



**KPPC**

Kentucky's Resource Center for  
Environmental Sustainability

KPPC - Kentucky Pollution Prevention Center

**KY E3: Building Partnerships  
to Strengthen Manufacturing in  
the Commonwealth**  
**16<sup>th</sup> Annual P2 Conference &  
Trade Show**

Plainfield, IN  
September 26, 2013

**Lissa McCracken**  
*Assistant Director*

# Who is KPPC?

Non-profit organization established by the General Assembly in 1994 through a state legislative mandate

Provide technical assistance & outreach programs to Kentucky businesses, industries & organizations

Based at the **UofL J.B. Speed School of Engineering**

## **Mission**

*KPPC is Kentucky's primary resource to help businesses, industries and other organizations develop environmentally sustainable, cost-saving solutions for improved efficiency*

# KY E3 Partners

**KPPC ~ Facilitator**

**Kentucky Education and Workforce Development Cabinet**  
Office of Employment and Training (OET)

**Kentucky Energy and Environment Cabinet**

Department for Energy Development and Independence –  
Division of Efficiency and Conservation (DEDI)

Department for Environmental Protection (DEP)

**Kentucky Small Business Development Center (KSBDC)**

**Kentucky Community & Technical College System  
(KCTCS)**

**Advantage Kentucky Alliance (AKA)**

# KY E3 Partners

## **Kentucky Utility Representatives**

East Kentucky Power Cooperative

LG&E and KU Energy LLC

Duke Energy Corporation

**U.S. Small Business Administration – KY District Office  
(SBA-KY)**

**U.S. Department of Agriculture – KY Office (USDA-KY)**

**U.S. Environmental Protection Agency – Region 4 (EPA)**

**~ Funding Agency**

**Based on federal template**

**Formalizes** project details

**including:**

**goals,**

**partner roles/responsibilities,**

**management/communication**

**strategies, etc.**

**Identifies process to**  
**select pilot facilities,**  
**conduct assessment,**  
post-assessment process for  
partner input,  
**follow-up,**  
**client responsibilities**

**Monthly calls** held to keep partners up-to-date and coordinate efforts

Updates and notices sent as needed through e-mail distribution list

# KY E3 Signed Pledge

We pledge to participate fully in the KY E3 initiative and agree to the following items:

- Identify a single point-of-contact who will be dedicated to this process and work with the KY E3 team;
- Establish an energy and environmental baseline;
- Develop a site-specific E3 action plan;
- Allow KY E3 partners to publicize your participation and successes (without disclosing confidential business information) resulting from the KY E3 process and implementation;
- Take steps to improve energy efficiency, streamline manufacturing processes and reduce waste; and
- Report economic, energy and environmental data to KPPC as requested for a period of two years.

Through the KY E3 initiative, KPPC will directly provide and/or coordinate through appropriate service providers:

- Tailored, confidential technical assistance for developing the energy and environmental baseline and E3 action plan;
- Conduct energy, environmental and lean manufacturing assessments and training;
- Provide on-going support and access to information about small-business loans, grants and workforce development training and services offered by partner organizations; and
- Recognition for successes resulting from KY E3 process and implementation.

## Complete KY E3 Pre-Assessment Questionnaire

Identify **pre-assessment training  
needs**

Conduct training

## **Conduct E3 Technical Assessments**

Target energy, water and waste reduction opportunities; lean review; and GHG assessment

**Prepare report with integrated recommendations**

Provide **coaching** and **follow-up assistance** with key partners

Collect and report required **performance metrics**

Promote **recognition** of accomplishments

# Facility 1 – Actuators & Controls Manufacturer

**23 employees**

**8-hr shift/5 days per week**

**10,000 sq. ft.**

**Focus on production process for M-Series  $\frac{1}{4}$  turn actuator**

**43 recommendations: 16 high priority**

# Facility 1 – Actuators & Controls Manufacturer

## creation of cross-functional team to integrate Lean, Green & Clean recommendations

### recycling program

supplier issues addressed

- motors received with correct shafts preassembled
- paint adequately cleaned on parts received
- change hole location on standard part

### continuous improvement suggestion program

computer hibernation policy

reduced compressed air operating pressure

adequate illumination levels/motion sensing lights

### building envelope improvements

compressed air maintenance program

lowered lead time on product delivery

cycle time measurement for all processes

# Facility 2 – Chrome Plating

**85 employees**

**24-hr shift/7 days per week**

**45,000 sq. ft.**

**Focus on production process for  
refurbishment of used rolls**

**54 recommendations: 23 high priority**

# Facility 2 – Chrome Plating

**weekly audit check - equipment turn off when empty**

***\$78,667 electricity savings***

**cooling water loop treatment improvement**

***545,000 gal, \$3,273 water waste reduction***

**operator & preventive maintenance checklists**

***\$5,200 labor savings/35% improved power delivery for one process***

**high efficiency hand dryers**

***\$6,900 annual electricity savings***

**upgrade rinsing nozzles**

***11,000 gal water conserved***

**standard operating procedures for key processes**

**equipment maintenance to eliminate outsourcing**

***\$10,400 labor savings – 2 jobs/week kept inhouse***

**visual/auditory signal alerts**

**air leak maintenance program**

***\$800 electricity savings***

**reduce/eliminate communication delay to operator**

***\$10,400 labor savings***

## **Demonstrated corporate culture**

Corporate or facility

Sustainability/Environmental/Energy

Policy in place

**Sustainability/Environmental/Energy  
Team established**

**System in place for  
measuring and tracking  
progress**

## Economic Metrics:

- Environmental savings identified
- Lean savings identified
- Other cost savings
- One time potential cost savings identified
- Individuals trained
- Jobs created
- Jobs retained
- Total annual potential impact identified
- Number of small businesses engaged
- Percentage of small businesses engaged
- Number and value of SBA loans granted
- Capital infusion dollars invested
- Hours of counseling provided

## Energy Metrics:

- Energy conserved (MMBTU/kWh)
- Energy intensity per unit of production
- Carbon reductions (tons)
- Carbon intensity per unit of production

## Environment Metrics:

- Air emissions reduced (lbs)
- Solid waste reduced (lbs)
- Material intensity per unit of production
- Hazardous waste reduced (lbs)
- Hazardous materials reduced (lbs)
- Water pollution reduced (lbs)
- Water used/conserved (gal)
- Water intensity per unit of production



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