Code and Other Officials in Energy Code Enforcement			High-value effort; best building code efforts incorporate training elements.		

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2.3	Improved Design and Construction, "Government Lead by Example"			Impact depends on amount of new government construction.		- Some overlap with 1.11 & 9.1. - GLE is one of four major action items in KY's energy strategy; targeting new state buildings and new or renovated schools.
2.4	Increased Use of Blended Cement (Substituting Fly Ash or Other Pozzolans for Clinker)					
2.5	Support for Energy-Efficient Community Planning; "Smart Growth"					Often covered more comprehensively as a TLU option.
2.6	Promotion and Incentives for Improved Design and Construction (e.g., LEED Green Buildings) in the Private Sector					GLE is one of four major action items in KY's energy strategy; targeting new state buildings and new or renovated schools.
2.7	Feebate Program to Encourage Energy Efficiency in Building Design					
2.8	Incentives for Retrofit of Existing Residential Commercial, Institutional, and Industrial Buildings					Some overlap with 2.13 and 9.4.
2.9	Training and Education for Builders and Contractors (e.g., Heating, Ventilation, and Air Conditioning, Sizing, Duct Sealing)					
2.10	Energy Management Training/Training of Building Operators					

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2.11	Energy Efficiency in State and Local Government Buildings			Construction and equipment.		- Some overlap with 1.11 & 9.1. - GLE is one of four major action items in KY's energy strategy; targeting new state buildings and new or renovated schools.
2.12	Require New Government Buildings to Meet LEED Gold Certification or Equivalent					Some overlap with GLE 2.11.
2.13	Create Incentives and Targets for Retrofit of Existing Commercial or Industrial Buildings					Some overlap with 2.8 and 9.4.
2.14	Develop a Modified Cap-and-Trade Program for Commercial Buildings					
2.15	Building Commissioning and Recommissioning, Including Energy Tracking and Benchmarking					Included under GLE in KY's energy strategy; for new state-funded buildings.
2.16	Explore Advanced Metering Technologies That Can Monitor Energy Usage and Allow Homeowners and Managers to Adjust Energy Use Remotely			Metering can be an expensive plan; remote power controls may not be critical.		
2.17	Require Solar-Ready Building Infrastructure and Require Solar Hot-Water Systems in New Buildings					

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<b>RCI-3</b>	<b>APPLIANCE STANDARDS</b>					
3.1	Expansion of State-Level Appliance Efficiency Standards					
3.2	Support for Higher Federal Appliance Efficiency Standards					
3.3	Require High-Efficiency Appliances in New Construction and Retrofits					
<b>RCI-4</b>	<b>EDUCATION AND OUTREACH</b>					
4.1	Consumer Education Programs			Extend to businesses, retailers, teachers, and students.		Education, outreach, and marketing (EOM) is one of four major action items in KY's energy strategy.
4.2	Energy Efficiency School Curriculum					
4.3	Truth-in-Advertising Campaign					
4.4	In-Home Energy Displays					Overlaps with 6.10.
4.5	Create a High-Tech Research and Development Center that Focuses on Renewable Energy and Energy Efficiency					
4.6	Information and Technical Support for a Broad Spectrum of Climate Change Actions					
<b>RCI-5</b>	<b>PRICING AND PURCHASING</b>					
5.1	Green Power Purchasing for Consumers					Often overlaps with ES.
5.2	Net Metering for Distributed Generation					Often overlaps with ES.

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5.3	Time-of-Use Rates			Seasonal use rates.		Often overlaps with ES.
5.4	Tiered (Increasing-Block) Rates for Electricity and Natural Gas Use					Also included as 5.4.
5.5	Bulk-Purchasing Programs for Energy Efficiency or other Equipment (Public or Private Sector)					
5.6	Incentives and Research for Conversion to Low-Carbon and Renewable Energy Sources					
5.7	Establish Minimum Energy Performance Criteria for State Procurement of Appliances and Equipment					Included under GLE in KY's energy strategy.
<b>RCI-6</b>	<b>CUSTOMER-SITED DISTRIBUTED ENERGY AND COMBINED HEAT AND POWER (CHP)</b>					
6.1	Incentives for Renewable Energy Systems at Residential, Commercial, and Industrial Sites					
6.2	Incentives and Resources to Promote Combined Heat and Power (CHP, Co-generation Units)					
6.3	Efficient Transformers on the Customer Side of the Meter					
6.4	Incentives and Resources for Passive Solar Heating					Overlaps with 6.7.
6.5	White Roofs, Rooftop Gardens, and Landscaping (Including Shade Tree Programs)					

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6.6	Focus on Specific End-Users and Consumer Products and Technologies					
6.7	Passive Solar Heating Design					Overlaps with 6.4.
6.8	Passive Solar Hot-Water Heating					
6.9	Appliance Recycling/Pick-Up Programs					
6.10	Metering Technologies for Load Management and Choice					Overlaps with 4.4.
<b>RCI-7 NON-ENERGY GHG EMISSIONS (HFCS, PFCS, SF<sub>6</sub>, CO<sub>2</sub> PROCESS EMISSIONS)</b>						
7.1	Voluntary Industry-Government Partnerships					
7.2	Promotion and Funding for Leak Reduction/Capture, Recovery, and Recycling of Process Gases					
7.3	Promotion and Funding for Process Changes/Optimization					
7.4	Use of Alternative Gases (Other HFCs, Hydrocarbon Coolants/Refrigerants, etc.)					
<b>RCI-8 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)					
8.2	Industry-Specific Emissions Cap-and-Trade Program					
8.3	Negotiated Emissions or Energy Savings Agreements					

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8.4	Local Government Program for Voluntary Emission Targets by Businesses					
8.5	Provide Tools and Information for Residents, Businesses, and Communities to Perform GHG Inventories					
8.6	Carbon Tax					
<b>RCI-9</b>	<b>OTHER</b>					
9.1	Government Agency Requirements and Goals (Including Procurement)					- Some overlap with 1.11, 5.7. - Included under GLE in KY's energy strategy.
9.2	State Buildings Carbon-Neutral Requirement					
9.3	Municipal Energy Management					
9.4	Statewide Effort to Retrofit Existing Buildings (Residential, Commercial, Public, and Industrial) for Energy Efficiency					- Some overlap with 2.8 and 2.13. - Included under GLE in KY's energy strategy for state-funded buildings.
9.5	Focus on Energy Efficiency Efforts on Specific Market Segments (Low-Income Housing, Small and Medium Enterprises, etc.)					Focus on specific consuming sectors is included in EOM in KY's energy strategy.
9.6	Energy Efficiency Reinvestment (Revolving Loan) Funds					
9.7	Industrial Energy Audits					Overlaps with 1.8.

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9.8	Focus on Industrial Ecology/By-product Synergy					

CCI = Cross-Cutting Issues; CHP = combined heat and power; CO<sub>2</sub> = carbon dioxide; DSM = demands-side management; ES = Energy Supply; GHG = greenhouse gas; HFCs = hydrofluorocarbons; LEED = Leadership in Energy and Environmental Design; RCI = Residential, Commercial, and Industrial; TWG = Technical Work Group.

Note: Some RCI policies overlap with or are repeated in Energy Supply. One state combined RCI and ES into one sector.