

Statewide Energy Conservation Program

GOAL: Facilitate cost-effective energy conservation in the public, residential, commercial, and industrial sectors through a collaborative program between the state, municipalities, utilities, and their customers.

A. Topic / Issue Description

Many Kansas structures are deficient in cost-effective energy conservation measures (e.g., attic and wall insulation, efficient HVAC systems), resulting in excessive energy use and, consequently, excessive utility bills year round. Cost-effective energy conservation measures—for example, upgrading attic insulation to at least R-38 or installing an Energy Star qualified furnace—can reduce energy usage by as much as 20 percent. Increased adoption of these measures statewide can have a significant impact on energy consumption and result in lower utility bills for ratepayers who opt to improve their structures.

All Kansans may benefit from reducing the demand for energy. It puts downward pressure on all energy-related prices and, perhaps, defers such energy-related costs as investment in new generation plants and extraction equipment. It also reduces possible external costs due to the energy-related emission of pollutants and greenhouse gases. And, finally, well-designed conservation programs provide assistance to ratepayers that participate in those programs, providing them with lower monthly utility bills.

B. Existing Policies / Programs

1. **Kansas Thermal Efficiency Disclosure Laws (KSA 66-1227, KSA 66-1228)**

These two laws, passed in 2003, require the seller of a new home to disclose to prospective buyers, upon request or at closing, information regarding the thermal efficiency of the structure. The timing of the disclosure and the absence of specific information on the disclosure form undermine the effectiveness of the laws in informing buyers about the energy efficiency of new houses.

2. **Federal Energy Policy Act of 2005**

Although current federal law provides tax credits for homeowners who install selected energy efficiency and conservation measures, the credits are relatively small in amount and are set to expire at the end of 2007.

3. **Local Building Codes**

To ensure public safety, the City of Hays in 1995 established building codes on combustion safety and ventilation air. Several Kansas cities have adopted the International Energy Conservation Code (IECC) component of the International Residential Code (IRC), with modifications that often include elimination of the

requirement for foundation insulation. The City of Shawnee has included the requirement that an energy rating must be completed on each new house showing that a score equivalent to compliance with the IECC has been met as a prerequisite to approval for occupancy.

4. Utility-based Energy Conservation Programs

Several Kansas utilities offer energy conservation services to their customers, including energy audits and rebates for heating systems, water heaters, and appliances. Of these, the one with the longest track record is the Midwest Energy program. In response to the 1995 adoption of stronger building codes by the City of Hays, Midwest Energy implemented a program that offers a range of energy conservation services to its residential and small commercial customers to improve the safety of structures and, possibly, their energy use. These services include (1) blower door tests, (2) residential energy ratings, (3) guidance related to HVAC (Heating, Ventilation, and Air Conditioning) sizing, (4) infrared scanning, (5) commercial energy audits, (6) suggested lighting design, and (7) walk-through inspections. These services are partially supported by modest customer fees, with the remainder of the costs covered by the utility and passed along to all ratepayers (resulting in about a 10- to 15-cent increase on monthly bills). A survey of Midwest Energy's customers indicated that their energy services program increases customer satisfaction.

5. Weatherization Assistance Program (WAP)

This program has traditionally been funded through the U.S. Department of Energy. In Fiscal Year 2007, State of Kansas general funds were appropriated to supplement the program. WAP provides housing improvements that increase energy efficiency in households with income up to 150% of the federal poverty level or 60% of the state median income, whichever is higher.

6. Facilities Conservation Improvement Program (FCIP)

This program, administered by the KCC Energy Office, is designed to streamline the acquisition and installation of energy conservation measures by public agencies. It enables public agencies (e.g., the state, municipalities, counties, and schools) to use a tool known as energy savings performance contracting (ESPC) to access financing for planning and implementing conservation projects quickly and easily. Tax-exempt financing with a very attractive interest rate makes projects more economical and reduces the pay-back period. Public entities enter into an agreement with a private energy service company (ESCO). The ESCO identifies and evaluates energy-saving opportunities and recommends a package of improvements to be paid for through the projected energy savings. The ESCO will guarantee that actual savings meet or exceed annual payments to cover all project costs—usually through a contract having a term of between ten and fifteen years. If actual savings don't materialize, falling below the annual payments made to cover the project cost, the ESCO pays the difference. To help ensure savings, the ESCO offers staff training and long-term maintenance services.

7. Low-Interest Loan Program

This new program, which is funded by the State of Kansas effective July 1, 2006, targets low- and moderate-income homeowners. The loan program is currently funded for \$2 million and is in development at the Kansas Housing Resources Corporation.

The existing energy conservation programs described above are limited in scope, in terms of their eligibility requirements, overall size, and geographic coverage. Therefore, the current set of programs do not, on their own or collectively, represent a comprehensive effort to achieve cost effective energy conservation on a statewide basis.

C. Policy / Program Proposal

1. Establish Statewide Utility-operated Energy Conservation Program

a. Description

The demonstrated successes of the Midwest Energy program—increased safety and comfort of new and existing houses, increased education of customers and homebuilders about energy conservation opportunities, and increased customer satisfaction—is worthy of emulation on a larger scale. The statewide, utility-operated program recommended herein is therefore modeled on the Midwest Energy program. The key elements of the proposed program are (1) that it is operated by all Kansas natural gas and electric utilities, (2) that the energy audits conducted by the utilities are tied to the cost-effective measures listed in the Energy Efficiency Disclosure Form (see Attachment A), and (3) that customers receiving services through the program pay either a fee that covers the cost of services rendered or, at minimum, a nominal fee.

Base Program Components

The Midwest Energy Program consists of the following energy information services: (1) blower door tests, (2) residential energy ratings, (3) independent guidance on proper HVAC (Heating, Ventilation, and Air Conditioning) sizing, (4) infrared scanning, (5) commercial energy audits, (6) guidance on lighting design, and (7) walk-through inspections. The Base Program recommended here would include all of these services and would be available to all customer classes.

[NOTE: See Addendum, p. 7, for description of a possible general framework for conducting energy conservation audits.]

Additional Program Components

- **Municipal codes** – Encourage municipalities with building codes to adopt ordinances that require new and existing residences to meet State minimum energy efficiency standards before residence can be occupied. A task force with representatives from the KCC, utilities, and municipalities would be convened to develop a model city code.
- **Rate design Issues** – The Kansas Corporation Commission should open a generic docket to examine the relationship between rate design and the resultant incentives for ratepayers to conserve energy and utilities to provide energy conservation programs. Rate design issues that could be examined include “decoupling,” time-of-use pricing, and real-time pricing and metering.
- **Implementation of Pay-As-You-Save (PAYS) type conservation programs** – PAYS® offers building owners and tenants an innovative means of financing their purchase and installation of energy efficiency products with no upfront payment or debt obligation. Through the provisions of a filed tariff, the program participant is assessed a tariffed charge, which is based on the useful life of and savings attributable to specific energy efficiency measures, that appears on monthly utility bills for a prescribed period of time. The tariff charge effectively stays with the meter for that length of time. By design, the expected savings from the conservation measures would exceed the “tariff charge” appearing on the utility bill. If and when occupancy ends, the charge is passed on to the next owner/tenant if transfer of ownership occurs prior to the end of the allowed time period. There are various conditions and requirements that apply to the selection of conservation measures and the allowed “tariff charge.” PAYS®-based tariffs would require regulatory approval. Although the State could finance the PAYS program, private funding may be preferred.

To qualify for PAYS, a qualified utility-sponsored energy audit must be performed and all proposed conservation projects are subject to inspection prior to initiation of PAYS financing. Only permanent conservation measures (e.g., insulation, HVAC, windows and doors) qualify for PAYS funding.

[NOTE: See Addendum, p. 7, for description of a possible framework for financing approved conservation measures.]

- **Disclosure Form** – In 2003, the Kansas Legislature passed KSA 66-1227 and 66-1228, which requires the person selling a previously unoccupied new residential structure to disclose to the buyer or prospective buyer, prior to closing or upon request, information regarding the thermal efficiency of the structure (single or multifamily

units, three floors and under). These laws need to be amended to ensure that information about the energy efficiency of new housing is disclosed when the house is listed in order to provide the consumer with timely information, whether explicitly requested or not. The laws also need to authorize the KCC to update the disclosure form whenever IECC standards are updated to ensure that consumers receive useful, quantitative data about the energy performance of the house (see Attachment A for a sample disclosure form).

This recommended program should include all of the components outlined above; however, it is possible to phase the implementation of this program without adopting all of the recommended components simultaneously. It should be noted that the combination of the Base Program and the PAYS program can help “close the loop” between problem identification and actual implementation of solutions.

b. Implications of Proposal

Pros

- i) Increases homeowner and business-owner awareness of available energy conservation measures and the potential energy and, thus, *money* savings they may deliver.
- ii) Increases builders’ awareness of energy conservation measures and promotes the design of more energy efficient residential and commercial structures.
- iii) Increases utility customer satisfaction and goodwill toward the utility.
- iv) Improves the energy-use efficiency of the state’s existing public, residential, commercial, and industrial building stock.
- v) Provides emission reductions typically associated with adoption of energy conservation practices.

Cons

- i) All utility ratepayers may see a small increase on monthly bills to offset Base Program costs not covered by the fees.
- ii) Creates a management challenge for some small utilities to cost-effectively provide the mandated program.

c. Recommended Actions

i) Responsible parties

Kansas Corporation Commission would be required to set standards and evaluate efficacy of all utility-sponsored energy conservation programs consistent with the requirements of PAYS-type programs.

All Kansas electric and natural-gas utilities would be required to develop and administer energy conservation programs consistent with KCC and PAYS standards.

ii) Legislative action

Bill that directs KCC to implement this statewide energy efficiency and conservation program for all Kansas utilities.

iii) Budget requirements

Some funding will be necessary to enable the KCC to set standards and evaluate programs.

iv) Implementation timeline

Effective date for implementation of utility-operated programs is one year after effective date of enabling legislation.

v) Planning task force

During the first year after passage of legislation, a KCC/Utility/Municipality task force would advise the KCC on the design of program standards and evaluation procedures.

ADDENDUM:
**KEC Staff Notes on Possible Framework for Conducting Energy Conservation
Audits and Financing Approved Conservation Measures**

The proposed statewide conservation program consists of two essential elements: (1) standardized, utility-sponsored energy conservation audits and (2) a streamlined process to facilitate *both* the financing and installation of cost-effective energy conservation measures.

In its essence, this program would require the state's utilities to:

- offer their customers an energy conservation audit service that would provide customer-specific estimates of dollar savings available from particular conservation measures applicable to that customer's normal energy use, and
- serve customers as an intermediary in their attempt to secure financing of the cost-effective energy conservation investments recommended in the utility's audit.

Energy Audits

1. Utilities market energy audits to all of their customers. As a part of this marketing effort, the utility will describe:
 - tests and inspections performed as part of the standard audit,
 - any non-standard tests that may be useful and performed for an added fee,
 - length of time required for a normal audit, as well as any potential disruption of service to perform tests, etc.,
 - standard audit fee and options for paying that fee, as well as possible fee reductions/waivers (based on poverty guidelines) for qualified customers,*
 - in general terms, customer-specific "Energy Conservation Plan" that would be developed as the final product of the energy audits, and
 - utility's role as an intermediary should the customer seek financing to implement improvements recommended as a result of the energy audit.
2. At the customer's request, the utility will conduct a standardized basic energy audit. That audit will consist of:
 - performing the pre-specified tests and inspections,
 - possible non-standard tests, and
 - developing and presenting the customer with an "Energy Conservation Plan" specific to customer's premises and expected energy use, which estimates dollar savings and the costs to achieve those savings (equipment and installation). Accordingly, the Plan will identify conservation measures (perhaps in bundles) that are likely to be cost-effective for that

customer to install. The Plan will also contain “bid sheets,” along with a list of utility-approved (installation) contractors.

3. Customers wishing to implement some or all of the recommendations in the plan will need to obtain at least two installation bids from listed contractors. Based on these bids, the utility will assist the customer in finalizing the “Energy Conservation Plan” and determining which conservation investments are likely to be cost-effectively purchased and installed. (Note: With experience, the originally estimated installation cost should be close to the amount identified in the “winning” bid, implying there may be little need to adjust the original Plan, thereby easily arriving at a more accurate, final Plan.)
4. When the *final* Energy Conservation Plan is delivered to the customer, the utility will:
 - describe the specifics of the utility-sponsored financing program (see below) and
 - answer any remaining customer questions about the audit results, compilation of the Energy Conservation Plan, and steps needed to obtain financing, etc.

Financing the Cost-Effective Improvements

1. If the customer decides to implement some or all of the cost-effective improvements identified in the Energy Conservation Plan, the utility would offer a prearranged credit program through the utility’s bank (or a participating bank).
2. If the customer chooses to finance improvements through this program, as part of the prequalification meeting, the utility offers to describe to the loan officer the net savings that are likely to result from installing the proposed energy use improvements.
3. If qualified for the loan, the customer contacts the “winning contractor” to start the approved installation.
4. Once the contractor’s work is completed, the utility will certify by inspection that the work was done to specifications.
5. Once the work meets this inspection, the contractor is paid.
6. Customer can elect to repay the loan by either
 - making direct payments to the bank, or
 - making loan payments through the monthly utility bill, with monthly loan payments not exceeding 75% of the estimated savings with a repayment term not exceeding 75% of the (average) expected life of the installed improvements.

7. Customers who don't qualify for financing under the bank's underwriting rules may be eligible for a loan through the State's revolving loan fund (under development through the Kansas Housing Resources Corporation).

* With the possible exception of low-income customers, all customers would pay the full cost of the energy audit through the audit fee. Options for paying the audit fee could include: (1) direct payment by the customer at the conclusion of the audit (or possibly at a later date), (2) payment through a levelized monthly charge appearing on the customer's monthly bill, perhaps over a 36 month period, and (3) payment through the inclusion of the audit fee as part of the energy conservation loan principle.

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Attachment A—Sample Kansas Energy Efficiency Disclosure Form

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KANSAS ENERGY EFFICIENCY DISCLOSURE

CENTRAL REGION

As required by KSA 66-1228

Kansas law requires the person building or selling a previously unoccupied new residential structure to disclose to the buyer or a prospective buyer, upon request or prior to closing, information regarding the thermal efficiency of the structure (single or multifamily units, three floors and under).

Common Address or Legal Description of Residence:

1. This house has been built to include the following energy efficiency elements:

	State Recommendations		
	Residence	Better	Best
Wall Insulation R-Value	_____	13	18
Attic Insulation R-Value	_____	38	42
Foundation Insulation R-Value			
Basement Walls	_____	9	10
Crawlspace Walls	_____	10	15
Slab-on-Grade	_____	6	8
Floors over Unheated Spaces R-Value	_____	19	30
Window U-Value	_____	.40	.34
Water Heater			
Gas or Propane (Energy Factor)	_____	.55	.60
Electric (Energy Factor)	_____	.88	.92
Heating and Cooling Equipment			
Warm-Air Furnace (AFUE)	_____	.78	.93
Air Conditioner or Heat Pump - Cooling (SEER)	_____	10	14
Air-Source Heat Pump (HSPF)	_____	6.8	8.5
Ground-Loop Heat Pump – Cooling (EER)	_____	13	18
Ground-Loop Heat Pump – Heating (COP)	_____	3.1	3.9
Ground-Water Heat Pump – Cooling (EER)	_____	16.2	22
Ground-Water Heat Pump – Heating (COP)	_____	3.6	4.4

- _____ 2. This residence has been built to meet the energy-efficiency standards of the International Energy Conservation Code of 2003 (IECC 2003).
- _____ 3. This residence has receive a Home Energy Rating score of 80 or greater when performed in accordance with the Mortgage Industry National Home Energy Rating System Accreditation Standard (June 15, 2002) by a rater certified and listed by Residential Energy Services Network (RESNET).

Seller Signature: _____ Date: _____

Seller Name and Address: _____

Buyer Signature: _____ Date: _____

Buyer Signature: _____ Date: _____