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KPPC Serves Growing Numbers of Industrial and Commercial Facilities Across Kentucky

In 2010, KPPC's team of engineers served 82 industrial and commercial clients in Kentucky. Through its Environmental Sustainability (ES) program, the Center audited 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 our clients.

These achievements were showcased on January 28 during a [press conference](#) at the University of Louisville Shelby Campus. The press conference also highlighted the results that KEEPS - Kentucky Energy Efficiency Program for Schools - saw last year. Both the ES and KEEPS programs were expanded in 2010 with funding from the American Recovery and Reinvestment Act (ARRA) through the U.S. Department of Energy. KPPC administers the programs through a partnership with the Kentucky Department for Energy Development and Independence.

Through the ES program, KPPC engineers work with industrial and commercial clients to help them build self-sustaining energy programs at their facilities that will continue well into the future. A representative from Reynolds Packaging Group in Louisville spoke at the press conference and described how KPPC has helped the company address its environmental management objectives. Peter Raymond, an Environmental Engineer with Reynolds, explained that, "It's a confidential, non-regulatory, free service that isn't selling us anything. They're trying to help us drive our energy use down. We've been able to learn from the experiences of other facilities that KPPC works with."

KPPC began working with Reynolds in August 2009, conducting a utility bill/rate structure analysis for the company. That effort was followed up with a full environmental sustainability assessment in 2010 and a framework for setting up their internal energy team. The company is now implementing some of the energy management opportunities identified in the assessment, and Mr. Raymond says,



Describing how ARRA-funded programs like those implemented by KPPC effect broader goals, Congressman John Yarmuth (KY-3) said, "This is the concerted effort and a great deal of thought that goes into figuring 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."

1,000 Horsepower (hp)

Mark Your Calendar

Thinking through Stakeholder Roles in EPR Systems for Packaging—Conference Call—February 1, 2:00-3:30 p.m. ET

Advanced Management of Compressed Air Systems Workshop — March 22-23, 8:00 a.m.-5:00 p.m. ET—Louisville

"We will use the money generated through these early successes for long-term capital improvements in our facility."

Through the ARRA-funded expansion of the ES program, KPPC is now working with dozens of new industrial and commercial clients across Kentucky, providing environmental management services like those that are helping the Reynolds facility. 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."

KPPC is based at the J.B. Speed School of Engineering at the University of Louisville and UofL President James Ramsey presided over the press conference. He said that, "This is further proof of the University of Louisville's commitment to our community and state. We're helping schools and businesses across Kentucky save energy and money while benefiting our economy, education system and environment." 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.

Updated P2 Measurement Tools Available

To help calculate greenhouse gas (GHG) emissions and cost savings from pollution prevention activities, and to help convert gallons of hazardous materials into pounds, the U.S. EPA designed P2 measurement tools for state and local governments, business facilities, grantees and project managers. The tools help to convert standard business units into environmental measurement units, increase transparency of reported data and make reference sources clear.

The tools were reviewed by a panel from the P2 community and were showcased in national webinars and conferences reaching over 500 participants. Based on panel and webinar-training feedback, the U.S. EPA finalized the tools in November 2010, reworking them to be more robust and user-friendly, with better training elements.

The tools can show economic and environmental evidence about P2 solutions already implemented and provide objective evidence of whether an environmental solution has enhanced a firm's bottom line. Measuring the environmental and economic results of preventing pollution helps businesses and government make good decisions.

The tools are housed on the [National Pollution Prevention Roundtable website](#).

- P2 Greenhouse Gas Calculator: Calculates GHG emission reductions from electricity conservation, green energy, fuel and chemical substitutions with lower GHG-intensities, water conservation, and improved materials and process management in the chemical manufacturing sector.
- P2 Cost Calculator: Assesses cost savings associated with reduced costs for hazardous inputs in a facility process, reduced costs for handling hazardous waste, reductions in annual air permitting fees that are based on actual emissions, reduced water discharge treatment costs based on

gallons discharged, reduced charges for water usage, reduced fuel costs and reduced costs for electricity. Understanding potential cost savings presents a big incentive for action and collaboration to program beneficiaries.

- Gallons to Pounds Converter: Provides conversions from units commonly encountered in business to units needed for P2 program measures.

Consumer Electronics Industry Progresses in Efficiency, Emissions and Recycling

In January, the Consumer Electronics Association (CEA)® released the [CEA 2010 Sustainability Report](#) to highlight the tremendous progress the industry has made in its green initiatives, from designing more energy efficient products to cutting greenhouse gas emissions (GHG) at facilities, to developing a national electronics recycling infrastructure.

The report tracks the industry's green efforts throughout a product's entire lifecycle, with 21 case studies from a variety of companies illustrating progress in their environmental efforts. The report further provides transparency on green practices across the industry.



Following are some highlights of environmental progress evidenced in the report:

- Greener designs: Industry-wide unit sales of U.S. products registered with EPEAT (Electronic Product Environmental Assessment Tool) grew by 10 percent in 2009, to a total of 48.5 million products. Individual companies also made noteworthy milestones in green design. One manufacturer, for instance, conducted a comprehensive life cycle analysis for every product it ships to determine where greenhouse gases are created. After discovering 97 percent of the emissions derived from manufacturing and product use, the company focused on designing new products that use less material, smaller packaging and are as energy efficient and recyclable as possible.
- Green packaging: Many consumer electronics companies are switching to renewable materials, including bio-based plastics, or recyclable materials instead of clamshell packaging and are looking to reduce the amount of packaging they use. For instance, one video service provider consolidated its shipments and decreased its use of cartons by more than one million in 2009 — a 75 percent reduction from the previous year. In 2011, all of the providers' products will be packed with 100 percent recyclable materials.
- More energy efficient products: According to the U.S. EPA, 27,000 CE product models currently meet ENERGY STAR® specifications. The average energy savings of ENERGY STAR electronics devices range from 20 to 55 percent. An example of this progress is one semiconductor design company which created a chip that can reduce its greenhouse gas

emissions by up to 40 percent by combining the processing and graphics processing units and the chipset onto a single chip.

KPPC Announces New Assistant Director

In January, Lissa McCracken was named KPPC Assistant Director. In this role, Ms. McCracken is responsible for managing and oversight of the Center's staff. She collaborates with senior management to develop, deliver and evaluate the service functions of KPPC in order to meet customer needs. She is also responsible for helping establish and implement Center policies and procedures and identifying new opportunities for Center funding. Ms. McCracken has over 20 years of experience in the environmental field and has been employed at KPPC since 1998. She has also served as Communications & Outreach Program Manager, Pollution Prevention Specialist and Training Coordinator at the Center. Prior to joining KPPC, Ms. McCracken held positions as an environmental inspector, engineering technologist and enforcement specialist for the Kentucky Division of Waste Management.

Newsbits

- **GM Goes "landfill-free"**
From Resource Recycling: Fifty-two percent of General Motors facilities worldwide are now landfill free, meaning that all waste generated from their normal operations is reused, recycled or converted into energy, according to a statement released by the company. The motor giant now has 76 of its 145 plants designated as landfill-free, which is part of the company's two-year old goal to make half of its plants produce virtually no waste by the end of 2010. GM's approach involves looking for ways to first reduce waste, and then recycle whatever waste is generated. This year, the company has recycled or reused 2.5 million tons of waste materials at its plants worldwide.
- **Now Available Online: U.S. EPA's Municipal Solid Waste in the United States: 2009 Facts and Figures Report**

According to the U.S. EPA, the generation, recycling, composting, and disposal of municipal solid waste (MSW) have changed substantially over the last few decades. While solid waste generation has increased, from 3.66 to 4.34 pounds per person per day between 1980 and 2009, the recycling rate has also increased—from less than 10 percent of MSW generated in 1980 to almost 34 percent in 2009. Disposal of waste to a landfill has decreased from 89 percent of the amount generated in 1980 to about 54 percent of MSW in 2009.



The [full report](#) is now available online.

[General information on MSW](#) is available at U.S. EPA's website.

- **The State Electronics Challenge has gone Nationwide**
From Resource Recycling - The [State Electronics Challenge](#) has gone nationwide as of January 1. The program offers free technical assistance and resources to public entities—which includes everything from state universities to tribal governments—to help them take steps to green their operations, including recycling electronic equipment in an environmentally responsible way.

Green Tip

Consider Using Adjustable Speed Drives in Pumping Applications that Range from 1 to 1,000 Horsepower (hp)

Industrial Technologies Program

[From Industrial Technologies Program Pumping Systems Tip Sheet #11](#) - Most pumps operating today were selected to meet a maximum system demand, or potential future demands. This means that most pumps are oversized, rarely operating at their full design capacity. In addition, pumps are often installed in systems with multiple operating points that coincide with process requirements. A throttling valve is usually employed when the process flow requirement is less than the flow at the pumping system's natural operating point.

Throttling valves control flow by increasing the system's backpressure or resistance to flow. This increase in pressure or head requirements shifts the pump's operating point to the left along its performance curve, and, typically, away from its best efficiency point. The result is a loss in efficiency.

Adjustable speed drives (ASDs) provide an efficient flow control alternative by varying a pump's rotational speed. ASDs are ideally suited for variable-torque loads from centrifugal pumps, fans, and blowers when the system load requirements (head, flow, or both) vary with time.

Mark your Calendar for these Upcoming Conferences and Events

Thinking through Stakeholder Roles in EPR Systems for Packaging—Conference Call—February 1, 2:00-3:30 p.m. ET

Applying extended producer responsibility to packaging in the U.S. would mean a shift in the roles and responsibilities of many companies as well as state and local environmental agencies. What might packaging EPR mean for you? Victor Bell of EPI will provide an overview of the roles different stakeholders play in packaging EPR systems. Through his presentation and a discussion facilitated by Scott Cassel (PSI), call participants will get a better understanding of how their counterparts operate under packaging EPR programs in other countries, and share ideas about what would work best here at home.



For registration information, please visit the [Product Stewardship Institute website](#).

Advanced Management of Compressed Air Systems Workshop —March 22-23, 8:00 a.m.-5:00 p.m. ET—Louisville

Advanced Management of Compressed Air Systems Workshop

Technical training for: Energy Managers, Facility Engineers, Operators, Plant Managers, Maintenance Staff & Consulting Engineers. This intensive two-day training that will provide in-depth technical information on troubleshooting and making improvements to industrial compressed air systems.

Topics include:

- Benefits of improving compressed air system performance
- How the compressed air system works
- Computing the current cost of compressed air
- Measuring and creating a baseline
- The basic approach for cutting costs
- The impact of different compressor control types
- Steps for proper system operation, maintenance and point-of-use accountability
- Tailoring a compressed air system management action plan

Presented as part of KPPC's environmental sustainability training series, this workshop is offered in conjunction with the Industrial Technologies Program (ITP) as part of its national efforts to improve industrial energy efficiency and environmental performance.

Seating is limited and [registration is required by March 15](#). Cost: \$549 per person. Early registration discount: Register by February 21 and pay only \$449.

This workshop is funded in part by the American Recovery and Reinvestment Act through the combined efforts of the following organizations: Kentucky Department for Energy Development and Independence, the U.S. Department of Energy and KPPC.

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.



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