

**energy**  
**at**  
**work**

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**Energy At Work is a Quarterly Review of Recovery Act Programs Working for Kentuckians**

In early 2009, President Barack Obama signed the American Recovery and Reinvestment Act of 2009 (ARRA - also known as the Recovery Act or Stimulus Act) to stimulate the nation's economy. Of the approximately \$787 billion that Congress appropriated nationally, Kentucky will receive about \$3 billion, a staggering inflow of new money into the Kentucky economy. This funding will be spread over about three years. Of this, DEDI is administering about \$68 million over the three-year period. Some other energy-related funds for hybrid school buses, low-income weatherization of homes and jobs training are being administered through other state agencies.

DEDI normally gets only \$450,000 to \$700,000 in federal grants per year to operate its energy efficiency and renewable energy programs, and for those funds, a 20 percent cost share is required. It is clear that ARRA provides a much-needed, one-time infusion of dollars. This unanticipated bonus has allowed DEDI to expand proven programs and to create innovative programs that will have beneficial impacts for years to come.

How are these funds helping Kentuckians? They help further DEDI's overall goal of market transformation, meaning an increased demand for efficient and renewable sources that can result in an increase in green jobs. The benefits of market transformation and the four metrics DEDI tracks to determine program effectiveness include 1) an increase in jobs created or retained; 2) a decrease in energy consumed; 3) an increase in renewable energy generated; and 4) a reduction in greenhouse gas emissions.

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# Kentucky appliance rebate program a success

By: Brooke Smith

Of the many energy efficiency programs that Department for Energy Development and Independence (DEDI) has administered with Recovery Act funds, the Kentucky Energy Efficient Appliance Rebate Program may have been one of the most exciting. Why? Because with the influx of Recovery Act funding for the program, DEDI was able to immediately distribute more than \$4 million directly to Kentuckians, stimulating our economy and helping residents invest in long-term energy savings for their homes. Residents were able to file for a rebate through the program's website after purchasing one of 16 qualified ENERGY STAR appliances. Not only did the program assist consumers as they purchased new, energy-efficient appliances, but the funds fed directly into Kentucky's economy through local retailers. As if stimulating the Commonwealth's economy wasn't enough benefit, the ENERGY STAR appliances purchased by Kentuckians replaced older, outdated models and will contribute significantly to the energy efficiency of our homes. Replacing the old, inefficient appliances will not only help Kentucky families save on energy costs, but will help to lessen the demand on Kentucky's power plants through energy conservation.

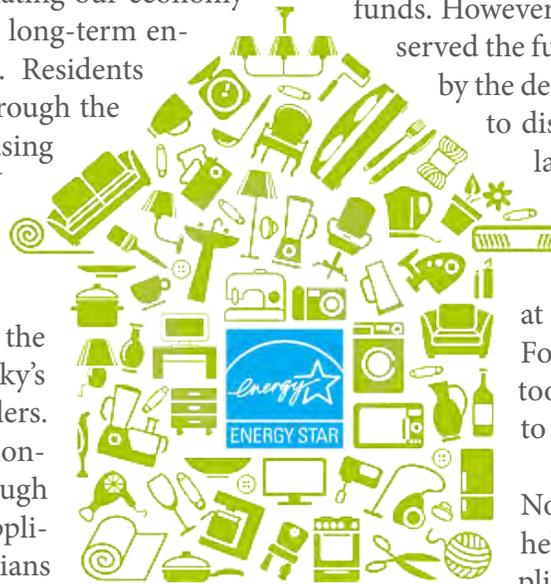
"We were excited to implement the KY Energy Efficient Appliance Rebate Program because of its direct impact on Kentucky's retail sales and the immediate savings it brought consumers," said Dr. Len Peters, Secretary of the Kentucky Energy and Environment Cabinet. "The appliance rebate program will have lasting impact as new appliances help residents de-

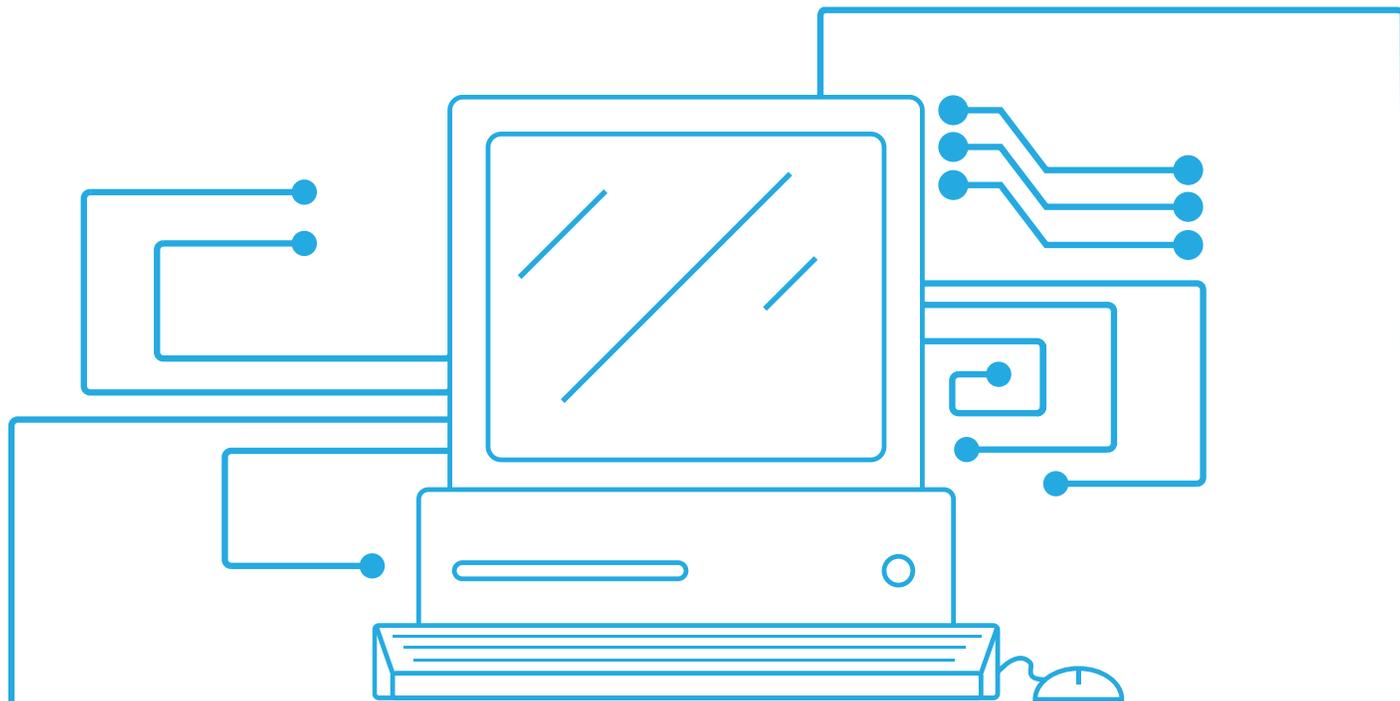
crease the energy demand of their homes, there by lightening the load on the environment."

When Governor Steve Beshear launched the program with a press conference at Rabon's TV & Appliance (Paris, KY) on Earth Day of 2010, Kentuckians leaped at the opportunity to update their appliances with rebate assistance. Within one month of igniting the program, residents had reserved all the rebate funds. However, because many of those who reserved the funds failed to actually claim them by the deadline, there was \$1.7 million left to distribute by July. This led to a re-launch with Kentucky First Lady Mrs. Jane Beshear announcing the re-opening of the program with a press conference at GE Appliance Park in Louisville. Following that announcement, it took only another month for funds to be depleted.

Not missing the chance to receive help with replacing inefficient appliances while concurrently investing in long-term energy and cost savings, Kentuckians turned out in droves to take advantage of the unclaimed funds. The federal Department of Energy, responsible for funneling Recovery Act funds to DEDI, commended Kentucky for being one of the first states to quickly distribute all funds to residents.

With the success and closeout of the Kentucky Energy Efficient Appliance Rebate Program, DEDI lauds Kentuckians for their enthusiasm in replacing inefficient appliances and helping the Commonwealth invest in energy-efficiency and conservation.





## Recovery Act funds help HVAC division expand inspections and online permitting

By: Maggie Greene, Kentucky Department of Housing, Building and Construction

**T**hrough its partnership with the Kentucky Department for Energy Development and Independence (DEDI) the Department for Housing, Buildings and Construction (DHBC) is receiving a total of \$457,000 for training and \$1,200,000 for inspections through the American Recovery and Reinvestment Act. This funding provides education and training to local and state code enforcement officials responsible for residential and commercial building energy codes as well as funding for inspectors statewide to achieve 90 percent compliance with new energy-efficient building codes within six years. The Commonwealth now requires permits and inspections for all new construction projects and heating, ventilating and air conditioning (HVAC) installations statewide, making it the first state in the nation to do so.

2007 Senate Bill 10's statewide HVAC permitting and inspections program is well underway. As

of March 1, the Department of Housing, Buildings and Construction has issued more than 400 residential and commercial HVAC installation permits and the totals are climbing daily. Those numbers, along with the permits themselves, and all other HVAC-related processes are now more accessible thanks to a program commonly referred to as "JO." In an effort to create universality and maximize efficiency within the department, as an extension of the new permitting and inspections program, DHBC's HVAC Division has transitioned to Jurisdiction Online (JO)— a web-based information management program. According to Division Director Tim House, once fully implemented, JO will allow all divisions within the department to conduct work through one central program including licensing, permitting, inspections, violations, or consumer complaints.

"What we most look forward to is not only in-

stant communication between all divisions but the ability to input inspections to the system in “real-time,” said House.

“With online permitting and the potential for online license renewal, the public can make these transactions in a limitless fashion, without having to rely so strictly on office hours of operation.”

Established in 1987, Praeses [the producer of JO] is known for its customized information management tools and resources. JO Product Manager, Jacques Couvillon expounds on the company’s commitment to DHBC’s energy initiative.

“Our immediate goal is to support online permitting and inspections,” he said. With online payments processing, the need for countless paper invoices, checks, and records will be eliminated. Not only will this save paper, it will save time and money too.

Couvillon continues, “In addition to an efficient and paperless workflow, Kentucky HVAC inspectors are using JO in the field to capture the results of code enforcement inspections. These inspections result from the installation of new units or consumer complaints relating to the inefficient operation of existing units.

“Improvements to equipment resulting from code violation findings will thwart more efficient operation of these units,” he said. With JO, HVAC administrators will no longer need to print traditional paper records. These documents will be uploaded as Acrobat PDF files directly into the program and thereby shared electronically among both office and field staff.

Tim Crick, an HVAC field staff supervisor, admits he was reluctant at first but has developed a true appreciation for the program and the potential it presents.

“It’s very user-friendly,” he said. “I hope to eventually see all of our divisions take part. It would benefit the department as a whole to be united, that way we could all help one another.”

While HVAC is the current focus of the project, the long-term goal for JO is department-wide use. The Divisions of Plumbing, Electrical Licensing, Fire Prevention and Building Code Enforcement will soon be on board too.

HVAC is the second of eleven Kentucky agencies in the process of transitioning to JO which Couvillon refers as an “enterprise regulatory workflow solution.”

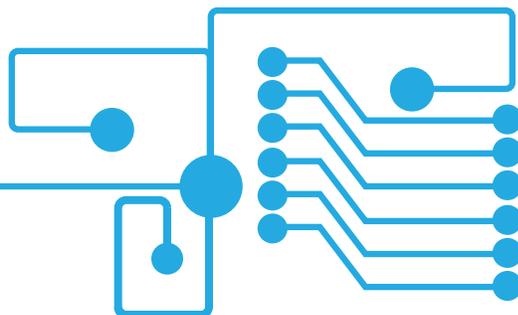
Each of those eleven divisions will have similar workflow support tools, public access portals and electronic reporting capabilities “resulting in a more energy-friendly KY Department of Housing, Buildings and Construction,” Couvillon said.

In addition to the eleven state government agencies to join the JO bandwagon, the department hopes also to see 20 independent HVAC jurisdiction localities adopt the program. HVAC Division Director Tim House

states that JO ensures that this program can be implemented for those local jurisdictions that currently lack an electronic program or for those that are in need of a new system. “Our hope is that this will afford the public a seamless transition between the state’s jurisdictions and the local jurisdictions,” he said.

Rodney Handy of DHBC’s Boiler Inspections Section, the first in the department to implement the program, has been using the program for more than five years and says he loves it.

“In the first year alone, we were able to recover approximately \$40,000 in unpaid invoices,” he said. After transitioning to JO from an aging mainframe in July 2005, Handy said Boiler Inspections can now closely monitor the process to provide the utmost in timeliness and efficiency, and that includes a tight grasp on accounting processes. “In an age where we are having to do more with less, JO enables us to stay as current as possible without a large office staff.”





Creating a smarter grid:

# Kentucky's next step to utility modernization

By: Brooke Smith

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**A**s Kentuckians, we've been spoiled by cheap energy. With ample coal fields as our primary energy source we have become somewhat complacent in the availability of our treasured natural resource and our use of the energy it produces. With low energy costs it has been easy to assume we can use as much as we like as long as we pay the price, but the cost of electricity is expected to continue its upward trend. Additionally, as technology advances and our energy needs grow every day we have to consider that our energy demand is stretching the utility grid to its limits.

The 'grid' is the technological infrastructure by which energy is generated, transported and delivered. In basic terms, a power grid is defined as a system of high tension cables that distributes electric power throughout a region. Electricity must be used the instant it is generated, meaning that the amount of power generated must equal or "balance" the amount of power being consumed at all times. The electric "grid" began as several independent, isolated electric utility companies that used transmission cables to connect their customers with large generators which were built at some distance away from the population centers. Over time these independent companies interconnected with each other for mutual benefit. In the last several decades these interconnections have grown more robust to the point that electricity can be traded among companies over long distances. The grid operation is so very large and complex that it has been referred to as the largest interconnected machine on Earth.

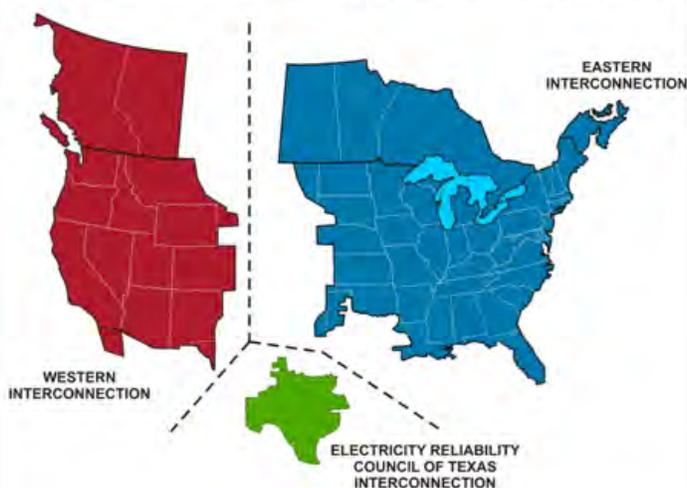
Originating with the basic grids constructed in the early twentieth century by architects like Thomas Edison (think about the first telephone transmissions), our utility grid has grown over the past century to connect our communities nationally and trans-continently. Our nation's complex power grid has helped us become the global industrial leaders that we are today. Generating and transmitting electricity helps sustain our homes, our businesses and our society at large. It's a big deal.

What happens when a power grid fails? Think of the desperation and fear communities feel when they 'lose power' due to storms and other natural disasters. Luckily, power grid systems are so complex in design that utility companies are able to recover fairly quickly when these outages occur. In the same vein, think about the cascading blackouts that occurred in the northeast in August of 2003. These blackouts, which caused the loss of power to approximately 50 million people in the US and Canada, occurred because the energy demand placed on the transmission grid for a short time was more than it could sustain. Its cascading nature resulted in a blackout that was widespread and lasted for days. According to the US Department of Energy there has been a growth in peak demand for electricity that has exceeded transmission growth by almost 25 percent every year since 1982. This rise in energy demand is fueled by advanced technology usage such as computers, telephones and the heating and cooling of bigger houses. Population growth is also an influencing factor. The US operates in a digital economy and that takes a whole lot of energy.

component of Governor Steve Beshear's energy strategy for Kentucky. The Governor recognized that as our energy demand continues to rise, it will not only have detrimental effects on our grid, but could potentially create drastic increases in Kentucky's greenhouse gas emissions. A modernized, smarter power grid was recognized as an important preventative step to conserving Kentucky's energy distributor system and creating greater efficiency and savings for both utility companies and residents.

With \$2,650,000 in Recovery Act funding from the US Department of Energy, the Kentucky Department for Energy Development and Independence developed the Utility Smart Grid Initiative to establish a partnership with electric utilities and explore development of smart grid concepts and their possible application in Kentucky. The ultimate goal of the smart grid initiative is to prompt the modernization of the grid, thereby providing long-term, significant energy and cost savings for Kentucky ratepayers. Specific programs are discussed on the following pages.

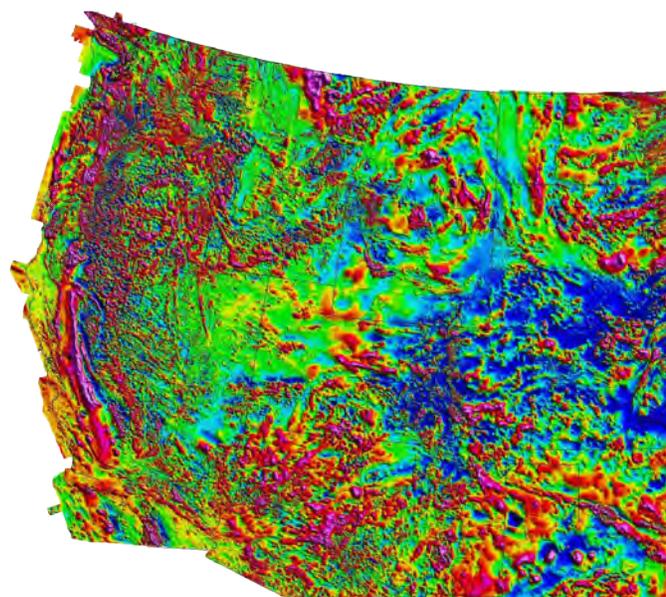
#### North American Electric Reliability Corporation Interconnections



The U.S. power grid consists of three loosely connected parts, referred to as interconnections: eastern, western and Texas. Within each, high-voltage **power lines** transmit electricity from generating sources such as coal or hydroelectric **plants** to local utilities that distribute power to homes and businesses.

As energy demand is increased by our industry, homes and devices, state and national policymakers are working with utility companies to invest in what is referred to as smart grid technologies. The goal of both public servants and utility distributors is to create a smarter, more efficient power grid that has the capability to keep up with our ever-rising energy needs.

Electric utility companies are preparing to transform their infrastructure from a centralized, producer-controlled network that receives limited feedback from the end-user to one that is more interactive and responsive to the needs of its customers. This transformation is a key







# OWEN Electric

A Touchstone Energy Cooperative 

Owen Electric Cooperative was awarded \$119,250 and will establish a voluntary peak load reduction program called Beat the Peak. The program is a pilot project designed to encourage consumers, through visual and communication reminders, to voluntarily curb their own energy usage during peak demand times. Owen Electric Cooperative hopes that this pi-

lot project will be broadly accepted by its customers so that it may become a membership-wide, demand-side management (DSM) program.

DSM promotes modification of energy consumers' demand for energy through education and incentive programs. The goal of DSM programs is to encourage consumers to use less energy during peak demand times of the day (morning before work, immediately after work) or to move their energy use to off-peak hours, such as nighttime.

A major piece of Owen Electric Cooperative's pilot project will be the development of informational and educational literature and a marketing mix focused on explaining what peak demand time and energy efficiency means to its members. According to the cooperative, the challenge of a successful DSM program lies in developing concise, easy to digest information to educate members on the benefits of 'beating the peak'

Owen Electric Cooperative feels that its community benefits from programs like Beat the Peak because its members own a portion of an electric cooperative interested in them, rather than the bottom line. DSM programs, like Beat the Peak, help curb demand and save electricity in the interest of both members and cooperatives. Beat the Peak is an especially unique initiative because rather than the cooperative trying to 'fix' the problems created by energy demand peaks, it asks members to help by voluntarily changing their daily energy usage habits. Less energy demand means less environmental impact, delaying the construction of new power plants (and electricity rate increases) to meet the increased demand.



**Through Recovery Act funds, DEDI is able to partner with three other energy providers, described briefly below. Energy At Work will highlight the effort of these partners in a later edition.**

- ◆ Bluegrass Energy was awarded \$330,700 to install Distribution Automation and home displays on a pilot basis. The program will enable customers to monitor and control their energy consumption.
- ◆ Hickman-Fulton Rural Electric Cooperative Corporation was awarded \$168,000. Hickman-Fulton RECC will install 200 smart meters capable of recording and transferring demand side end-use data back to a central office server.
- ◆ Nolin Rural Electric Cooperative Corporation was awarded \$85,000 and will be used to implement a prepaid electric meter program that is designed to give customers control of their energy use.

**For more information on utility smart grid initiatives, go to <http://energy.ky.gov>.**



By: Brooke Smith

**B**uilding on the momentum and success of last year's event, the third annual Midwest Regional ENERGY STAR Conference returned to the Lexington Convention Center, March 24th and 25th with a packed house. The Home Builders Association of Lexington (HBAL) were once again gracious hosts to national energy efficiency experts, offering courses for home builders, engineers, architects and all who had an interest in efficient home design. The conference showcased cutting-edge energy efficiency innovations through a vendor trade show and offered participants in-service credits for various certifications. To view presentations from this year's conference visit the conference web site.

More than 400 building professionals, government officials and business leaders from across the Commonwealth attended the conference, which was designed to be not only educational, but to encourage better information exchange and awareness of the energy efficiency home industry.

Presenting sponsors for this year's conference were Louisville Gas and Electric/Kentucky Utilities and Kentucky's Touchstone Energy Cooperatives. Kentucky Housing Corporation and Lincoln Trail Home Builders Association also helped sponsor event sessions and activities. The Kentucky Department for Energy Development and Independence (DEDI) also joined HBAL as a sponsor for this year's conference.

The Kentucky Home Performance (KHP) program, funded by the Recovery Act via DEDI and administered by the Kentucky Housing Corporation, was a program of interest at this year's conference. Along with exhibiting program benefits during the trade show, KHP Program Manager Andrew Isaacs spoke to participants about the program's benefits for residents and the home builder industry. KHP encourages energy efficiency and the creation of jobs through retrofitting single family residences. The program follows energy efficiency standards set by the Home Performance with ENERGY STAR program, spearheaded by the US Environmental Protection Agency. By working with home energy evaluators, contractors and utilities, KHP offers incentives to make energy efficiency and energy cost savings a reality for residential homes. More on KHP will be featured in the next edition of Energy at Work. For more information on the program go to [www.kyhomeperformance.org](http://www.kyhomeperformance.org) or call 877-741-4306.





# Kentucky: A leader in high performance schools

By: Brooke Smith

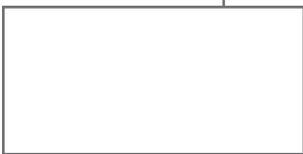
*“Every child deserves the opportunity to attend a high performing school.”*

*Ed McNeel, Superintendent  
Corbin Independent Schools*

**T**he phrase ‘times are tough’ is not just a cliché for school districts across the Commonwealth. The fact that budgets have been dramatically slashed at all levels for K-12 schools has driven many administrators to look for solutions that have been hiding under their noses for years: energy reduction. As districts look for sustainable solutions to reducing their operational costs, school administrators are quickly learning that high performance school buildings are the way to go. Not only do high performance buildings help districts save money by reducing their energy usage, the buildings also provide a healthier environment for teachers, students and staff.

High performance school buildings provide better learning environments, cost less to operate and help protect the environment. In the past decade Kentucky K-12 public schools have become leaders in transitioning to these remarkable facilities.

On March 22-23 school administrators from across the Commonwealth gathered in Bowling Green to attend the annual High Performance School Buildings Workshop, sponsored by KY National Energy Education Development Project (KY NEED) and the Kentucky Department for Energy Development and Independence. The two-day event gave school administrators, teachers and facility managers the opportunity to learn about the foundation and benefits of building a high performance school and also the chance to tour two high performance school buildings, T.C. Cherry Elementary (Bowling Green Independent School District) and Richardsville



Elementary (Warren County School District). “It was very clear that those who attended this year’s workshop are excited about what high performance design and construction contributes to a school learning environment,” said Karen Reagor, State Director of KY NEED. “This year, more than ever, the message was that high performance sustainable schools are a reality, right here in Kentucky--the two schools we toured confirmed that.”

During the workshop attendants learned the trademarks of a high performance school building and what benefit their districts could see from such construction. Throughout the workshop, participants learned that a high performance school building has three vital characteristics: 1) the building is a healthy and productive place for students and teachers; 2) the building is cost effective to operate and maintain; 3) the buildings impact features are sustainable because it conserves energy, water and resources.



*Martha Tarrant, Principal of Ross Tarrant Architecture, presents the characteristics of a High Performance school.*

An important lesson learned from this year’s workshop is that a high performance school building is not difficult to create, but does require the school district to take a holistic approach to the design process. A high performance school building is the result of an integration of systems and technologies that work together to create overall efficiency in every sense of the word. Comfort and productivity for students and teachers comes from the beginning stages of creating

*“High Performance Schools create an atmosphere for high academic success. The buildings are designed with a focus on student learning, energy efficiency, sustainable maintenance and are inviting and safe for students, faculty and staff.”*

*Ed McNeel, Superintendent*

a high performance school and cannot be achieved as an afterthought during construction. School districts must work with architects, engineers, facility managers and school boards to integrate the building blocks of high performance buildings, including energy analysis tools that optimize energy performance; a life cycle cost approach that reduces the total costs of ownership; a process that ensures the facility will operate in a manner consistent with design intent; high levels of acoustic, thermal, and visual comfort; large amounts of natural daylight; superior indoor air quality; energy conservation and renewable energy strategies; high performance mechanical and lighting systems; environmentally responsive site planning; environmentally preferable materials and products; and water-efficient design.

The integration of these systems will create a school that is an asset to its inhabitants, district and entire community. The school itself becomes a learning tool for students as they explore their building’s construction and learn more about the conservation of water, energy and other resources. Warren County Schools Warren County Schools

“Designing Richardsville Elementary to be a hands-on learning environment throughout the entire school is one of those ideas you reflect on in hindsight and think: ‘wow, that was such a great idea,’” said Joanie Hendricks, public relations coordinator

for Warren County Public Schools. “In creating a school that dually functions like an energy museum, we are constantly saturating our students with ideas and knowledge so they understand not only the significant features that make their school net zero energy, but also how their behaviors can impact the energy efficiency and community around them. We are constantly seeing the “light bulb” come on as students learn yet another new feature just by touring the hallways. To me, seeing even our youngest kindergarten and first-grade students explaining in detail what solar tubes are and how Insulated Concrete Form works is the most indicative reflection of the

building’s learning tools being a true success.”

If your school district is ready to start saving on energy, water and resource costs and wants to create healthier learning spaces for students, high performance building is the way to go. Although the next High Performance School Buildings Workshop is a year away, you can learn more today by contacting one of the Energy in Education Collaborative partners, whose websites and contact information is listed below. It’s never too soon (or too late) to begin transitioning your school system into a more efficient and healthy environment.

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**Kentucky’s Energy in Education Collaborative Partners:**

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**Kentucky Green & Healthy Schools**

<http://greenschools.ky.gov/>  
500 Mero St  
2107 Capital Plaza Tower  
Frankfort, KY 40601  
(502) 564-5937

**School Energy Managers Project  
Kentucky School Boards Association**

<http://www.ksba.org/energy-management>  
260 Democrat Drive  
Frankfort, Kentucky 40601  
(800) 372-2962

**Kentucky Energy Efficiency Program for Schools (KEEPS)**

University of Louisville’s Kentucky Pollution Prevention Center  
<https://louisville.edu/kppc/keeps>  
Louisville, KY 40292  
(502) 852-0965

**Kentucky NEED**

[www.need.org](http://www.need.org)  
P.O. Box 176055  
Covington, KY 41017  
859-578-0312

*High Performance attendees visit T.C. Cherry Elementary*



# Kentucky Pollution Prevention Center reports successes of KEEPS and energy management programs

Center receives national ENERGY STAR award for energy efficiency accomplishments

By: Sandy Denham, Kentucky Pollution Prevention Center

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*This is not just luck. This is well thought out policy, and it is proving to be extremely effective.*

- U.S. Congressional Representative John Yarmuth (3rd District, Kentucky)

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**O**n January 28, 2011, the Kentucky Pollution Prevention Center (KPPC) hosted a press conference that highlighted recent accomplishments of the Center's KEEPS and Environmental Sustainability programs. Both programs were expanded in early 2010 through funds provided by the American Recovery and Reinvestment Act (ARRA) through the U.S. Department of Energy. KPPC administers the programs under a partnership with the Kentucky Department for Energy Development and Independence.

The press conference was held at KPPC's offices at the University of Louisville's Shelby Campus and was attended by representatives from federal, state and local government, Kentucky school district superintendents and energy managers, Kentucky business and industry leaders and others. University of Louisville President James Ramsey, Kentucky Energy and Environment Cabinet Deputy Secretary Hank List and U.S. Congressional Representative John Yarmuth (3rd District, Kentucky), were among those who com-

mented on how ARRA funds have benefited KPPC, its clients, Kentucky's economy and school system.

Describing how ARRA-funded programs like those implemented by KPPC effect broader goals, Representative Yarmuth said, "It takes a concerted effort and a great deal of thought to figure out how we can create a better energy future and one that will save money. This is not just luck. This is well thought out policy, and it is proving to be extremely effective."

Energy and Environment Cabinet Deputy Secretary Hank List also stressed state government's strong commitment to energy efficiency. He

explained how programs such as those implemented by KPPC are helping to realize Governor Beshear's energy strategy.

KEEPS - Kentucky Energy Efficiency Program for Schools - supports every public school district in Kentucky. Based on Energy Management Reports that 56 percent of Kentucky's school districts submitted to KEEPS for both fiscal years 2009 and 2010, integrating best energy management practices into



day-to-day operations is worth the effort. Despite the fact that building square footage and student population increased for those districts, more than \$3 million in energy cost reduction and almost 600,000 MMBtus in energy use reduction were realized. From fiscal year 2009 to 2010, greenhouse gas emissions were reduced by nearly 24,000 metric tons.

Furthermore, the 34 on-site energy efficiency assessments KEEPS conducted in 2010 identified more than \$600,000 in potential annual cost savings. KEEPS utility bill analysis results show refunds, reimbursement or credits from utility services providers totaling more than \$200,000 to Kentucky school districts.

**Environmental Sustainability Program Serves Growing Numbers of Industrial and Commercial Facilities.**

In 2010, KPPC’s team of engineers served 82 industrial and commercial clients in Kentucky. Through its Environmental Sustainability program, the Center assessed approximately 9.8 million square feet of space and completed 37 assessments. Those assessments identified potential energy savings

of 203,800 MMBtu per year, amounting to cost savings of \$961,962 per year for the Center’s clients.

Through the ARRA-funded expansion of its services, KPPC is now working with public school districts and new industrial and commercial clients across Kentucky. KPPC Executive Director Cam Metcalf says, “We’re hitting the targets we’ve set for technical assistance provided, on-site assessments completed, energy-use reduced and greenhouse gas emissions reduced. We’ve accomplished a lot in the first year of funding, but now our teams are in place, we’re gaining steam, and we’re looking forward to even better results this time next year.”

See [www.kppc.org](http://www.kppc.org) for video highlights from the press conference and additional information about KPPC.



*DEDI commends KPPC for receiving the 2011 Partner of the Year ENERGY STAR award. Congratulations and keep up the good work!*

*Accepting the award on behalf of KPPC: (from left) Senior Engineer Bob Miles, Assistant Director Lissa McCracken and KEEPS Program Manager Fred Byrd (right).*

# Kentucky Industrial Facility Retrofit Showcase Program brings savings, jobs to Florida Tile

By: Brooke Smith

When the Kentucky Department for Energy Development and Independence (DEDI) received an infusion of American Recovery and Reinvestment Act funds in 2009, one of its top priorities was to work with partners to implement energy efficiency initiatives in the industrial and commercial sectors.

Kentucky's energy use is projected to grow by more than 40 percent between now and 2025, which means greenhouse gas emission could be more than 40 percent higher by the same year. Governor Steve Beshear's energy strategy calls for Kentucky to meet at least 18 percent of its energy demand through energy efficiency by 2025, and energy conservation is the cheapest, fastest and easiest way to cut energy costs and reduce carbon emissions. Buildings account for 1/3 of the energy used in Kentucky, so the industrial and commercial facility sector was an obvious choice for energy efficiency programs.

The goal of DEDI's industrial and commercial energy efficiency programs is to help companies develop programs that cut energy consumption and green house gas emissions. One of these programs, the Kentucky Industrial Facility Retrofit Showcase Program, was developed through a partnership between DEDI and the Cabinet for Economic Development (CED). This program provides competitive grant funds for energy efficiency upgrades in existing industrial plants. Preference in the award process went to industries that produce 'green' products and create or retain the most jobs.

"The Industrial Facility Retrofit Showcase Program has given us the unique ability to partner with the Department for Energy Development and Independence and the private sector to create and retain jobs, improve energy efficiencies, as well as reduce emissions across the state," said Larry Hayes, Secretary of the Cabinet for Economic Development. "The initial results have been positive, and we anticipate even more success as additional projects funded through this program are completed in the near future."

One of the first recipients of Industrial Facility Retrofit Showcase Program funds was Florida Tile, a world-class manufacturer and distributor of porcelain and ceramic

wall tile, as well as natural stone and decorative glass and metal tiles. The company was founded in 1954 in Lakeland, Florida but in the 1970's began a period of aggressive expansion that included a tile factory in Lawrenceburg. Kentucky is a natural choice for tile manufacturing due to the close proximity of high quality raw materials, reasonable utility rates, a highly trained local workforce, and centralized distribution. In 2006, Florida Tile was purchased by Panariagroup, a multi-national company which produces high quality tile for markets throughout the world.

Almost immediately, Panariagroup began looking for a location to produce porcelain tile for the US market. After months of negotiations with officials from the states

floridatile





of Kentucky and Georgia, Panariagroup and Florida Tile chose Kentucky and have never looked back. 2007 marked the ground-breaking of a \$25,000,000 facility for porcelain tile which includes many innovative (and energy saving) technologies. The factory has continued to expand production and has added over 50 jobs since that time

In 2009, Florida Tile again was looking to make a move, this time for their corporate headquarters. The Commonwealth (along with the city of Lexington) was there to rise to the challenge. The partnership resulted in the relocation of the headquarters from Lakeland, Florida to Lexington. Proximity to the factory was a prime consideration, as were access to Lexington-Bluegrass airport and the pool of highly skilled employees. As a result, another 50 professional positions were created with more positions being added as business continues to expand.

In 2010, Florida Tile applied for competitive funds through the Industrial Facility Retrofit Program and received \$162,500 in matching funds which were combined with the same investment from Panariagroup. The company chose to do a lighting retrofit project at their Lawrenceburg facility.

Equipment Depot was selected to do the project which consisted of replacing 1400 outdated HID lamps that remained on all the time with 1000 fluorescent fixtures controlled by motion sensors and timers. Utilizing Kentucky trades-people to assist in running new wiring in both the factory and the distribution center, Equipment Depot worked around Florida Tile's summer shut-down schedule and into the fall of 2010 making all of the thousands of connections.

The result has been nothing short of amazing. "We are currently saving 74 percent on our [lighting] energy bill as the result of the project" stated Rich Kincaid, Director of Florida Tile's Distribution Center. "We will save \$1.60 every year for every dollar we invested in the new fixtures." Yearly, Florida Tile will save more than 4,000,000 kilowatthours of electricity which saves money and reduces their

environmental impact.

The energy savings go straight to their bottom line, which allows Florida Tile to better compete with foreign and domestic manufacturers. They were also able to create more than 50 new jobs in Kentucky last year because of increases in competitiveness including the lighting project. Because of the success experienced with energy management in the Lawrenceburg facility, the company is expanding energy efficiency and conservation programs to all of their sales and service centers across the nation.

"We are working to place high efficiency lighting in our sales showrooms throughout the country to further increase our company-wide energy efficiency," said Dan Marvin, Florida Tile's Director of Technical Services. "The lighting retrofit project has been a huge positive for us, our employees are happier with the better lighting and we are already saving a considerable amount on our energy bills."

For more information on Florida Tile visit their website at <http://www.floridatile.com>. More information on the DEDI/CED Kentucky Industrial Facility Retrofit Showcase Program may be found at <http://energy.ky.gov>.





# Faces of the Recovery Act



## V. Bruce Hepke, Kentucky Pollution Prevention Center

V. Bruce Hepke joined KPPC – Kentucky Pollution Prevention Center – in September 2010 as an Engineer for KEEPS – Kentucky Energy Efficiency Program for Schools. Bruce conducts energy efficiency assessments and prepares reports that summarize assessment recommendations to school districts throughout Kentucky. He also provides training for school district personnel on identifying energy-saving opportunities, best energy management practices and other energy efficiency related topics.

The training, tools, technical assistance and other resources that KEEPS provides are based on the ENERGY STAR seven-step Guidelines to Energy Management and are designed to help school districts take ownership of their energy management programs and promote a culture of responsible fiscal, community and environmental stewardship.

“The personnel at KPPC are extremely considerate and a pleasure to work with,” says Bruce, who came out of retirement to work for KPPC. “The primary focus of our work, energy efficiency, is a subject matter I have enjoyed working with and tracking for many years.”

Prior to his retirement in 2007, Bruce spent more than 31 years working at Ford Motor Company – Louisville Assembly Plant, where he served as a Plant Layout Engineer, Plant Design Engineer, Environmental Engineer, Plant Engineering Supervisor, Body Area Manufacturing Engineer and Central Engineering Manager. For Bruce, ARRA-funded programs provide a good return on investment, both for him personally and the organizations that the programs serve.

“The stimulus project has been a win-win for me, my family, the state of Kentucky, the economy and the environment,” says Bruce. “It has given me the support I needed to send my sons to college, has helped me become actively engaged once again in the workforce and has allowed me to help Kentucky schools realize the benefits of their energy efficiency efforts. It is rewarding and exciting to be part of a program with so many positive results.”

Bruce is a graduate of the University of Louisville, where he received his Bachelor of Science and Master of Science degrees, both in mechanical engineering.



## Patrick Metz, Kentucky Pollution Prevention Center

Patrick Metz joined KPPC – Kentucky Pollution Prevention Center – in June 2010 as a Regional Coordinator for KEEPS – Kentucky Energy Efficiency Program for Schools. Patrick helps 17 school districts in southeastern Kentucky develop and implement sustainable energy management programs, which will yield year-to-year cost savings through improved energy performance. The training, tools, technical assistance and other resources that KEEPS provides are based on the ENERGY STAR® seven-step Guidelines to Energy Management and are designed to help school districts take ownership of their energy management programs and promote a culture of responsible fiscal, community and environmental stewardship.

“I feel good about the work that we do at KPPC,” says Patrick. “Not only do we help business, industry and schools save money, we do so in an environmentally and socially responsible manner. I am also learning everyday about energy efficiency and pollution prevention principles, which I can take home and apply in my personal life.”

Before joining KPPC, Patrick spent more than two years with the Peace Corps in Moldova as an Agriculture and Rural Business Development Specialist. There, Patrick worked with Agenția Națională de Dezvoltare Rurală (ACSA), a non-profit organization that develops rural communities by expanding a professional network of information, consultancy and training service providers for both farmers and rural entrepreneurs.

Patrick is also excited about how ARRA-funded programs, such as KEEPS, benefit Kentucky’s economy, quality of education and quality of life.

“The money that school districts save through their energy management programs stays in the classroom, where it can be used to improve a child’s educational experience,” he says. “By keeping teachers on staff, providing better materials and more access to school programs, that money can be used to enrich the learning process.”

Patrick is a graduate of the University of Richmond in Virginia, where he received his Bachelor of Science degree with a double concentration in finance and marketing.



### **Pam Proctor, The Kentucky NEED Project**

**P**am Proctor began working for The Kentucky NEED Project in 2001. “I have loved every day of my job,” said Pam. “It is exciting to be able to offer teachers something they want and need—energy curriculum that students actually find fun and interesting.”

Pam supports the Kentucky NEED program as the program associate, responsible for getting the word out about our workshops and programs for K-12 teachers and students. She is also responsible for coordinating the Kentucky NEED newsletter, news releases and web updates.

Another major part of Pam’s job is coordinating the annual High Performance School Buildings Workshops. This year, the workshop was held in Bowling Green on March 22-23, and provided school administrators, board members and design professionals with the latest information on high performance school design and construction, the benefits of high performance schools and how to insure that their next building project incorporates these concepts. The workshop is highlighted on page 9.

Prior to working for KY NEED, Pam was the education coordinator for Sanitation District No. 1 in Fort Wright, Kentucky. She attended Wheaton College in Wheaton, IL and earned a B.A. in Communication.

“What really excites me about my job,” said Pam, “is that NEED offers something that is so vital to a well-rounded education—knowledge of what energy is and the comprehensive way it effects our lives, our community, our world. This includes the NEED Student Energy Team program. It educates and empowers students to be leaders in educating their schools and communities about energy efficiency and conservation. It was a privilege to be able to help write the NEED Blueprint for School Energy Teams manual for schools who want to form their own student energy team.

“I know KY NEED’s Recovery Act-funded projects are contributing to both the education and the economic well-being of the citizens of Kentucky. Education is the foundation for succeeding in life. Energy education that teaches both science concepts and conservation practices, is the simplest way to ensure wise use of natural resources, to save money and to protect our beautiful Commonwealth for generations to come.”

### **Kendra Holland, Division of HVAC**

**A** portion of the American Recovery and Reinvestment monies was granted to the Division of HVAC to support the 2007 Senate Bill 10 for the implementation of a statewide permitting and inspections program. The program requires permits for all new installation of heating ventilation and air conditioning (HVAC) equipment, both residential and commercial.

The program’s primary charge is to protect the Commonwealth’s people from the dangers associated with unlicensed contractors. Furthermore, the program’s requirements are designed to increase equipment functionality and efficiency to protect the Commonwealth’s pockets too.

Pictured here is Kendra Holland, a federal grant-funded administrator for the Division of HVAC. As shown, Kendra is actively utilizing the services provided by Jurisdiction Online, the information management system to which HVAC converted in January. Since the January 1 inception of SB10, Kendra has processed more than 700 residential and commercial HVAC permits using the JO system.

With Jurisdiction Online (“JO”), Kendra also processes accounting and monitors all financial activity associated with permitting and licensing. Kendra handles thousands of dollars on a daily basis and processed approximately \$150,000 in related fees in the month of January alone.

Additionally, she is able to share related information with 25 field staff members as well as various contractors throughout the state with the features the system presents. “(JO) gives us the potential to create instant and consistent communication with other code enforcement programs statewide,” she said. “Not only are we achieving more energy efficient installations of HVAC systems, we strive to have the same efficiency within the office. With the implementation of JO we are saving an incredible amount of time, energy, and money spent on office supplies.”

Kendra’s goals are aligned perfectly with the mission of the Division in protecting the local community. She says with permitting only available to licensed contractors, “someone is accountable.”

Through the use of JO in conjunction with the statewide permitting and inspections program, “we hope to better ensure consumer safety by decreasing hazards presented by improper installation and unlicensed contractors,” she said. “By tightening up code enforcement, we’re better able to catch mistakes and inconsistencies... so we can make sure the consumer is getting the most from their (HVAC) equipment.”





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