



Kansas Corporation Commission Kansas State Energy Program 2003 Annual Report

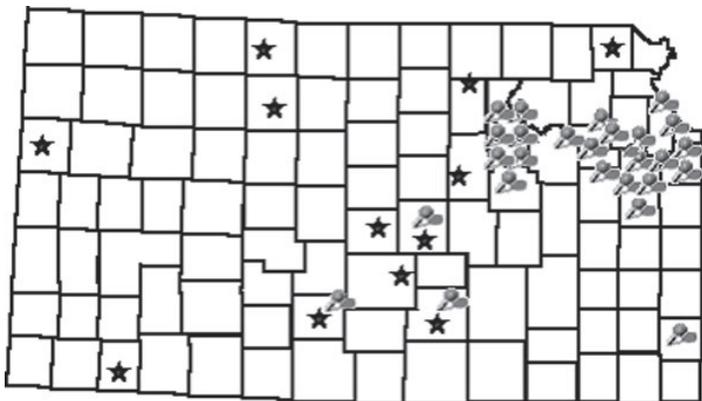
From the Chair

This has been an interesting year in energy in Kansas. Natural gas prices have fluctuated wildly, wind farm development continued to be a hot topic in Kansas, and the State Energy Resources Coordinating Council has reported to the Governor that Kansas is no longer a net exporter of energy. These are just a few of many energy related issues this past year. Suffice to say that energy is second only to agriculture in economic importance in Kansas.

The State Energy Program (SEP) has done an excellent job in helping coordinate the State's efforts to help individuals and institutions lower their energy usage and to smoothly transition renewable energy resources into Kansas' energy mix. In FY2003, the SEP provided over \$720,000 in grants for energy resource development and energy conservation. This was combined with almost \$550,000 in matching funds. The Institutional Conservation Program (ICP), directed by the SEP, provided over \$350,000 in matching funds to school districts to help them upgrade their existing facilities to modern energy efficiency standards. These improvements will net the participating schools an estimated \$150,000 annual savings on their energy bills.

The SEP and its grantees have done an excellent job in FY2003. Thank you to everyone who participated in the program.

*Brian Moline, Chair
Kansas Corporation Commission*



 Grants
 Institutional Conservation Program

Overview of the Kansas Energy Program

The State Energy Program (SEP) continues to support projects that make a difference in the everyday lives of Kansas citizens. From supporting rideshare programs in metropolitan areas to placing photovoltaic lights in off-grid areas of our state parks, the work of the SEP can be seen across the state. The SEP also supports education, both directly through Institutional Conservation Program grants that update existing schools to current energy saving standards, and indirectly, by supporting a wide variety of education related activities. Looking to the future, the SEP has helped fund the Communities of the Future program in Manhattan, the Gridless Urban House project in Lenexa and several forward looking programs designed to use Kansas' vast biomass resources. This annual report highlights the grants the SEP has given to Kansas energy projects, but the SEP is far more than grant money. It is a place that citizens or businessmen can go for the latest information on energy matters within the state. In the past few years this has been extremely important as outside developers have become very interested in the wind energy potential in Kansas. One wind farm has already been built near Dodge City, and several others are in the planning stage waiting for passage of the federal energy bill. The SEP has been in the forefront of this trend.

If you have energy related questions, the SEP is here to serve you. If you have an energy related project that you think may qualify for an SEP grant, see the information on the back page of this publication. The SEP is here to serve all Kansans.



At a media stop in Topeka for the Drive to Survive in May, the Kansas Energy Office hosted Dennis Weaver, one of several participants driving across the country promoting the use of alternative fueled vehicles. Pictured with Dennis are John Wine, KCC Commissioner (right), and Jim Ploger, Energy Office Manager (left).

State Energy Program Grants

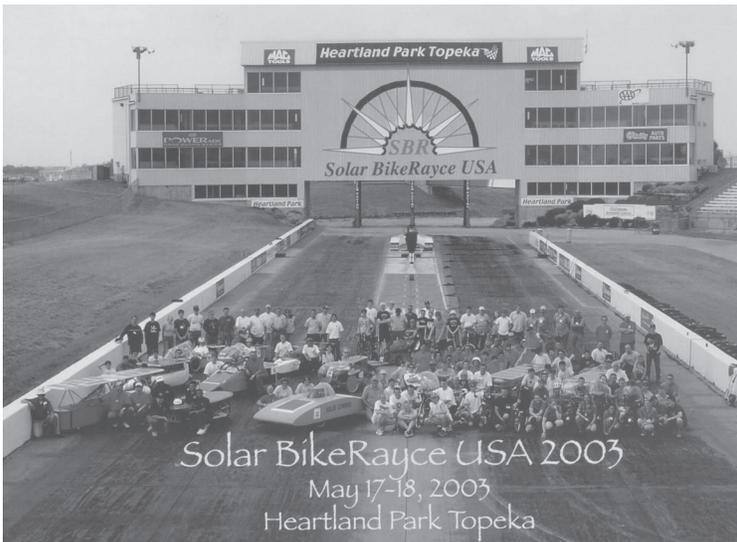
Education

Solar Raycing

Formula Sun

Freeman, MO (877) 840-5511

For the past seven years, the Kansas Corporation Commission has been a major sponsor of the Formula Sun Events. Since 2000, these have featured both solar bikes and solar cars in two separate subevents of Formula Sun Week of Solar Raycing held each spring in Topeka. In 2003, Solar Bike Rayce USA finished its ninth year with improved performances all around. Over forty teams from both coasts of the US and everywhere in between came to Topeka to race on the 1.8-mile course at Heartland Park, nine of them from Kansas. Finishing in 2 hrs. 27 min., the pedal classes (A, B & X) was won by the Old Rocketmen, topping their own previous best by seven minutes and beating the record held for a year by the Australian Eastern Fleurieu team by a minute and a half. This Kansas City-based team, whose riders and builders are all over fifty years old, also help high school raycing teams from Lincoln Prep in Kansas City. Second and third overall in the A, B & X classes were won by the General Lee adult team from Marshall, IL and the Psychloholics of Bloomington South HS in Bloomington, IN respectively. All of the pedal classes entries finished the whole 100-kilometer event in the time allowed which shows that more teams were well prepared for the challenge offered.



Group picture of the participants in the annual Solar Bike Rayce at Heartland Park in Topeka.

Of the fourteen S class (solar only) teams only one finished the 100k challenge. The S class competition was won by Los Altos HS from Los Angeles, California with second place going to Middle Tennessee State and third taken by Avon HS from Avon, Indiana. See www.solarbike.org or, call 800-458-2898, for more information.

The Formula Sun Grand Prix (FSGP) featured twelve university teams primarily from the Midwest. The winning entry from the University of Minnesota drove almost six hundred miles over a rain spattered and overcast three-day period beating the nearest competitor from Kansas State University by less than one lap at the end of raycing. All of the competitors later entered the American Solar Challenge, a race from Chicago to Los Angeles. Three FSGP racers took top the top three prizes in that event: University of Missouri at Rolla, University of Waterloo, and University of Minnesota took first, second and third respectively. The next American Solar Challenge will come through Kansas in 2005 from south to north through Wichita and Topeka. See www.formulasun.org or call 800-606-8881 for additional information.

Next year's raycing events will be held in Topeka in early spring 2004. Both events are looking for volunteers to come out and help. Meet the fantastic young people who race these high tech vehicles, and learn more about solar raycing. Call 877-244-7727 to volunteer.

Communities of the Future

City of Manhattan

Manhattan (785) 587-2404

Communities of the Future is an initiative of the Department of Energy to provide assistance to communities in gaining economic and environmental advantages through existing Department of Energy programs. The City of Manhattan is working with the DOE Denver Regional Office to assist the community in achieving goals related to energy efficiency.

The Committee held a Cost Savings for Businesses Seminar on February 13, 2003. Five local business people attended the event and received a wealth of information on no cost/low cost energy saving ideas. The Committee also held a gathering for residential contractors on March 14 to discuss Home Energy Ratings. Communities of the Future participated in the Flint Hills Expo April 4 and 5. Expo attendees received energy efficiency information from KSU Engineering Extension and the Energy Star Program. Committee members were on hand both days to answer questions.

With the State and Nation expected to face dramatic increases in natural gas prices in the coming months, this program can offer alternatives for individuals in the community who are in need of more energy efficient homes and may need assistance with the rising heating/cooling costs. The City will contract with certified home energy raters to conduct these ratings within 100 households throughout Manhattan. A thorough report will be provided to the homeowner, along with alternatives to improve the efficiency of their home. Financial options are also planned to be included in the program through local lenders and financial institutions. These options hope to provide the homeowner with a low-interest loan to make the necessary home-improvements to acquire a more energy efficient home. Future plans include: implementing a Home Energy Ratings program and hiring a part-time administrator for the program.

Weatherization Education

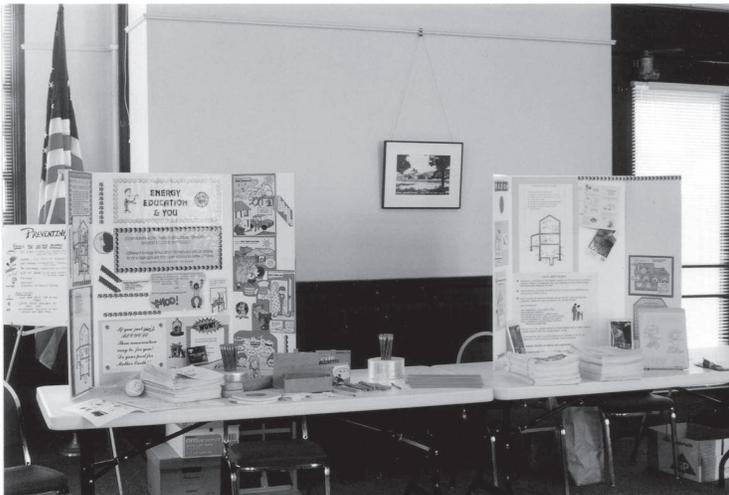
Community Action

Topeka (785) 235-9561

In August 2002, Community Action was able to expand its Back to School Fair to include Clay and Saline counties along with Shawnee. This gave the agency an opportunity to reach a larger segment of the Kansas population with the Energy Education Program. With approximately 5,500 in attendance in Topeka, 1,200 in Salina and 500 in Clay Center, Community Action gave out *No Cost-Low Cost Tips* for energy reduction in homes to adults and energy savings coloring books, crayons and puzzle books to the children. The model home was on display where Community Action inspectors pointed out the primary areas of air infiltration. Homeowners then could take the initiative in reducing their overall energy outlay with minimal cost and labor.

During the heating months of October 2002 through February 2003, Community Action held 45 winterization and Energy Education workshops in Shawnee, Wabaunsee, Geary, Clay, Dickinson, Saline and Ottawa counties. Kits containing materials to lower energy costs to homeowners and renters were given out. They contained plastic for windows, rope caulking, tubes of silicon caulk, a caulking gun, weatherstripping, foam pipe wrap and a carbon monoxide detector. In addition to the kits, *No Cost-Low Cost Tips* and *Energy Savers* booklets were given to all adults in attendance. Children received the energy savings coloring books, energy puzzle books and crayons. At the workshops, inspectors were able to have a one-on-one with participants fielding questions about measures they could do for themselves to lower heating and electric bills. Two hundred twenty-four households benefited from this program.

In April, the display booth dealing with energy usage and conservation



The Community Action display booth dealing with energy usage and conservation was shown at the Junction City Intergenerational Fair held in the city municipal building.

was shown at the Junction City Intergenerational Fair held in the city municipal building. One-on-one energy savings advice was shared with approximately 1,200 people. Also in April, the display booth and energy reduction information was at the Children's Safety Fair held at the Abilene Civic Center. Games, coloring books and puzzles that emphasized energy conservation measures were given to the children; adults received copies of *Energy Savings Tips* booklets and pens.

Throughout the year, Community Action continued to incorporate the Energy Education Program with the Weatherization Program. During the initial inspection of a home, prior to beginning the actual weatherization of the home, a walkthrough is done with the client where the inspector points out things the client can do for themselves to cut energy costs. Such things as compact fluorescent lighting, setting back thermostats, buying new gaskets for refrigerators, lowering the temperature setting on the water heater, and setting the thermostat at a slightly higher setting for air conditioning are recommended.

Community Action's motto is "Helping People Help Themselves," and by giving the basic information to save on utility costs, the Weatherization and Energy Education Program is doing just that.

Kansas Energy Extension Service

Kansas State University

Manhattan (785) 532-4994

In 2003, Energy Extension Service (EES) entered its 23rd year of service to Kansas energy consumers. Throughout that time, EES has provided timely, factual, and unbiased answers to questions on energy topics ranging from production of renewable energy to energy conservation and air quality. EES answers hundreds of questions annually on topics ranging from home heating to the cost-effectiveness of wind energy systems. EES produces original publications, maintains Web resources, and responds to telephone and e-mail energy questions.

EES has added two publications this year, *Solid-Fuel Heating Appliances* and *Comparing Fuel Costs of Heating and Cooling Systems*. *Solid-Fuel Heating Appliances* details the advantages and disadvantages of most solid-fuel heating appliances from wood stoves and open fireplaces to corn and pellet stoves. Comparisons of heating costs and environmental emissions are provided. *Comparing Fuel Costs of Heating and Cooling Systems* helps consumers answer the common question, "Which is cheaper to operate?" It provides a comparison of fuel costs for common heating and cooling systems and provides a method for estimating annual operating costs. All publications are available online at www.engext.ksu.edu.

Ask Energenie, the weekly Q&A newspaper column on energy, continues to be a popular vehicle for dispensing current energy information. The column is distributed to 67 daily or weekly newspapers and all 105 county extension offices. County offices repackage the information for local newsletters for an even wider distribution.

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Kansas Energy Information Network

University of Kansas Center for Research

Lawrence (785) 864-2073

The Kansas Energy Information Network (KEIN) is a web resource that has centralized existing on-line energy information to one web-site. While web searches can still be used to find specific information, KEIN has organized Kansas-relevant energy information on various topics in one location. The frequent user of multiple online energy resources can now bookmark KEIN rather than numerous other web-sites.

For any specific energy topic, KEIN includes links to information such as: energy news, upcoming events, energy data, and energy merchants. Topics include fuels such as wind, solar, ethanol, and petroleum, as well as energy-related topics such as transportation, energy conservation, and homes that are off-grid. In the past year, KEIN began hosting the web site and various reports of the State Energy Resources Coordination Council (SERCC) and developed a directory of energy related businesses. In the next year, KEIN will begin hosting the web site of the Kansas Renewable Energy Working Group (KREWG) and will continue to make other energy related information available. For more information please visit the web site: www.kansasenergy.org.

Project Learning Tree

Kansas Association for Conservation
& Environmental Education

Manhattan (785) 532-3322

Building on the strong network for environmental education in Kansas, KACEE, through a Kansas Corporation Commission/State Energy Plan Grant, introduced a new energy education curriculum to Kansas educators. *Energy & Society*, developed nationally through Project Learning Tree, offers PreK to grade-8 formal and non-formal educators hands-on activities related to understanding energy, energy issues and their relationship to the environment.

Through this grant, KACEE was able to provide over 200 educators from across the state with *Energy & Society* training and materials, impacting an estimated 4,000+ students in Kansas. Educators participated and learned how to use great activities such as:

- “*Renewable or Not*,” a hands-on simulation that explores the ways we use our natural resources and helps students define and understand renewable and non-renewable resources.
- “*Energy Sleuths*,” which guides students in an exploration of energy sources and ways we use energy in our everyday lives.
- “*Waste Not Want Not*,” an activity designed to promote an understanding of energy conservation by conducting a school or home-based energy audit and then problem-solving to explore ways to conserve energy.

In addition, workshop participants explored the energy education materials and opportunities available through the Kansas Energy Education Foundation (KEEF) and looked at ways these materials could be incorporated into thematic energy related teaching units.

KACEE utilizes a network of volunteer workshop facilitators to implement their environmental education programs. As a part of this grant, facilitator training was also conducted in June 2003 for 12 participants. These participants were engaged in activities and explorations about conducting quality environmental education activities, developing facilitation skills and hands on training, initiating, organizing and hosting environmental education workshops. As a part of this facilitator training, the participants explored the new *Energy & Society* materials and ways in which these workshops could be implemented more broadly throughout the state.

KACEE conducted two more Energy & Society workshops in Fall 2003 and held a concurrent session on this project at the 2003 Kansas Environmental Education Conference held Nov. 7-8, 2003 in Manhattan, KS.

For more information on this program, please contact: Beth Carreno, Coordinator of Education Programs (KACEE) at: 785-233-4721 or bcarreno@swbell.net.

Energy Emergency Plan for Topeka

Energy Planning Consultants

Denver, CO (303) 810-9912

A comprehensive energy emergency response plan for Shawnee County government leaders charged with the responsibility of ensuring the health, welfare, and safety of the citizens during periods of energy emergencies was created. The plan describes the way the city will respond if an energy shortage of a substantial nature occurs or appears imminent. Shawnee County is responsible for implementation of the plan.

This plan uses three basic strategies to minimize disruption of energy supplies or the perception of an emergency: voluntary and mandatory demand reduction measures, substitution of alternative resources when possible, and city programs to curtail excessive use. Further, the plan defines emergency conditions and how to monitor the indicators; identifies key players, as well as their roles and responsibilities; identifies the flow of information among agencies, private industry, and the public; recommends “measures” to reduce demand on resources; and discusses the economic impact of higher priced fuel on low-income persons. The plan is organized around three emergency response phases that contain increasing levels of activity depending on the severity of the energy emergency.

This plan outlines methods Shawnee County can use to monitor an energy shortage and decide whether or not an energy emergency should be declared. It describes the actions that must be taken to declare a

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state of energy emergency. It outlines decision-making and administrative structures that will be used during a time of emergency. It suggests levels of emergency that may occur for shortages of each fuel type with voluntary and/or mandatory measures appropriate for the level of shortage. If a substantial shortage exists, or appears imminent, Shawnee County Emergency Management may recommend that an energy emergency be declared for one or more fuel sources. These measures will be voluntary to the extent possible and mandatory in more severe fuel shortages and may be localized or statewide in scope. The goal of actions recommended, or required, will be to distribute available resources in an equitable manner, to maintain essential services to the extent possible, and to protect the health and welfare of Shawnee County citizens. The plan relies on the free market to operate, with government intervention assumed only under conditions of extreme emergency. During an energy emergency, the Shawnee County Emergency Operations Center's responsibility is to communicate, coordinate, aid, and assist. The private sector's responsibility is to repair damage and get commercial and industrial systems back on track as soon as possible. These actions are achievable through communication, cooperation, and reliance on the voluntary action of communities, suppliers, and citizens. For more information see: www.energyplan.net.

Photovoltaic Applications Symposium

*Kansas State University
Manhattan (785) 532-5627*

Dr. Gale Simon, Kansas State University Extension Programs, hosted a one-day Solar Energy Symposium on May 15, 2003 at the Kansas Corporation Commission in Topeka. Attending the free event were farmers, ranchers, homeowners, teachers, business leaders, and local and state government representatives interested in solar energy. The symposium covered both off-grid and grid-connected applications for PV and complemented the previously released *Cost Effective Solar Power in the Heartland*. A variety of speakers spoke in non-technical easy to understand terms about how solar cells are a viable source of energy for powering many types of electrical devices.

Other sponsors of the symposium were the U. S. Department of Energy, Kansas State University Extension Programs, Heartland Solar Energy Industries Association and Heartland Renewable Energy Society. The event was held in conjunction with the annual Formula Sun activities in Topeka (see page 2).

Energy Annual Report

*Pinnacle Technology, Inc.
Lawrence (785) 832-8866*

Pinnacle Technology was hired by the Energy Office to prepare the Annual Report that you are currently reading. The office has asked the company to collect information from all the grantees during fiscal year 2003, summarize the activities of the grantees, and produce an easy-to-read report highlighting all the activities undertaken by the Energy Office during the year.

Transportation

Kansas City Rideshare

*Mid-America Regional Council
Kansas City, MO (816) 474-4240*

In Spring 2003, the RIDESHARE program in Kansas City rolled out the Midwest Commuter Choice program for area employers. Based on the requirements of EPA's national Commuter Choice Leadership Initiative exclusive requirements, this program is tailored for the Midwest region and adaptable for use by any city in Missouri, Kansas, Nebraska or Iowa. Thus far, 44 employers in the Kansas City and St. Louis areas have qualified for this distinction. RIDESHARE has visited over 69 employers and schools for information fairs this year, and added 1,121 new registrations to the commuter database. Over 2,871 successful matchlists were generated for distribution to area residents.

During the week of May 19-23, 2003, the RIDESHARE program helped to sponsor the first Bicycle and Pedestrian Commuter Challenge (BPCC). The first year was a huge success. More than 230 local residents kept their cars in the garage and biked or walked to work. The BPCC was designed so people could compete in either individual or team competitions. BPCC participants either biked or walked more than 7,765 miles during the week of competition. Several individual bicyclists pedaled 25 miles on each leg of their commute, while some pedestrians walked 12 miles round-trip as part of the competition. Winners were recognized for their efforts at the Kansas City Corporate Challenge awards ceremony on July 17, 2003.



Anthony Meyer, or "The JO Guy" as his coworkers call him, is a devoted advocate for alternative transit. Anthony rides the bus through Johnson County Transit and also incorporates his bicycle into his daily commute. All of the JO buses have bicycle racks to offer a flexible approach to getting to work. Anthony's advice to people who are curious about the bus is, "Just try it once."

Some of the benefits he touts of using the bus and biking are: being outdoors, getting exercise, reducing stressful commutes and the freedom to explore downtown on his lunch break.

State Energy Program Grants

Wichita Rideshare

Wichita Transit

Wichita (316) 352-4807

Since its inception in the middle 1980's, Wichita Transit's (WT) ParaTransit service has dispatched its van fleet via pencil, paper and a two-way radio. Although the scheduling and dispatching staff have become quite proficient at knowing the City of Wichita's streets and their clients' addresses, it had become apparent that WT needed some help to schedule the 350 trips that it deals with each day. The solution: a computer-aided scheduling software package used strictly for the ParaTransit service. After a lengthy search, WT chose a software package called ADEPT, produced by StrataGen Systems, Inc. The software utilizes Geo-coded maps to pin-point the shortest routes for drivers to take and to define exactly where clients live and where they are going. WT dispatchers and schedulers are now able to schedule, dispatch and give their clients instant feedback on reservations for their trips. Other attributes of the scheduling software are: greater flexibility in reporting, instant client information (disability details, special needs, fare or payment structures), increased efficiency for routes, and decreased two-way radio communications between driver and dispatch personnel. This software will work in tandem with future improvements such as, Automatic Vehicle Locators and Mobile Data Terminals.



One of the new ParaTransit vans acquired by Wichita Transit in FY2003.

Another area where Wichita Transit made improvements in 2003 was in their ParaTransit van fleet. They replaced existing vans with new 2003 Eldorado vans manufactured in Salina, Kansas. The new vans offer: improved gas mileage with newer and cleaner burning engines, better air-conditioning to keep clients more comfortable during the hot summer months, improved wheelchair tie-downs, and state of the art safety features. Also, with the new paint scheme (pictured above), the new vans match the newly acquired buses. It has been an exciting year for WT with a lot of upgrades to existing resources.

Soybean/Biodiesel Workshops

Kansas Soybean Association

Topeka (785) 271-1040

The Kansas Soybean Association conducted soy-based biodiesel educational workshops across the state of Kansas to increase awareness, use and availability of soy-based biodiesel blends in Kansas. Two workshops were held each day. The morning sessions targeted consumers, especially farmers. The afternoon sessions assisted biodiesel retailers in obtaining, handling and distributing biodiesel blends to their customers.

Attendance at the workshops averaged 25 to 30 and interest was high. The project was leveraged by funds provided by the National Biodiesel Board and the United Soybean Board. The materials presented at the workshops were also provided by these organizations. Since the 18 workshops were held, the number of bulk biodiesel blend fuel outlets has increased from 25 to 100 and retail pump outlets increased from one to eight.

KSU Solar Car

Kansas State University Solar Racing Team

Manhattan (785) 532-4596

The Kansas State University Solar Car Racing Team is a group of about thirty students that design, build, and race solar powered cars. The team recently finished the 2003 American Solar Challenge in 8th place amongst a field of international competitors. Stretching over 2,200 miles from Chicago to Los Angeles on Route 66, the race is the longest of its kind in the world. The team's entry, CATalyst, also finished 2nd out of 11 teams in the Formula Sun Grand Prix. That race was held at



The KSU entry, CATalyst, in the American Solar Challenge at the starting line in Chicago.

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Heartland Park Topeka as a pre-qualifying event for the American Solar Challenge. The team completed the fastest figure eight, a test of dynamic stability, while qualifying. A run of twenty two seconds through the course is necessary to qualify; CATalyst was able to complete the course in just thirteen seconds.

With backgrounds ranging from engineering to business, the students involved with the project have learned more than they could in just a classroom. Students learned to interact with their peers in an advanced design setting and gain great interpersonal skills. Members not only design the car, they seek out the help of companies to sponsor the costs of construction and racing. The team also actively promotes the car and solar energy through numerous appearances ranging from home football games to the American Royal Parade in Kansas City.

After a summer of preparing and racing the car, the team is beginning work on a new car for the 2005 American Solar Challenge. The first step is to recruit new members and spread knowledge within the team. The new car will then be laid out completely in the computer and analyzed to ensure the most efficient design. The team looks forward to future projects and greatly appreciates the continued support of the Kansas Corporation Commission.



Baskets are a lot easier to score with the new lighting in the Bushton, Kansas gymnasium. The energy bills are a lot easier to pay too.

Buildings

Rebuild America Partners

Jim Arwood

Lyons (620) 468-1702

During the past fiscal year, the Kansas Energy Commission, in partnership with the Department of Energy's Rebuild America program, launched a Rebuild Kansas initiative. The new program uses a national network of public-private partnerships engaged in making energy efficient improvements. The Rebuild Kansas program focused on reducing energy costs in schools and allied itself with the Kansas Institutional Conservation Program (ICP) to promote the efforts of schools throughout the state that have realized significant energy savings while modernizing their buildings.

The Rebuild Kansas program enlisted the cooperation of schools that participated in the ICP program from 1998 to 2001. More than 25 site visits were made to schools throughout the state. Each school's energy conservation project was photographed, documented and analyzed for inclusion in a database of projects that was posted to a new website, www.rebuildkansas.com. Although the website was designed as a clearinghouse for all information obtained and developed as part of the program, its real value is its ability to connect people, resources, ideas and practices for saving energy in schools.

The 25 successful projects represented a cross-section of the more than 60 energy retrofit projects undertaken with KICP matching grant funds during a three-year period ending in 2001. These projects alone are estimated to save Kansas schools almost \$600,000 in annual energy costs. The economic impact on the schools has been additional money for other programs, learning opportunities for students and reduced demands on taxpayers. The schools in the database have reduced their energy demands by a combined estimated 11 million kilowatt hours. The environmental benefits from this fuel avoidance is equal to eliminating the emissions from driving approximately 10 million miles in an average passenger car. One would need to plant 586,837 trees to capture that much carbon dioxide.

In all but five cases (out of 25), the administrators had not reviewed their bills critically since their projects were complete. The visits allowed for a review and realization that their projects were delivering the results that were anticipated.

In addition to the database of successful projects, the Rebuild Kansas program assembled and distributed materials to schools that addressed performance contracting and energy efficiency issues in Kansas. These materials were selected to help school boards, administrators, and design staff make informed decisions about energy and environmental issues important to school systems.

**Interactive Calculator for Potential
Energy Savings in Your Home**
homeenergysaver.lbl.gov

State Energy Program Grants

Gridless Urban Home

SunLectric Company

Lenexa (913) 422-3567

The goal of the Gridless Urban House project is to educate citizens about alternative energy solutions which promote energy conservation, energy efficiency, and stunt the growth for energy demand. The ultimate goal is to be able to disconnect from the electricity and natural gas grid.



From the front of this home in Lenexa you might not guess that this is an energy efficient home that uses an alternative energy source for much of its energy needs — the sun. In fact, this house boasts the largest solar electric array in the state of Kansas!



On the first floor of the Gridless Urban House is the spacious and inviting Hearth Room. The room's windows allow sunlight to stream in during the winter, helping to heat the home.

The project directors have created a web site, www.gridlesshome.com, where the objective is to give you more of a “feel” for what it is like to live in this energy efficient home rather than go into detailed installation techniques. For instance, everybody can convert to energy-efficient light bulbs, but what are the “in and outs” that may not be explained on the light bulb package? Also, what are the economics involved in a decision to replace every light bulb with energy efficient bulbs, as they need to be replaced? Links are provided which get into the detailed “nuts and bolts” of incorporating energy efficient features into the home, and for installing renewable energy systems.

Utilities

Solar Lighting

Kansas Department of Wildlife & Parks

Pratt (620) 672-5911

Solar lighting offers facilities a practical and effective means to increase public accessibility, while also addressing issues of safety and security within the park system. Parks are places of high public use often in remote areas where high visibility is a critical concern and electrical connections to the grid are difficult, if not impossible. Glen Elder State Park has begun to install navigational beacon lights on various jetties to assist boaters as well as vehicular traffic. The beacon located at the Kanza area boat ramp serves many purposes. Not only does it mark underwater hazards and the entrance to marina cove, it also serves as a visual orientation mark for all types of traffic. Tuttle Creek State Park, like many other parks, wanted to illuminate its self-pay station/information shelter located at the east entrance of the Fancy Creek area to encourage safe public usage after dark. With tightening budgets, grant opportunities such as the KCC Solar Light Grant remain a valuable means to provide quality service to the public and also to address accessibility issues. During FY2003 the following projects were completed with assistance from the Kansas State Energy program:

- *Glen Elder State Park* - installed beacon lights at entrance to marina cove for marking underwater hazards as well as a navigational aid.
- *Eisenhower State Park* - installed solar lights at entrance to illuminate entrance sign for park.
- *Elk City State Park* - installed solar lights at campground and playground for safety and security.
- *Hillsdale State Park* - installed solar lights to illuminate entrance sign for park.
- *Prairie Dog State Park* - installed solar lights at boat ramp pit toilet to increase nighttime security and usage.
- *Tuttle Creek State Park* - installed solar lights by information shelter/self-pay by the entrance to Fancy Creek to increase nighttime security and usage, also to mark the entrance.

State Energy Program Grants

Fuel Cell Fact Sheet

Kansas State University

Manhattan (785) 532-4999

The Kansas State Engineering Extension Service produced a *Fuel Cell Fact Sheet*. Fuel cells show promise at being a major contributor to America's future energy supply. They have several important advantages over conventional electrical energy generation from sources such as coal. First, they are more efficient at converting fuel sources to end-use energy. Fuel cells are projected to achieve overall efficiencies of around 70%-80%, when utilizing the waste heat. This compares to about 30% for coal. The "fuel-to-wire" efficiencies will be higher than with common generation units - more electricity per unit of fuel is produced and CO₂ emissions are reduced for a given power output compared to conventional generation. Second, because combustion is not involved, no combustion byproducts, such as nitrogen oxide (NO_x), sulfur oxide (SO_x), or particulates, are produced. For example, the direct hydrogen fuel cell vehicle will have no emissions, even during idling, which is especially important during city rush hours. Third, significant potential exists for waste heat utilization in combined heat and power, or cogeneration, units which serves to raise the overall efficiency. Fourth, fuel cells can be placed in immediate proximity to the end user. This will eliminate the 8-10% loss of power between generating station and end user in today's grid system.

There may be even more important implications for Kansas. Two potential sources for feedstock for fuel cells are biomass and wind. Biomass (farm byproducts) can be used to produce hydrogen feedstocks for the fuel cells. Via a wind turbine, the Kansas wind can also be used to electrolyze hydrogen from water for use as fuel. Either source could be a boon to rural economies.

Wind & Solar Energy Conference

Pinnacle Technology, Inc.

Lawrence (785) 832-8866

Kansas was named the number one state for potential wind resources when infrastructure was taken into consideration in a study published by the U.S. Public Interest Research Group Education Fund and the State Public Interest Research Groups in February 2002. This has made the state a hotbed of activity for wind developers. To assist citizens and their local representatives in dealing with this new economic activity the Kansas Wind & Solar Energy 2002 conference was held in Lawrence, Kansas on October 1-2, 2002. This was the third annual Kansas Wind Energy conference sponsored by the KCC's Energy Programs Division.

Opening the conference was keynote speaker Jeff Wagaman, Executive Director of the Kansas Corporation Commission. The balance of the first half-day was devoted to small (farm/residential) wind and solar systems. Representatives from the Department of Energy and the United States Department of Agriculture discussed federal activities and leading manufacturers discussed state-of-the art wind and solar systems.

There were also presentations addressing interconnection issues and state policies around the U.S., followed by a panel discussion with Kansas legislative representatives.

The second full day of the meeting focused on commercial wind farm development in the state. Sessions included overviews from federal representatives followed by breakout sessions on transmission issues, landowner/lease issues, and economic development. In the afternoon, discussions on environmental issues in the tallgrass area of the Flint Hills and major wind developers outlining their company's current plans were highlights.



The KCC booth was one of many first time displays at the Wind & Solar Energy conference in Lawrence.

This was also the first year the conference featured an exhibit area. Coffee breaks were held in the exhibit area where conference goers had the opportunity to connect with industry and state officials on a one-to-one basis.

The next renewable energy conference will be held in Topeka in Fall 2004. See the conference web site, www.ksrenew.com, for further information as it becomes available.

Hydropower Education

Bowersock Mills & Power

Lawrence (785) 843-1385

Bowersock Mills and Power Company is the second oldest hydropower plant in the United States west of the Mississippi River and began producing electricity for Lawrence in 1888, only 6 years after Thomas Edison built the first commercial electricity generating facility in New York City. Until recently, it was the only hydropower plant in Kansas (the City of Wichita recently built a hydropower facility). Mindful of

State Energy Program Grants

their history and dedicated to the proliferation of renewable energy, Bowersock Mills and Power actively encourages tours of their facility.

With assistance from the Energy Office, a wireless connection to the local cable company was installed so virtual tours of the plant could be given via the Internet. The wireless connection was necessary as a standard cable connection was not available due to the plant's isolated location. The Bowersock hydropower web site was also updated, including information on the amount of pollution the facility offsets with clean renewable energy.

Finally, interpretive drawings for display near the plant entrance were produced to help explain how the plant operates and how water is used to generate electricity. This helps the tour taker understand what they are about to see. Call 785-843-1385 to arrange a tour.

Greenbush Wind Turbine Evaluation

Southeast Kansas Education Service Center

Girard (620) 724-6281

With interest in wind energy peaking in Kansas, Greenbush Education Service Center decided to investigate the possibility of using some of the famous Kansas wind to help reduce monthly utility bills at the Center. A wind turbine could also be used as a hands-on teaching tool and an aid in developing student interest in wind energy, which appears to be a burgeoning Kansas industry.

Traditionally, the Greenbush area has been placed in a class III wind regime. This would provide a good source of energy for a utility scale wind turbine. However, before undertaking a million-dollar program it was advisable to perform a feasibility study. With assistance from the State Energy Office, an outside contractor was hired to determine potential savings a wind turbine could provide the Center.

Nearby National Oceanographic and Atmospheric Administration reporting stations were studied and it was determined the data sets from the Chanute airport, 39 miles to the northwest, would be the most representative of the reporting stations. Additionally, partial wind data was available from an on site study that had been performed by David Kuehn, Professor of Physics at Pittsburg State University. Based on two years of Chanute data, and confirmed by the partial Greenbush set, it was determined that the area is only a class II wind site and would be very poor for power production. A utility scale turbine would not be economically feasible.

As part of the study, the contractor also provided analysis for installing a small (10kW) residential/commercial wind turbine. The initial capital costs would be about \$32,000 and life expectancy 20 years. The erection of the small turbine would offset only a small portion of the facilities electrical usage, but the real value would be in using the turbine as a teaching tool and as an introduction to renewable energy to students. With the current expansion of the commercial wind industry in the state, Greenbush intends to pursue the smaller turbine to help start interested students on their way to careers in an exciting new industry and to teach all students about the importance of energy in their lives.

Industrial

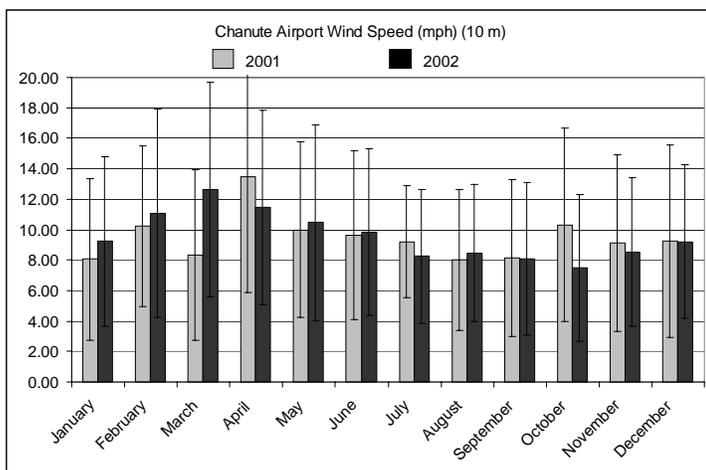
Kansas Biomass Energy Resources Assessment

Kansas State University

Manhattan (785) 532-4999

A state-wide biomass assessment for Kansas was performed by Kansas State University that evaluated the quantity of Kansas biomass resources, their use as alternative energy sources, and the economics associated with using them for alternative energy purposes. The primary reasons for substituting biomass for fossil fuels as an energy source are: (a) there is significant evidence that fossil fuels contribute to global warming; (b) fossil fuel supplies are finite; (c) imported from abroad, fossil fuels are a real threat to economic security; and (d) combustion of fossil fuels emits noxious gases that are deleterious to human health, shorten life spans, and damage the environment.

The study quantified the amount of bioethanol and biodeisel that could be derived from primary and secondary feedstocks that have historically been produced and could be converted into alternative energy sources in Kansas. It presents levels of corn stover and wheat straw that could potentially be removed from conventional agricultural cropland subject to three tillage scenarios (conventional tillage, conservation tillage, and no-till) such that the tolerable soil loss limit with re-



Evaluation of recent data from the Chanute airport, plus additional sources, did not support the construction of a wind turbine at the Greenbush Service Center.

State Energy Program Grants

spect to rainfall erosion is not exceeded. It presents a broad economic feasibility (\$/gallon produced) associated with using an oilseed crop, such as soybean oil at an average price for biodiesel production. It presents data on the average, minimum, and maximum quantities (tons per acre) of switchgrass that could be produced within counties in the eastern two-thirds of the state and the production (tons) available at specific edge-of-field costs. It presents data on waste generation statistics for Kansas and total energy value (MMBTU) based on 2000 U.S. Census county-level population data and United States Environmental Protection Agency (USEPA) waste generation statistics for annual amounts of waste generated per person in the United States (~4.5 pounds per person per day). It also estimates the annual quantities of landfill gas that could be emitted from waste-in-place at these landfills.

The study concluded that Kansas has ample biomass resources which can be used for the generating energy that would displace both domestic and imported fossil fuels. However, for most cases presented in this study, biomass at the present time cannot compete with conventional fossil fuels on a cost per energy unit basis. It is anticipated the costs for fossil fuel energy will continue to rise. In addition, biomass resources used for alternative energy production offer the state numerous environmental benefits, such as improved air and water quality through their production and use.

Kansas Corporation Commission Online

www.kcc.state.ks.us

The latest information on a wide variety of energy related topics can be found online on the KCC web site:

- Energy grants & programs, including appropriate forms
- Building codes and standards
- Consumer information
- Energy policy
- Energy efficiency & conservation tips
- State and national governmental & organizational links
- Docket filings
- Utility issues
- Children's energy information
- Alternative fuels
- Interactive Kansas wind map
- Underground utility damage prevention
- Telecommunications Issues
- Motor carrier issues
- News releases
- Links to other governmental & private industry sites
- Much more

Solid Waste Recycling and Reduction

Kansas Surplus Exchange, Inc.

Topeka (785) 235-8640

The Exchange is a not-for-profit organization that supplies IRS 501(c)(3) organizations with materials that still have useful life that individuals and for-profit businesses are discarding. The contributions are tax deductible charitable donations. The Exchange acts as an interface between Kansas businesses and nonprofit organizations to facilitate the transfer of items that may be somewhat outdated, but still with useful life. By donating items for reuse, the energy that would be required to manufacture new items is saved, while at the same time providing assistance to worthwhile charities, extending the life of landfills and promoting the conservation of our natural resources. Nominal handling fees paid by members for goods they receive and by grants from concerned organizations, such as the Kansas State Energy Office, fund the Exchange.

Special Projects

Pelletization & Combustion of Biogas

Coriolis

Lawrence (785) 841-1906

Burning plant material, or biomass, was our principal source of energy before the development of fossil fuels. Biomass remains one of the most promising renewable energy options. Many forms of biomass, including wood processing waste, waste paper, crop residues and grasses can be made more durable, more easily transported, and more easily burned if they are converted into dense pellets. Biomass pelleting began in the U.S. in the 1970s as a better air quality alternative to cord wood burning. Almost all biomass pellets now produced in the U. S. are made from sawmill residue. Recent research, funded in part by the KCC Energy Program, indicates that pelleting warm season prairie grasses offers a competitive fuel source as well as multiple environmental benefits. Northern Europe is the hotbed of pellet fuel development. Dr. Richard Nelson with Engineering Extension at Kansas State University and Joe King with Coriolis, both biomass energy researchers, attended the Pellets 2002 conference in Stockholm, Sweden to learn about new developments. Their report can be found online at: www.coriolis-ae.com/pelleting.

State Energy Program Grants

Building Codes & Standards

Kansas State University

Manhattan (785) 532-4994

Coriolis

Lawrence (785) 841-1906

The Kansas Building Energy Codes effort achieved a major milestone this year. Kansas became the first state in the nation to adopt the International Energy Conservation Code 2003 (IECC-2003) for commercial and residential buildings. This updates the commercial codes from ASHRAE 90.1-1989 and the residential codes from the Model Energy Code-1993.

The update in the commercial code brings Kansas into compliance with a Department of Energy determination that states must update commercial building energy codes. In addition, it will help assure commercial buildings built in Kansas use less energy.

The update in the Kansas statute provides two additional energy code compliance options for residential builders. Instead of complying with the prescriptive requirements of the IECC 2003, a builder can have a Home Energy Rating (HER) performed. If the home achieves a HER rating of 80 or better, it is deemed to comply with the energy code. A score of 86 or better is required for an Energy Star label. A Home Energy Rating measures the performance of the new homes by evaluating the levels of insulation, windows, and doors, and by measuring the air-tightness of the home using a blower door. Kansas is one of 11 states that provide a HER option to code compliance.

The final option for the builder is to disclose to the buyer, upon request or before closing, the energy features of the home. Unfortunately, the builder does not need to disclose the minimum performance levels required by the IECC-2003, leaving the buyer uninformed as to the relative performance of the home.

Renewable Energy Newsletter

Kansas Renewable Energy Working Group

Lawrence (785) 766-2450

In the Fall of 2002, the Kansas Renewable Energy Working Group (KREWG) published its initial newsletter with assistance from the State Energy Office. The newsletter highlights renewable energy activities in Kansas. It contains updates on windpower, biomass, solar energy and current legislation.

The newsletter announced the formation of KREWG, a nonprofit organization comprised of members of government agencies, elected officials, public and municipal utilities, electric cooperatives, renewable energy developers, manufacturers, consultants and contractors, university researchers, and environmental and clean energy organizations. KREWG does not lobby on behalf of particular public policies to respect the members' diverse perspectives. The group's focus is on promoting renewable energy through education and outreach, and the resolution of technical challenges. One of KREWG's first projects was publishing *Siting Guidelines for Windpower Projects in Kansas*, www.kcc.state.ks.us/energy/wind.htm.

Around the Office

We have had a great year at the Energy Office. Jim Ploger (Energy Manager) was elected national secretary of the Energy Services Coalition (ESC) at the fall meeting in New Orleans. He was also appointed as one of two State Energy Office representatives to an eight member Steering Committee to coordinate activities of the ESC, the National Association of State Energy Officials, and the National Association of Energy Service Companies. Jerry Van Allen (Assistant Energy Manager) and Connie Lannan (Accounting) were named KCC employee of the month in June and November, respectively. Jerry also graduated from the Kansas Certified Public Manager (CPM) program in December. The CPM program is a nationally recognized leadership program for public employees involving a yearlong study of public policy. We also have a new employee! Ryan Freed, previously with the Federal Highway Administration, joined our office in 2003, and we are happy to be having Dale Worley, the Facility Conservation Improvement Program manager for Kansas, join our staff in January 2004.

Additional activities of the State Energy Program this year included:

- Cosponsoring the 2003 Affordable Comfort Conference in the spring in Kansas City. It was attended by nearly 2,000 energy conservation experts and advocates from throughout the nation.
- The Kansas Energy Office is one of 19 states participating in a National Ad Council campaign that will begin in early 2004 promoting energy conservation. The program will target young people with a series of public service ads featuring some colorful cartoon characters known as energy hogs.
- The Energy Office was actively involved in a Kansas Natural Gas Summit held in early October at Topeka's Washburn University to address the price and supply concerns of natural gas. The State Energy Resources Coordination Council (SERCC) was the coordinator of the successful event.

We are looking forward to next year with the same energy that propelled us in FY 2003.

Institutional Conservation Program

Pratt USD 382

Pratt

Anticipated Annual Savings
\$13,262

A fresh coat of paint is not all that makes Pratt High School feel new this fall. Energy efficient lighting now brings life to the 65-year-old facility. Existing fluorescent lighting fixtures were replaced with high efficiency fluorescent lamps and electronic ballasts through a grant from the Institutional Conservation Program. Results are incredible. Perhaps the most remarkable impact will be felt when the school district pays its utility bills. It is expected that project costs will be repaid through utility savings in four short years. Three other schools in the district have also been converted to energy-saving fixtures. The future is bright in Pratt schools.



Well lit, inviting hallways and classrooms greeted Pratt High School students when they returned to class for the 2002-2003 school year.

Southwestern Heights USD 483

Kismet

Anticipated Annual Savings
\$2,124

The technical analysis of energy usage in USD 483 pointed out several areas for potential energy savings. Unfortunately, all areas could not be addressed immediately since ICP grants stipulate matching funds from the recipient. However, a small amount of matching funds were available. The project that would provide the most immediate relief of high energy bills was installing night setback controls on the Plains Elementary School thermostats. It was also one of the least expensive. Plains Elementary School was built in 1965 before modern electronics could control a building's heating and cooling. Adding this new technology to the old building is estimated to save the district over \$2,100 per year at nominal cost. The investment will be recovered in only 2-1/2 years.

With a blueprint for energy savings provided by the technical analysis, the district is planning on more building upgrades, as funds become available. With other buildings in the district "going on ancient," and school funding being limited, the ICP program is a valuable tool for extending the money that is available and providing a big return on the dollars invested.

Buhler USD 313

Buhler

Anticipated Annual Savings
\$20,064

The students and teachers are very pleased with the upgrades to the lighting system at Prairie Hills Middle School. The former lights and fixtures were over twenty years old and in need of replacement. The ICP grant gave them an opportunity to upgrade their classroom lighting and provide the students with a better learning environment. In addition to the classroom upgrades, the school commons area received much needed lighting upgrades. The commons area is used extensively for meals, after school practices and music performances. Many of the students' parents noticed and complimented the district on the improved lighting conditions.

Prairie Hills Middle School Principal, Craig Williams, stated, "The upgrade of the lighting at Prairie Hills has been a benefit to our students and teachers in the classroom. When patrons and parents enter the cafetorium (commons area) they are immediately impressed with the brightness of the area. The additional light positively effects the overall learning atmosphere at Prairie Hills Middle School."

Institutional Conservation Program

Clifton-Clyde USD 224

Clifton

Anticipated Annual Savings

\$11,199

USD 224 received an energy grant for renovations at Clifton-Clyde High School. The grant helped upgrade all of the classrooms with energy-efficient lighting. The staff and students commented about the bright lights in the high school when they returned to school last year. The grant also allowed them to upgrade the heating system controls. The building previously had “hot classrooms” and “cold classrooms”. After the upgrade, the building maintained a constant temperature throughout. New automatic temperature controls also help save on energy costs by decreasing temperatures when the building is not occupied.

Clifton-Clyde USD 224 is pleased with the energy savings that resulted from the upgrades to the lighting and heating systems and wishes to thank the State Energy Program for the assistance.

Plainville USD 270

Plainville

Anticipated Annual Savings

\$26,824

USD 270 received an ICP grant to make improvements to a wide array of energy-related functions at the elementary school in Plainville. The funds were used to make upgrades dealing with a) the replacement of a huge antiquated HVAC unit, b) installation of many energy control devices, and c) replacement of lighting and ballast units across the entire facility.

These were the areas most responsible for the high-energy cost associated with the facility. It was surmised that by targeting these areas they would see immediate energy savings that would last well into the future. Although the project took over nine months to implement, faculty and staff believe it was worth the wait.

Energy cost is, and will continue to be, a large portion of the general operating expenses across the school district, but the upgrades at the elementary school are first steps toward making them manageable.

Energy cost is, and will continue to be, a large portion of the general operating expenses across the school district, but the upgrades at the elementary school are first steps toward making them manageable.

– Dr. Don Grover, Superintendent of Schools USD 270

Inman USD 448

Inman

Anticipated Annual Savings

\$7,828

USD 448 received a KCC Energy Grant to upgrade lighting and install thermostat controls in the Elementary and Junior/Senior High School. The grant allowed them to upgrade lighting and thermostat controls that otherwise would be done due to financial limitations. As a result of the improved lighting, many of the classrooms and the elementary gym have an improved, more inviting environment. The addition of programmable thermostats at the Junior/Senior High School, along with a computer monitoring program, has allowed consistent temperatures in the building and the option for night and weekend setbacks.

Eastern Heights USD 324

Agra

Anticipated Annual Savings

\$4,351

USD 324 used its ICP grant to improve the lighting in the Junior/Senior High School. While the lighting work was being completed, the district also improved the boiler valve system in the classrooms and installed suspended ceilings. The combination of all these improvements has made the school much more comfortable during the cold Kansas winters, and the new classroom lighting is reported to be “tremendous.” The district intends to apply for additional ICP grants in the future.

Lyons USD 405

Lyons

Anticipated Annual Savings

\$2,574

Central Elementary School in Lyons was in need of an energy update. The old boiler was approaching 50 years of age. The ICP grant allowed the district to replace the boiler with a new energy-efficient boiler with night/weekend setback controls. The boiler, installed in January 2003, now provides uniform heat throughout the school. This was a portion of a larger renovation of the school that included such energy efficiencies as the replacement of windows, tuckpointing and sealing the building, and dropping the ceilings. Central Elementary is now a much cozier place to teach and attend classes. This was the second ICP grant for the district; the first was used to improve lighting in Lyons High, Lyons Middle, and Park Elementary.

Institutional Conservation Program

Maize USD 266

Maize

Anticipated Annual Savings
\$12,530

USD 266 received an ICP matching grant to upgrade the lighting in Maize East Elementary School to modern energy efficiency standards. Upon completion of the project, the district received a pleasant surprise. The project had actually come in 35% below budget. In such situations, the ICP program only matches the actual funds expended and reallocates any money saved back into the ICP program. USD 266 was still very happy with the outcome because they still saved 35% on their part of the match, and the project probably would have never taken place without the initial impetus from the ICP program.

USD 266 expects payback for the entire cost of the project in slightly over 2 years. After that, the annual savings will continue to be put back into the district budget. The immediate reward is a brighter and more pleasant teaching and learning environment.

Weskan USD 242

Weskan

Anticipated Annual Savings
\$8,320

The matching ICP grant allowed Weskan USD 242 to install new and better lighting, a computerized control system for the heating system, and a new boiler in the combined K-12 school building. The new lighting made quite a difference for staff and students. The original large two-story brick building was built in the 1920s. It has interior halls with no natural light, and the new lighting really helps brighten everything. Also, automatic on/off switches were installed in workrooms and restrooms. This conserves electricity from lights being left on in unoccupied areas. The computerized control system has created some challenges. Trying to put computer temperature set backs on a 1920s heating system is not always an easy task! They are working on that at the current time, but have confidence that it will be a major improvement when everything works correctly. The system should keep the temperature consistent, and will be set lower during off hours. This will help tremendously with heating bills.

The final project was installing a new boiler in the kitchen and gymnasium building. USD 242 began experiencing problems with the boiler two years ago, and when parts were ordered, they needed to be specially made. This was quite a lengthy process, and inefficient space heaters had to be used to heat the school building that winter. Now, the new boiler is installed and ready for fall. The boiler had not been run as of this report, but the staff is sure the students will enjoy not having to wear coats to lunch! Everyone in Weskan thanks the KCC for the assistance with the energy updates.

Solomon USD 393

Solomon

Anticipated Annual Savings
\$14,886

USD 393 used their ICP grant to replace the boiler in the elementary school and improve the lighting in the elementary school, middle school and high school. The old boiler's thermalcouplers would always seem to fail on the coldest day of the year and the boiler required manual operation for most of its functions. The new HVAC is fully automated and trouble free. It provides even comfort all year long to faculty and students.

New ballasts, fixtures and bulbs in all three schools have improved the learning environment, and occupancy sensors have eliminated wasting energy in infrequently occupied areas. Not only are all areas much brighter, but fewer light bulbs are now having to be replaced, and ballasts that used to be replaced at the rate of up to 2-3 per week are no longer a problem. USD 393 expects to recover the cost of their investment in the new equipment in less than three years. They expect to enjoy the benefits of a brighter learning and working environment for years to come, and the maintenance staff now has time to devote to other needed improvements.

Hiawatha USD 415

Hiawatha

Anticipated Annual Savings
\$25,416

The Hiawatha School District was delighted to receive the ICP matching grant that allowed the high school to replace the building automation system. The old system was not properly controlling the climate in the building, causing excessive energy consumption. The wide range of temperatures caused by the old automation system made the building temperatures uncomfortable throughout the year, but replacing it was going to be expensive. Considering the total cost of the project, it would never have been attempted at this time without the help of the ICP grant.

The new system is doing a good job of controlling the environment when the building is occupied and conserving energy when the building is unoccupied, but it will be several months before the cost savings can be verified. At present, the high school has seen a decrease in the units of electricity and gas needed to heat and cool the facility, but yearly temperature variations make exact savings hard to verify.

**Did you know that carefully positioned trees
can reduce your energy use by up to 25%?**

Kansas State Energy Program

Kansas Corporation Commission
1500 SW Arrowhead Road
Topeka, KS 66604-4027



Interactive Wind Map of Kansas

Coriolis

Lawrence (785) 841-1906

The most current wind map of Kansas, developed by Coriolis with a grant from the Kansas Corporation Commission, shows average wind speeds (at 50 meters) from Class 2 through Class 6 as one progresses westward across the state. This is a reproduction of an interactive map found at: www.coriolis-ae.com/kswindmap.

The interactive map also shows roads, transmission lines, major cities, etc. at selected sites. The map varies greatly from previously accepted versions of wind distribution across Kansas. Windspeed at any particular point can still vary greatly depending upon topography, etc.

To Apply for SEP Funding

Written SEP grant proposals, including budgets, are due to the Energy Program office by March 15. All proposals must be submitted on the State Energy Program Assistance Budget Form available online at www.kcc.state.ks.us. For details, contact Jim Ploger at the contact points listed below.

Application forms for Institutional Conservation Program grants are available to qualified public school districts. Requests for applications are due the last Friday in December and completed applications must be received by March 26, 2004. An initial Technical Assessment must be performed prior to applying for an ICP grant. Contact Jerry Van Allen at the State Energy Office for more information, or forms are available online at www.kcc.state.ks.us.

Cost sharing is required for ICP grants and is encouraged for State Energy Program grants. Grants are for a one year period beginning July 1. All applicants will be notified regarding the final status of their application by June 30.

Kansas State Energy Program

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