

## Section 9.4 Policy and Program Recommendations

- 1. The State of Kansas should adopt a goal of increasing energy efficiency such that the rate of growth in electricity peak demand and total energy is 50% less than it would have been absent the energy efficiency initiative.**

*Note: This recommendation is also listed in Sections 9.1, 9.2, and 9.3.*

### Description

According to projections released in December 2008 by the Energy Information Administration, U.S. electricity consumption is projected to grow at an average rate of 1.0 percent annually. This demand growth is much slower than the 2.4 percent annual growth seen in the 1990's and consistent with the trend since 2000, likely reflecting responses to higher prices, increased efficiency standards, and improved efficiency.<sup>1</sup>

In 2006, Kansas utilities generated 45.5 million megawatthours (MWh) of electricity, in response to total annual retail demand of 39.7 million MWh.<sup>2</sup> Demand for electricity in Kansas is projected to grow at an average rate of roughly 1.5% to 2% annually for the next 20 years,<sup>3</sup> although these numbers are likely to be revised downward due to the current national (and global) economic downturn.<sup>4</sup>

Reducing energy consumption through conservation and improved efficiency could result in downward pressure on all energy-related prices, deferral of energy-related investments in new power plants and extraction equipment, reduction in health and environmental costs related to the energy-related emission of pollutants and greenhouse gases. Moreover, energy conservation efforts by individual consumers can result in lower monthly utility bills.

There is little doubt that Kansans have opportunities for cost-effective energy conservation and efficiency improvements that will reduce their electricity usage (as well as natural gas consumption). Many existing buildings are poorly insulated or have inefficient heating and cooling systems, resulting in excessive energy use and, consequently, excessive energy bills year round. Cost-effective energy conservation measures—such as upgrading attic insulation to at least R-38 or installing an Energy

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<sup>1</sup> EIA, 2008, Annual Energy Outlook 2009, Early Release Summary Presentation, Slide 13, linked to: <http://www.eia.doe.gov/oiaf/aeo/index.html> (accessed December 19, 2008).

<sup>2</sup> EIA, 2007, Kansas Electricity Profile: Table 1, 2006 Summary Statistics (Kansas): [http://www.eia.doe.gov/cneaf/electricity/st\\_profiles/kansas.html](http://www.eia.doe.gov/cneaf/electricity/st_profiles/kansas.html)

<sup>3</sup> Based on preliminary data compiled by KEC staff for forecast load and capacity summaries. Finalized versions will be posted on the web site in coming months. According to the EIA, overall U.S. demand is expected to increase 1.1% annually: Annual Energy Outlook with Projections to 2030: <http://www.eia.doe.gov/oiaf/aeo/electricity.html> (accessed September 2008).

<sup>4</sup> According to the National Bureau of Economic Research, the U.S. economy has been in recession since December 2007; this official announcement came on December 1, 2008.

Star qualified furnace—may reduce energy usage by as much as 20 percent,<sup>5</sup> while providing dollar savings as well.

An oft-cited approach to increasing the adoption of energy conservation and efficiency measures is through utility-sponsored programs—commonly referred to as energy efficiency (EE) programs or demand-side management (DSM) programs. Such programs first appeared in the late 1970s and saw increasing popularity through the 1980s. Utility and ratepayer spending on EE programs peaked at \$2.74 billion in 1993 and then declined,<sup>6</sup> coinciding with a decline in political popularity of these programs.

### **Recommended Actions**

#### **a. Responsible parties**

Governor, Legislature, KCC. The Governor and Legislature should reference goal as part of State initiatives to reduce electricity usage.

#### **b. Legislative action**

Legislature should reference goal in bills aimed to improve conservation and efficiency in the electricity sector.

#### **c. Budget requirements**

No additional funding required.

#### **d. Implementation timeline**

Goal should be referenced following the delivery of the *Kansas Energy Report 2009* in January 2009.

### **Implications of Proposal**

#### **a. Pros**

- i. May increase public and private sector initiatives to reduce usage of electricity during times of peak demand.
- ii. May increase public and private sector efforts to reduce overall electricity consumption.

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<sup>5</sup> U.S. Environmental Protection Agency and U.S. Dept. of Energy, 2007, Energy Star web site: [http://www.energystar.gov/index.cfm?c=heat\\_cool.pr\\_hvac](http://www.energystar.gov/index.cfm?c=heat_cool.pr_hvac) and [http://www.energystar.gov/index.cfm?c=home\\_sealing.hm\\_improvement\\_sealing](http://www.energystar.gov/index.cfm?c=home_sealing.hm_improvement_sealing) (accessed October 23, 2006).

<sup>6</sup> American Council for an Energy Efficiency Economy (ACEEE), 2000, State Scorecard on Utility Energy Efficiency Programs, by Steven Nadel, Tor Kubo, and Howard Geller: <http://www.aceee.org/pubs/u004.htm> (accessed November 2007).

- iii. Provides consistent statewide goal, against which electricity growth rates can be measured.

**b. Cons**

- i. Goal may be viewed as not sufficiently ambitious (or as overly ambitious).

*[Section 9.4 Policy and Program Recommendations, continued]***2. Establish minimum building design standard for all new and renovated, occupied, majority State-funded construction in accordance with LEED Platinum or design equivalent.****Description**

Many publicly owned buildings require large amounts of energy to power lighting and run heating, ventilation, and cooling systems, the costs of which are ultimately borne by Kansas taxpayers. Clearly, increasing the energy efficiency of these structures makes economic sense, and the State should ensure that any new buildings constructed with State funds meet reasonable energy efficiency standards.

As Governor Sebelius noted in her Executive Directive 07-373, the State of Kansas should be “at the forefront of appropriate and effective energy and environmental practices.”<sup>7</sup> Establishing a minimum energy efficiency standard for all majority State-funded (excludes public schools) new construction and renovations is clearly in keeping with this objective. Moreover, the Kansas Legislature introduced Senate Bill 452<sup>8</sup> during the 2008 session, which required (among other things) that all new construction projects by state agencies achieve energy consumption levels at least 25% below those set out by the International Energy Conservation Code (IECC) 2006.<sup>9</sup> Adoption and implementation of state-level standards is consistent with the goals of the National Action Plan for Energy Efficiency, which encourage states to develop policies to ensure robust energy efficiency practices, including establishment and enforcement of energy efficiency building codes.<sup>10</sup>

The Leadership in Energy and Environmental Design (LEED) standard, promulgated by the U.S. Green Building Council (USGBC), would require new construction and renovations to receive an audit, in which energy efficiency and overall “environmental friendliness” is evaluated. The USGBC then gives the building a rating—certified, silver, gold, and platinum—based on the score it receives in

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<sup>7</sup> Executive Directive on Energy Conservation and Management (07-373): <http://www.da.ks.gov/ps/subject/arc/executivedirectives/2007/ExeDir%2007%20373.pdf> (accessed September 8, 2008)

<sup>8</sup> Senate Bill 452: <http://www.kslegislature.org/bills/2008/452.pdf> (accessed September 8, 2008)

<sup>9</sup> IECC 2006 is a comprehensive energy conservation code regulating most aspects of energy loss within commercial and residential buildings. These regulations differ by climate region within the United States, and include minimum insulation levels, solar heat gain coefficients on windows, and regulation of lighting, heating, air-conditioning and ductwork.<sup>9</sup> Because the measures within IECC 2006 reduce energy consumption, renovations pay for themselves over time. A Nevada study estimated that the average cost to renovate a commercial building to comply with IECC 2006 was \$1.60 per square foot and resulted in annual energy savings of \$0.68 per square foot; in other words, the renovations were estimated to pay for themselves in as little as two and a half years.<sup>9</sup>

<sup>10</sup> See Goal Six in the National Action Plan for Energy Efficiency Vision for 2025: A Framework for Change, Executive Summary, November 2008: [http://www.epa.gov/cleanenergy/documents/vision\\_execsumm.pdf](http://www.epa.gov/cleanenergy/documents/vision_execsumm.pdf) (accessed December 19, 2008).

categories related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality.<sup>11</sup> Many states across the U.S. have energy efficiency standards for state buildings. Eight states—Arizona, Connecticut, Massachusetts, Michigan, New Mexico, Rhode Island, Washington, and Wisconsin—currently require newly constructed state buildings meet LEED standard (most require LEED silver certification, though Michigan and Massachusetts only requires new construction to meet LEED certification). Eleven other states—California, Colorado, Florida, Hawaii, Illinois, Indiana, Maryland, New Jersey, Nevada, Oklahoma, South Carolina, and South Dakota—require that publicly funded buildings meet LEED Silver certification or a comparable standard, such as two Globes under the Green Globes rating system, or the an EPA Energy Star rating. California and a handful of other states additionally require existing state buildings operate under sustainability guidelines. In California’s case this requirement is a certification under LEED’s Existing Buildings standard.

As might be expected, the costs of building to LEED standard vary, depending on the project. Depending on the study’s methodology, additional costs are estimated to be negligible to perhaps 6% to obtain a level of energy efficiency and “environmental friendliness” equivalent to standards such as LEED silver. Although meeting higher LEED standards is often associated with higher costs, it’s currently difficult to evaluate due to small number of buildings currently built to those levels.<sup>12</sup> The costs associated with the certification process through the USGBC are often considered expensive, requiring rigorous documentation and studies. This has led many jurisdictions to simply require buildings to be “certifiable” under a particular LEED level of Certification, without being actually certified.<sup>13</sup>

## **Recommended Actions**

### **a. Responsible parties**

Kansas Legislature.

### **b. Legislative action**

Adopt minimum energy efficiency standard for all majority State-funded new construction, as described above.

### **c. Budget requirements**

Depending on the monitoring and enforcement provisions of the legislation, some additional funding may be required.

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<sup>11</sup> U.S. Green Building Council, October 2005, LEED for New Construction & Major Renovations: <http://www.usgbc.org/ShowFile.aspx?DocumentID=1095> (accessed July 23, 2008)

<sup>12</sup> Peter Morris and Davis Langdon, Summer 2007, What Does Green Really Cost?, PREA Quarterly

<sup>13</sup> Allyson Wendt, April 2008, Navigating Incentives and Regulations for Green Buildings, Environmental Building News, vol. 17, no. 4, p.1-19

**d. Implementation timeline**

Initiated on the effective date of enabling legislation.

**Implications of Proposal**

**a. Pros**

- i. Establishes leadership for the private sector on the importance of energy efficiency in newly constructed buildings.
- ii. Reduces long-term energy costs in public buildings, saving Kansas taxpayers money.
- iii. Reduces energy consumption in Kansas public buildings.

**b. Cons**

- i. May require additional funding in order to insure compliance.
- ii. May require additional time and training for Department of Administration employees to implement new EE standards in their practices.
- iii. May increase the initial, up-front cost of construction.