



Draft Catalog of Potential State Actions Residential, Commercial, and Industrial (RCI) Technical Work Group (TWG)

A catalog of state-level, greenhouse gas (GHG)-reducing actions and policy options prepared by the Center for Climate Strategies (CCS), Kansas Energy and Environmental Policy Advisory Group (KEEP), and others based on actions undertaken or considered by Kansas and other states, including regional, state, local, and private actions.

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.

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): \$15–\$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	Uncertain (U): Not able to estimate at this time
	Negative (Neg): Net cost savings

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

† 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 KS
RCI-1	ENERGY EFFICIENCY PROGRAMS, FUNDS, AND GOALS					
1.1	Utility Demand-Side Management (DSM) for electricity (including expansion of same)					<ul style="list-style-type: none"> • Energy efficiency education program to reduce energy demand (Kansas Energy Office, KEO) • Several KS utilities offer energy conservation services to their customers, including energy audits and rebates for heating systems, water heaters, and appliances. • Further DSM actions under consideration in KCC Docket 07-GIMX-247-GIV; also smart metering technology under consideration in 07-GMIE-116-GIV.
1.2	Utility Demand-Side Management (DSM) for natural gas, propane, and fuel oil					<ul style="list-style-type: none"> • Several KS utilities offer energy conservation services to their customers, including energy audits and rebates for heating systems, water heaters, and appliances.
1.3	Non-Utility Demand-Side Management (DSM) programs for electricity					<ul style="list-style-type: none"> • Kansas Warm Homes Project distributes conservation kits to low income, the disabled, and those on fixed incomes. • The Kansas Energy Efficiency Program (KEEP) provides low interest loans to qualified Kansas homeowners to make improvements to their homes to increase energy efficiency. KEEP has no income restrictions. Kansas Housing Resources Corporation (KHRC) funds half of the loaned amount, up to a maximum of \$10,000.

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1.4	Energy Efficiency Funds (e.g., public benefits funds) administered by state agency, utility, or third party (e.g., Energy Trust)					<ul style="list-style-type: none"> • Kansas Weatherization Assistance Program provides energy efficiency housing improvements for low income households. • KEC (6-18-07) opted not to pursue possible recommendation to implement small GHG reduction fee on utility bills to augment existing state Weatherization Assistance Program.
1.5	Regional market transformation alliance					<ul style="list-style-type: none"> • Additional programs under consideration in KCC Docket 07-GIMX-247-GIV; also smart metering technology under consideration in 07-GMIE-116-GIV.
1.6	Reduced cost or free residential energy audits					<ul style="list-style-type: none"> • Several KS utilities offer energy conservation services to their customers, including energy audits and rebates for heating systems, water heaters, and appliances.
1.7	Reduced cost energy audits for businesses					
1.8	Low-cost loans for energy efficiency improvements					<ul style="list-style-type: none"> • Various programs at KS utilities. • Midwest Energy's proposed How\$mart program allows utilities and customers to enter into financing agreements where energy conservation measures are paid over time through monthly utility bills.
1.9	Saving energy, savings sales tax					
1.10	Reduce energy use by 10% in state-owned buildings					<ul style="list-style-type: none"> • Governor has set a goal of increasing energy efficiency by 5% by 2010 and 10% by 2020.

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RCI-2	BUILDINGS					
2.1	Improved building codes for energy efficiency					<ul style="list-style-type: none"> • HB 2036 adopts 2006 IECC as the energy efficiency code for commercial and industrial buildings. • KEC staff is conducting survey of KS cities to ascertain current status of EE codes and code enforcement (also surveying Midwestern states regarding codes and enforcement). • KEO will work with task force to develop model EE codes.
2.2	Training of building code and other officials in energy code enforcement					<ul style="list-style-type: none"> • KEC staff is conducting survey of KS cities to ascertain current status of EE codes and code enforcement (also surveying Midwestern states regarding codes and enforcement). • KEC staff will develop draft recommendation to adopt enforcement provision for consideration at 8-15 KEC meeting.

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2.3	Improved design and construction, "government lead-by-example"					<ul style="list-style-type: none"> The Kansas Facility Conservation Improvement Program (FCIP) is in its second generation at the Kansas Energy Office. The new contract for the FCIP includes 10 pre-qualified Energy Service Companies (ESCOs), and a strong focus on environmental design and responsibility, integrating such factors as United States Green Building Council's LEED (Leadership for Energy Efficient Design) certification. To date, the FCIP has completed over \$138.7 million in energy efficiency improvements in nearly 30 million square feet of public building space, avoiding nearly \$11 million in utility costs annually. Using energy savings performance contracting, the FCIP has allowed many public-sector customers the opportunity to fund capital improvement projects and save millions of dollars in utility costs. FCIP has been selected as a Best Practice by the Western Governors' Association; and it is being used as an exemplary program by the United States Department of Energy in a half million dollar joint effort with the Energy Services Coalition, National Association of State Energy Offices (NASEO), National Council of State Legislators (NCSL), and National Association of Energy Service Companies (NAESCO). Several other states are modeling their performance contracting program after the Kansas FCIP.

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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"					
2.6	Promotion and incentives for improved design and construction (e.g., LEED, green buildings) in the Private Sector					<ul style="list-style-type: none"> • KEO (FCIP) is assisting reconstruction of energy efficient buildings in Greensburg, KS.
2.7	Feebate program to encourage energy efficiency in building design					
2.8	Incentives for retrofit of existing residential buildings					
2.9	Training and education for builders and contractors (e.g., heating, ventilation, and air conditioning [HVAC], sizing, duct sealing)					<ul style="list-style-type: none"> • KSBI training program and utility-sponsored programs. • KEO sponsored training programs in 1990s.

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2.10	Energy management training/training of building operators					
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					
RCI-4	EDUCATION AND OUTREACH					
4.1	Consumer education programs					<ul style="list-style-type: none"> • KEO is developing a comprehensive statewide education program, with segments delivered by electric utilities. • Revised Energy Efficiency Disclosure Form (that went into effect on July 1, 2007) for new home sales provides opportunity for increased consumer ed. • HB 2145 creates the Wind Generation Education Pilot Project Fund which will fund a wind generation education project.
4.2	Energy efficiency school curriculum					<ul style="list-style-type: none"> • KEO statewide education program will include K-12 education; currently under development.

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4.3	Truth-in-advertising campaigns					
4.4	In-home energy displays					
RCI-5	PRICING AND PURCHASING					
5.1	Green power purchasing for consumers					<ul style="list-style-type: none"> • Offered by Westar in 1999, but discontinued due to low participation.
5.2	Net-metering for distributed generation					<ul style="list-style-type: none"> • KS law requires utilities to pay 150% of the monthly system average cost per kWh for customer-supplied renewable generation (up to 200MW generation capacity).
5.3	Time of use rates					<ul style="list-style-type: none"> • KCC has required Westar to offer time-of-use pricing through a voluntary pilot program. • KCC Docket 07-GIMX-247-GIV considers time-of-use and real-time pricing mechanisms. • KEC Energy Conservation and Efficiency Committee is compiling information on current status (and past experience) with pricing programs. • KEC staff will develop draft recommendation to encourage further study of real-time or time-of-use pricing through pilot programs for KEC consideration on 8-15-07.

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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					
RCI-6	CUSTOMER-SITED DISTRIBUTED ENERGY AND COMBINED HEAT AND POWER					
6.1	Incentives to promote implementation of renewable energy systems					<ul style="list-style-type: none"> • Several Kansas laws were amended in 2003 to allow the formation of renewable energy co-ops consisting of 5 or more persons that produce at least 100kW of renewable energy.
6.2	Incentives and resources to promote combined heat and power (a.k.a. cogen)					<ul style="list-style-type: none"> • HB 2038 provides a property tax exemption for certain waste heat utilization systems.
6.3	Efficient transformers on the customer side of the meter					
6.4	Incentives for passive solar heating					
6.5	White roofs, rooftop gardens, and landscaping (including shade tree programs)					
6.6	Focus on specific end-uses/technologies					

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6.7	Passive solar heating design					
6.8	Solar hot 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 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.)					
RCI-8	GHG EMISSIONS—SPECIFIC GOALS AND POLICIES					

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8.1	Support for switching to less carbon-intensive fuels (coal and oil to natural gas or biomass)					<ul style="list-style-type: none"> • HB 2038 provides income tax incentives for certain biofuel storage and blending equipment.
8.2	Industry-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 inventories					
RCI-9	OTHER					

Option No.	GHG Reduction Policy Option	Potential GHG Emissions Reduction	Cost per Ton	Externalities, Feasibility Considerations	Priority for Analysis	Notes / Related Actions in KS
9.1	Government agency requirements and goals					<ul style="list-style-type: none"> • Exec. Directive 07-373 calls for 100% compliance with existing energy conservation purchasing requirements and development or increased efficiency purchasing standards. • Survey of all state employees conducted in June 2007 per 07-373. • Energy Auditor position created at Dept. of Administration to oversee all initiatives in 07-373.
9.2	Reduce energy use by 10% in state-owned buildings					
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					

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9.6	Focus on specific market segments					<ul style="list-style-type: none"> • Kansas Weatherization Assistance Program provides energy efficiency housing improvements for low income households. • The Kansas Energy Efficiency Program (KEEP) provides low interest loans to qualified Kansas homeowners to make improvements to their homes to increase energy efficiency. KEEP has no income restrictions. Kansas Housing Resources Corporation (KHRC) funds half of the loaned amount, up to a maximum of \$10,000.
9.7	Energy efficiency reinvestment funds					<ul style="list-style-type: none"> • HB 2145 creates the Wind Generation Education Pilot Project Fund which will fund a wind generation education project.
9.8	Industrial audits					
9.9	Focus on industrial ecology/by-product synergy					