KPPC – Kentucky Pollution Prevention Center
J.B. Speed School of Engineering University of Louisville
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Toll-free: 800-334-8635 ext. 8520965
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KPPC’s Mandate
Kentucky Revised Statutes (KRS) 224.46-305 et. seq. established KPPC in 1994 to facilitate and promote the implementation of pollution prevention technologies and procedures by providing technical assistance to business and industry. KPPC has executed this mandate by assisting clients to effectively implement source reduction technologies and practices that result in reduced environmental impact and operating expenses, which contributes to preserving and strengthening industry in Kentucky.

Funding
Per KRS 224.46-305 et. seq., the Kentucky Energy and Environment Cabinet remits 20 percent of the funds received by the Hazardous Waste Management Fund to KPPC each fiscal year. This funding source will be up for review by the Kentucky General Assembly in 2016.

This base funding that KPPC receives allows the Center to provide its core services and helps leverage state resources through federal grants to provide pollution prevention services to Kentucky.

More information about KPPC’s...
mandate is available at: http://www.lrc.ky.gov/krs/224-46/320.PDF
funding is available at: http://www.lrc.ky.gov/krs/224-46/580.PDF
Board of Directors is available at: http://www.lrc.ky.gov/krs/224-46/315.PDF
From KPPC’s Leadership

On behalf of KPPC’s Board of Directors, I am submitting this annual report of KPPC’s activities for fiscal year 2013-2014. During this past fiscal year, KPPC has helped improve Kentucky’s environment by providing pollution prevention technical services that lower costs, reduce waste and preserve and strengthen business and industry in the Commonwealth.

The annual report outlines the programs, services and client success stories that demonstrate what a valuable resource KPPC continues to be for Kentucky. KPPC provides the highest possible level of professional technical services while seeking grants and other sources of funding to continue its important mission.

This annual report represents the board’s case statement to Kentucky’s Governor, General Assembly, business and industry leaders, environmental organizations and the community-at-large that an investment in responsible environmental stewardship does indeed pay off. Therefore, the Board of Directors advises the Governor and the General Assembly that there is a need to continue financing the Center through the levy of fees to the Hazardous Waste Management Fund.

As Board Chairman, I would like to thank members of the Board of Directors, KPPC’s staff, and KPPC’s partners whose efforts contribute so much to the Center’s success. I also want to thank KPPC’s Executive Director, Cam Metcalf, who retired in October, for his nearly 20 years of dedicated service to the Center. KPPC is now under the able leadership of Lissa McCracken, who was appointed Acting Director of the Center following Cam’s retirement.

Once again, on behalf of KPPC’s Board of Directors, I offer my thanks to you for your continued interest and support and I hope you enjoy reading about KPPC.

Douglas C. Griffin
Board Chairman

As Acting Director of KPPC, I am pleased to present the Center’s 2013–2014 annual report. This year’s report focuses on our most important measure of success - the success of our clients. By providing pollution prevention technical assistance services and outreach programs, KPPC has helped Kentucky businesses and industries succeed while improving the state’s overall environmental and economic performance. Many of our clients have achieved impressive results through their partnership with KPPC.

Because KPPC’s core services are free, confidential and non-regulatory, Kentucky’s businesses and industries have a unique opportunity to partner with the Center to establish sound environmental management programs, change the way they operate, and turn to less toxic materials use. All of these measures can and do reduce costs and make our local businesses more competitive.

In addition to building client relationships, KPPC has been strengthening its partnerships with Kentucky organizations that advance and promote sustainable growth. The Center has been working closely with the Kentucky Association of Manufacturers (KAM), the Advantage Kentucky Alliance (AKA) and the KY Energy and Environment Cabinet, among others, on new and ongoing initiatives. We are continuing to expand the Kentucky E3 initiative and are working to bring Combined Heat and Power (CHP) technologies to Kentucky industries.

In June, KPPC launched its newly designed website. Along with a whole new look, we designed the site to make it as accessible and easy to use as possible, and worked hard to organize the information to best meet the needs of our clients and visitors. I am also proud to announce that the Center won two prestigious awards this fiscal year - The Energy Star Partner of the Year Award for Sustained Excellence, and the National Pollution Prevention Roundtable’s Most Valuable Pollution Prevention Program Award.

In October of this past fiscal year KPPC’s Executive Director, Cam Metcalf retired from the university. Following Cam’s retirement I was appointed Acting Director of KPPC by Dr. Neville Pinto, Dean of the J.B. Speed School of Engineering. I would like to take a moment to thank Cam for being a mentor and an inspiration to me and the KPPC staff as we continue to keep the Center moving forward based on the foundation he put into place. We wish him and his wife Marianna all the best.

KPPC continues to seek additional funding from a variety of sources to support the Center’s service mission. Grants and funding on a state or federal level will help us continue to be a resource for the environmental and economic benefit of the Commonwealth.

If you have questions or would like to learn more about the Center, please call me at (502) 852-0965 or log onto www.kppc.org.

Lissa McCracken
Acting Director
A History of Service to the Commonwealth

KPPC is a state-mandated technical assistance resource center that was established in 1994 as part of the J.B. Speed School of Engineering at the University of Louisville.

The Center’s resources, expertise and experienced engineering and technical staff make it a valuable resource that helps Kentucky’s businesses, industries and other organizations stay environmentally sustainable and competitive in a global marketplace.

KPPC has been recognized on both state and national levels as a Center of Excellence. The Center has conducted over 800 workshops, seminars and training sessions, and more than 40,000 attendees have benefited from these learning opportunities. KPPC’s on-site assessments have helped more than 800 Kentucky businesses and organizations improve their environmental performance and lower their operating costs.

Principles of Sustainability

KPPC serves Kentucky’s businesses, industries and other organizations by providing technical assistance programs, training and resources while following the principles of environmental sustainability.

These principles include:

- **Taking responsibility for social well-being**
  When an organization improves its environmental performance, it is acting in the best interests of its owners, employees, the community in which it operates and the nation as a whole.

- **Achieving economic benefits**
  As organizations move toward sustainability, they find that there are economic as well as environmental benefits that can dramatically improve operational performance, reduce costs and provide a competitive advantage in the global marketplace.

- **Practicing environmental stewardship**
  By taking a balanced approach, an organization can become an environmental steward by thoughtfully using our natural and economic resources while considering the needs of future generations.

Delivering Measurable Results

In Fiscal Year 2013-2014, KPPC’s engineers:

- Served 36 unique industrial and commercial facilities
- Conducted 6 assessments - 4 completed
- Assessed approximately 490,000 square feet of space

KPPC’s clients reported the following actual savings:

<table>
<thead>
<tr>
<th>Resource</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Electrical</td>
<td>7,416,930</td>
</tr>
<tr>
<td>Source Electrical</td>
<td>24,772,546</td>
</tr>
<tr>
<td>Demand (KW/yr)</td>
<td>2,261</td>
</tr>
<tr>
<td>Site Natural Gas</td>
<td>140,657</td>
</tr>
<tr>
<td>Source Natural Gas</td>
<td>147,268</td>
</tr>
<tr>
<td>Coal (MMBtu/yr)</td>
<td>5,445</td>
</tr>
<tr>
<td>Total Source Savings (MMBtu/yr)</td>
<td>237,237</td>
</tr>
<tr>
<td>Water Usage (Gal/yr)</td>
<td>9,716,000</td>
</tr>
<tr>
<td>Wastewater (Gal/yr)</td>
<td>6,116,000</td>
</tr>
<tr>
<td>Non-Hazardous Materials Usage (tons/yr)</td>
<td>123,911</td>
</tr>
<tr>
<td>Hazardous Materials Usage (tons/yr)</td>
<td>1,876,396</td>
</tr>
<tr>
<td>Solid Waste Generation (tons/yr)</td>
<td>87,000</td>
</tr>
<tr>
<td>Hazardous Waste (tons/yr)</td>
<td>220</td>
</tr>
<tr>
<td>Carbon Dioxide (CO2) Equivalent (MT/yr) (Source)</td>
<td>15,960</td>
</tr>
</tbody>
</table>

**Actual Cost Savings – $1,531,054 ($/yr)**

KPPC’s assessments identified the following potential savings:

<table>
<thead>
<tr>
<th>Resource</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Electrical</td>
<td>217,837</td>
</tr>
<tr>
<td>Source Electrical</td>
<td>727,576</td>
</tr>
<tr>
<td>Site Natural Gas</td>
<td>852</td>
</tr>
<tr>
<td>Source Natural Gas</td>
<td>892</td>
</tr>
<tr>
<td>Total Source Savings (MMBtu/yr)</td>
<td>3,375</td>
</tr>
<tr>
<td>Carbon Dioxide (CO2) Equivalent (MT/yr) (Source)</td>
<td>250</td>
</tr>
</tbody>
</table>

**Identified Cost Savings – $14,833 ($/yr)**

The CO2 (Source) equivalent reductions for Actual and Identified Savings are equal to:

- Annual Greenhouse Gas Emissions from 3,413 passenger vehicles
- CO2 from 37,699 barrels of oil consumed
- 214 tanker trucks of gasoline
- Carbon sequestered from 415,659 tree seedlings grown for 10 years

Key:
- Btu – British Thermal Unit
- MMBtu – Million Metric British Thermal Units
- MT – Metric Ton
- KWh – Kilowatt-hour
Programs, Initiatives and Training

Programs and Initiatives
Through the Center’s programs and initiatives, our clients have achieved success in improving their environmental performance and lowering their costs.

KPPC’s Core Services
KPPC provides Pollution Prevention (P2) and Energy Efficiency (E2) technical assistance as part of its service mission. Core services are provided at no cost to Kentucky clients.

KPPC engineers use a systematic approach to assist industrial, commercial and institutional clients as they develop and implement environmental management solutions, which often include both P2 and E2 technical assistance. Through this approach, KPPC engineers have identified significant potential cost savings while helping clients develop long-term behavioral changes within their organizations.


Kentucky E3 Initiative
The Economy, Energy and Environment (E3) initiative is a collaborative effort to support sustainability, boost competitiveness and spur job growth and innovation in local and regional economies. KPPC is the project lead and facilitator for the Kentucky E3 initiative.

Consistent with the federal E3 initiative, KY E3 features a collaborative approach involving stakeholders from a variety of state and local agencies and organizations including: Kentucky Energy and Environment Cabinet, U.S. Environmental Protection Agency – Region 4, U.S. Small Business Administration Kentucky District Office, USDA KY Office, Kentucky Education and Workforce Development Cabinet - Office of Employment and Training, KY Technical College Systems, KY Small Business Development Centers, Advanced KY Alliance, and utility representatives from East Kentucky Power Cooperative, LG&E and KU Energy LLC and Duke Energy.

CHP – Combined Heat and Power
KPPC is in partnership with the Kentucky Department for Energy Development and Independence (DEDI), the Kentucky Association of Manufacturers (KAM), and the U.S. Department of Energy CHP Regional Program - Southeast to launch a statewide initiative to promote high-efficiency, combined heat and power (CHP) technologies as resources to reduce energy costs, carbon emissions and spur new economic growth in Kentucky’s industrial and manufacturing sectors.

Training and Presentations
• Fundamentals of Compressed Air Systems – a one-day introductory course held in Louisville on September 26 was presented by KPPC and the U.S. Department of Energy as part of KPPC’s Environmental Sustainability training series. The workshop was offered in conjunction with the Advanced Manufacturing Office (AMO) as part of its national efforts to improve industrial energy efficiency and environmental performance.

• Save Energy Now Workshop – KPPC held a Save Energy Now workshop on September 26, based on the framework of the ENERGY STAR 7-Step Guidelines for Energy Management. The workshop was part of the 16th Annual Pollution Prevention Conference and Trade Show in Plainfield, Indiana.

• National Pollution Prevention Roundtable 16th Annual Pollution Prevention Conference and Trade Show - KPPC’s Executive Director Cam Metcalf presented a workshop at the annual conference titled Energy Star Guidelines to Energy Management.

• NPPR Webinar – KPPC Executive Director Cam Metcalf participated in a webinar examining the evolution of pollution prevention hosted by the National Pollution Prevention Roundtable.

• Advantage Kentucky Alliance (AKA) Lean 101 Workshop – KPPC staff members attended the Advantage Kentucky Alliance (AKA) Lean 101 Workshop at UofL’s Shelby Campus. The workshop covered an Introduction to Lean Manufacturing, Standardized Work, the 5S System, Visual Controls, and Quality at the Source and provided a hands-on simulation of LEAN techniques. KPPC is an AKA state agency partner.

• The 2013 Governor’s Conference on Energy & Environment – KPPC participated in the annual conference, which was held in Lexington on September 17, and provided a display booth and educational information to conference attendees.

• Area Source Boiler Rule Workshop - KPPC, the Kentucky Division for Air Quality and the Kentucky Division of Compliance Assistance presented a half-day workshop in Frankfort for organizations that may fall under the new rules.

• Area Source Boiler Rule Webinars - January 14 & 16 – The Kentucky Pollution Prevention Center, the Kentucky Division for Air Quality and the Kentucky Division of Compliance Assistance presented two webinars for organizations that may be subject to the Area Source Boiler Rule issued by the EPA.

• KPPC & Duke Energy Presentation - KY E3 Initiative – Lissa McCracken, Director of KPPC, and Bob Bandenburg, account executive for Duke Energy presented a session about the Kentucky E3 initiative to a group of Duke’s customers in Erlanger, Kentucky. The presentation highlighted the advantages of participating in an E3 project.


• Earth Day Kentucky - The Office of the First Lady, the Energy and Environment Cabinet and the Kentucky Environmental Education Council sponsored an Earth Day celebration on June 12 on the Old Capitol Lawn in downtown Frankfort. KPPC, along with state agencies and other nonprofits, set up their educational booths to illustrate each organization’s mission and role in keeping our environment clean, healthy and sustainable.
KPPC’s most important measure of success is the success of its clients. This past fiscal year KPPC has helped its clients achieve impressive savings and performance improvements.

This year’s report highlights some of those results and showcases the Center’s clients who have won awards and received national and statewide recognition for their environmental management efforts this fiscal year.

• **Denyo Manufacturing Corporation**, a KPPC client since 2007, has made remarkable progress in reducing its air emissions and hazardous waste generation. In April 2013, Denyo’s air quality permit was rescinded by the Kentucky State Air Permit Review Branch based upon the company’s reduced emission calculations. As a result of this reduction, the Kentucky Division for Air Quality rescinded Denyo’s air permit and re-classified the company as a “non-registered emissions source”. Denyo will no longer have to be registered as a potential air emission source.

In addition to lowering its air emissions, Denyo has reduced its hazardous waste generation as well and is now no longer required to pay into Kentucky’s Hazardous Waste Management Fund (HWMF).

Denyo was presented a 2013 Most Valuable Pollution Prevention Award (MVP2) in Washington DC on September 26 from the National Pollution Prevention Roundtable.

Since 2005, Denyo has continually undertaken extensive data collection to measure all aspects of its production processes to find opportunities for improving environmental performance. Denyo has used the process data to put in place well-developed pollution prevention and energy efficiency programs that span the social, environmental and economic aspects of sustainability.

• **Anheuser-Busch** – KPPC presented the level three Kentucky Save Energy Now (KY SEN) award to the management and team members at the Anheuser-Busch distribution center in Louisville. The facility signed onto KY SEN in 2012 and has made steady progress through higher levels of the program. To reach level three, the company has successfully instituted an energy management policy, established an energy management team and developed an action plan.

• **Indelac Controls** – To help recognize National Pollution Prevention (P2) Week, KPPC presented its 2013 Environmental Sustainability (ES) award to Indelac Controls in Florence Kentucky on September 10. KPPC has presented the ES awards in conjunction with P2 Week since 2009 to recognize Kentucky companies that have demonstrated a commitment to the principles of sustainability.

Indelac began working with KPPC in 2012 as part of the Kentucky E3 Initiative. As a result, the company has reduced its energy costs by $1,800 per year, reduced its solid waste stream by 80 percent and expanded into 10 new international markets.

• **Republic Conduit**, a Louisville-based manufacturing facility and long-time KPPC client, won a 2013 Kentucky Governor’s Conference Energy Leadership Award. The award was presented to the company at the Governor’s annual conference on energy and the environment in Lexington.

Republic Conduit manufactures and distributes electrical conduit. Republic made waste and energy reduction projects a priority, and demonstrated its environmental leadership with more than 60 percent of the corporate capital budget dedicated to environmental projects.

“Our hard work to establish self-sustaining energy-saving programs has helped increase our competitiveness... our partnership with KPPC has been instrumental in the development of our energy management planning, reporting and sustainability.”

TOPY America President, Terry Kurihara
KPPC's Budget – Leveraging Funds for Kentucky

With core funding from the Kentucky Energy and Environment Cabinet’s Hazardous Waste Management Fund, KPPC provides a wide range of environmental sustainability resources and services throughout the Commonwealth.

To enhance those services and better serve our clients, the Center leverages state funding by seeking additional grants and contracts from a variety of agencies. In fiscal year 2013-2014, KPPC spent $357,000 in core funding that provided P2 technical assistance and outreach services as well as organizational and administrative support for the Center. KPPC also secured $322,000 in additional funds from other funding sources.

Since KPPC began in 1994, the Center has received nearly $7.2 million in core funding and has successfully leveraged that funding to receive an additional $24.2 million from state and federal agencies through grants and appropriations.

### KPPC Staff & Board of Directors

**Staff**
- Lissa McCracken - Acting Director
- Debbie Elswick - Administrative Associate
- Bruce Hepke - Senior Engineer
- Cheryl Eakle - Engineer Intermediate
- Ken O’Hara - Program Manager
- Dennis Smith - Public Information Officer
- Lucas Smith - Technology Specialist Senior

**Board of Directors**
- Mr. Douglas C. Griffin, Board Chairman
- Mr. John Clay, Sr., At-Large Agricultural Producer
- Mr. Ray Dailey, Industrial Community
- Dr. Neville G. Pinto, Dean, J.B. Speed School of Engineering
- University of Louisville
- Dr. John Y. Walz, Dean, College of Engineering
- University of Kentucky
- Mr. Steve Dale, Environmental Protection Community
- Kentucky Connected
- Mr. Aaron Keatley, KY Energy and Environment Cabinet
- Ms. Joyce Evans, At-Large Public
  - Center for Biomedical Engineering, University of Kentucky
- Mr. David Pedigo, At-Large Industrial Facility, Akebono USA
- Mr. Kevin Murphy, Local Government

Please visit the Center’s website at [www.kppc.org](http://www.kppc.org) to learn more about KPPC’s staff members and Board of Directors.

### KPPC Co-op Students Program

KPPC offers J.B. Speed School engineering students an opportunity to gain “real-world” experience in the rapidly growing field of environmental sustainability.

As a co-op with KPPC, students may work with business and industry clients, government agencies, schools and non-profit organizations on sustainable solutions to environmental issues, including waste reduction, water conservation, energy efficiency and renewable energy. A co-op experience at KPPC includes activities such as learning to perform sustainability assessments, conducting workshops and training sessions, developing web-based resources and more.

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[Image of co-op students and text about the co-op program]
A look back at some of the Center’s successful activities and outcomes for fiscal year 2013-2014

- KPPC’s services, programs and online resources were delivered to 87 of Kentucky’s 120 counties.
- KPPC’s website received 34,903 page views and 16,472 visits from 119 countries/territories – 75 percent of those were new visits. The website was visited from 125 Kentucky cities in the Commonwealth.
- The Center’s e-newsletter Sustainable Solutions Post, which provides industry-specific news, tips and resources is mailed each month to more than 830 subscribers.
- KPPC’s YouTube Channel added 4 new videos in 2013-2014, bringing the total number of videos available to 64. KPPC’s video channel had 2,379 views with over 8,667 minutes watched this year bringing the lifetime views to more than 12,359.
- KPPC’s Communications, Outreach and Technology team helped promote and communicate the Center’s mission by developing 26 new communications and marketing materials and distributing 11,900 marketing and communications e-mails.

KPPC’s New Website

On June 24, KPPC officially launched its new website. The site was designed to make it as accessible and easy to use as possible, and is organized for quick access to information that best meets the needs of our clients and visitors.

The new site showcases many of our client’s success stories, and provides easy access to the valuable resources and technical assistance opportunities offered by the Center. In addition to the new site, the Center’s monthly e-newsletter, Sustainable Solutions Post, has also been redesigned to reflect the new look of the website. Please visit our new site at www.kppc.org.

ESRC

KPPC serves as the administrator for the Environmental Sustainability Resource Center (ESRC) and maintains the Center’s website. Funding for ESRC is provided by EPA. ESRC is a member of the Pollution Prevention Resource Exchange (P2Rx™), a national network of regional information centers. ESRC provides service to EPA Region 3 includes Virginia, West Virginia, Pennslyvania, D.C., Delaware and Maryland. EPA Region 4 includes Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina and Tennessee. Visit the ESRC website at www.esrconline.org.

KPPC’s award winning programs have been recognized in fiscal year 2013-2014

The U.S. Environmental Protection Agency (EPA) presented KPPC with a 2014 Energy Star Partner of the Year—Sustained Excellence Award. KPPC was selected for its continued leadership in helping commercial and industrial facilities build self-sustaining energy management programs. The award was accepted by KPPC acting director Lissa McCracken at the annual Energy Star awards ceremony held on April 29 in Washington D.C.

KPPC won a 2013 Most Valuable Pollution Prevention (MVP2) award presented by the National Pollution Prevention Roundtable (NPPR). KPPC’s acting director, Lissa McCracken received the award in a ceremony held in Washington D.C. on September 26, and visited Kentucky Congressman John Yarmuth who congratulated KPPC for their award winning efforts.

KPPC’s core technical services are:
Free, Confidential & Non-Regulatory