



## Catalog of State Actions Cross-Cutting Issues (CCI) Technical Work Group

### Draft

A catalog of state-level, greenhouse gas (GHG)-reducing actions and policy options prepared by the Center for Climate Strategies (CCS), the 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.***

Options marked with an asterisk (\*) and presented in blue-colored font indicate options that are at least partially “base case” policies—i.e., they have been considered or undertaken at some level in Kansas.

High= Options should definitely be included in Top Priority Tier for further detailed analysis.

Medium= Options should be considered for potential further detailed analysis.

Low= Options should definitely not be considered further for analysis in KS

Note: Options in the Cross Cutting Issues Technical Work Group will not be quantified in terms of their greenhouse gas reductions or costs/cost effectiveness.

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
<b>1</b>	<b>Greenhouse Gas Inventories and Forecasting</b>			
1.1	Establish and fund a state GHG emission inventory function.	H-8	Underway on a voluntary basis Further analysis is needed to understand the financial impact on those affected.	<p>This function typically resides with the state environmental agency, where it can be integrated with similar programs for criteria air pollutants.</p> <p>*Governor Sebelius issued Executive Order 08-03 on March 21, 2008. establishing the Kansas Energy and Environmental Policy Advisory Group (KEEP) and charging its members with developing a comprehensive inventory and forecast for Kansas. The Kansas Department of Health and Environment Bureau of Air and Radiation staff have worked with the Center for Climate Strategies (CCS) to develop a comprehensive inventory of all greenhouse gas(GHG) emissions in Kansas. This GHG Inventory and Projections (GHG IP) will be used as a starting point to assist KEEP (and others) in understanding recent actual and projected GHG emissions from 1990 to 2025. *Additionally, the Bureau of Air and Radiation recently requested that about 150 large stationary sources voluntarily submit their carbon emissions inventory by June 1, 2008. This information will be very useful to update and inform the CCS GHG emissions inventory.</p>

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
1.2	Establish and maintain a state GHG emission forecasting function.	H-6 M-2	Further analysis may be needed to develop appropriate forecasting model.	This function typically resides with the state environmental agency, where it can be integrated with similar programs for criteria air pollutants.  *Governor Sebelius issued Executive Order 08-03 on March 21, 2008, establishing the KEEP and charging its members with developing a comprehensive inventory and forecast for Kansas.
<b>2</b>	<b>Greenhouse Gas Reporting</b>			
2.1	Establish or adopt a GHG emissions reporting program. <i>[Need to determine if mandatory or voluntary.]</i>	H-5 M-1 L-2		Applicable to sources of GHG emissions and sinks.  The adoption of the Climate Registry sets all GHG reporting protocols going forward, so additional analysis should not be required.
2.2	Provide assistance in reporting GHG emissions.	H-2 M-4 L-2		Smaller GHG sources may require assistance.

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
3	Greenhouse Gas Registry			

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
3.1	Participate in the development of a multistate GHG emissions reduction registry and/or similar federal initiatives.	H-5 M-2 L-1		<p>Applicable to sources of GHG emissions and sinks.</p> <p><b>*The Climate Registry</b>—The Climate Registry is a partnership among states, tribes, and provinces to develop a GHG emissions reporting system. Thirty-nine U.S. states, Canadian provinces, Mexican states, and several tribes are working to establish a common set of policy-neutral, standardized emissions accounting, reporting, and verification protocols. The Climate Registry is designed to provide linkages between different state and regional programs and is flexible enough to support voluntary or mandatory reporting of GHG emissions and regulatory GHG reduction programs. The Climate Registry is different from other GHG reporting programs because the only members are states, tribes, and provinces. The idea for a common governmental registry originated in the absence of a federal program, as states and regional organizations across the country began exploring the development of carbon management programs. A patchwork of different registries would hinder efforts to standardize reporting frameworks.</p> <p>States and tribes that chose to become members signed a Statement of Principles and Goals in May 2007, and designated representatives from the founding states and tribes met as a board of directors in Chicago, Illinois.</p> <p>The State of Kansas is participating in TCR.</p>

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
3.1 (cont'd)				<p>Work groups have been actively developing software and verification protocols, preparing The Climate Registry to officially open its doors and begin accepting emissions data in 2008. The Climate Registry is expected to be fully independent and operational by 2010. Additional information can be found at <a href="http://www.theclimateregistry.org">www.theclimateregistry.org</a>.</p> <p>In the FY2008 Consolidated Appropriation Act, Congress authorized EPA to develop and propose a rule requiring reporting of 'the six' GHGs by upstream production (fossil fuel and chemical producers and importers) and downstream sources (direct emitters- large industrial facilities) by September 2008, with a final rule by June 2009. Reporting thresholds and frequency are to be determined by EPA.</p>
3.2	Provide assistance in registering GHG emissions.	H-2 M-3 L-3	Technical assistance in registering GHG emissions may be needed.	

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
<b>4</b>	<b>Statewide Greenhouse Gas Reduction Goals or Targets</b>			
4.1	Establish goals or targets for statewide GHG emission reductions.	H-8	Targets need to be achievable.	*Governor Sebelius issued Executive Order 08-03 on March 21, 2008, establishing the KEEP and charging its members with developing recommended GHG reduction goals for Kansas.
4.2	Institute an accountability program to measure and report progress in reducing GHG emissions.	H-6 M-1 L-1	Accountability mechanism needs to be technically sound.	The purpose of this program is to ensure that overall implementation of the KEEP's comprehensive strategic plan proceeds toward its targets.  Implementation accountability for individual policy options should be included in policy option straw proposals developed by the KEEP Technical Work Groups.
<b>5</b>	<b>State, Regional, and Local Government and Academic Institutions GHG Emissions (Lead by Example)— Combined With Option 6</b>			
5.1	Lead by example by establishing targets for reductions in state GHG emissions.	H-5 M-3	Lead by example initiatives need to be cost-effective.	
5.2	Identify or create an entity to coordinate and oversee ongoing state climate efforts.	H-3 L-5		
5.3	Disaggregate the state's own GHG emissions to the agency level, and require annual agency-specific reports on GHG reduction progress.	H-1 M-2 L-5		

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
5.4	Institute an accountability program to measure and report progress in reducing GHG emissions.	H-3 M-1 L-4		
5.5	Promote climate-neutral bonding and other funding mechanisms.	H-2 M-4 L-2	May need further analysis.	
5.6	Require evaluation of GHG emissions in environmental impact statements and similar environmental studies.	H-4 L-4		
5.7	Review sources of renewable energy.	H-5 L-3	May need further analysis.	
5.8	Apply pollution prevention principles to GHG emission reductions.	H-2 M-3 L-3		
5.9	Promote carpooling, flex time, and telecommuting by state employees, and promote outreach and education about climate change.	H-2 M-2 L-4		

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
5.10	Promote development of comprehensive climate action plans by regional and local governments.	H-4 M-1 L-3		<p>*In addition to state-level activities, numerous local governments haven taken steps to understand and address climate change issues.</p> <p>1. Mayors from eleven Kansas municipalities have endorsed the U.S. Council of Mayors Climate Protection Agreement</p> <p>2. The City of Wichita directed staff to develop a GHG emissions inventory.</p> <p>3. Local and regional governments in the Mid-America Regional Council area are developing GHG reduction initiatives.</p>
5.11	Promote development of comprehensive climate action plans by academic institutions.	H-3 M-1 L-4		Johnson County Community College and other Kansas colleges have signed the American College and University Presidents Climate Commitment.
<b>6</b>	<b>Comprehensive Local Government Climate Action Plans—Combined with Option 5</b>			
<b>7</b>	<b>Public Education and Outreach—See Appendix A for Details for Each Audience Category 1: High – All sub options in this section should be combined into a single education and outreach goal with the focus for the outreach and education being determined by a structured and recognized cost benefit analysis that identifies the best approach. 2: Medium – This category is only somewhat feasible under current budget constraints.</b>			
7.1	<b>State Government Education and Outreach Actions</b> The state should lead by example (i.e., walk the talk) regarding education and outreach.			

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
7.2	<b>Target Audience: Policymakers (Legislators, Regulators, Executive Branch, Agencies)</b> Implementation of climate actions hinges on policymakers' approval.			
7.3	<b>Target Audience: Future Generations</b> Integrate climate change into educational curricula, post-secondary degree programs, professional licensing, and green workforce training initiatives.			
7.4	<b>Target Audience: Community Leaders and Community-Based Organizations</b> (institutions, municipalities, service clubs, social and affinity groups, nongovernmental organizations (NGOs), etc.) Recognize leadership; share success stories and role models; expand involvement and participation within civic society.			
7.5	<b>Target Audience: General Public</b> Increase awareness and engage in climate actions in personal and professional lives.			
7.6	<b>Target Audience: Industrial and Economic Sectors</b> Undertake sector-specific climate change education and outreach.			
<b>8</b>	<b>Market-Based Greenhouse Gas Reduction Policies</b>			
8.1	Establish an emissions cap-and-trade program.	H-6 L-2	Cost-effectiveness needs to be considered.	
8.2	Establish carbon tax incentives and disincentives.	H-5 L-3	Cost-effectiveness and other appropriate analysis needs to be conducted.  May have low political feasibility.	

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
8.3	Explore other regional opportunities, both public and private.	H-2 M-1 L-5	Carbon sequestration may improve feasibility.	If an effective cap-and-trade program is established and market forces are the drivers, then cost-effective opportunities, both public and private may naturally emerge.
<b>9 Seek Funding for Implementation of KEEP Recommendations</b>				
9.1	Seek and stimulate funding for and investment in climate solutions recommended by KEEP in the final Climate Action Plan.	H-5 M-3	Funding mechanisms will be needed to ensure the targets are met.	
9.2	Develop or utilize accountability mechanisms to measure progress of funding investments.	H-3 M-5		
<b>10 Adaptation and Vulnerability</b>				
10.1	Undertake a comprehensive planning effort to assess and address the state, local and regional vulnerability to climate change and adaptation opportunities.	H-6 M-2	Scope of analysis needs to be addressed between 10.1 and 10.2.	The scope will be defined in the design phase, including whether and how to address the economics of adaptation. "Leakage" of imports into the controlled region must be addressed to protect production within the capped region.

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
10.2	Identify several major sectors of the Kansas economy that are particularly vulnerable to climate impacts, and develop and incorporate adaptation measures into existing emergency plans and other policies. Examples might be the Insurance Commission, Division of Emergency Management, Department of Agriculture, Department of Transportation, Kansas National Guard, and possibly transportation infrastructure.	H-5 M-2 L-1		The scope will be defined in the design phase, including whether and how to address the economics of adaptation.

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
11	<b>Participate in Regional and Multistate GHG Reduction Efforts</b>			
11.1	Identify opportunities for the state to join other state or regional GHG reduction efforts.	H-6 M-1 L-1	Need to coordinate closely w/ MGA process.	<p><b>*Midwest Governor’s Greenhouse Gas Accord</b>—In November 2007, members of the Midwest Governors’ Association (MGA) met and developed an Energy Security and Climate Stewardship Platform. The platform contained several agreements that were supported by slightly differing combinations of states; however, a majority of the MGA states were party to all of the agreements. One particular agreement, the Midwestern Regional Greenhouse Gas Reduction Accord, was signed by the governors of Wisconsin, Minnesota, Illinois, Indiana, Iowa, Michigan, Kansas, Ohio, and South Dakota, and the premier of Manitoba on November 15, 2007. Indiana, Ohio, and South Dakota signed the agreement as observers to participate in the formation of a regional cap-and-trade system—a regional strategy to achieve energy security and reduce GHG emissions that cause global warming. Additional information can be found at:</p> <p><a href="http://www.midwesterngovernors.org/govenergynov.htm">http://www.midwesterngovernors.org/govenergynov.htm</a></p> <p><a href="http://www.midwesterngovernors.org/resolutions/GHGAccord.pdf">http://www.midwesterngovernors.org/resolutions/GHGAccord.pdf</a></p> <p><a href="http://www.midwesterngovernors.org/resolutions/Platform.pdf">http://www.midwesterngovernors.org/resolutions/Platform.pdf</a></p>

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
11.2	Implement regional climate reduction initiatives.	H-5 M-3	Factor regional differences into analysis to ensure equitable decisions are made.	<b>*Western Climate Initiative</b> —The Western Climate Initiative (WCI) is a regional collaboration that was launched in February 2007 by the governors of Arizona, California, New Mexico, Oregon, and Washington to develop regional strategies to address climate change. WCI is identifying, evaluating, and implementing collective and cooperative ways to reduce GHGs in the region, including a regional cap-and-trade system and a variety of voluntary and regulatory mechanisms. Utah, Montana, and the Canadian provinces of British Columbia and Manitoba have subsequently joined WCI. Kansas and five other U.S. states, six Mexican states, and three Canadian provinces are observers. Additional information can be found at <a href="http://www.westernclimateinitiative.org/">http://www.westernclimateinitiative.org/</a>
<b>12</b>	<b>Identify or Create a Clearinghouse To Facilitate Investment in Climate-Related Business Opportunities</b>			
12.1	Identify or create an entity to enhance or expand business development opportunities in climate protection.	H-3 M-1 L-4		Market forces should encourage existing entities to fill this present void.
12.2	Promote development of green jobs in Kansas.	H-5 L-3		Need to determine if there is a state role.

**Comment [MH1]:** "Encouraging green jobs" should be part of a separate section titled "economic development." Encouraging green jobs is part of a larger strategy of job training and workforce development as well.

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
<b>13</b>	<b>Encourage the Creation, Enhancement, or Expansion of a Business-Oriented Organization To Share Information and Strategies, Recognize Successes, and Support Aggressive GHG Reduction Goals</b>			
13.1	Promote the creation, enhancement, or expansion of a business-oriented entity to help promote and recognize business efforts to reduce GHG emissions.	H-2 M-1 L-5		The Greater Kansas City Chamber of Commerce is working on GHG issues. KDHE (pollution prevention awards) and could be effectively expanded to help meet this goal.
<b>14</b>	<b>Dedicate Greater Public Investment to Climate Data and Analysis</b>			
14.1	Consider formation of a state climate data and analysis center to develop and provide objective, state-specific information regarding climate data.	H-3 M-3 L-2	Resources will be needed.	Understanding and effectively tracking climate related data are complicated and resource-intensive, and further analysis is warranted to ensure adequate resources are in place to effectively perform this task.
<b>15</b>	<b>Facilitate the Development of an Effective Carbon Credit System for Kansas, Using State, Regional, or National Approaches</b>			
15.1	Purchase carbon credits associated with the state's own activities.	H-2 M-2 L-4	How carbon credits are allocated is a critical component of any GHG program and needs detailed and comprehensive analysis to ensure an effective and reasonable cost program is developed.	

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
15.2	Function as a purveyor of credits to others, or act as a certification entity of other carbon exchanges.	H-3 M-2 L-3		
15.3	Consider establishing a "Market Advisory Group" consisting of experts to provide guidance to the state on the design of market-based compliance programs to manage GHG emissions. Look at the California system as a potential model.	H-3 M-2 L-3		

## Appendix A. Public Education and Outreach Third-Level Sub-Options by Audience for Option 7 of Catalog

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
7	<b>Public Education and Outreach</b>			
7.1	<b>State Government Education and Outreach Actions</b>			
	The state should lead by example (i.e., walk the talk) regarding education and outreach.			
	Establish an education and outreach committee to educate audiences regarding climate plan policies and to oversee those relating to education.*	H-4 M-1 L-1		
	Include state public education and higher education officials in the committee established above	H-2 M-1 L-3		
	Create and maintain one or more "outreach coordinator" positions specifically tasked with climate outreach and coordination among state agencies and outside entities.	H-1 M-2 L-3		
	Educate state employees across-the-board, and assign "point persons" to do so on an on-going basis.	H-1 M-2 L-3		

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
	Institute annual Governor's Awards to recognize climate action of several types/categories	H-1 M-2 L-3		
7.2	<b>Target Audience: Policymakers (Legislators and Local Elected Officials, Regulators, Executive Branch, Agencies)</b> Implementation of climate actions hinges on policymakers' approval.			
	Through regular briefings, educate policymakers on Climate Action Plan policy recommendations, climate change in general, scientific and technological advances, and progress toward state goals, in order to promote acceptance and implementation of mitigation and adaptation policies.	H-6		KEEP role needs to be defined.
	Regularly provide continuing outreach and assistance to the Governor's office, state legislature, and implementing agencies.	H-3 M-3		I KEEP role needs to be defined.
7.3	<b>Target Audience: Future Generations</b> Integrate climate change into K-12 educational curricula, post-secondary degree programs, and professional licensing.			
	Add climate change to public education performance standards for science and social studies; identify (a) gaps in climate change education, (b) specific curricula to fill any gaps, (c) vocational and technical training in the community college system, and (d) training in sound scientific methods regarding climate change processes.	H-4 M-1 L-1	Question about receptivity of SBE.	Cloud County Community College vocational training programs.

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
	Organize groups of educators to identify, assemble, and employ climate change curricula appropriate to age groups.	H-1 M-1 L-4		
	Integrate “best practices” into public school design and construction to educate students (and parents) first-hand in their communities and colleges (e.g., LEED <sup>1</sup> or similar environmental sustainability standards for designing on-site renewable power generation, green roofs, etc).	H-2 M-2 L-1		
	Integrate climate change into core college curricula.	H-2 M-2 L-2	Question about receptivity of academic institutions.	
	Establish green workforce training initiatives, including green entrepreneurship.	H-2 M-2 L-2		
	Promote research into climate change solutions at state universities; develop university “Centers of Excellence” on climate issues, new approaches, and technologies.	H-1 M-4 L-1		
	Integrate climate change into existing and/or new educational competition programs.	M-1 L-5		

<sup>1</sup> Leadership in Energy and Environmental Design.

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
	Work with science centers, zoos, and museums to include a climate science focus appropriate to their core mission.	M-2 L-4		
	Introduce core competencies on climate change into professional licensing programs (energy efficiency in building design and construction, use of recycled materials, etc.)	H-2 H/L-1 M-3		Consider different terminology- core competency on energy efficiency.
7.4	<b>Target Audience: Community Leaders and Community-Based Organizations</b> (institutions, municipalities, service clubs, social and affinity groups, nongovernmental organizations (NGOs), etc.) Recognize leadership; share success stories and role models; expand involvement and participation within civic society.			
	Educate community planning and zoning officials about climate change, impacts, and opportunities.	M-3 L-2		
	Identify individual community leaders who are acting effectively on climate change; showcase and share their successes.  Identify individual community leaders who are not yet acting on climate change, and make a special effort to educate and encourage them to act.	H-1 M-3 L-2  H-1 M-1 L-3		
	Engage associations and attend their periodic meetings to reach out on climate change, impacts, sector-specific mitigation actions, and adaptation opportunities.	H-1 M-1 L-3		

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
	<p>Identify, assist, and leverage community-based organizations that have expertise or interest in climate-related issues.</p> <p>Work with community-based organizations such as 4- H and Soil Extension offices to identify and build upon climate issues related to their core mission.</p>	<p>H-1 M-2 L-2</p> <p>H-1 M-3 L-2</p>		
	<p>Develop and coordinate a network of community-based organizations acting on climate change. so they can link up, organize joint events, etc.</p> <p>Support and facilitate outreach and education within community-based organizations regarding climate change issues and actions.</p>	<p>M-1 L-4</p> <p>M-1 L-3</p>		
	<p>Develop and provide concrete information on co-benefits to entities to use in boosting their climate efforts.</p>	<p>H-1 M-2 L-2</p>		
	<p>Help communities statewide implement local Climate Wise programs.</p>	<p>H-1 M-2 L-2</p>		

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
	Organize and host events that focus on leading by example, sharing “how-to,” illuminating financial risks and opportunities, co-benefits, etc.	H-1 M-1 L-3		
	Encourage municipal leaders to join ICLEI’s <sup>2</sup> Cities for Climate Protection program and/or the U.S. Conference of Mayors Climate Protection Agreement. <sup>3</sup>	H-4 M-1 L-1		
7.5	<b>Target Audience: General Public</b> Increase awareness and engage in climate actions in personal and professional lives.			
	Inform broadcasters, reporters, editorial boards, etc., about climate change, the risks it imposes, and solutions.	H-1 M-1 L-4		
	Work with state broadcasters and print media associations to develop and run climate change public service announcements.  Conduct public polling to benchmark the strength and depth of climate understanding.	H-2 M-3 L-1  M-1 L-4		
	Keep a high profile on climate change issues and actions through regular public mention by the Governor and other public leaders.	H-2 M-1 L-2		

<sup>2</sup> ICLEI is the International Council for Local Environmental Initiatives. See [www.iclei.org](http://www.iclei.org).

<sup>3</sup> See <http://www.ci.seattle.wa.us/mayor/climate/>.

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
	Develop and use a state-based “brand” on climate awareness and action.	M-1 L-4		
	Develop and maintain a state climate change Web site for the public, including a clearinghouse of climate change information and resources.	M-2 L-3		
	Work with existing company outreach efforts to customers to enhance awareness of climate change issues and opportunities.	M-2 L-3		
	Undertake a concerted planning effort to identify and address climate adaptation issues and needs in the state.	H-2 M-2 L-1		
	Work to educate consumers—and home designers, builders, and contractors—to ensure that they are aware of the different choices they have for space heating and cooling (e.g., evaporative vs. refrigerative) and the impacts of those choices.	H-3 M-2 L-1		
	Develop a statewide voluntary program to structure and assist individuals in undertaking actions to reduce GHG emissions.  Create a list of carbon offset providers for interested individuals.	H-1 M-1 L-3  M-1 L-4		
7.6	<b>Target Audience: Industrial and Economic Sectors</b> Sector-specific climate change education and outreach.			

Option No.	GHG Reduction Policy Option	Priority for Consideration	Feasibility Considerations	Notes
	Residential, Commercial, and Industrial*	H-3 M-2 L-1		
	Transportation and Land Use	H-2 M-3 L-1		
	Energy Supply and Use	H-4 M-1 L-1		
	Agriculture and Forestry  Implement a state program of voluntary business actions to reduce GHGs.	H-2 M-3 L-1 H-2 M-2 L-2		
	Institute a “business incubator” program to attract and support new business development relating to the new energy economy.	H-3 M-1 L-2		
	Target audiences outside the state as well.	M-1 L-5		