

Stimulating Energy Efficiency

in Kentucky

The logo features the text "Stimulating Energy Efficiency" in a large, bold, blue font. Below "Stimulating" is the text "in Kentucky" in a smaller, blue font. To the right of the text is a stylized graphic consisting of a blue swoosh that curves around a central orange and yellow starburst shape.

Energy Efficiency Action Items SEE KY Project September 2012

In October 2010 the Kentucky Energy and Environment Cabinet's (EEC) Department for Energy Development and Independence (DEDI) entered into a three-year, federally-funded cooperative agreement with the U.S. Department of Energy (DOE) to develop a suite of policy and program recommendations to increase energy efficiency in Kentucky's electricity sector by 1 percent annually. This initiative is another step towards realizing Governor Steve Beshear's stated goal of offsetting 18% of Kentucky's projected 2025 total energy demand through efficiency. The project is entitled Stimulating Energy Efficiency in Kentucky, or SEE KY.

This paper summarizes the actions recommended as a result of a comprehensive round of meetings (both one-on-one and large groups) with a number of energy stakeholders in Kentucky over the last 18 months.

These Action Items will form the basis for an Action Plan that will frame these issues in planning terms, e.g. identifying persons/organizations responsible for implementation, budget and other resource requirements (if any), potential allies, potential roadblocks, etc.

It should be noted that actions discussed in this paper are voluntary; the stakeholders, for the most part, had little appetite for mandatory measures.

This paper is organized into four major sections that address the following areas:

- Actions recommended for all sectors
- Residential sector recommendations
- Commercial sector recommendations
- Industrial sector recommendations

ACTIONS RECOMMENDED FOR ALL SECTORS

Short Term Action Items (Immediate - 1 Year)

1. *Create Utility Peer Exchange for both jurisdictional and non-jurisdictional electric utilities to share information, experiences and best practices.*

➤ **Stakeholder Observations:**

- One of the most effective ways of sharing best practices, and thus improving utility-run energy efficiency programs, is an open exchange of information among utilities.

2. *Develop voluntary reporting mechanism to ensure transparency of utility-run energy efficiency program performance.*

Background: It is vital to have accurate information on program energy savings, both for dollars and kWh, in order to evaluate progress toward a voluntary goal. While there is some reporting currently for jurisdictional utilities, there is no reporting by non-jurisdictional electric utilities except to the extent they wish to provide information to their customers.

➤ **Stakeholder Observations:**

- Kentucky's Demand Side Management statute (KRS 278.285) does not require any particular reporting of yearly program data and energy savings information from ratepayer-funded programs, other than what is necessary to establish cost-effectiveness when a program is first filed.
- As a result, many stakeholders have expressed concern that there is no consistent method to determine how well utility-run programs are performing in Kentucky.
- Without consistent reporting, it will also be difficult to measure progress towards the Governor's energy efficiency goals.
- Several of Kentucky's utilities have expressed a willingness to use a voluntary reporting mechanism to capture this information annually.

3. *Provide additional opportunities for stakeholders to access information about tax incentives, grants or other funding sources that can be used to finance energy efficiency improvements.*

Background: Grants, low-interest loans and other energy efficiency incentives may come from a variety of sources, don't become available on a regular schedule, and often have restrictions on communications once a request-for-proposals (RFP) has been issued.

➤ **Stakeholder Observations:**

- EEC should increase efforts to advise the public of energy efficiency incentives as they become available. Possible ways to accomplish this include postings on EEC and DEDI home pages on the internet, listserve, weekly Kentucky Energy Watch newsletter e-mail, announcements at workshops and conferences, DEDI’s social media outreach and press releases.

Near Term Recommendations (1 - 2 Years)

4. *Increase energy efficiency education and training programs for each consumer sector.*

➤ **Stakeholder Observations:**

- Stakeholders agreed that there is a need for more robust education and marketing of programs for residential customers.
- Educational and outreach approaches will differ across sectors.

5. *Initiate discussion on issues related to utility rate structure.*

Background: For the last several years some electrical utilities have wanted to align their rate structures to more clearly separate the “fixed costs” associated with serving a customer from the “commodity costs” associated with how much electricity the customer uses. A re-alignment of these costs would increase the portion of the electric bill associated with the cost of service and reduce the amount associated with consumption. Such a re-alignment would lessen the incentive to improve efficiency.

➤ **Stakeholder Findings:**

- Some utilities are concerned that the current rate design is a disincentive to investing in energy efficiency, as it leaves them unable to recover fixed costs.
- Further discussion is needed on this issue, to determine the effects on consumers of alternative rate designs aimed at aligning utility interests with energy efficiency.

Long Term Recommendations (3-4 Years)

6. *EEC should offer to provide support in the development of municipal utility programs (e.g., “Quick Start” programs).*

Background: Because municipal utilities are non-jurisdictional, they haven't been required to analyze or evaluate energy efficiency programs in the same manner as have the investor-owned or cooperatively-owned regulated utilities. “Quick Start” programs are those which can be implemented relatively rapidly, have a proven record of effectiveness and don't require extensive analysis.

➤ **Stakeholder Observations:**

- EEC should provide support to municipal utilities concerning best practices in energy efficiency program design and implementation, evaluation, measurement and verification, cost-effectiveness, customer outreach/education, etc.

RESIDENTIAL SECTOR RECOMMENDATIONS

Short Term Action Items (Immediate - 1 Year)

1. *Expand and enhance Kentucky Home Performance Program.*

Background: The KY Home Performance program is a whole house analysis and retrofit energy efficiency program using a certified professional contractor network. KY Home Performance provides a market-based system of incentives and technical support for energy efficiency upgrades to existing single family homes. It is Kentucky's only statewide system for residential energy efficiency improvements and has been used successfully in over 1,000 homes.

➤ **Stakeholder Observations:**

- The Kentucky Housing Corporation and Kentucky Home Performance staff should continue to seek new financing sources to transition to post-ARRA funding.

Near Term Recommendations (1 - 2 Years)

2. *Improve residential housing stock via energy efficiency programs.*

Background: The energy efficiency of Kentucky’s existing housing stock falls below the national average. While Kentucky generally has low electric rates, it has high bills, reflecting higher than average energy consumption.

➤ **Stakeholder Observations:**

- Residential housing should be a main focus for energy efficiency efforts.
- Residential weatherization a cost-effective program that many of the utilities run in Kentucky, as well as popular in terms of participation.

3. *Improve new residential housing via uniform housing energy code enforcement (beyond recent efforts for state-wide HVAC inspection).*

Background: The Kentucky Department for Housing, Buildings and Construction is now responsible for statewide enforcement of energy codes related to HVAC systems. However, other building components impacting energy consumption, such as caulking for air sealing control, insulation requirements and fenestration standards, are left to local code enforcement. Many areas of the state have no local code enforcement for these non-HVAC building components.

➤ **Stakeholder Finding:**

- Kentucky should explore code inspector funding through the Demand Side Management statute ratepayer financing structure (KRS 278.285).
- Kentucky should seek resources to provide on-going energy code training for inspectors, builders, and the design community.

4. *Evaluate resources for improved training and inspection of manufactured housing installation.*

Background: Proper installation of manufactured housing is critical to achieving the maximum level of energy efficiency performance that a particular manufactured house can attain.

➤ **Stakeholder Observations:**

- EEC and the Kentucky Department for Housing, Buildings and Construction should work to increase training opportunities for installers and inspectors to improve installation practices and identify incorrect installations.

Long Term Recommendations (3 - 4 Years)

5. Explore enhanced use of on-bill financing for all consumers, in all regions of Kentucky.

Background: Four East Kentucky Power Cooperative electric cooperatives, working with MACED (Mountain Association for Community Economic Development), have operated a pilot on-bill financing program. On-bill financing allows homeowners to install energy-efficient improvements in their residence using borrowed funds which are then paid back monthly as part of their electric bill. The efficiency improvements and debt repayment are structured such that the homeowner has an immediate net positive cash flow – that is, the now-reduced utility bill plus the loan payment will be less than the original utility bill.

➤ **Stakeholder Observations:**

- EEC, the Public Service Commission, and Kentucky’s electric utilities should track the results of the pilot on-bill financing to determine if it is feasible and appropriate for more widespread adoption.
- The same parties should analyze issues related to cost effectiveness for on-bill financing.

6. Create incentive mechanism for landlords of residential rental property to provide energy efficiency services, invest in energy efficiency building upgrades.

Background: Rental housing presents a particularly tough challenge to residential energy efficiency retrofits. Renters are reluctant to pay for improvements to property they do not own and owners have little motivation to make efficiency improvements to property when they don’t pay the energy bills.

➤ **Stakeholder Observation:**

- The EEC should investigate mechanisms that incentivize both landlords and tenants to make investments in energy efficiency so that both parties receive some of the benefits from such investments.

7. Expand existing residential efficiency incentives in KRS 141.435 through 141.437 (House Bill 2, 2008 Regular Session) for home builders, landlords, and homeowners.

➤ **Stakeholder Observations:**

- Stakeholders – including housing organizations and representatives of home builders and residential energy consumers– would like to expand the current KRS 141.435 through 141.437 (House Bill 2, 2008 Regular Session) energy efficiency incentives to stimulate efficiency improvements, contractor jobs, and equipment sales in the residential sector.
- A similar increase in incentives also will stimulate energy efficiency improvements in the commercial sector.

8. Develop a pilot for pre-1976 manufactured housing replacement program.

Background: Kentucky’s residential sector includes a significant stock of inefficient pre-1976 manufactured homes. These homes were built prior to the regulations established by the U.S. Department of Housing and Urban Development setting some minimum standards for energy efficiency. These structures are so inefficient that it is not cost-effective to retrofit them in a manner that will yield meaningful cost savings.

➤ **Stakeholder Observations:**

- Kentucky should create a pilot for pre-1976 manufactured home replacements that would build a case for true energy savings potential, and thus spur attractive financing options for lending institutions.
- Kentucky should identify funding sources for such a pilot program.

COMMERCIAL SECTOR RECOMMENDATIONS

Near Term Recommendations (1 - 2 Years)

1. *Explore opportunities to recapitalize the Kentucky Green Bank to increase funding that supports state agency energy savings performance contracting.*

Background: The Kentucky Green Bank was capitalized by a \$14 million Recovery Act grant and has been used to promote energy efficiency in state buildings through competition for low interest loans that fund energy savings performance contracts (ESPC). All loans have been made and the bank has funded nine ESPCs representing over 50 state buildings and in excess of 2 million conditioned sq. ft. The bank will be replenished as loans are repaid over the next 10-12 years and new loans will be available for new ESPC projects.

➤ **Stakeholder Observations:**

- Stakeholders recommend expanding funding opportunities for the commercial sector to make upfront investments in energy efficiency upgrades.
- It may be possible to increase the Kentucky Green Bank lending pool by recapitalizing the bank's debt. EEC and the Finance and Administration Cabinet should determine if recapitalization is a viable recourse to increase the bank's capacity to fund additional state agency ESPC projects.

2. *Establish revolving loan fund, with zero to low interest, linked to energy efficiency upgrades for commercial buildings.*

Background: The Green Bank of Kentucky and the Kentucky Home Performance program have revolving loan programs for (respectively) state government buildings and homes, but there is no such program to provide low-cost loans to owners of commercial buildings.

➤ **Stakeholder Observation:**

- Kentucky should explore sources of funding for a revolving loan program that will stimulate the implementation of energy efficiency measures in commercial buildings.

3. *Kentucky State Government will continue to exhibit energy efficiency leadership.*

Background: With the Governor’s leadership over \$68 million in Recovery Act funding has been used to stimulate Kentucky’s economy toward greater energy efficiency. Twenty-six significant programs that touched communities, businesses, farms, schools and state government facilities have been implemented and are creating long term dividends for all Kentuckians.

➤ **Stakeholder Observations:**

- Even with reduced funding the state must continue its Lead-by-Example role for implementing energy efficiency. State Government should aggressively pursue the requirements and goals outlined in legislation and the Governor’s energy plan.
- EEC should be responsible for promoting and finding new opportunities that increase the adoption of energy efficiency into Kentucky’s economy.

4. *Improve Kentucky’s commercial building stock via implementation support and uniform enforcement of updated commercial building energy codes.*

Background: Except for the HVAC system in new commercial buildings, building energy code provisions are enforced by local code officials; fewer than half of Kentucky’s jurisdictions have local code enforcement. According to the United States Department of Energy, commercial buildings could be made 80 percent more efficient with new and existing technology.

➤ **Stakeholder Observations:**

- Kentucky should increase commercial building energy efficiency by adopting and updating building energy codes and by providing state-wide code enforcement.

Legislative Recommendations (2013/2014 Sessions)

5. *Amend KRS 141.435 through 141.437 (House Bill 2, 2008 Regular Session) to expand existing energy efficiency tax incentive for commercial users.*

➤ **Stakeholder Observations:**

- Kentucky should expand the current KRS 141.435 through 141.437 (House Bill 2, 2008 Regular Session) energy efficiency incentives to

stimulate efficiency improvements, contractor jobs, and equipment sales in the commercial sector.

6. *Create incentive mechanism for owners of commercial rental property to provide energy efficiency services, invest in energy efficiency building upgrades.*

Background: There is little incentive for commercial building owners to invest in energy efficiency upgrades where tenants pay the energy bills.

➤ **Stakeholder Observations:**

- Stakeholders would like to create a mechanism to incent landlords to make commercial property more efficient, while providing the benefit of lower energy bills to tenants.
- Kentucky should explore programs or policies that reduce the split incentive that prevents building owners from making investments when they don't pay the energy bill and tenants, who pay the bills, don't benefit when they install equipment whose payback may exceed their time in the building.

INDUSTRIAL SECTOR RECOMMENDATIONS

Near Term Recommendations (1 - 2 Years)

1. *Establish revolving loan fund with zero to low interest linked to energy efficiency upgrades.*

Background: Manufacturing is the largest sector in Kentucky's economy in 2010, accounting for 18% of the gross state product, 48% of its electricity use, and 48% of its natural gas use. This sector faces mounting pressures with the increase in energy rates and the compliance costs of environmental regulations. Energy efficiency is one way to reduce these cost pressures.

➤ **Stakeholder Finding:**

- Kentucky should investigate revolving loan funds and other funding sources that provide incentives to invest in efficiency improvements, and thus help manufacturers reduce costs, remain competitive, and retain their highly-paid and skilled workforce in Kentucky's economy.

2. *Convene advisory group to review options governing industrial customer opt-out from DSM program and make recommendations.*

Background: While many stakeholders agree that there is great potential for reducing energy use in the manufacturing sector, the Demand Side Management statute (KRS 278.285) allows Kentucky’s industries to opt out from contributing to the ratepayer-funded DSM pool. As a result, most utilities in Kentucky do not offer industrial energy efficiency programs. There is no support among Kentucky’s large energy-using industries to change the opt-out provisions.

➤ **Stakeholder Observation:**

- EEC should convene a working group composed of a cross section of energy stakeholders to explore how to increase the adoption of energy efficiency practices in manufacturing plants.

Legislative Recommendations (2013/2014 Sessions)

3. *Increase financial incentives for industrial energy consumers, i.e. amending existing tax incentive structure, linked to energy efficiency upgrades and performance.*

Background: Kentucky’s industrial firms require a relatively quick recovery of funds invested in energy efficiency improvements – typically less than 24 - 30 months. Any financial incentives that can enable a manufacturer to shorten this investment period increases the likelihood that energy efficiency projects will be executed.

➤ **Stakeholder Observations:**

- Kentucky should explore options to increase tax and other incentives designed to encourage increased energy efficiency in the industrial sector, such as those set out in KRS 154.34 (Kentucky Reinvestment Act).

RECOMMENDATIONS AT THE FEDERAL LEVEL

1. *Explore how Federal Emergency Management Agency funds provided for home rebuilding or replacement in the wake of natural disasters could require new structures to be built better than code (e.g. ENERGY STAR).*

➤ **Stakeholder Finding:**

- Many stakeholders have witnessed post-disaster rebuilding efforts, and would like to encourage the federal government to lead by example by rebuilding structures to better than code (e.g. ENERGY STAR).

2. Seek Low Income Home Energy Assistance Program reform.

➤ Stakeholder Finding:

- Stakeholders in the residential working groups and breakout sessions are concerned that the Low Income Home Energy Assistance Program (LIHEAP) provides a disincentive for Kentuckians to invest in energy efficiency upgrades, and thus allows inefficient dwellings to perpetuate, costing tax-payers even more in the long run.
- Stakeholders recommend giving states more flexibility in how to direct a greater percentage of LIHEAP funds to the Weatherization Assistance Program.
- Stakeholders also recommend prioritizing Weatherization Assistance funding to the highest energy users, to ensure these dollars have the greatest impact.