



[www.ksclimatechange.us](http://www.ksclimatechange.us)

## Residential, Commercial, and Industrial Technical Work Group

### Straw Proposals

#### List of Volunteers for Priority Policy Options for Analysis

Option #	Policy Option	Straw Proposal Volunteers
RCI-1	Utility Demand-Side Management Programs	<b>Jim Ludwig</b> , Allen Dennis
RCI-2	Improve Building Codes for Energy Efficiency and Support Training for Their Successful Implementation	<b>Jim Boone</b> , Bruce Snead, Casey Cassias
RCI-3	Consumer Education	Jim Ludwig, <b>Bruce Snead</b>
RCI-4	Reduced-Cost or Free Residential Energy Audits	Jim Boone, Brent Wilkerson, Janet Buchanan
RCI-5	Promote and Develop Incentives for Energy-Efficient Private-Sector Building Design and Construction	Casey Cassias, Jim Boone, <b>Allen Dennis</b>
RCI-6	Develop Incentives to Promote Implementation of Customer-Sited Renewable Energy Systems Through Effective Net Metering and Other Means	Bill Wentz, <b>Allen Dennis</b> , Jim Ludwig
RCI-7	Develop Financial and Funding Mechanisms to Support Energy Efficiency Improvements in the RCI Sectors	Janet Buchanan
RCI-8	Incentives and Targets for Retrofit of Existing Residential, Commercial and Industrial Buildings	Jim Boone, Allen Dennis, Amy Blankenbiller
RCI-9	Provide Reduced-Cost Energy Audits and Integrated Lean Manufacturing and Energy Technical Assistance for Industrial and Commercial Sectors	Brent Wilkerson
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	Chad Althouse, <b>Casey Cassias</b>
RCI-11	Green Power Purchasing by Customers	Allen Dennis, Jim Ludwig, Bill Wentz

Names bolded are the leads of the volunteer sub-groups.

**Summary List of Pending Priority Policy Options for Analysis**

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

GHG = greenhouse gas; MMtCO<sub>2</sub>e = million metric tons of carbon dioxide equivalent; \$/tCO<sub>2</sub>e = 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

The “Policy Description” is a part of the Straw Proposal. This section should provide a **brief** summary of the proposed policy option. The following provides the text of the sub-options from the RCI TWG catalog, as well as the related Kansas programs and actions listed in the RCI TWG catalog. This information can be used as a starting point in developing the “Policy Description”.

### 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<sub>2</sub>) 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

The “Policy Design” is the other part of the Straw Proposal. The “Goals” represent the **numerical** targets that the TWG feels are attainable by the end of the policy period (2020), and will provide sufficient carbon benefits. The “Timing” bullet is a place for the TWG sub-group to insert an incremental target (2012), or multiple incremental targets. The “Parties Involved” bullet includes a list of organizations (specific or otherwise) that could be affected by this proposed option, or are parties to the implementation of the option.

**Goals:**

**Timing:**

**Parties Involved:**

**Other:**

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

### Policy Description

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, *adopting nationally recognized energy codes that specify minimum energy efficiency requirements and are periodically updated, by county*, 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, [\(is this true?\)](#) can require additional resources.

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 *and wind* 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.

*Areas to be included for implementation of the policy include:*

- Improve Building Codes for Energy Efficiency
- Training of Building Code and Other Officials in Energy Code Enforcement
- Training and Education for builders and Contractors (e.g. Heating, Ventilation, and Air Conditioning (HVAC) Sizing, Duct Sealing)
- Energy Management Training/Training of Building Operators
- Require or Encourage High-Efficiency Equipment in New Construction and Retrofits
- Encourage “beyond minimum energy code” construction, such as Energy Star
- Provide software access for building owners to calculate the energy performance of their building

### 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 2009 IECC, which also includes the most recent version of ASHRAE 90.1, has been published and could be adopted.*
- The statewide energy standards require an energy efficiency disclosure by the builder or seller of new residential buildings to the buyer. *This disclosure could be modified to require builders or sellers to certify their buildings meet applicable energy codes.*

- 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). *Accepting Stimulus funds from the Federal Government may require energy codes to be adopted and implemented. (See American Recovery and Reinvestment Act of 2009, sometimes referred to as the StimulusBill).*
- 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.

## Policy Design

### Goals:

- Reduce energy consumption in Residential and Commercial buildings by adopting the 2009 IECC and most recent ASHRAE 90.1 and require their enforcement
- Educate residential, commercial and industrial building owners about energy efficiency and the environmental impact of how they operate their buildings
- Train building code officials, building owners and operators, and the construction industry on Energy Code compliance
- Increase use of high efficiency equipment in new construction and retrofits

### Timing:

- Adopt energy codes by 2009 (pending training to allow proper enforcement)
- Establish educational training by \_\_\_\_
- Require/encourage use of high efficiency equipment by \_\_\_\_

### Parties Involved:

### Other:

## RCI-3. Consumer Education

### Policy Description

The “Policy Description” is a part of the Straw Proposal. This section should provide a **brief** summary of the proposed policy option. The following provides the text of the sub-options from the RCI TWG catalog, as well as the related Kansas programs and actions listed in the RCI TWG catalog. This information can be used as a starting point in developing the “Policy Description”.

### 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.

← - - - Formatted: Bullets and Numbering

#### 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

The "Policy Design" is the other part of the Straw Proposal. The "Goals" represent the **numerical** targets that the TWG feels are attainable by the end of the policy period (2020), and will provide sufficient carbon benefits. The "Timing" bullet is a place for the TWG sub-group to insert an incremental target (2012), or multiple incremental targets. The "Parties Involved" bullet includes a list of organizations (specific or otherwise) that could be affected by this proposed option, or are parties to the implementation of the option.

**Goals:**

**Timing:**

**Parties Involved:**

**Other:**

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

### Policy Description

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. These audits can include diagnostic testing and analysis specific to each individual home. The results provided to the home owner can include the total energy use, energy cost savings and payback on investment costs, and the reductions in emissions due to implementation of the recommendations made during the audit. The program should include a follow-up mechanism by which those who receive services are contacted after receiving the results to answer any questions pertaining to the implementation of the suggestions. There should be a pre-audit contract that the homeowner signs that will allow government agencies to use energy saving information that is obtained, and the contract should provide consent for the state (or contracted auditing agency) to distribute the home owners contact information to certified contractors that may provide the services needed to implement the recommendations from the audit. The home-owner should also be provided with information to access the EPA Energy Star Program.

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.
- **KANSAVE** - targets residential and small commercial structures and, thereby, fills a gap in the current marketplace, while providing a turn-key package from energy audits to access to financing for residential and small commercial customers. (In planning stage by the KCC)
- **How\$mart<sup>SM</sup>** – A program by Midwest Energy offers an integrated package to residential and commercial customers, but access to lower-cost financing is limited to residential customers.
- **Kansas Weatherization Assistance Program (WAP)**, operated by Kansas Housing Resources Corporation, provides energy conservation improvements to low-income customers.

**Comment:** KP deleted subheading as this is the only subheading in proposal.

**Deleted: 4.1 Reduced-Cost or Free Residential Energy Audits ¶**

## Policy Design

### Goals:

Administer 7,500 residential audits a year. Track implementation of audit suggestions and set a target of 50% implementation rate. Attempt to increase implementation rates on an annual basis, which will require a thorough review of current and possible methods. There should be a target cost of the program in terms of energy units saved per dollar spent to operate the program, to justify continuation of the program.

### Timing:

The program should receive an initial time-frame of 3 or 5 years. The program costs versus the savings in energy and emissions should be evaluated on an annual basis. If the program is not producing verifiable reductions in energy consumption, it should not be continued.

### Parties Involved:

1. Utilities
2. State Agencies
3. Third Parties (Universities, Nonprofit Orgs, Private Consulting Companies, Engineering and Technical Services Companies)
4. Regulators

### Other:

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

### Policy Description

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. The most effective way to induce owners and developers is through utility demand-side management (DSM) programs (including those administered by municipal utilities and cooperatives) that produce cost-effective, firm, long-term energy savings. Utilities have long-standing relationships with and are uniquely positioned with an effective avenue for regularly and consistently reaching all customer classes. Utilities also have an intimate daily awareness of the specific need for and access to the various means available to acquire needed supply resources. A policy to encourage and incentivize utilities to increase investments in DSM programs designed to reduce the demand for electricity, natural gas, propane, and oil is critical to cost-effectively achieving the desired state-wide reductions by 2020.

This policy encourages 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. To implement this policy, both new and existing building retrofits should be included with a focus on the following areas:

- 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.

### 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 purchased or 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. 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.

## Policy Design

### Goals:

Reduce # kW (electricity demand) by 2012, # by 2015, # by 2018, # by 2020  
 Reduce # kWh (electricity consumption) by 2012, # by 2015, # by 2018, # by 2020  
 Reduce # MCF (gas) by 2012, # by 2015, # by 2018, # by 2020???

[Encourage the use of alternative, renewable energy sources \(re: RCI -6\) as a means for efficiency](#)  
[Focus on maximizing LEED Energy points \(10 points possible\) to attain the highest level of energy savings](#)  
 Etc.???

**Comment:** From Casey Cassias

### Timing:

Recognizing the length of the regulatory review and approval process, new programs could potentially be market-ready by the end of 2010 pending internal funding constraints.

### Parties Involved:

- Regulatory agencies
- Utilities
- Other state agencies
- Industry associations
- Other customer advocacy groups
- Environmental groups

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

**Policy Description** (*Wentz comments in italics and blue. Please note that these are my personal views and recommendations, and have not been endorsed by the utility company members of the sub-committee.*)

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. To encourage the implementation of customer-sited renewable energy systems, equitable policies for all parties should be implemented. This policy should also focus on the following areas:

- Encourage the use of [net-metering policies](#), including policies that address electricity used by consumers who install on-site combined heat and power or distributed generation fueled with renewable or fossil fuels.
- Encourage decoupling of utility revenues from sales, and consider a specific focus on the impacts of rate design on GHG emissions. *Decoupling of utility revenues from sales will facilitate single-meter net metering. This will in turn provide a major incentive for customer-sited renewable energy systems by reducing initial installation costs and cost recovery time. Utility billing which decouples fixed costs from energy costs will assure that the utilities recover costs of providing infra-structure and continuous service to customers who chose to invest in renewable generating systems.*
- Implement 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.

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 should 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.

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

- **Goals:** Increase opportunity for utility consumers in Kansas to implement customer sited renewable installations *by adopting more favorable net metering and/or similar policies* initiatives regardless of whether the cost of these resources is greater than electricity sourced from traditional resources. In addition the policy design shall allow utilities and other electric providers to credit energy provided under green power program participation toward achieving state or federal Renewable Portfolio Standards (RPS). Green Power Programs shall be allowed to contribute up to 20% of the utility's green power requirements specified in the RPS.
- *Allow utilities and other electric providers to credit customer sited renewable energy toward achieving up to 20% of the utility's state or federal green power requirements specified in the Renewable Portfolio Standards (RPS)..*

**Comment:** Wentz – Replace this with language below.

**Timing:** Utilities shall voluntarily conduct market surveys with their customers to determine customers' interest in implementing customer sited renewable projects. *These surveys should be developed in coordination with renewable energy providers, and should include the possibility of single-meter net metering along with decoupled rates, or other similar options. (NOTE: This is not really a goal. I would make the green edited version a fourth goal, and then have a timing bullet for each goal.)*

*Timing for goal #1: Year one.*

*Timing for goal #2: Ongoing through 2020.*

*Timing for goal #3: Year one.*

**Parties Involved:** *Wentz comment: The following statements relate to Green Power purchasing, and are not needed in this section. I recommend deleting them. I would include KCC, Kansas Wind Working Group and environmental group as parties involved in this RCI.* The Kansas Corporation Commission would, for entities under their jurisdiction, need to approve Green Power and Marketing programs and allow recovery of the costs necessary to implement such programs; the utilities would need to design and market programs that provide opportunity for consumers to purchase and/or support green energy; consumers would need to provide the financial support necessary to incent the installation of green power and meet the programs pro rata share of the RPS goal.

**Other:**

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

### **Policy Descriptions**

There are several options for financial and funding mechanisms that can be considered for supporting energy efficiency improvements in the RCI Sectors.

A public benefits charge (sometimes called a systems benefits charge) can be attributed to utility customers based on their use of energy in a given time period. The fee is typically determined independent of the actual costs of the utility but the funds derived from the charge are dedicated to a utility or third party administrator's energy efficiency programming budget. 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. Statutory changes are likely to be necessary to allow the collection of a public benefits charge and the creation of a third party administrator.

The Kansas Corporation Commission has determined that a utility may recover its energy efficiency costs through a rider on the utility bill. (Docket No. 08-GIMX-441-GIV) Once the utility has begun to implement programs and incur costs, those costs can be recovered through a volumetric charge. The rider will be adjusted annually to reflect the recovery of past expenses and adjust for new expenses.

To encourage consumers to implement energy efficiency measures with or without the assistance of a utility or third party administrator, a revolving, low interest loan program could be utilized. 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. Currently, Kansas' State Energy Office (a division of the Kansas Corporation Commission) is developing a program incorporating a low interest revolving loan program using funds available to it through the American Recovery and Reinvestment Act. The KANSERVE program builds on an existing loan program with limited funding sponsored by the Kansas Housing Resources Corporation known as KEEP (Kansas Energy Efficiency Program). The Recovery funds allocated to the State Energy Office will be utilized to buy down the interest rate on loans for energy efficiency improvements. The KANSERVE program will require the residential or small commercial energy user to have an energy audit conducted and implement the cost effective efficiency measures recommended through the audit. To be cost effective, the savings in energy should equal the monthly loan payment – which will also provide the lender with greater comfort in extending the loan.

Tax credits could also be incorporated into an energy efficiency funding mechanism. Income tax credits can be provided 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.

Special consideration may be given to incentives which promote combined heat and power (CHP) systems which 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.

Formatted: Bullets and Numbering

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. In Docket No. 08-GIMX-441-GIV, the KCC determined that energy efficiency costs could be recovered through a rider on the utility bill as costs were actually incurred rather than only during a rate case.
- 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.
- The State Energy Office is developing a program, KANSAVE, to provide customers with low interest financing of cost effective energy efficiency improvements.
- [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.

### Policy Design

**Goals: ?????**

**Timing:**

**Parties Involved:**

Utilities

Kansas Legislature

Kansas Corporation Commission

Kansas Department of Revenue

Kansas State Treasurer

Banks

ARRA Funds

**Other:**

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

### Policy Description

The “Policy Description” is a part of the Straw Proposal. This section should provide a **brief** summary of the proposed policy option. The following provides the text of the sub-options from the RCI TWG catalog, as well as the related Kansas programs and actions listed in the RCI TWG catalog. This information can be used as a starting point in developing the “Policy Description”.

#### 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

The “Policy Design” is the other part of the Straw Proposal. The “Goals” represent the **numerical** targets that the TWG feels are attainable by the end of the policy period (2020), and will provide sufficient carbon benefits. The “Timing” bullet is a place for the TWG sub-group to insert an incremental target (2012), or multiple incremental targets. The “Parties Involved” bullet includes a list of organizations (specific or otherwise) that could be affected by this proposed option, or are parties to the implementation of the option.

**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

**Comment:** Revised language, consolidating subsections, submitted by B. Wilkerson

### Policy Description

This option includes providing commercial and 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. These audits can include diagnostic testing and analysis specific to each individual industry. The audit should identify key efficiency measures, such as process heat changes, motor efficiency improvements, boiler efficiency provisions, compressed air system measures, as well as lighting and building envelope efficiency improvements. The audits can identify opportunities for capture and use of process heat, as well as for implementation of combined heat and power. Evaluation of alternative utility rate structures and load control opportunities can be included as well. The results provided to the businesses can include the total energy use, energy cost savings and payback on investment costs, and the reductions in emissions due to implementation of the recommendations made during the audit. The program should include a follow-up mechanism by which those who receive services are contacted after receiving the results to answer any questions pertaining to the implementation of the suggestions. There should be a pre-audit contract that the business signs that will allow government agencies to use energy saving information that is obtained, and the contract should provide consent for the state (or contracted auditing agency) to distribute the business's contact information to certified contractors that may provide the services needed to implement the recommendations from the audit. The industry should also be provided with information to access the EPA Energy Star Program.

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.

Industry advancements in process efficiency (Lean Manufacturing) will equate to reductions in energy use and emissions. These programs and strategies should be incorporated with the Energy Audit programs listed above (9.1, 9.2). Industry specific engineering firms and non-profit organizations such as [Mid-America Manufacturing Technology Center](#) are perfectly suited to supplement the audit process and provide industry specific process guidance.

#### **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.<sup>1</sup>
- Numerous manufacturers in Kansas (e.g., aerospace companies) are already pursuing Lean manufacturing approaches.

### **Policy Design**

#### **Goals:**

Administer 300 Industrial audits, and 1000 Commercial business audits a year. Track implementation of audit suggestions and set a target of 50% implementation rate. Attempt to increase implementation rates on an annual basis, which will require a thorough review of current and possible methods. There should be a target cost of the program in terms of energy units saved per dollar spent to operate the program, to justify continuation of the program.

#### **Timing:**

The program should receive an initial time-frame of 3 or 5 years. The program costs versus the savings in energy and emissions should be evaluated on an annual basis. If the program is not producing verifiable reductions in energy consumption, it should not be continued.

#### **Parties Involved:**

1. Utilities
2. State Agencies

---

<sup>1</sup> 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.

3. Third Parties (Universities, Nonprofit Orgs, Private Consulting Companies, Engineering and Technical Services Companies)

4. Regulators

**Other:** None Mentioned

## 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

### Policy Description

The “Policy Description” is a part of the Straw Proposal. This section should provide a **brief** summary of the proposed policy option. The following provides the text of the sub-options from the RCI TWG catalog, as well as the related Kansas programs and actions listed in the RCI TWG catalog. This information can be used as a starting point in developing the “Policy Description”.

### 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.

## Policy Design

The "Policy Design" is the other part of the Straw Proposal. The "Goals" represent the **numerical** targets that the TWG feels are attainable by the end of the policy period (2020), and will provide sufficient carbon benefits. The "Timing" bullet is a place for the TWG sub-group to insert an incremental target (2012), or multiple incremental targets. The "Parties Involved" bullet includes a list of organizations (specific or otherwise) that could be affected by this proposed option, or are parties to the implementation of the option.

**Goals:**

**Timing:**

**Parties Involved:**

**Other:**

## RCI-11. Green Power Purchasing by Customers

**Policy Description** (*Wentz comments in italics and blue. Please note that these are my personal views and recommendations, and have not been endorsed by the utility company members of the sub-committee.*)

The ability of a consumer to voluntarily purchase green power above and beyond a mandated renewable portfolio standard (RPS) is the focus of this policy. Green power in Kansas is typically regarded to be from renewable resources, which is defined in K.S.A. 79 - 201. Renewable resources currently include generation from wind, solar, photovoltaic, biomass, hydropower, geothermal and landfill gas. A requirement for such purchases may conflict with or complicate the role of a RPS. Green power purchases are voluntary commitments by individuals to support green energy programs.

The Kansas Corporation Commission (KCC) is responsible for approving suitable tariffs to encourage the voluntary purchase of green power. An example of this type of tariff is Westar Energy's Renewable Energy Program Rider. The Rider gives customers the opportunity to participate in Westar's voluntary energy tariff. The tariff currently provides for an additional energy charge of \$1 plus applicable taxes for each 100-kwh block the customer elects to purchase. Another example is the Zephyr Energy Program offered jointly by the Bonneville Environmental Foundation and Bowersock Mills and Power Company. This program sells the renewable energy credits associated with the hydropower facility. If these are successful, the KCC should encourage other utilities to also develop similar voluntary programs.

The funds collected from consumers for green energy should be allocated for the development of additional renewable resources, transparent as to their use and consistent with overall environmental goals.

### 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.

### Policy Design

*(Wentz comment: Climate Strategies may be able to provide data from other states regarding the economics and success/failure of similar programs.)*

The “Policy Design” is the other part of the Straw Proposal. The “Goals” represent the **numerical** targets that the TWG feels are attainable by the end of the policy period (2020), and will provide sufficient carbon benefits. The “Timing” bullet is a place for the TWG sub-group to insert an incremental target (2012), or multiple incremental targets. The “Parties Involved” bullet includes a list of organizations (specific or otherwise) that could be affected by this proposed option, or are parties to the implementation of the option.

**Goals:** The goal of this initiative is to reduce emissions through the development of voluntary green power purchase programs.

**Timing:** The KCC, with input from consumers, utilities and environmental groups, should evaluate the effectiveness and the consumer participation in these programs.

**Parties Involved:** Consumers, all electric utilities operating within Kansas, KCC, [the Kansas Wind Working Group](#) and environmental groups.

Specific targets: Did not reach a conclusion on this item. *(Wentz suggestion: Increase green power purchasing in Kansas to achieve 1% participation by 2010, and reach a goal of 10% consumer participation by 2020. Note: KCC should be able to provide an estimate of the revenue potential revenue generated by a program at various levels of participation.)*

**Other:**