

Energy  
Intelligence.  
**EmPower It.**<sup>TM</sup>

Why having an “energy smart” industry matters.

.....

ENERGY IS PRECIOUS. LET'S NOT WASTE IT.





# INTELLIGENT USE OF ENERGY MAKES DOLLARS AND SENSE

## Energy efficiency is a *financial* decision.

By using energy intelligently, you can save money for your facility that goes right to the bottom line. Take advantage of incentive programs through AEP Ohio. Since 2009, AEP Ohio has been offering these programs to manufacturing companies to help improve their energy usage and productivity—to strengthen industry in Ohio.

### OUR VALUE PROPOSITION



The nation's manufacturers and other industrial enterprises have spent almost \$200 B annually to power their plants. Present strategy and technology allow these enterprises the opportunity to help **reduce energy spending by 25% or more.**



By improving energy efficiency, manufacturers can distinguish themselves as environmental leaders. They can save money for repair and renovation, hire new staff, improve the environment, and support their commitment to sustainability.



The National Electrical Manufacturers Association estimates that 15 – 30% of energy savings is attainable in most industrial environments. These savings go directly to the bottom line—resulting in more efficient production, and less cost per unit.

## YOUR INDUSTRY ENERGY-SAVINGS CHECKLIST

Use this handy checklist to discover measures and programs available to help you take control of energy and costs at your industrial plant.

1

### Prescriptive Program

**Are your lighting systems older than most of your employees?** Upgrade inefficient lighting and related controls in offices, production facilities, warehouses, refrigerated storage and parking lots. Efficient lighting upgrades can save up to 30% of lighting energy costs and maintenance savings can exceed energy savings.

**Is it time to upgrade your HVAC?** Replace inefficient rooftop units and chillers, add drives to ventilation motors and install Energy Management Systems.

2

### Custom Program

**Planning changes to your manufacturing process to boost efficiency?** By installing compressed air system controls and process chillers—and upgrading industrial process equipment or installing new, efficient electric injection molding equipment, your facility may achieve major energy savings. Plus, it may boost up-time and production output.

3

### New Construction and Major Renovation Program

**Expanding or modernizing your production plant or offices?** Both the designer and building owner may qualify for incentives—based on using energy-efficient design in new construction or renovation of existing buildings.

4

### Data Centers Program

**Are your design and manufacturing businesses increasingly relying on computer resources?** Incentives are offered for energy-saving measures in data rooms such as:

- Energy-efficient UPS upgrades
- Server and storage optimization

5

### Self-Direct Program

**Was there a facilities renovation or project at your production facility in the last three calendar years?** Most large industries in Ohio qualify for incentives for past projects during this timeframe. Incentives for past energy-saving projects are a great way to fund future projects.

6

### Bid-to-Win Program

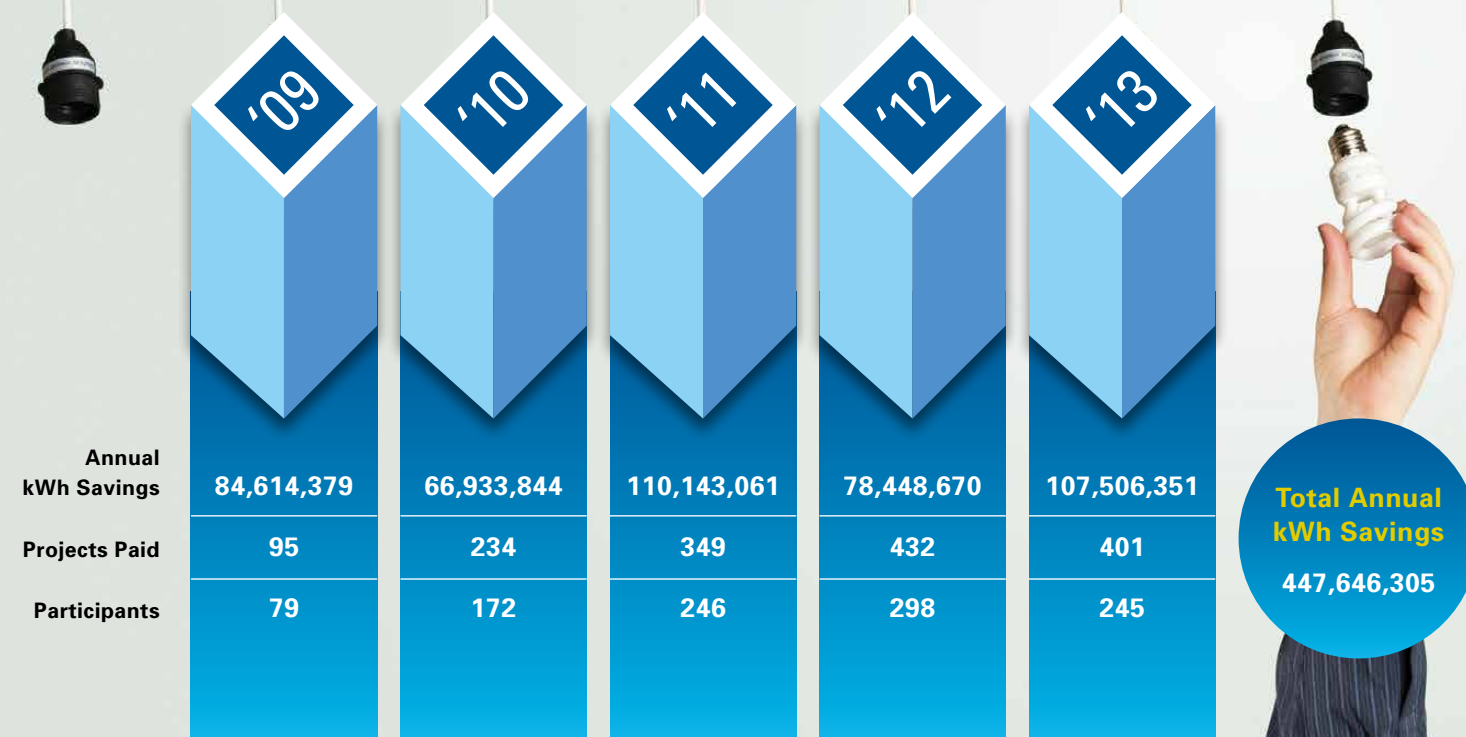
**Does your company have a file cabinet full of capital improvement projects that do not satisfy the required return on investment?** These projects often have upgrades that can increase energy efficiency and productivity. Bid-to-win is an online, real-time “reverse auction for incentives” (without typical program limits). Its goal is to help buy down the rate of return on investment in large projects with great energy savings.



It's easy to get started. Contact your AEP Ohio account manager,  
or call 1-877-AEP-3657 (1-877-237-3657).



## ANNUAL kWh SAVINGS



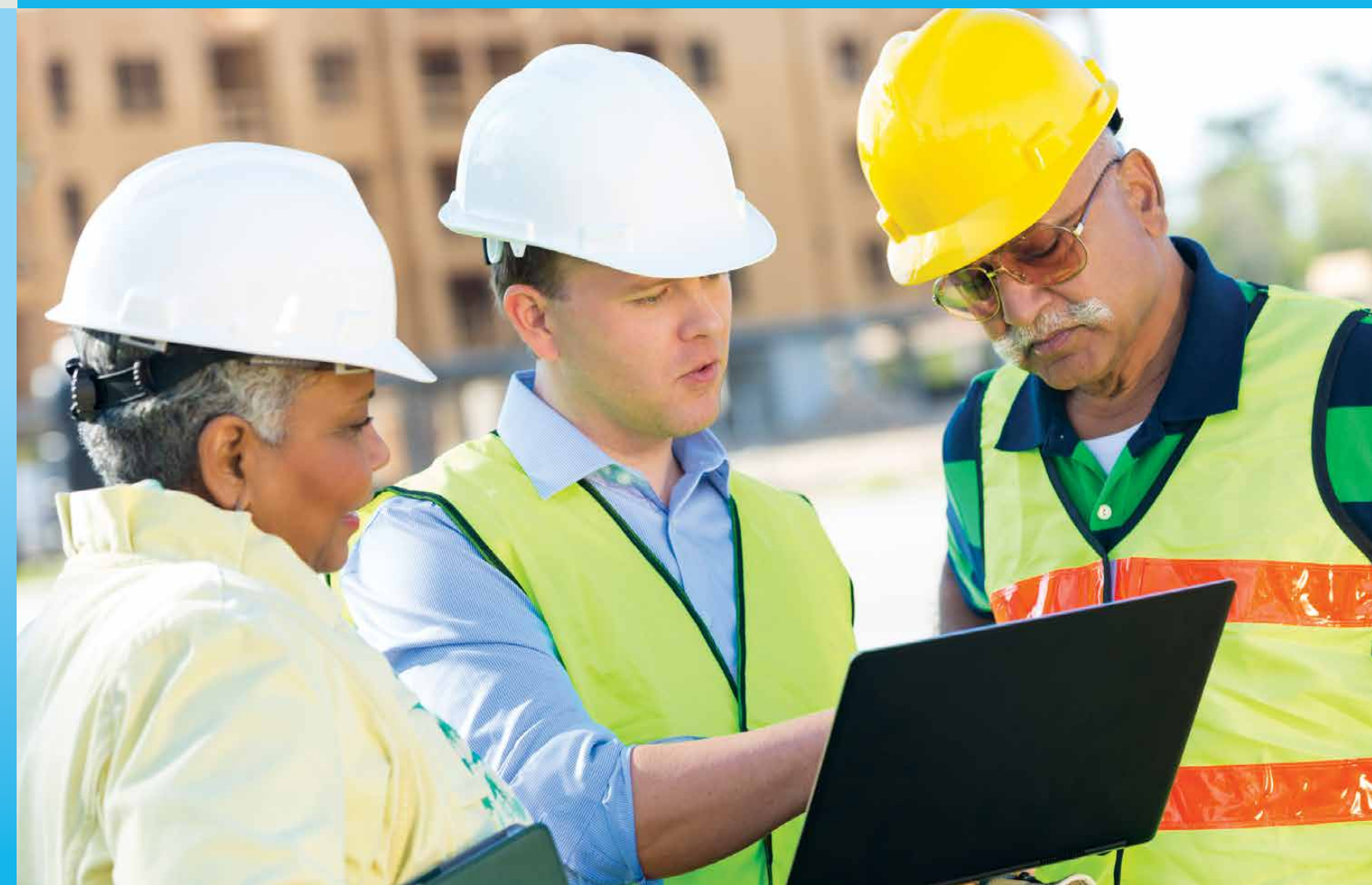
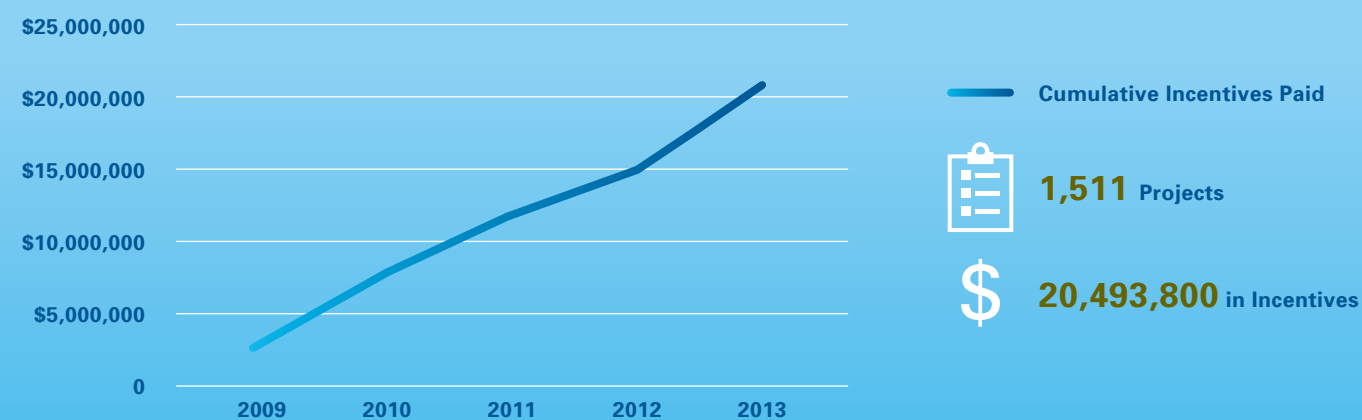
## SAVINGS & INCENTIVES

(BY KEY INDUSTRY SEGMENTS: 2009-2013)

KEY MANUFACTURING SEGMENTS IN OHIO	SAVINGS (kWh)	INCENTIVES PAID
Chemical	33,123,406	\$ 1,794,523
Electronics	19,359,487	\$ 1,034,383
Food	26,560,775	\$ 1,581,523
Oil & Gas Extraction	1,452,106	\$ 137,292
Paper & Wood Products	32,043,904	\$ 1,879,976
Primary Metals	146,363,711	\$ 5,773,008
Refining & Polymer	110,354,466	\$ 5,737,821
Transportation	68,668,304	\$ 1,886,440

## CUMULATIVE INCENTIVES PAID

(FOR ALL AEP OHIO MANUFACTURING CUSTOMERS)





ENERGY MANAGEMENT EFFICIENT LIGHTING  
 AEP OHIO  
 ENERGY-SAVINGS  
 TRANSPORTATION MANUFACTURING  
 FOOD PRODUCTS  
 OIL & GAS EXTRACTION  
 kwh  
 PAPER PRODUCTS  
 CHEMICALS  
 POLYMERS  
 PRODUCTIVITY  
 ELECTRONICS MANUFACTURING  
 PRIMARY METALS  
 REFINING

## CONTINUOUS ENERGY IMPROVEMENT (CEI)

Energy is a controllable operating expense for manufacturing companies. Empowering this “energy intelligence” is the basic concept behind the Continuous Energy Improvement (CEI) program.

### Why participate in CEI?

CEI truly is a standout program that helps participants develop and sustain continuous energy efficiency improvements. Simply put, those who participate in it use strategies to reduce energy expense by 5 – 15% with little or no capital investment.

#### CEI is a 4-step process:

1. AEP Ohio works with CEI program participants to develop an energy model (regression model) linked to their production output.
2. Workshops are held throughout the year on key energy strategies for typical manufacturing process drivers to increase awareness of opportunities.
3. An “energy champion” and “energy committee” are formed to find and develop opportunities within their manufacturing facility that will lead to efficiencies and savings. The energy champion continues to use the energy model to ensure energy intensity continues to be maintained or trend downward.
4. The energy savings are recognized and celebrated throughout the manufacturing facility to build energy awareness throughout the organization.

The way of rethinking efficiency and sustainability becomes engraved within the company’s culture. The CEI program can be a transformational, ongoing commitment that helps promote intelligent energy savings in manufacturing.

For more details on how to participate, go to [AEPOhio.com/Solutions](http://AEPOhio.com/Solutions).

Contact your AEP Ohio account manager or call 1-877-AEP-3657 (1-877-237-3657);  
 or email [AEPOhioSolutions@AEP.com](mailto:AEPOhioSolutions@AEP.com).





# SUCCESS STORIES

## COLUMBUS CASTINGS

Columbus Castings is the largest steel foundry in the nation and the company took part in the first Continuous Energy Improvement (CEI) cohort sponsored by AEP Ohio. By doing so, Columbus Castings now saves more than 6.46 million kWh in energy annually (9.4%) and the total cost required was zero capital dollars.

The energy team identified many opportunities for energy savings. These included finding and repairing over 250 compressed air leaks, repairing underground lines and implementing standard shutdown procedures. The standard shutdown procedures involved turning off the furnace ventilation system during non-production periods.

**Building type:** Multiple Facilities on 88-Acre Site

**Measures implemented:** Lighting and HVAC  
(e.g., overall reductions in lighting and natural gas usage)

**Total project cost:** \$0 capital dollars  
(minimum operation and maintenance costs)



**Projected annual energy savings:** 6,460,000 kWh  
(over \$350,000 saved in annual energy cost)

**Other benefits:**

**Natural gas savings = 13.4%**

**Oxygen savings = 22.8%**



## ENCORE PLASTICS CORP.

A Cambridge-based injection molding company, Encore Plastics increased its savings by upgrading its machinery and lighting. Encore replaced outdated injection molding machinery with nine hybrid machines, having energy savings up to 45% over existing hydraulic machines. The company also retrofitted inefficient metal halide lights throughout its 194,000 square-foot facility. It replaced T12 lamps and magnetic ballasts with energy-efficient T8 lamps and electronic ballasts—saving over 3 million kWh per year.

**Building type:** Single-Story Industry Facility

**Measures implemented:** Lighting and Machinery

**Total project cost:** \$328,278

**Projected annual energy savings:** 3,186,554 kWh  
(over \$200,000 saved in annual energy cost)

**Incentives paid:** \$130,875

For more details and “success stories,” go to [AEPOhio.com/Solutions](http://AEPOhio.com/Solutions).

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