

Promoting Energy Efficiency Statement

Kentucky legislative staff report that over the past few years, the Kentucky General Assembly has made great strides in formulating and enacting a comprehensive energy policy for Kentucky that focuses on reducing dependence on foreign oil by encouraging the development of alternative energy resources, and by encouraging energy conservation through the implementation of strategies focused on reducing energy demand. The policy has been formulated through the enactment of three separate pieces of legislation by the Kentucky General Assembly.

2006 House Bill 299 (hereafter “HB 299”) provided the initial impetus for the development of a comprehensive energy policy by requiring the Governor’s Office of Energy Policy (GOEP) to develop and implement a strategy to promote the production of transportation fuels and synthetic natural gas from fossil energy resources and biomass resources. HB 299 also encouraged energy efficiency measures in state construction projects. HB 299 prompted the establishment of the Commonwealth’s Energy Policy Task Force, and the publication of the state’s first comprehensive energy strategy, “Kentucky’s Energy - Opportunities for Our Future - A Comprehensive Energy Strategy” in February of 2005. A status report and update was published in 2007.

2006 HB 299 was followed in the summer of 2007 by 2007 SS 2 House Bill 1 (hereafter “HB 1”), enacted during a special legislative session. HB 1 included several policy initiatives focusing on encouraging the production of alternative transportation fuels, encouraging the development of alternative uses for coal, and encouraging energy efficiency in state government. HB 1 also included small incentives for demand side improvements made in manufacturing plants. At the time HB 1 was enacted, it was acknowledged by the Kentucky Legislature that Kentucky still needed to focus on the demand side of the energy equation by encouraging the use of renewable energy resources, and energy conservation if Kentucky was to have a comprehensive energy policy. Kentucky HB 1 is summarized in the 2008 *SSL Energy Supplement*.

To address the demand side issues identified but not addressed in 2007, the Kentucky General Assembly enacted 2008 HB 2 (hereafter “HB 2”) during the 2008 regular session of the General Assembly. The provisions of HB 2 focus primarily on providing incentives to encourage the development of renewable energy resources, to encourage the construction of energy efficient buildings, to encourage the purchase and installation of energy efficient insulation, doors, windows and heating and air conditioning units, and to encourage the use of solar and wind power. In addition, HB 2 established a program to help finance public sector and private sector green building initiatives to reduce energy consumption. The SSL Committee voted to include information about HB 2 in this 2010 *SSL Volume*.

Incentives provided as part of Kentucky’s energy policy can be summarized as follows:

Supply Side Incentives

Alternative and Renewable Facility Development

Tax incentives are available to encourage the development of the following alternative energy facilities (all incentives in this category were enacted as part of HB 1 unless otherwise noted):

Qualifying Facilities:

Alternative Fuel Facilities - Any facility that produces alternative transportation fuels. Alternative transportation fuels are defined as transportation fuels produced by processes that convert coal, waste coal, or biomass resources or extract oil from oil shale to produce fuel for powering vehicles, aircraft and machinery.

Minimum Required Investment

- Coal as the primary feedstock - \$100 million
- Biomass resources as the primary feedstock \$25 million.

Gasification Facilities - Any facility that converts carbon-containing material into a synthesis gas composed primarily of carbon monoxide and hydrogen, and that produces alternative transportation fuels, synthetic natural gas, chemicals, chemical feedstocks or liquid fuels.

Minimum Required Investment

- Coal as the primary feedstock - \$100 million
- Biomass resources as the primary feedstock \$25 million

Renewable Energy Facilities - Any facility that utilizes wind power, biomass resources, landfill methane gas, hydropower or other similar renewable resources to generate electricity in excess of 1 megawatt for sale to unrelated entities, or any facility that uses solar power to generate electricity in excess of 50 kilowatts for sale to unrelated entities.

Minimum Required Investment - \$1 million

Incentives Available:

Maximum Recovery - 50% of the capital investment.

Maximum Length For Recovery - 25 years.

Possible Incentives - Incentives are negotiated - the amounts set forth below are the maximum amounts available:

- Up to 100% of the taxes paid on purchases of property used to construct, upgrade or retrofit a facility;
 - Up to 80% of the severance taxes paid on the purchase or severance of coal subject to the severance tax in Kentucky that is used as feedstock for an eligible project;
 - Up to 100% of the Kentucky income tax and limited liability entity tax related to tax liabilities arising out of the project;
 - A wage assessment of up to 4% of the gross wages of each employee employed at the facility (the company basically withholds the amount from the employee's pay and the employee gets credit on his or her income tax return as if he or she had paid Kentucky income taxes in the amount withheld); and
 - To allow for some incentives up front, qualified companies can receive a portion of the incentives during the construction period based on the estimated labor component of the total capital investment and the utilization of Kentucky residents during the construction phase.
- Funding - Bond authorization in the amount of \$100 million was provided to support the up-front incentives available under this program.

Biodiesel and Ethanol Production Incentives

Biodiesel Incentives - A credit against the income tax and the limited liability entity tax is available for producers and blenders of biodiesel in the amount of \$1 per gallon produced or \$1

per gallon of biodiesel used in the blending process. The credit for biodiesel existed previously, however HB 1 expanded the exemption to include the production or blending of renewable diesel, and the cap amount was increased beginning January 1, 2008 from \$1.5 million to \$5 million per year, and beginning January 1, 2009, to \$10 million per year.

Cellulosic Ethanol Production Incentive - A credit against the income tax and the limited liability entity tax is available for producers of ethanol and cellulosic ethanol. The credit cap for cellulosic ethanol was established at \$5 million, and the ethanol credit cap was established at \$5 million, with the ability to shift the caps between the two types of ethanol.

Demand Side Incentives

Manufacturing Incentives - HB 1 provided sales tax incentives for the purchase of machinery or equipment that reduces energy consumption in an entire manufacturing process by at least 15%.

Residential and Commercial Incentives

(The credits in this section were all enacted as part of HB 2 unless otherwise noted)

Residential Credits

- Effective dates - January 1, 2009 - December 31, 2016
- Credit amounts: 30% of the installed cost of upgraded insulation (up to \$100), energy efficient windows and storm doors (up to \$250), and qualified energy property (up to \$250), with an overall cap of \$500 per taxpayer.

Commercial Credits

- Effective dates - January 1, 2009 - December 31, 2016
- Credit amounts: 30% of the installed cost of energy efficient interior lighting systems (not to exceed \$500), or energy efficient heating, cooling, ventilation or hot water systems (not to exceed \$1,000).

Residential and Commercial Credits – Solar and Wind

- Effective dates - January 1, 2009 - December 31, 2016
- Credit amounts: 30% of the installed cost of an active or passive solar space heating system, a combined active solar space-heating and water-heating system a solar water heating system, a wind turbine or wind machine, or \$3 per watt direct current of rated capacity of a solar photovoltaic system. The maximum credit is \$500 if installed on an owner occupied dwelling unit or a single family rental unit, or \$1,000 for a multifamily residential unit or commercial building.

Credits for Home Builders and Sellers of Manufactured Homes - The credit is available for builders who build a new ENERGY STAR home or sellers of new manufactured ENERGY STAR homes.

- Effective dates - January 1, 2009 - December 31, 2016
- Credit amounts: The credit is \$800 for home builders, and \$400 for sellers of manufactured homes.
- ENERGY STAR homes in Kentucky - As of February 27, 2008, there were 1,550 ENERGY STAR homes in Kentucky (GOEP website, accessed 6/2/08).

NOTES FOR ALL CREDITS - The credits available may be taken only once by one individual or entity, even if more than one individual or entity qualifies under the terms of the credit (for example the builder and the purchaser). Credits for a purchase may be taken under only one incentive even if the purchase qualifies for more than one credit.

Public/Governmental Initiatives

Use of LEED or Green Globes rating systems and ENERGY STAR products

- HB 1 includes language encouraging the Finance and Administration Cabinet to utilize the LEED or Green Globes rating systems to promote the design, construction and operation of energy efficient buildings, and to incorporate ENERGY STAR qualified products in state agency procurements.

Development of ENERGY STAR and LEED Certified Buildings in Kentucky

- According to the GOEP Website, as of January 30, 2008 there were 22 ENERGY STAR labeled buildings in Kentucky, and 12 of those buildings are K-12 public schools.
- The GOEP website lists 10 buildings in Kentucky as LEED certified, with one listed as platinum (the Bernheim Visitor's Center), 7 listed as silver, and 2 listed as certified. (site accessed on 6/2/08). LEED certification is determined on a point system. Projects earn points for meeting specifically identified criteria during the design, construction and implementation phases. The highest certification is the platinum certification, and the lowest is "LEED certified."

Establishment of High Performance Building Standards

HB 2:

- Establishes the High Performance Buildings Advisory Committee consisting of 15 members to assist in recommending standards high performance building standards, reviewing projects and conducting professional development.
- Requires the establishment of high performance building standards by the Finance and Administration Cabinet
 - Beginning July 1, 2009, requires all construction or renovation of public buildings (includes those managed by the Finance and Administration Cabinet and public universities) for which 50% or more of the total capital cost is paid by the Commonwealth be designed and constructed or renovated to meet the high performance building standards.
 - Requires all leased buildings to meet high performance building standards after July 1, 2018, and establishes a preference for buildings meeting the standards prior to that date.

NOTE: Kentucky law, prior to the passage of HB 1 and HB 2 included an energy efficiency program for state government buildings, including the use of guaranteed energy savings performance contracts. The law also requires the Finance and Administration Cabinet and GOEP to institute an energy audit training program within state government, and requires persons submitting bids or plans for state-owned buildings to be constructed or renovated on or after July 15, 1996 to include a life cycle energy cost analysis.

Public Energy Usage - HB 1 requires all agencies responsible for managing state-owned property to review utility usage and to cooperate with the Finance and Administration Cabinet to determine which properties are good candidates for guaranteed energy savings performance contracts. A guaranteed energy savings performance contract is a contract for evaluating and

recommending energy conservation measures and for implementing one or more of the identified measures. Basically Energy Service Companies guarantee that savings realized from energy conservation measures will pay for the energy improvements.

State Vehicle Fleet - HB 1 requires the Finance and Administration Cabinet to develop a strategy to replace at least 50% of the state owned passenger and light duty trucks with more efficient vehicles and to increase the use of ethanol, biodiesel and other alternative transportation fuels if possible. Requires annual reports beginning December 1, 2007 and each year thereafter.

The Kentucky River Authority and Hydroelectric Power - The Kentucky River Authority is encouraged to promote private investment in the installation of hydroelectric generating units on all existing Kentucky River dams under the jurisdiction of the authority.

Mandated Enrollment of Schools in the Kentucky Energy Efficiency Program - HB 2 requires all school districts, on or before January 1, 2010, to enroll in the Kentucky Energy Efficiency Program offered by the Kentucky Pollution Prevention Center at the University of Louisville.

The Bluegrass Turns Green Demand Side Energy Program for Public Buildings - See discussion under “public and private funding opportunities”.

Establishment of the Center for Renewable Energy and Environmental Stewardship - HB 1 required recommendations regarding the establishment of a center for renewable energy and environmental stewardship, and HB 2 established the center attached to the GOEP. Services and support for the center are to be provided by the GOEP staff until the center is operational on its own. A 13 member board of directors is established to provide policy direction, establish a strategic research agenda and operating policies, and to provide financial and operational oversight for the center. NOTE: No separate funding was provided to support the center.

Public and Private Funding Opportunities

Seed Funding to support research and development and commercialization initiatives in alternative fuels and renewable energy (2007 SS2 HB 1).

Establishment of the “Kentucky Alternative Fuel and Renewable Energy Fund” and Program - The purpose of this fund and program is to provide seed money to support research, development and commercialization in the areas of alternative fuel and renewable energy.

- Administration of the Program - The Cabinet for Economic Development has an agreement with the Kentucky Science and Technology Corporation (KSTC) to administer the program. The program was modeled after an existing program administered by the KSTC that encourages collaboration between business and Kentucky academic institutions to engage in research and development and to foster commercialization of new ideas and processes.

- Program Details - The program is competitive and operates based on an application process. Matching funds are required for the grant program on a one-to-one basis, and the KSTC often takes an equity position in companies that receive funding.

- Funding - Bond funds in an amount up to \$5 million is provided to support this program.

Funding to support energy efficient renovations and upgrades - Establishment of the “Bluegrass Turn Green” program (2008 HB 2)

- Focus of the Program - The program is focused on encouraging implementation of demand side management in public and private buildings.
- Public Sector - Public sector program funds must be used to provide grants to the public sector for engineered demand side management projects within public buildings. Eligible projects require an investment of between \$5,000 and \$1,500,000, and require a simple payback period of 5 years if prior to July 1, 2013, and if after, can have a payback period of up to 12 years.
- Private Sector - The private sector program fund must be used to provide low interest loans (prime minus one percent) to the private sector for engineered demand side management projects in private sector buildings. Engineered demand side management projects are projects undertaken to reduce the amount of energy consumed in an existing structure. Investment levels and payback periods are the same as in the public sector program.
- Funding: The program is funded with \$50 million in bond proceeds to support public demand side management projects, and with \$30 million in bond funds to support the private sector loan fund for demand side management projects.
- Reporting - Reports are required beginning November 1, 2009 and each November thereafter.

Research, Exploration and Studies Required

PSC Study on Demand Side Initiatives and Energy Portfolio Standards (HB 1) - The PSC is directed, by July 1, 2008, to make recommendations to the Legislative Research Commission regarding the following issues:

- Eliminating impediments to the consideration and adoption by utilities of cost-effective demand-management strategies for addressing future demand prior to Commission consideration of any proposal for increasing generating capacity;
- Encouraging diversification of utility energy portfolios through the use of renewables, and distributed generation;
- Incorporating full-cost accounting that considers and requires comparison of life-cycle energy, economic, public health, and environmental costs of various strategies for meeting future energy demand; and
- Modifying rate structures and cost recovery to better align the financial interests of the utility with the goals of achieving energy efficiency and lowest life-cycle energy costs to all classes of ratepayers.

LRC Study Relating to Energy Efficient Buildings and Construction Practices (HB 1)

- The LRC is directed to review current building practices that promote energy efficiency and the current structure of tax incentives relative to energy efficiency in construction and building operating systems.
- The study is to be completed by November 1, 2008 and a written report presented to the Interim Joint Committee on Appropriations and Revenue and the Special Subcommittee on Energy by December 1, 2008.

Carbon Management Report (HB1)

- The GOEP, Center for Applied Energy Research (CAER), the Geological Survey and the PSC were directed to produce a report and recommendations to the Legislative Research Commission on or before November 20, 2007.
- Status - The report was produced as directed
- Significant Recommendations
 - Provide incentives or grants to encourage public/private partnerships to site large scale carbon capture technology.
 - Encourage, through additional funding, the further development of large scale carbon dioxide storage demonstration projects.
 - Develop mechanisms whereby the Commonwealth can provide some liability protection for demonstration projects for carbon capture and storage.
 - Fund public outreach and education programs to help the public understand more about carbon capture and storage.
 - Provide the PSC with the tools necessary to encourage utilities to adopt and implement new technologies to reduce or capture carbon dioxide.
 - Amend economic development incentives to help energy-intensive industries make modifications to remain viable in a higher rate environment.
 - Establish an informal Carbon Dioxide Working Group.
 - Encourage the federal congressional delegation to increase funding and to work for reasonable regulations on carbon emissions.

Geological Survey Carbon Sequestration and Enhanced Oil and Gas Recovery Research and Funding - Funding was provided in HB 1 in the amount of \$5 million for the Kentucky Geological Survey to conduct research, either itself or in collaboration or under contract with other entities, to quantify the potential for enhanced oil and gas recovery, enhanced and coal bed methane recovery using carbon dioxide, and permanent storage or sequestration of carbon dioxide. The statute requires the research to include the drilling of deep wells in both the Illinois and Appalachian coal fields. A status report was filed with regard to this research on December 1, 2007. The status report indicated that the agreement between GOEP and the Kentucky Geological Survey was effective on October 1, 2007.

Center for Applied Energy Research (CAER) Funding

- Initial Funding - Funding was provided in HB 1 for CAER in the amount of \$2 million to develop the fundamental knowledge, applied science, and engineering necessary to allow industry to rapidly incorporate alternative fuel production technologies into plant design and construction. CAER is encouraged to use the funds to match available federal and private funds. The General Assembly also expressed its intent to provide additional funding of at least \$2 million annually for CAER to continue this research.
- 2008-2010 Follow Up Funding - The General Assembly provided funding to CAER in the 2008-2010 budget in the amount of \$1 million in each year to support research and development activities directed toward the development and demonstration of technologies for carbon management. The authorizing language includes a provision that prevents the expenditure of the funds if they are not matched with federal or private funds.

Governor's Office of Energy Policy Report Relating to Renewable Energy HB 2 requires GOEP to issue a report and recommendations required from by November 30, 2008 addressing the following:

- Adoption of a renewable-energy and energy-efficiency portfolio standard for all suppliers of retail electric power requiring that a percentage of the retail electric sales be provided from renewable resources (solar, water, solar thermal, solar photovoltaics, wind power, hydropower, methane digesters and biomass resources) and from energy efficiency technologies, including:
 - Recommended target percentages of sales by suppliers of retail electric power from renewable resources, a timetable for compliance, and incremental requirements and percentages that will best achieve the goals of diversification of the energy supply and encouraging private investment in renewable energy and energy efficiency;
 - Recommended set-asides for different types of renewable-energy sources and the effect of the use of set-asides on accelerating the development of those energy sources; and
 - The percentage of the target that can be met through investment in energy-efficiency technologies, including environmentally beneficial cogeneration systems using renewable or nonrenewable fuels; and
- Funding mechanisms for financing incentives for energy efficiency and renewables, including evaluation of public or system benefit funds utilized by other states, the programs funded by such funds, the costs and benefits of such funding mechanisms to ratepayers and taxpayers, and the impact of those incentives in assisting in greater adoption of renewable-energy and energy-efficiency measures.
- The GOEP is required to actively solicit input and participation from electric utilities and suppliers of retail electric power, environmental and conservation groups, representatives of industrial, commercial, institutional, and residential consumers, the PSC and the Office of the Attorney General, in the scoping and development of the report. The GOEP is also required to list the individuals and entities who provided input and were participants in the process, and the nature of the input and participation.

Miscellaneous Educational and Employment Initiatives

Student Loan Forgiveness Program - 2007 SS 2 HB 1 established a student loan forgiveness program for individuals who receive a bachelor's degree or graduate degree from a Kentucky college or university who are employed in an energy-related field as engineers, engineering technologists, chemists, geologists, or hydrologists in Kentucky.

Energy Technology Career Track Program - 2007 SS 2 HB 1 requires the Kentucky Department of Education and the Department of Workforce Development to establish an energy technology career track program if funding is available. The amount of \$300,000 was appropriated FY 2007-08. The purpose of the program is to provide grants to school districts to develop and implement an energy technology engineering career track across middle and high schools within a district.

Other Efforts and Initiatives Relating to Energy In Kentucky

The Kentucky Pollution Prevention Center (KPPC) - Housed at the University of Louisville – serves as a source for technical information and assistance to improve environmental performance (<http://louisville.edu/kppc/>). Services and programs provided by KPPC include on-site pollution prevention and energy efficiency assessments, the Kentucky Energy Efficiency Program For Schools (KEEPS), and the Kentucky Rural Energy Consortium (see below).

The Kentucky Rural Energy Consortium (KREC) - The Kentucky Rural Energy Consortium has developed a plan, called the “25 x ‘25 Action Plan: Charting America’s Future.” The plan is a renewable energy initiative. The purpose of the plan is to use renewable energy and energy efficiency as a means to get at least 25 percent of the energy used in the state from improved technology and renewable resources by the year 2025.

Submitted as:

Kentucky

HB 2 (enrolled version)

Status: Enacted into law in 2008.