



2015-2016

ANNUAL REPORT

Kentucky Pollution Prevention Center
J.B. Speed School of Engineering
University of Louisville

2015-2016 Annual Report

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KPPC – Kentucky Pollution Prevention Center

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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 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>



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This Annual Report publication was designed, written and produced by KPPC's staff.

A Blueprint for Sustainability

A Message from Dave Pedigo, Board Chairman, 2015 - 2016

On behalf of KPPC's Board of Directors, I am submitting this annual report of KPPC's activities for fiscal year 2015-2016. KPPC has been busy this past fiscal year developing plans to expand its activities, partnerships and technical services to businesses, industries and organizations throughout the Commonwealth.

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 the Commonwealth's investment in responsible environmental stewardship is more important than ever.

The report outlines the programs, services and client success stories that demonstrate what a valuable resource KPPC is for Kentucky. While KPPC looks to the future as it develops a working blueprint for sustainability, the Center continues to provide the highest possible level of professional technical services and training.

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



I am pleased to present the Center's 2015–2016 annual report. This report highlights the accomplishments and success stories of KPPC, as well as those of our clients and partners. This past fiscal year has seen a number of changes at the Center, including four newly appointed Board members. The Center remains focused on providing pollution prevention technical assistance services and valuable outreach programs to Kentucky businesses, industries and organizations. We continue to work closely with both public and private organizations and agencies to help improve the state's environmental and economic performance.

We encourage Kentucky's businesses and industries to partner with the Center to establish sound environmental management programs, change the way they operate, turn to less toxic materials use and lower their energy consumption. All of these measures can and do reduce costs and make our local businesses more competitive.

KPPC has built and maintained strong partnerships with Kentucky organizations that advance and promote sustainable growth. Again this year, the Center has worked 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.

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. As our Board Chairman acknowledged, KPPC looks to the future as it develops a working blueprint for sustainability.

I would like to thank our staff, members of the Board of Directors and our partners whose efforts contribute so much to KPPC's continued success. 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 Lissa McCracken
Executive Director



Serving Kentucky's Businesses, Citizens and Environment

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 **825 workshops**, seminars and training sessions, and more than **42,100 attendees** have benefited from these learning opportunities.

KPPC's on-site assessments have helped more than **815** Kentucky businesses and organizations improve their environmental performance and lower their operating costs.

Delivering Measurable Results

In Fiscal Year 2015-2016, KPPC:

- Served 18 unique industrial, commercial or institutional facilities
- Conducted 6 on-site assessments
- Assessed approximately 310,000 square feet of space
- Conducted 2 client-specific training sessions
- Completed 33 Brief Assistance requests

KPPC's assessments identified the following potential savings:

587,800 Site Electrical (KWh/yr)
 1,756 Site Natural Gas (MMBtu/yr)
 1,896 Carbon Dioxide (CO₂) Equivalent (MT/yr) (Source)

Identified Cost Savings – \$88,706 (\$/yr)

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.



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.

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

Outreach, Initiatives and Training

Initiatives

Kentucky E3

The Economy, Energy and Environment (E3) initiative supports sustainability, boosts competitiveness and spurs job growth and innovation in local and regional economies. KPPC is the project lead and facilitator for the Kentucky E3 initiative.



KPPC works with industrial clients to engage them with stakeholders from a variety of state and local agencies and organizations.

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, Workshops and Presentations

• **Green Chemistry Guide Listen and Learn Webinar Series** - The webinar series was hosted by the National Pollution Prevention Roundtable to promote the Green Chemistry Guide which provides state agencies and technical assistance providers (engineers) with tools and resources to better serve their clients who are looking for information and to support greening their operations, processes, products and supply chains. On January 19,

Lissa McCracken, Executive Director of KPPC, presented information which addressed the implementation of sustainability practices into business models and integrating pollution prevention and green chemistry strategies and models.

• **C-Suite Energy Forum** - On January 26, 2016, business leaders from around Kentucky gathered in Frankfort to attend the *C-Suite Energy Forum – The Business Case for Corporate Leaders*. The forum was developed by KPPC and sponsored by the Kentucky Department for Energy Development and Independence (DEDI) in partnership with ENERGY STAR® and the Kentucky Association of Manufacturers (KAM).

• **2015 Governor's Conference on Energy & Environment** – KPPC participated in the annual conference, which was held in Lexington on September 8-9, and provided a display booth and educational information to conference attendees.

• **2016 Kentucky Association of Manufacturers (KAM) Energy Conference** - The Kentucky Association of Manufacturers held its annual Energy Conference at the Lexington Center on May 10-11. KPPC led a breakout session at the conference titled, *Strategies to Limit Demand & EPAD as a Financing Tool*. The session was moderated by Lissa McCracken, Executive Director of KPPC and covered the Energy Project Assessment District Act, or EPAD. KPPC engineer Cheryl Eakle was a panelist at the session.

• **KPPC Presents E2 Regional Workshop** - KPPC, the Kentucky Department for Energy Development and Independence (DEDI), ENERGY STAR® and the Kentucky Association of Manufacturers (KAM) held a regional workshop called "Kentucky Energy Workshop, Energy Efficiency At Work".

The workshop was presented on March 31 at Toyota Motor Manufacturing in Georgetown, and again on April 6 at Western Kentucky University in Bowling Green. Both sessions focused on the concepts, tools and techniques of energy efficiency and energy management and included a tour of each host facility.

Participants Evaluate the E2 Regional Workshops

Evaluation results for both workshops showed that participants were very pleased with the quality of the presentations and the value of the information.

From the WKU survey:

Top three take-aways

- ENERGY STAR Tools
- Reducing Energy Consumption
- Energy Efficiency Resources

Specific actions planned

- Establish energy usage baseline
- Propose energy program
- Evaluate electric bills and energy balance

The workshops attracted facility managers, engineers and energy management professionals from a variety of Kentucky businesses and industries.

KPPC Hosts a Webinar Series for ESRC

KPPC hosted five webinars presented by the Environmental Sustainability Resource Center in fiscal year 2015-16. The webinars are available as videos on the ESRC YouTube Channel.

KPPC Becomes Member of Solar Over Louisville Council

KPPC's Executive Director, Lissa McCracken, is representing the Center as a member of the Solar Over Louisville Community Outreach Council. Solar Over Louisville is part of the Louisville Sustainability Council (LSC), which promotes a healthy environment, strong economy and the well-being of the people living in Louisville. It's stated mission is to engage and collaborate with the community to facilitate the achievement of Louisville's sustainability goals.



Strategic Partnerships

KPPC has worked with local, state and federal partners to help Kentucky businesses and industries achieve cost savings and performance improvements.

The Center continues to build partnerships and develop good working relationships with organizations and agencies that will leverage KPPC's ability to provide a high level of service to its clients.

ENERGY STAR

ENERGY STAR

U.S. Environmental Protection Agency

U.S. Department of Energy

KPPC is an Energy Star Partner and has been awarded:

- 2011 ENERGY STAR Partner of the Year
- 2012 ENERGY STAR Partner of the Year
- 2013 "Sustained Excellence" ENERGY STAR Partner of the Year
- 2014 "Sustained Excellence" ENERGY STAR Partner of the Year

Kentucky E3 Initiative

(Economy • Energy • Environment)

Kentucky Education and Workforce Development Cabinet

Kentucky Energy and Environment Cabinet

Kentucky Community and Technical College System

Kentucky Small Business Development Centers

U.S. Small Business Administration (KY Office)

U.S. Department of Agriculture (KY Office)

Advantage Kentucky Alliance

Kentucky Utility Companies - East Kentucky Power Cooperative, Duke Energy Corporation, LG&E and KU Energy LLC

U.S. Environmental Protection Agency - Region 4

KY EXCEL – Kentucky Excellence in Environmental Leadership

Kentucky Division of Compliance Assistance

KPPC is an *Advocate Member*

National Pollution Prevention Roundtable

Board of Directors and Membership Committee Member

KPPC is a 2025 Safer Chemistry Challenge Program Alliance Member

Partnership for a Green City

University of Louisville

Louisville Metro Government

Jefferson County Public Schools

Jefferson Community and Technical College

Louisville Sustainability Council

Solar Over Louisville Community Outreach

Council Member

Pollution Prevention Resource Exchange

Environmental Sustainability Resource

Center (U.S. EPA Regions 3 and 4)

WasteWise Program

U.S. Environmental Protection Agency

KPPC is a WasteWise Program Endorser



The C-Suite Energy Forum was held on January 26, 2016. Company panel – Energy Management, Real World Corporate Strategies. Panelists from left to right: Victor Pastrana, Kellogg Company; Bryan Russell, Western Kentucky University; Bill Toler, Olin Brass; Greg Higdon, Kentucky Association of Manufacturers (KAM)

"Energy delivery, reliability and cost remain critically important to Kentucky's manufacturers. The C-Suite Forum provided a tremendous opportunity to address these issues."

Greg Higdon,
President & CEO
Kentucky Association of Manufacturers



John Wright, Executive Vice President for Owensboro Grain accepts the ES award from Lissa McCracken, Executive Director of KPPC

The 2015 KPPC Environmental Sustainability Award

In memory of Board Chairman Doug Griffins' many contributions to KPPC, the Board has named the annual KPPC Environmental Sustainability Award in his honor. The first Douglas C. Griffin Environmental Sustainability Award was presented to the Owensboro Grain Company in September, 2015.

Owensboro Grain Company was founded in 1906 and is now in its fifth generation of ownership. Owensboro Grain produces a wide variety of products at its plant locations on the Ohio River in western Kentucky. The company also operates a biodiesel production facility, which has added millions of gallons of fuel per year to the nation's energy supply.

Owensboro Grain has been actively engaged in sustainability efforts for a number of years and has been working with KPPC since 2011.

There have been eleven Kentucky companies that have won the Environmental Sustainability Award since KPPC created the award program in 2009:

- Akebono Brake in Elizabethtown
- Denyo Manufacturing in Danville
- Fetter Group, Kindred Healthcare and Republic Conduit in Louisville
- Sherwin Williams in Richmond
- Hausner Hard Chrome in Owensboro
- The United States Playing Card Company in Erlanger
- Indelac Controls in Florence
- A. Raymond Tinnerman Manufacturing in Flemingsburg
- Owensboro Grain Company in Owensboro

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 2015-2016, KPPC spent \$307,767 in core funding that provided P2 technical assistance and outreach services as well as organizational and administrative support for the Center. KPPC also secured \$268,578 in additional funds from other funding sources.

\$ 307,767	Hazardous Waste Management Fund – KY Energy and Environment Cabinet
31,177	Higher Education Fund – UofL J.B. Speed School of Engineering
21,286	Pollution Prevention Information Network Grant 14-15 – U.S. EPA
78,186	Pollution Prevention Information Network Grant 15-16 – U.S. EPA
581	Pollution Prevention Grant 13-15 – U.S. EPA – KY Department for Environmental Protection
12,872	Pollution Prevention Grant 14-16 – U.S. EPA – KY Department for Environmental Protection
32,402	Pollution Prevention Grant 15-17 – U.S. EPA – KY Department for Environmental Protection
8,985	Source Reduction Assistance Grant – U.S. EPA – KY Department for Environmental Protection
23,067	State Energy Program: Combined Heat and Power (CHP) Project – U.S. DOE – KY Department for Energy Development & Independence
60,022	State Energy Program: KY E2 Project – U.S. DOE – KY Department for Energy Development & Independence
\$ 576,345	Total Budget

Since KPPC began in 1994, the Center has received \$7.8 million in core funding and has successfully leveraged that funding to receive an additional \$24.8 million from state and federal agencies through grants and appropriations.

KPPC Co-op 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.

During this past fiscal year, Co-op student engineers Michael Lawson and Nathan Williams gained valuable experience working with KPPC engineers and technical staff members.



Michael Lawson, KPPC Co-op student engineer

KPPC Staff & Board of Directors

Staff

Lissa McCracken - Executive Director
 Debbie Elswick - Unit Business Manager
 Cheryl Eakle - Senior Engineer
 Mark Toda - Senior Engineer
 Ken O'Hara - Program Manager
 Dennis Smith - Public Information Officer

Board of Directors

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 Mr. Joey Harris, *Industrial Community*
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 Dr. John Usher, *Dean, J.B. Speed School of Engineering*
University of Louisville
 Dr. John Y. Walz, *Dean, College of Engineering*
University of Kentucky

Please visit the Center's website at www.kppc.org to learn more about KPPC's staff members and Board of Directors.

KPPC - Year in Review

A look back at some of the Center's successful activities and outcomes for fiscal year 2015-2016

- KPPC's services, programs and online resources were delivered to 63 of Kentucky's 120 counties.
- KPPC's website received 34,320 page views and 10,540 visits from 98 countries/territories – 76 percent of those were new sessions. The website was visited from 85 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 700 subscribers.
- KPPC's YouTube Channel added 3 new videos in 2015-2016, bringing the total number of videos available to 71. KPPC's video channel had 1,800 views with over 7,300 minutes watched this year bringing the lifetime views to more than 16,272.
- KPPC's Communications, Outreach and Technology team helped promote and communicate the Center's mission by developing 11 new communications and marketing materials and distributing more than 10,000 marketing and communications e-mails.

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 and 4. EPA Region 3 includes Virginia, West Virginia, Pennsylvania, 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 core technical services are:

**Free, Confidential &
Non-Regulatory**