From the Executive Director and Program Manager

It has been two years since KEEPS was expanded to provide services to all 174 of Kentucky’s school districts. This Status Report demonstrates how, in that short time, KEEPS has exceeded its expectations in driving Kentucky school districts toward reducing operational costs through improved energy performance. Through KEEPS, the vast majority of school districts among all regions of Kentucky are realizing the financial and environmental impact of best energy management practices.

This is only the beginning. KEEPS continues to introduce school districts to the benefits of energy management, facilitate the creation of school district energy teams, provide on-site energy performance assessments and offer organizational and technical assistance to those who request it. Kentucky school districts are setting the national standard for energy efficiency. Our Commonwealth now boasts the highest percentage (70%) of K-12 U.S. EPA Energy Star Partners in America, and several districts have received statewide and national recognition for their successful energy management programs. KEEPS and its administrator, KPCC – Kentucky Pollution Prevention Center, are proud to be part of that success.

Meeting the Challenges

This past year, school districts faced several challenges with respect to managing energy costs and consumption. Specifically, there were increases in the number of temporary degree days, utility rates, and square footage of school district facilities.

Faced with these challenges, Kentucky’s school districts turned to KEEPS to help make best energy management practices part of their standards of operation. Fiscal year 2011 Energy Management Reports, which school district energy managers submitted to KEEPS, show an increase in energy costs from the previous fiscal year. That increase would have been much higher if not for school district energy-saving initiatives, which resulted in an energy usage reduction of 71,869 MMBtu and an energy cost avoidance of $4,380,000.

These avoided costs help retain jobs in our school districts, bring more resources to the classrooms and provide a healthy, positive and productive learning environment for our students and teachers. Energy efficiency is a proven, educational, fiscal and environmental model for success. KEEPS provides a nationally recognized training system that drives that success, and we want this momentum to continue.

Protect the Investment

This KEEPS Status Report showcases the valuable services that KEEPS provides to Kentucky school districts, the strong framework around which these services are built and, of course, the financial and environmental benefits that school districts realize thanks to KEEPS resources.

Kudos go to the school district boards of education, superintendents, energy managers and energy teams who invest the extra time, effort, energy and capital in making best energy management practices part of their school districts’ cultures. It takes focus, performance data and vision to realize that initial investment. As many school districts have realized to date, it’s an investment that pays off in terms of providing a better learning environment for our students and teachers as well as cost savings for the taxpayers who support our educational system.
Program Delivery

Training & Workshops
KEEPS-sponsored training, workshops and events offer peer-to-peer networking and mentoring opportunities that allow school districts to share ideas and offer guidance on implementing best energy management practices.

2011 KEEPS Webinar Series
From April through December 2011, KEEPS offered a series of 10 web-based training sessions that demonstrated how to use the KEEPS Energy Management Toolkits, showcased successful school district energy management program initiatives and provided information about KEEPS partner resources.

The webinars drew 307 attendees, which included school district energy managers and energy teams, superintendents, state and federal government agency representatives, environmental consultants and school district energy program facilitators from across the country. Recordings of the webinars are available on the KEEPS website at www.kpcip.org/KEEPS/webinars.

In 2011, the KEEPS team
• participated in 161 energy team meetings throughout the state
• fielded 5,578 inquiries about assistance with school district energy team efforts

KEEPS delivers the tools, training, resources and expertise to guide Kentucky’s school districts toward significant cost savings and environmental benefits.

The backbone of KEEPS program delivery is the series of self-guided, online KEEPS Energy Management Toolkits. Twenty-one training modules, which include a total of 229 toolkit resources became available on the KEEPS website in 2011. These free and downloadable training modules provide guidance for school district energy teams to develop energy management programs, assess the energy performance of district facilities and create an action plan to achieve district wide and school specific energy performance goals.

As with all KEEPS resources and services, the toolkit series facilitates school districts’ progress through the Energy Star seven-step energy management framework and does so in a way that allows school districts of all sizes and budgets to take ownership of their energy management programs. Toolkit presentations, exercises, energy assessment worksheets and supporting documents were designed for those with a non-engineering background in mind. This helps some of the burden out of the energy management strain and provides an opportunity for all critical operational areas of the school district to participate in the energy program’s development.

The KEEPS Energy Management toolkits were developed by KEEPS regional coordinators, engineers and energy managers and were tested and fielded by school district energy managers and energy teams. These resources are available in the Toolkit Library on the KEEPS website, www.kpcip.org/KEEPS.

Boots on the Ground
Critical to the ongoing success of KEEPS are the regional coordinators, engineers and energy managers who develop program materials, direct program initiatives and provide energy management training and technical assistance to Kentucky school districts.

“Having a program like KEEPS and the support and guidance they provide is invaluable as far as keeping us focused and intentional in our efforts to reduce energy consumption.”

Jim Frank
Superintendent
Green County Public Schools

1. Make the Commitment
2. Assess Performance
3. Set Goals
4. Create an Action Plan
5. Implement the Plan
6. Evaluate Progress
7. Recognize Achievements

Plus more than 50 links and references to state and national energy management technical resources.

KEEPS 2011 Training Activities*
Throughout the Commonwealth, KEEPS hosted or participated in 64 training events, workshops, conferences or other outreach activities in 2011, attracting 1,360 attendees.

KPCIP Press Conference and Open House
University of Louisville Campus Sustainability Day
KEEPS Energy Management Training Webinars (10)
KEEPS Energy Award Presentations (25)
Kentucky School Boards Association School Energy Managers Project Training
Kentucky School Boards Association Annual Conference
U.S. Green Building Council Advocacy Day
National Farm Machinery Day
KCTCS Annual Budget Meeting
Kentucky IFED High Performance Schools Workshop
Kentucky County Work the Circuit Energy Fair
U.S. EPA Energy Star Award Ceremony
Warren County Public Schools RACE to the Finish Energy Awards
Kentucky School Boards Association Southeast Region Roundtable
Lakeyville Metro Council Energy and Environment Committee Meeting
Kentucky School Boards Association Central Region Workshop
Bonnville Elementary School Fall Festival
Hart County Public Schools Literacy Fair
Kentucky Association of School Business Officials Spring Conference
Kentucky Green and Healthy Schools Workshop
KPCIP/EPA Healthy Schools Workshop
Green County Public Schools Green Career Day
PRIDE Recycling Workshop & PRIDE Spring Cleanup Awards
Kentucky Association of School Administrators Annual Conference
Paintsville Energy Forum
Kentucky Association for Environmental Education Annual Conference
Champions of Energy Star (webinar)
Green River Development District Green Living Symposium
Governor’s Conference on Energy & the Environment
Kentucky Member Services Association Annual Conference
Kentucky School Plant Management Association Annual Conference

*As of December 13, 2011
Energy Star Framework

The 7 Steps

Step 1: Make the Commitment
Commitment involves support from school district leadership and requires collaboration, communication, and participation among key areas of the district including facilities, information technology, faculty, staff, and students.

Step 2: Assess Performance
Assessing energy performance of school district owned facilities and identifying opportunities for improvement is essential to establishing a baseline of energy consumption and costs.

Step 3: Set Goals
Achievable and measurable energy performance goals establish long-term energy consumption reduction targets and prioritize current and planned energy management program initiatives.

Step 4: Create an Action Plan
The action plan defines specific technical steps, targets, and responsibilities needed to achieve energy performance goals and establishes a systematic process to implement energy performance measures to create accountability.

Step 5: Implement the Plan
Action plan implementation involves the proactive measures taken by the energy team based on the district’s energy performance goals and objectives outlined in the plan.

Step 6: Evaluate Progress
Frequent review of the energy management program and action plan will identify efficiency measures that need to be modified or added to the program and plan. Also, evaluation ensures continual improvement and year-over-year results.

Step 7: Recognize Achievements
Recognition sustains momentum and support for the energy management program, validates the program’s goals and establishes a sense of pride for district administrators, faculty, staff, and students who dedicate their time, effort, and energy to the program.

Leveraging Energy Star
As participants in KEEPS, Kentucky school districts are encouraged to become partners in the Energy Star program and seek Energy Star certification for schools that meet or exceed national energy performance standards. In 2000, only 10 Kentucky school districts were Energy Star partners. That number has since grown to 123—a 1,110% increase in participation. Kentucky boasts the highest percentage of school districts that are Energy Star partners in the country—70%.

There are 115 Energy Star certified schools in Kentucky, including Kentucky’s oldest school, Garth Elementary School in Scott County.*

Program Outreach

KEEPS e-newsletter
The monthly KEEPS Moving Forward e-newsletter is deployed to 799 subscribers (a 77% subscription increase from January 2010 to December 2011). Readers include school district energy teams, partner organizations, state and federal agencies, businesses, and other organizations.

The e-newsletter features information about KEEPS resources, energy management training opportunities, partner organization resources, and spotlights on school district energy management success stories.

KEEPS Social Media Initiatives
Facebook
In 2011, KEEPS continued to use Facebook as a means to facilitate peer-to-peer networking and communicate news and information about KEEPS activities and school district energy-saving achievements. The KEEPS Facebook page now has 1,160 fans or “tikers” and 131 average monthly active users. Join the conversation at www.facebook.com/KYKEEPS.

YouTube
KEEPS uses the YouTube video sharing website to archive its webinars. In 2012, KEEPS will further leverage YouTube resources to provide comprehensive coverage of events such as workshops, training, and other information about best energy management practices. KEEPS webinar videos are available on the KEEPS’ website at www.kpcc.org/KEEPS/webinars.

Flickr
Flickr provides a platform for KEEPS to post photos of training, workshops, and other events that can be easily accessed and viewed by visitors worldwide. KEEPS’ photo galleries are available at www.flickr.com/photos/kpcc.

Energy Star School Districts – Top 10 Nationally

Of Kentucky’s 174 school districts, 123 (70%) are Energy Star Partners— the highest percentage in the country.*

As interest in KEEPS grows throughout the state and the country, so does the activity of the KEEPS website. Using Google Analytics, a website performance tracking tool, KEEPS is able to monitor and analyze the number and types of visits to its website. This powerful tool allows KEEPS to see where web visitors come from, what pages on the site they are interested in, how they navigate once at the KEEPS website and much more. This data provides feedback to communications & outreach and information technology teams that can be used to make the site more useful and informative for school districts and other visitors.

The map shown where web visitors originated around Kentucky from January 2011 through November 2011. Larger dots indicate more visitors in one area.

KEEPS website performance highlights include:
- No. of visits worldwide: 3,437
- No. of visits from Kentucky (331 0.97%): 1,048
- Average pages viewed per visit: 6
- Average time on KEEPS website: 5 minutes

* Source: www.energy.gov. As of December 6, 2011.

“...I am... so proud of our students and their districts for taking responsibility for cutting energy usage. The steps they take today will help them become more energy conscious in the future as well as benefit the communities for generations to come.”

Kentucky First Lady, Jane Beshear at an August 16, 2011, celebration recognizing Milbrooke Elementary School in Christian County as Kentucky’s 100th Energy Star certified school.
Making the Commitment/Taking Ownership

A school district’s success in KEEPES depends on how committed it is to making best energy management practices part of its standards of operation and day-to-day culture. A lasting and successful energy management program is one that involves participation from EVERYONE in the district—from the school board and superintendent to faculty, staff and students.

Since its expansion in 2009, KEEPES has led school districts toward self-directed energy management programs. Thanks to the resources, training and technical assistance provided by KEEPES regional coordinators, engineers and energy managers, most Kentucky school districts have embarked on proactive versus reactive energy management. These districts are realizing the environmental and financial benefits of energy management and are reaping state and national recognition for their efforts.

Of Kentucky’s 174 school districts...

- 174 are credited in KEEPES
- 174 established school board approved energy policies
- 160 were actively involved in KEEPES leadership meetings
- 163 established baseline and follow-up energy performance tracking standards
- 133 established cross-functional energy teams from different areas of operations and meet regularly
- 124 developed communications plans to raise awareness about district-wide energy saving initiatives
- 85 have clearly defined energy performance goals
- 62 implemented energy management action plans

Awards and Recognition

In February 2011, KEEPES introduced its Awards and Recognition Program, which acknowledges school districts that reach milestones through the seven-step Energy Star energy management framework. The momentum of energy management program development in school districts across Kentucky is picking up, and KEEPES anticipates several more awards to be issued in the near future. Congratulations to these districts for implementing environmentally sustainable and cost-effective energy management programs!

**KEEPS Leadership Award**

Districts that implement their action plan, evaluate progress toward achieving their goals and complete all seven steps.

- Scott County

**KEEPS Champion Award**

Districts that assess their energy performance, set energy performance goals and develop an action plan to achieve those goals.

- Barren County
- Campbellsville Independent
- Christian County
- Fayette County
- Fleming County
- Scott County

Assessing Energy Performance

KEEPS energy efficiency assessments provide school districts with insights on how to improve the energy performance of district facilities and identify areas to reduce operating costs.

Since the program expanded in January 2010, KEEPES has conducted 190 on-site energy assessments, which accounted for 15,896,000 square feet assessed.

KEEPES engineers and energy managers identified the following potential annual savings:

- Electrical usage savings: 102,621 MMBtu
- Natural gas savings: 59,096 MMBtu
- Fuel oil savings: 362 MMBtu
- Propane savings: 8,899 MMBtu
- Greenhouse gas emissions reduction: 99,569 MT CO2 equivalent

KEEPES assessments identified a total potential reduction in energy consumption of 322,781 MMBtu per year representing avoided energy costs of $33,300,000.

Empowering the Energy Program

KEEPES engineers and energy managers work diligently to provide as many energy efficiency assessments to school districts as possible. In the spirit of empowering school districts to maintain their own energy management programs, KEEPES provides one of three energy assessment training to school district energy managers and energy teams during the assessments themselves and via KEEPES-sponsored and partner-sponsored workshops and webinars. The KEEPES Energy Management Toolkit series (see page 5) includes 15 Microsoft Excel-based energy assessment workbooks and accompanying training modules that school districts can use to assess energy performance and identify opportunities for improvement.

Energy Programs at Work

KEEPES engineers visited Christian County in April 2011 and performed an on-site assessment at Mann Luten King Jr. Elementary School. One of the energy management opportunities that KEEPES identified was to set back heating, ventilation and air conditioning (HVAC) setpoints during periods when the school buildings were unoccupied. Based on the experience gained through that assessment, Christian County Public Schools Energy Manager Rob Valentine performed similar assessments and found similar opportunities in several other schools in the district. Now, HVAC setbacks are a standard procedure throughout the district.

According to Valentine, “School buildings are empty most of the time. The most painless way to save energy is to cut back when no one is there.”

KEEPS engineers have taken a proactive approach to energy conservation, working with school districts to develop sustainable practices and reduce energy costs. In addition to the work in Christian County, KEEPES has conducted utility analyses that identified $38,099 in projected annual savings.

“KEEPS energizes schools to become energy conscious...”

Brady Link
Superintendent
Christian County Public Schools
Return on Investment

Tracking energy and cost savings validate energy-saving initiatives and illustrate the return on investment of time, effort, and resources devoted to the program.

Each year, KEEPS issues Energy Management Reports (EMRs) to school district energy managers or energy team designees. The EMR data on this page illustrates an increasing awareness of and interest in the value of reducing operational costs through improved energy performance among Kentucky’s school districts.

Of Kentucky’s 174 school districts, 157 submitted EMRs for fiscal year 2011. Of those 157 districts, 124 districts provided relevant information for year-to-year energy performance and cost savings from fiscal years 2010 to 2011.

Challenges of Energy Management:

For those 124 districts, building square footage, student population and the number of required temperature heating/cooling degree days increased.

<table>
<thead>
<tr>
<th>Total square footage</th>
<th>2011</th>
<th>68,674,909</th>
<th>Increase of 2,203,431 sq ft in 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total student population*</td>
<td>2011</td>
<td>444,377</td>
<td>Increase of 4,896 students in 2011</td>
</tr>
<tr>
<td>Total number of degree days**</td>
<td>2011</td>
<td>6,502</td>
<td>Increase of 443 degree days in 2011</td>
</tr>
<tr>
<td>Average yearly utilities costs</td>
<td>2011</td>
<td>$20.84 per MMBtu</td>
<td>Increase of 6.16% in 2011</td>
</tr>
</tbody>
</table>

What’s Next?

For Kentucky School Districts...

The numbers in the KEEPS Status Report tell a compelling story. Now more than ever, Kentucky school districts are aware of the positive financial and environmental impact of improved energy performance. They take proactive measures to create a culture of energy efficiency and enhance the quality of education and the learning environment for Kentucky’s students and teachers.

As seen in this year’s Status Report, much has been accomplished in a short time, but there is still work to do. Some school districts are still in the early stages of developing their energy management programs. These districts turn to KEEPS to bring their energy-saving efforts up to speed with the rest of Kentucky.

The districts that jumped on board early in KEEPS know that the energy management process does not simply end. A true culture of energy efficiency is one that builds on prior successes. Effective energy management programs continue to set attainable energy performance goals, create energy management action plans, assess and reassess energy performance, and do so with support from their administration and participation from EVERYONE in the district.

Kentucky has set a high standard for energy efficiency in its schools. Maintaining or surpassing this energy efficiency standard is a key factor in the Commonwealth’s effort to be competitive in a global economy. By embracing a culture of responsible energy consumption, the financial benefits will continue to grow year after year, even in the face of changing budgets, staff, student population and facilities.

KEEPS as a Nationally Recognized Program of Excellence

Since its inception, KEEPS has helped launch many successful school district energy management programs in Kentucky. School district energy managers and energy teams rely on the resources, training and technical assistance that KEEPS provides to lay a solid foundation for ongoing district-wide energy and cost savings. In 2011, KEEPS and its administrator, KPPC, received awards for excellent program delivery by the U.S. EPA Energy Star Program and the National Pollution Prevention Roundtable.

Like many state and federally sponsored programs, the scope and breadth of services that KEEPS provides in the years to come will be determined by available funding opportunities. This Status Report shows the demonstrated need for KEEPS to continue providing an energy-efficient and cost-effective learning environment for the Commonwealth’s students and teachers.

In 2012, KEEPS looks forward to an exciting year as more Kentucky school districts are recognized for their commitment to providing an energy-efficient and cost-effective learning environment for the Commonwealth’s students and teachers.

Thanks to the energy-saving initiatives implemented by 124 of Kentucky’s school districts, the districts lowered the total annual energy used and avoided spending an additional $4,896,000 in energy costs in 2011.

*Source: Kentucky Department of Education Superintendent’s Annual Attendance Report (SAR)

**Source: www.degreamsdays.net (using temperature data from www.wunderground.com for the Louisville area. Similar degree days were experienced throughout the state)
KEEPS is administered by ...

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KPPC is Kentucky’s primary resource to help businesses, industries and other organizations develop environmentally sustainable, cost-saving solutions for improved efficiency. Based at the University of Louisville J.B. Speed School of Engineering, KPPC provides technical information and assistance that is free, confidential and non-regulatory.

This report has been prepared for the Kentucky Legislative Research Commission and the Kentucky Department for Energy Development and Independence as a summary of KEEPS activities to date. Client participation and energy performance metrics presented in this report are based on information from baseline and follow-up KEEPS Energy Management Reports submitted to KPPC by Kentucky school districts as of November 30, 2011. Energy performance metrics are also gathered from energy efficiency assessments conducted by KEEPS engineers and energy managers.

KEEPS Partners

Department for Energy Development and Independence – DEDI is part of the Kentucky Energy and Environment Cabinet. Its mission is to improve the quality and security of life for all Kentuckians by creating efficient, sustainable energy solutions and strategies; by protecting the environment; and by creating a base for strong economic growth.

Kentucky Chapter – National Energy Education Development Project – NEED promotes an energy-conscious and educated society by creating effective networks of students, educators, business, government and community leaders to design and deliver objective, multi-sided energy education programs.

Kentucky Green & Healthy Schools – KGHS is a state-wide, web-based and student-centered program that empowers students and staff to move their school toward becoming safer, healthier and more environmentally sustainable.

Kentucky School Boards Association – KSBA serves school boards and districts in such areas as governmental relations, board member and staff training, insurance and risk management, legal, policy, publications and community relations and is the administrator for the Kentucky School Energy Managers Project.

Kentucky School Plant Management Association – KSPMA promotes and enhances the educational process through proper management practices related to school operations and maintenance.