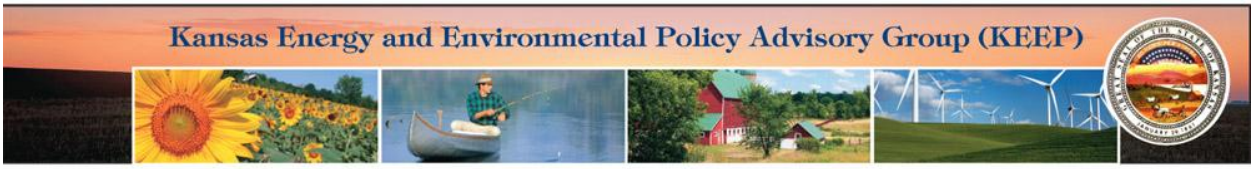

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Residential, Commercial and Industrial Sector (RCI) Technical Work Group

List of Volunteers for Priority Policy Options for Analysis

Option #	Policy Option	Straw Proposal Volunteers
RCI-1	Utility Demand-Side Management Programs	
RCI-2	Improve Building Codes for Energy Efficiency and Support Training for Their Successful Implementation	
RCI-3	Consumer Education	
RCI-4	Reduced-Cost or Free Residential Energy Audits	
RCI-5	Promote and Develop Incentives for Energy-Efficient Private-Sector Building Design and Construction	
RCI-6	Develop Incentives to Promote Implementation of Customer-Sited Renewable Energy Systems Through Effective Net Metering and Other Means	
RCI-7	Develop Financial and Funding Mechanisms to Support Energy Efficiency Improvements in the RCI Sectors	
RCI-8	Incentives and Targets for Retrofit of Existing Residential, Commercial and Industrial Buildings	
RCI-9	Provide Reduced-Cost Energy Audits and Integrated Lean Manufacturing and Energy Technical Assistance for Industrial and Commercial Sectors	
RCI-10	Require or Encourage New State Government Buildings to Have a Small Greenhouse Gas Emissions Footprint, and Encourage Existing Government Buildings to Improve Energy Efficiency	
RCI-11	Green Power Purchasing by Customers	

Summary List of Pending Priority Policy Options for Analysis

Policy No.	Policy Option	GHG Reductions ($MMtCO_2e$)			Net Present Value (Million $)	Cost-Effectiveness ($/tCO_2e$)	Level of Support
		2015	2025	Total (2010–2025)			
RCI-1	Utility Demand-Side Management Programs	*Not Yet Quantified*					Pending
RCI-2	Improve Building Codes for Energy Efficiency and Support Training for Their Successful Implementation	*Not Yet Quantified*					Pending
RCI-3	Consumer Education	*Not Yet Quantified*					Pending
RCI-4	Reduced-Cost or Free Residential Energy Audits	*Not Yet Quantified*					Pending
RCI-5	Promote and Develop Incentives for Energy-Efficient Private-Sector Building Design and Construction	*Not Yet Quantified*					Pending
RCI-6	Develop Incentives to Promote Implementation of Customer-Sited Renewable Energy Systems Through Effective Net Metering and Other Means	*Not Yet Quantified*					Pending
RCI-7	Develop Financial and Funding Mechanisms to Support Energy Efficiency Improvements in the RCI Sectors	*Not Yet Quantified*					Pending
RCI-8	Incentives and Targets for Retrofit of Existing Residential, Commercial and Industrial Buildings	*Not Yet Quantified*					Pending
RCI-9	Provide Reduced-Cost Energy Audits and Integrated Lean Manufacturing and Energy Technical Assistance for Industrial and Commercial Sectors	*Not Yet Quantified*					Pending
RCI-10	Require or Encourage New State Government Buildings to Have a Small Greenhouse Gas Emissions Footprint, and Encourage Existing Government Buildings to Improve Energy Efficiency	*Not Yet Quantified*					Pending
RCI-11	Green Power Purchasing by Customers	*Not Yet Quantified*					Pending

GHG = greenhouse gas; $MMtCO_2e$ = million metric tons of carbon dioxide equivalent; $/tCO_2e$ = dollars per metric ton of carbon dioxide equivalent.

Note: The numbering used to denote the above pending priority policy options is for reference purposes only; it does not reflect prioritization among these important draft policy options.

RCI-1. Utility Demand-Side Management Programs

Policy Description

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Text from RCI TWG Catalog

1.1/ 1.2 Utility Demand-Side Management Programs for Electricity, Natural Gas, Propane and Oil

This policy option focuses on increasing investment in electricity, natural gas, propane and oil demand-side management (DSM) programs through programs run by utilities or others, energy efficiency funds, and/or energy efficiency goals. These options are typically termed DSM activities, and may be designed to work in tandem with other strategies recommended by the Kansas Energy and Environmental Policy Advisory Group (KEEP) that can also encourage efficiency gains.

The policy design includes two key and linked dimensions: achievable/desirable energy savings and policy/administrative mechanisms to achieve these savings. To implement expanded DSM programs, a number of mechanisms should be considered. Candidate mechanisms include revising existing statutes to enable utility investments in energy efficiency at the levels indicated above, to consider as potentially eligible programs that are cost-effective, taking into account the valuation of carbon dioxide (CO_2) emissions. Policy and administrative mechanisms that might be applied include regulator-verified savings targets, public benefit charges, portfolio standards, energy trusts, integrated resource planning, performance-based incentives, decoupling of rates and revenues, and appropriate rate treatment for efficiency. Elements that might be considered in designing this option include:

- Implementation/administration by utilities (including municipal utilities and cooperatives), state agencies, or third-party actors.
- Subsidized energy audits for homeowners, businesses, and industries.
- Incentives for specific technologies, potentially including (but not limited to) lighting, water heating, plug-in loads, networked personal computer management, power supplies, motors, pumps, boilers, customer-side transformers, water use reduction, and ground-source heat pumps.
- Energy efficiency reinvestment funds.
- Increased information on utility bills or through in-home energy devices for customers to understand their energy use through more real-time information.
- Low-cost financing or pay-back mechanisms for homeowners, businesses, and industries to use to fund energy efficiency improvements.

This policy may be broad in focus, or it can focus on specific market segments. Complementary policies include appliance recycling/pick-up programs. Measures supporting this option might include consumer education, performance contracting, and energy end-use surveys.

Related Kansas Programs/Actions

- The Kansas Energy Office (KEO) has an energy efficiency education program to reduce energy demand.
- Several Kansas utilities offer energy conservation services to their customers, including energy audits and rebates for heating systems, water heaters, appliances, motors, and custom processes and low-cost loans for energy efficiency improvements. Many of these programs are listed in a U.S. Department of Energy (DOE) database.
- Further demand-side management (DSM) and demand response (DR) actions are under consideration in Kansas Corporation Commission (KCC) Docket Nos. 08-GIMX-441-GIV and 08-GIMX-442-GIV. The KCC indicated that energy efficiency is a supply resource, and that it has a preference for programs that produce cost-effective, firm, long-term energy savings.

Policy Design

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Goals:

Timing:

Parties Involved:

Other:

RCI-2. Improve Building Codes for Energy Efficiency and Support Training for Their Successful Implementation

Policy Description

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Text from RCI TWG Catalog

2.1 Improved Building Codes for Energy Efficiency

Building energy codes specify minimum energy efficiency requirements for new buildings or for existing buildings undergoing a major renovation. Given the long lifetime of most buildings, amending state and/or local building codes to include minimum energy efficiency requirements and periodically updating energy efficiency codes could provide long-term GHG savings from commercial, residential, institutional, industrial, and government facilities. Implementation of building energy codes, particularly when much of the building occurs outside of urban centers, can require additional resources. Potential elements of a policy that includes building codes are:

- Require high-efficiency appliances in new construction and retrofits.
- Train building code and other officials in energy code enforcement.

Potential measures supporting this option can include consumer education, improved enforcement of building codes, training for builders and contractors, and development of a clearinghouse for information on and to provide access to software tools to calculate the impact of energy efficiency and solar technologies on building energy performance. Building codes could also be supported by such models as ENERGY STAR's Building Design Guidance, which is a strategic approach for improving energy performance in the building design process.

2.2 Training of Building Code and Other Officials in Energy Code Enforcement

This option refers to an education and outreach program for building inspectors to encourage incorporation in inspection protocols of energy efficiency and GHG emission reduction considerations.

2.3 Training and Education for Builders and Contractors (e.g., Heating, Ventilation, and Air Conditioning [HVAC] Sizing, Duct Sealing)

This option refers to an education and outreach program for building professionals to encourage incorporation of energy efficiency and GHG emission reduction considerations. Examples include:

- Start programs to train builders and contractors on proper heating and air conditioning sizing and installation.

- Mandate that state boards of licensing for building professionals cover knowledge of the improved building codes and building energy performance requirements reflected in various policy options in licensing exams.
- Implement code training and technical assistance for builders and architects.

2.4 Energy Management Training/Training of Building Operators

Energy management training provides administrative and technical training for energy managers, school officials, building operators, and others responsible for energy-efficient facility operation. This policy could include:

- Training commercial building energy managers, for example, by making use of the building operator training and certification program developed in the Pacific Northwest. For more information on this program, see: http://www.betterbricks.com/DetailPage.aspx?ID=294.
- Training industrial energy and facility managers in techniques for improving the efficiency of their steam, process heat, pumping, compressed air, motors, and other systems, perhaps dovetailing with DOE in this area.

2.5 Require or Encourage High-Efficiency Equipment in New Construction and Retrofits

This policy option involves a requirement or incentives for the use of high-efficiency equipment in, as well as in any retrofits of, new residential and commercial buildings.

Related Kansas Programs/Actions

- The Kansas State Legislature assumes authority for Kansas building energy standards. Both the International Energy Conservation Code (IECC) 2003 and American Society of Heating, Refrigeration, and Air-Conditioning (ASHRAE) 90.1-2001 are mandatory throughout the state. K.S.A. 66-1227 establishes 2006 IECC as the energy efficiency code for commercial and industrial buildings.
- The statewide energy standards require an energy efficiency disclosure by the builder or seller of new residential buildings to the buyer.
- KEC staff is conducting a survey of Kansas cities to ascertain the current status of energy efficiency (EE) codes and code enforcement (and is also surveying midwestern states regarding codes and enforcement).
- KEC developed draft recommendations to adopt an enforcement provision for consideration at the 8-15-08 KEC meeting.
- Kansas Building Science provides training programs and utility-sponsored programs.
- KEO sponsored training programs for energy standards in the 1990s.
- KCPL provides funding for the license for the curriculum and partial tuition reimbursement for completion of the Building Operator Certification Program in partnership with the Midwest Energy Efficiency Alliance. See Docket No 07-KCPE-683-MIS.
- Resources, such as ENERGY STAR's Building Energy Manager Program, would be useful for this option.

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Goals:

Timing:

Parties Involved:
Other:

RCI-3. Consumer Education

Policy Description

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Text from RCI TWG Catalog

3.1 Consumer Education Programs

The ultimate effectiveness of emission reduction activities in many cases depends on providing information and education to consumers regarding the energy and GHG emission implications of consumer choices. Public education and outreach is vital to fostering a broad awareness of climate change issues and effects (including co-benefits, such as clean air and public health) among the state's citizens. Such awareness is necessary to engage citizens in actions to reduce GHG emissions in their personal and professional lives. Public education and outreach efforts should integrate with and build upon existing outreach efforts involving climate change and related issues in the state. Ultimately, public education and outreach will be the foundation for the long-term success of all of the mitigation actions proposed by the KEEP, as well as those that may evolve in the future.

Green-raising efforts represent a specific door-to-door education campaign approach for raising awareness of energy efficiency and money-saving opportunities among households. The development of accessible materials, videos, and other educational information can support these efforts. Support for program management and coordination activities can also help to ensure that outreach efforts are effectively planned and implemented.
Potential elements of a consumer education program include:

- Coordinating with new or existing incentive programs.
- Targeting specific population segments with education on energy efficiency and conservation, such as low-income residents, university students, or those who attend community or spiritual meetings, or working with existing programs that target particular segments of the population, such as Interfaith Power & Light, which works with houses of worship to address climate change: http://www.theregenerationproject.org/.
- Creating specific outreach materials, such as public service announcements, brochures, newspaper advertisements, or billboards.

3.2 Energy Efficiency School Program

The long-term effectiveness of emission reduction activities depends on providing information and education not only to present consumers, but to future consumers as well. This policy option involves the education of primary and secondary school students regarding the energy and GHG emission implications of consumer and societal choices. Public education and outreach is vital to fostering a broad awareness of climate change issues and effects (including co-benefits, such as

clean air and public health) among the state's young citizens. As with adult consumers, public education and outreach efforts should integrate with and build upon existing outreach efforts involving climate change and related issues in Kansas.

Related Kansas Programs/Actions

- KEO is developing a comprehensive statewide education program, with segments delivered by electric utilities.
- A revised Energy Efficiency Disclosure Form (that went into effect on July 1, 2007) for new home sales provides opportunity for increased consumer education.
- KSA 2007 Supp.66-1,184 authorizes Cloud County and Dodge City Community Colleges each to establish a wind generation education pilot project.
- A number of Kansas utilities have educational materials for their customers and tools, such as online energy audit calculators, dedicated to energy efficiency and renewable energy information.
- Several Kansas communities, including Kansas City and Mission, Kansas, are piloting "green-raising" initiatives to conduct door-to-door education campaigns and assistance for improving residential energy efficiency.
- A KEO statewide education program, currently under development will include K-12 education.

Policy Design

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Goals:

Timing:

Parties Involved:

Other:

RCI-4. Reduced-Cost or Free Residential Energy Audits

Policy Description

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Text from RCI TWG Catalog

4.1 Reduced-Cost or Free Residential Energy Audits

This option includes providing residential-sector energy technical assistance (energy audits) to identify and recommend options for reducing fossil energy and electricity use, and for reducing non-energy emissions of greenhouse gases (GHGs). A combination of incentives, expertise, and information to implement recommended options could be included in the policy to encourage residential customers to follow up on audit recommendations. For example, tying the free or reduced-cost audit to implementing some of the auditor's recommendations could encourage residents to make recommended changes.

An alternative, or supplemental, approach to residential energy audits and retrofits is the concept of "green raisings," akin to traditional community barn-raising efforts. "Green raising" refers to a community drive to increase home energy efficiency in multiple houses, using "neighbor power" to educate and prepare homeowners, culminating in a neighborhood workday and celebration. These initiatives typically identify and train neighborhood volunteers to contact residences in the neighborhood to ask for their interest in a home energy audit and to invite them to participate in a green-raising event. Volunteers distribute free information, including a home energy efficiency menu, and link households up with a professional energy audit, energy-efficient products ideas, and loan and rebate opportunities. A green-raising event may include a mobile "store" of energy-efficient products (weatherization kits, compact fluorescent light bulbs (CFLs), light-emitting-diode (LED) lighting, smart power strips, etc.) that have been pre-ordered or that can be purchased; audit and insulation demonstrations; a team of volunteers available to go door-to-door to assist interested residents with installation of CFLs, weatherization kits, or other energy-saving items; and food and entertainment. Green-raising initiatives typically require modest resources, primarily to cover material costs and potentially a paid coordinator position. Green raisings are being piloted in several Kansas communities, including Kansas City and Mission, Kansas.

Related Kansas Programs/Actions

- Several Kansas utilities offer energy conservation services to their customers, including online energy audits and calculators, as well as rebates for heating systems, water heaters, and appliances.
- Kansas Building Science provides certification classes for energy auditing.

- Several Kansas communities, including Kansas City and Mission, Kansas, are piloting "green-raising" initiatives to conduct door-to-door education campaigns and assistance for improving residential energy efficiency.

Policy Design

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Goals:

Timing:

Parties Involved:

Other:

RCI-5. Promote and Develop Incentives for Energy-Efficient Private-Sector Building Design and Construction

Policy Description

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Text from RCI TWG Catalog

5.1 Promotion of and Incentives for Improved Design and Construction (e.g., LEED,[1] Green Buildings) in the Private Sector

This policy provides incentives and targets to induce the owners and developers of new and existing buildings and facilities to improve the efficiency of the use of energy and other resources in those buildings, along with provisions for raising targets periodically and providing resources to building industry professionals to help achieve the desired building performance. This policy can include elements to encourage the improvement and review of energy use goals over time, and flexibility in contracting arrangements to promote integrated energy- and resource-efficient design and construction.

Additional potential elements of this option include:

- Target new, renovated, and/or existing buildings (retrofits).
- Set a cap on consumption of energy per unit area of floor space for new buildings.
- Encourage building commissioning and recommissioning, including energy tracking and benchmarking.
- Provide incentives, in the form of tax credits, DSM program support, financing incentives (such as "green mortgages"), or other inducements for retrofit of existing residential and commercial buildings.
- Encourage the use of alternative and local building materials and practices.
- Require or encourage energy efficiency standards and practices for data centers and other facilities that use large quantities of energy.

Potential supporting measures for this option include training and certification of building professionals, consumer and primary/secondary education, performance contracting/shared savings arrangements, and setting up a clearinghouse for information on and access to software tools to calculate the impacts of energy efficiency and solar technologies for buildings.

5.2 Feebate Program to Encourage Energy Efficiency in Building Design

This option refers to setting up a "feebate" program to encourage energy efficiency in building design. The concept of a "feebate" has typically been considered as a mitigation option in the

[1] Leadership in Energy and Environmental Design; see U.S. Green Building Council, http://www.usgbc.org.

transport sector, but is essentially any government program designed to reduce energy use and pollution by levying a fee on fuel-inefficient devices/facilities and offering a rebate on fuel-efficient devices/facilities.

Related Kansas Programs/Actions

- FCIP is assisting with the reconstruction of energy-efficient buildings in Greensburg, Kansas.
- The USGBC has developed green building standards for many types of new and existing buildings under the LEED certification program.
- The National Association of Home Builders has developed green home building guidelines that are specific to the residential sector.
- KCPL provides financial incentives for its commercial and industrial customers to increase the energy efficiency of their facilities. Rebates are available for custom energy-saving measures in new or existing buildings. All custom rebates are individually determined and analyzed to ensure that they pass the Societal Benefit/Cost Test. Any measure that is prequalified (evaluated prior to being installed) must produce a Societal Benefit/Cost test result of 1.0 or higher. Custom rebates are calculated as the lesser of the following: (1) a buydown to a 2-year payback, or (2) 50% of the incremental cost. Custom rebates are limited during the first 6 months to a set of maximum amounts provided on KCPL's Web site, which vary according to the size of the business and whether the building is new or existing. Prescriptive rebates are offered for a prequalified list of energy efficiency measures, including lighting, air conditioning, and motors. These prescriptive rebates are only available to small business customers who are on KCPL's Small General Service rate.
- Municipalities, school districts, state agencies, and colleges that implement energy conservation measures can enter into a contract or lease-purchase agreement for more than 10 years, if necessary.

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Goals:

Timing:

Parties Involved:

Other:

RCI-6. Develop Incentives to Promote Implementation of Customer-Sited Renewable Energy Systems Through Effective Net Metering and Other Means

Policy Description

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Text from RCI TWG Catalog

6.1 Net Metering for Distributed Generation

This policy option involves the consideration and adoption by state regulatory authorities of rate designs, coupled with the necessary metering technology, that promote reduction in GHG emissions by encouraging consumers to install distributed generation systems—especially those based on renewable fuels—and combined heat (and/or cooling) and power systems that offer the opportunity to improve the overall efficiency of fuel use. Potential elements of this option include:

- Review existing net-metering policies, including policies that affect electricity consumers who install on-site combined heat and power or distributed generation fueled with renewable or fossil fuels. Consider the impact of nitrogen oxide (NO_x) and power factor requirements on net metering and the availability of information for small customers.
- Review rate issues, including decoupling of utility revenues from sales, and consider a specific focus on the impacts of rate design on GHG emissions. This could include an exploration of the impacts of time-of-use rates on GHG emissions.
- Review and consider utility and other technical rules related to the interconnection of consumer-sited power sources to the electricity grid to ensure that they offer equitable treatment of potential distributed generation hosts, while providing adequate safeguards for the public and for power sector workers.

6.2 Incentives to Promote Implementation of Renewable Energy Systems

Distributed electricity generation sited at residences and commercial and industrial facilities, and powered by renewable energy sources (typically solar, but also wind, small hydroelectric power sources, or biomass or biomass-derived fuels), displaces fossil-fueled generation and avoids electricity transmission and distribution (T&D) losses, thus reducing GHG emissions. This policy can also encourage consumers to switch from using fossil fuels to renewable fuels in such applications as water, process, and space heating, as well as to supply new energy services using fuels that produce low or no GHG emissions.

Increasing the use of renewable energy applications in homes, businesses, and institutions in Kansas can be achieved through a combination of regulatory changes and financial incentives. Potential elements of this option include:

- Solar roofs (roofing materials with built-in solar PV cells, or solar PV panels erected on roofs).
- Solar water-heating and space-heating systems.
- Wind-power systems, particularly for rural areas.
- Biomass-fired generation, space-, or water-heating systems.
- Programs targeted at specific customer sectors (residential, commercial, industrial), or specific markets within sectors.
- Tax credits, and/or utility or other incentives to lower the first cost of distributed energy systems to users.

Potential supporting measures for this option include training/certification of installers/contractors, net metering and other pricing arrangements, interconnection standards, and creation/support of markets for biomass fuels.

Related Kansas Programs/Actions

- KSA 2007 Supp. 66-1,184 requires utilities to pay 150% of the monthly system average cost per kilowatt-hour for customer-supplied renewable generation (up to 200 megawatts generation capacity).
- Several Kansas laws were amended in 2003 to allow the formation of renewable energy co-ops consisting of 5 or more people that produce at least 100 kilowatts of renewable energy.
- Kansas exempts renewable energy equipment from property taxes. Renewable energy includes wind, solar thermal electric, photovoltaic, biomass, hydropower, geothermal, and landfill gas resources or technologies that are actually and regularly used predominantly to produce and generate electricity. In addition, beginning in the 2002 tax year, all personal property used to collect, refine, and treat landfill gas or transport landfill gas from a landfill to a transmission pipeline (i.e., not necessarily used for electricity generation) is also exempt from property taxes. This provision was added by SB 192 of 2005.

Policy Design

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Goals:

Timing:

Parties Involved:

Other:

RCI-7. Develop Financial and Funding Mechanisms to Support Energy Efficiency Improvements in the RCI Sectors

Policy Description

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Text from RCI TWG Catalog

7.1 Energy Efficiency Funds (e.g., Public Benefits Funds) Administered by State Agency, Utility, or Third Party (e.g., Energy Trust)

A public benefits charge (sometimes called a systems benefits charge) is a fee attributed to utility customers based on their use of energy in a given time period. With deregulation in many states, the utility commissions often lost the ability to require efficiency programs of the electric utilities. The result in many states was the development of the public benefits charge, which is a non-bypassable charge on electric bills. The funds collected are then provided to a third party to provide energy efficiency programming.

7.2 Low-Cost Loans for Energy Efficiency Improvements

This option refers to revolving low-interest loan fund(s) for energy efficiency investments in distribution service areas that are not covered by existing utility programs.

7.3 Develop Investment Tax Credits for Energy Efficiency Improvements in Industrial or Commercial Facilities

This option refers to providing income tax credits for the investment in energy efficiency improvements in industrial or commercial facilities. These tax credits could also be grouped with other tax incentives, such as property tax exemptions.

7.4 Incentives and Resources to Promote Combined Heat and Power

Combined heat and power (CHP) systems reduce fossil fuel use and GHG emissions, both through the improved efficiency of the CHP systems, relative to separate heat and power technologies, and by avoiding T&D losses associated with moving power from central power stations located far from where the electricity is used. Potential elements of this option include:

- Promotion of the use of gas-fired CHP systems.
- Promotion of the use of biomass-fired CHP systems.
- Creation/expansion of markets for, and incentives designed to promote implementation of, CHP units in capacities suitable for residential, commercial, and industrial users.
- Provision of tax benefits, attractive financing arrangements, and other incentives to promote CHP technologies.

Potential supporting measures for this option include training/certification of installers/contractors, net metering and other pricing arrangements, establishment of clear and consistent interconnection standards, and creation/support of markets for biomass fuels.

Related Kansas Programs/Actions

- The Kansas Weatherization Assistance Program (K-WAP) provides energy efficiency housing improvements for low-income households.
- The Kansas Energy Council (KEC) opted (on 6-18-07) not to pursue a possible recommendation to implement a small greenhouse gas (GHG) reduction fee on utility bills to augment existing K-WAP assistance.
- In Docket No. 07-GIMX-247-GIV, the KCC determined that it would not pursue third-party implementation of energy efficiency programs, but rather would work cooperatively with utilities. In Docket No. 08-GIMX-442-GIV, the KCC reiterated this commitment. Notably, in considering the benefit-cost calculations for energy efficiency programs, the KCC will require utilities to include reasonable estimates of costs associated with carbon regulation in the utilities' calculations.
- Kansas utilities provide many incentive programs to encourage energy efficiency.
- 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.
- KSA 2007 Supp. 79-231 provides a property tax exemption for certain waste heat utilization systems. KSA 2007 Supp. 79-32,250 provides for accelerated depreciation and a deduction for certain waste heat utilization systems, and KSA 2007 Supp. 74-8949d authorizes the issuance of revenue bonds for the construction and installation of certain waste heat utilization systems.

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Goals:

Timing:

Parties Involved:

Other:

RCI-8. Incentives and Targets for Retrofit of Existing Residential, Commercial and Industrial Buildings

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Text from RCI TWG Catalog

8.1 Incentives for Retrofit of Existing Residential Buildings

This policy provides incentives and targets to induce the owners of existing homes to improve the efficiency of the use of energy and other resources, along with provisions for raising targets periodically. This policy can include elements to encourage the improvement (e.g., renovation) and review of energy use goals over time of existing dwellings. Incentives could be financial incentives, such as tax credits, DSM program support, financing incentives, or cost-sharing, or could be personal or company recognition.

8.2 Create Incentives and Targets for Retrofit of Existing Buildings

This policy provides incentives and targets to induce the owners of existing commercial, institutional, residential and industrial buildings and facilities to improve the efficiency of the use of energy and other resources in those buildings, along with provisions for raising targets periodically. This policy could include elements to encourage the improvement and review of energy use goals over time, and target renovated and/or existing buildings. Incentives for this policy could be similar to DSM programs mentioned in RCI-1.

Related Kansas Programs/Actions

- KCPL has a proposal before the KCC in Docket No. 08-KCPE-581-TAR to provide promotion and incentives for Home Performance with ENERGY STAR. Staff is in the process of reviewing the application, as of July 2008.
- U.S. DOE lists many existing incentives for commercial and industrial buildings in a database.

Policy Design

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Goals:

Timing:

Parties Involved:

Other:

RCI-9. Provide Reduced-Cost Energy Audits and Integrated Lean Manufacturing and Energy Technical Assistance for Industrial and Commercial Sectors

Policy Description

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Text from RCI TWG Catalog

9.1 Reduced-Cost Energy Audits or Technical Assistance for Commercial Businesses

This option includes providing commercial-sector energy technical assistance (energy audits) to identify and recommend options for reducing fossil-fuel energy and electricity use, and for reducing non-energy emissions of GHGs. Technical assistance could focus on energy-efficient opportunities related to lighting, heating, ventilation and air conditioning (HVAC), and refrigeration, among other end uses. A combination of incentives, expertise, and information to implement recommended options could be included in the policy to encourage businesses to follow up on audit recommendations. For example, tying the free or reduced-cost audit to implementing some of the auditor's recommendations could encourage businesses to make recommended changes.

9.2 Reduced-Cost Energy Audits or Technical Assistance for Industry Sectors

This option includes providing industrial-sector energy technical assistance (energy audits) to identify and recommend options for reducing fossil energy and electricity use, and for reducing non-energy emissions of GHGs. Technical assistance could focus on energy-efficient opportunities related to lighting, HVAC, process heating and cooling, compressed air, and motors and drives, among other end uses. A combination of incentives, expertise, and information to implement recommended options could be included in the policy to encourage the operators of industrial-sector facilities to follow up on audit recommendations. For example, tying the energy audit cost to implementing some of the auditor's recommendations could encourage the facility to make recommended changes.

9.3 Encourage Integrated Lean Manufacturing and Energy Use Reduction Technical Assistance to Kansas Industrial and Commercial Facilities

There is increasing recognition that Lean manufacturing improvement approaches, being widely adopted by businesses across the nation and in Kansas, can substantially improve energy efficiency when energy use is explicitly considered in the context of Lean methods. Lean manufacturing, based on the Toyota Production System, refers to a collection of business process improvement methods that are designed to identify and eliminate non-value-added activity. The U.S. Environmental Protection Agency (EPA) has prepared a toolkit for improving energy

efficiency through Lean manufacturing (http://www.epa.gov/lean/energytoolkit/index.htm). Several states, including California, Maine, and Washington, have launched Lean & Energy Use Reduction technical assistance initiatives that involve partnerships between the state National Institute of Standards and Technology (NIST) Manufacturing Extension Partnership Lean service providers, other Lean Six Sigma service providers, and environmental agencies' technical assistance providers.

Related Kansas Programs/Actions

- Several Kansas utilities offer energy conservation services to their customers, including online energy audits and calculators, as well as rebates for heating systems, water heaters, and appliances and industrial-specific measures, such as motors and custom processes.
- Kansas Building Science provides certification classes for energy auditing.
- DOE provides a listing of activities and energy conservation resources that are specific to Kansas.
- The Mid-America Manufacturing Technology Center is a not-for-profit organization that provides training to small and medium-sized manufacturers in Kansas on Lean manufacturing approaches.[2]
- Numerous manufacturers in Kansas (e.g., aerospace companies) are already pursuing Lean manufacturing approaches.

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Goals:

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Parties Involved:

Other:

[2] Lean manufacturing refers to a collection of business process improvement methods that focus on the identification and elimination of non-value-added activity in manufacturing and administrative processes. Lean methods, such as Kaizen rapid improvement events, value stream mapping, and 5S, are based on the Toyota Production System and are being widely used in the manufacturing and service sectors. Increasingly, Lean manufacturing approaches are being integrated with Six Sigma methods, a collection of statistical analysis tools and other methods that are used to identify and reduce variation in processes.

RCI-10. Require or Encourage New State Government Buildings to Have a Small Greenhouse Gas Emissions Footprint, and Encourage Existing Government Buildings to Improve Energy Efficiency

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Text from RCI TWG Catalog

10.1 Reduce Energy Use by 10% or More in State-Owned Buildings

Recognizing that governments should "lead by example," this option provides targets to improve energy efficiency in existing state and local government buildings, as well as for new construction and major renovations of government buildings.

10.2 Improved Design and Construction, "Government Lead by Example"

Recognizing that governments should "lead by example," this option provides targets to improve the energy efficiency of existing state and local government buildings, existing buildings being renovated, and new buildings under construction. This option could include improved design and construction for government-owned institutional buildings, such as schools and universities. The proposed targets are much higher than code standards for new state-funded and other government buildings. Potential elements of this policy include:

- Requiring that energy efficiency be a criterion in procurement of energy-using equipment and systems, and in the improvement in operation of buildings and other facilities.
- Requiring audits of energy performance and operations of state and other government buildings (in tandem with an audit program). Audit results could be used to target and prioritize investments in improving government building energy efficiency. Improvement and review of efficiency goals over time, and development of flexibility in contracting arrangements to encourage integrated energy-efficient design and construction.
- Recommending that the infrastructure for implementation (meters, bookkeeping systems, staff, etc.) be established as soon as possible.
- Requiring state bulk purchase of appliances and equipment with higher-than-standard energy efficiency for public facilities.
- Establishing "retained savings" policies, whereby government agencies can retain funds saved by reducing energy bills and apply them to further energy efficiency/renewable energy investments or other uses.

- Joining the ENERGY STAR for State Government Program and taking the ENERGY STAR Challenge to reduce overall energy use by the state government, with a focus on energy use in state-owned buildings.

Potential supporting measures for this option include training and certification of building-sector professionals and performance contracting/shared savings, as well as surveys of government energy and water use, energy benchmarking, measurement, and tracking programs for municipal and state buildings.

10.3 Require or Encourage New Government Buildings in Kansas to Meet LEED Gold Certification Requirements or Equivalent

This option would require or encourage new government buildings or government buildings undergoing major renovations to comply with the Leadership in Energy and Environmental Design (LEED) Gold certification requirements or some equivalent certification standard. It may be necessary for this option to focus explicitly on the energy use reduction aspects of the LEED standards, as LEED certification includes aspects that are not directly related to GHG emission reductions. It is anticipated that LEED version 3.0 (to be released in 2009) will include modifications that more heavily weight GHG emission reduction points. For more information on LEED, see: http://www.usgbc.org/DisplayPage.aspx?CMSPageID=222.

10.4 State Building Carbon-Neutral Requirement

Carbon-neutral building incorporates the following features:

- Encourages the consideration of the overall building life cycle for carbon-neutral impacts, including siting, site preparation, construction materials and techniques, and construction debris disposal.
- Integrates development considerations, such as transportation, water, wastewater, food, and energy supply.
- Points developer/builders toward overall low-impact designs that use local materials to minimize embodied energy.
- Includes reforestation, agriculture, or other sequestration methods for offsetting any net positive emissions.

Related Kansas Programs/Actions

- Governor Sebelius has set a goal of increasing energy efficiency by 5% by 2010 and 10% by 2020.
- The Kansas Facility Conservation Improvement Program (FCIP) is in its second generation at KEO. The new contract for the FCIP includes 10 prequalified Energy Service Companies (ESCOs), and a strong focus on environmental design and responsibility, integrating such factors as the U.S. Green Building Council's (USGBC's) LEED (Leadership in Energy and Environmental 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, 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 is being used as an exemplary program by DOE in a $500,000 joint effort with the Energy Services Coalition, National Association of State Energy Offices National Council of State Legislators, and National Association of Energy Service Companies. Several other states are modeling their performance contracting program after the Kansas FCIP.

- In the aftermath of a May 2007 tornado that destroyed 95% of the city, the Greensburg City Council has passed an ordinance requiring that all newly constructed or renovated municipally owned facilities larger than 4,000 square feet achieve Platinum certification under the USGBC LEED rating system. The ordinance further requires that such buildings receive all 10 points possible under EA Credit 1 "Optimize Energy Performance." Achieving this rating will require a whole-building energy consumption reduction of 42% from the standard building baseline (ASHRAE Standard 90.1-2004). Initial plans call for the construction of two buildings under this standard: a Business Incubator building and a new school. The city also plans to institute numerous other green measures into the rebuilding process, and several private building owners have elected to pursue LEED certification for their own projects.

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Goals:

Timing:

Parties Involved:

Other:

RCI-11. Green Power Purchasing by Customers

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Text from RCI TWG Catalog

11.1 Green Power Purchasing by Consumers

Green power purchasing comprises a variety of consumer-driven strategies to increase the production and delivery of low-GHG power sources, above and beyond levels achieved through Renewable Portfolio Standards and other mandatory programs. Possible elements of green power programs include:

- A definition of what power sources qualify as green power source by a relevant authority.
- Regulatory encouragement for utilities to develop green power tariff structures.
- Implementation of regulatory requirements that power sources and emissions data be reported in consumer utility bills.
- State goals or mandates for green power purchases, or for the renewable fraction of standard purchased electricity, that would apply to all nonfederal government buildings, including local government buildings, public schools, and public universities. This could also be a part of state "lead-by-example" programs.
- Promotion by the state and/or other entities of voluntary purchasing of green power through provision of information and promotional materials.

Related Kansas Programs/Actions

- Offered by Westar in 1999, but discontinued due to low participation. A new green power purchase program is in development at Westar.
- The Zephyr Energy Program is a "green tags" program offered jointly by the Bonneville Environmental Foundation and Bowersock Mills and Power Company.

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Parties Involved:

Other: