

# Industrial Energy Efficiency

## A Look at Illinois and the Midwest

Presentation to:  
Industrial Efficiency and Advanced Manufacturing Roundtable  
NASEO/ASERTTI  
Energy Policy & Technology Outlook Conference  
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**UIC** Energy Resources  
UNIVERSITY OF ILLINOIS  
AT CHICAGO Center  
COLLEGE OF ENGINEERING

# Energy Resources Center (ERC) University of Illinois at Chicago

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- Interdisciplinary Public Service, Research, and Special Project Organization Dedicated to Improving Energy and Environmental Sustainability (non teaching – grant funded energy/environmental extension service)
- Report to the Dean, College of Engineering

- ERC Role in Industrial Energy Efficiency

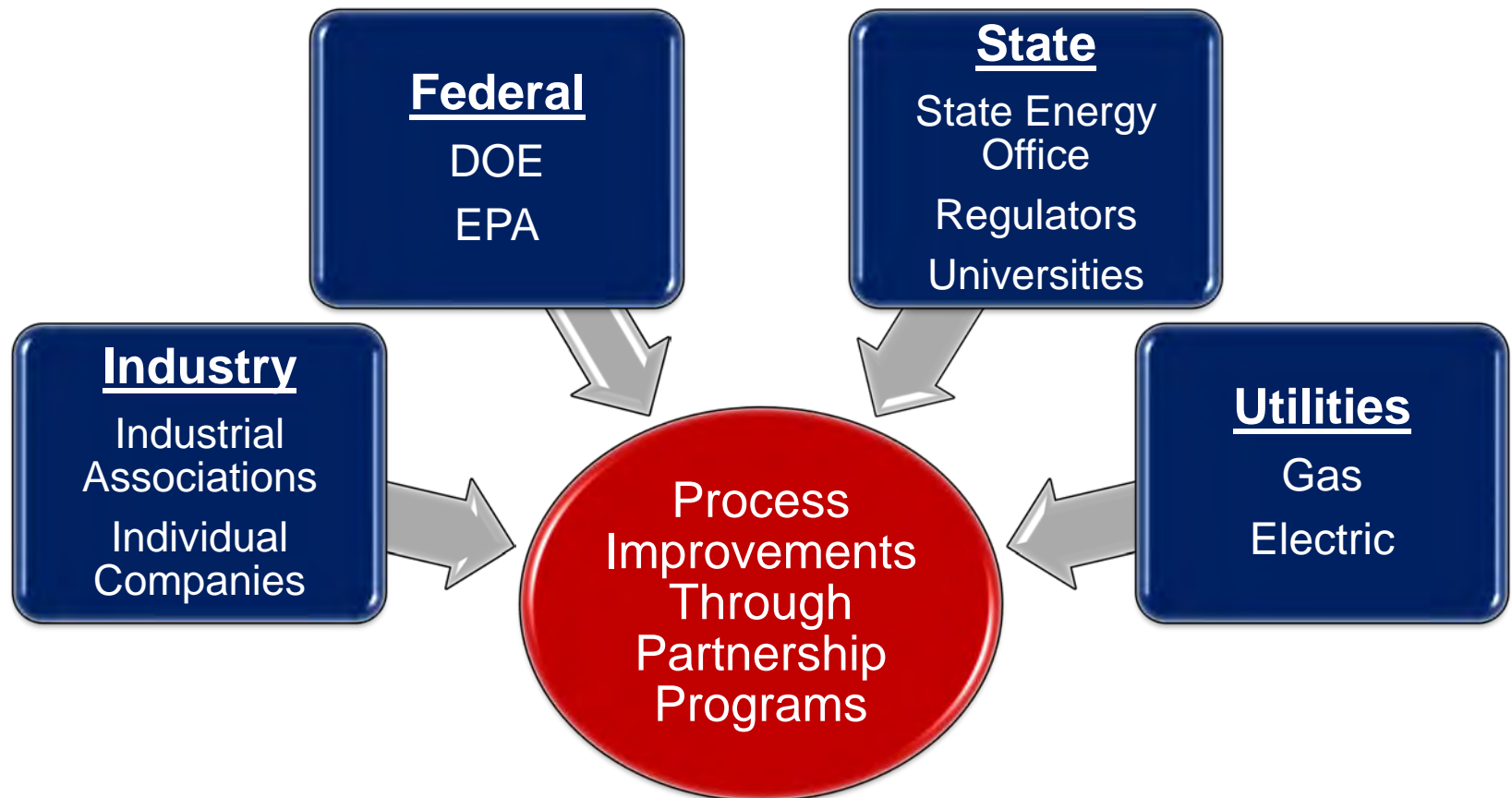
**Provide Technical Expertise in the Development /  
Deployment of Energy Efficient Advanced Technologies &  
Concepts to the Midwest Manufacturing Sector**

**Targeted Education  
Unbiased Information  
Technical Assistance**

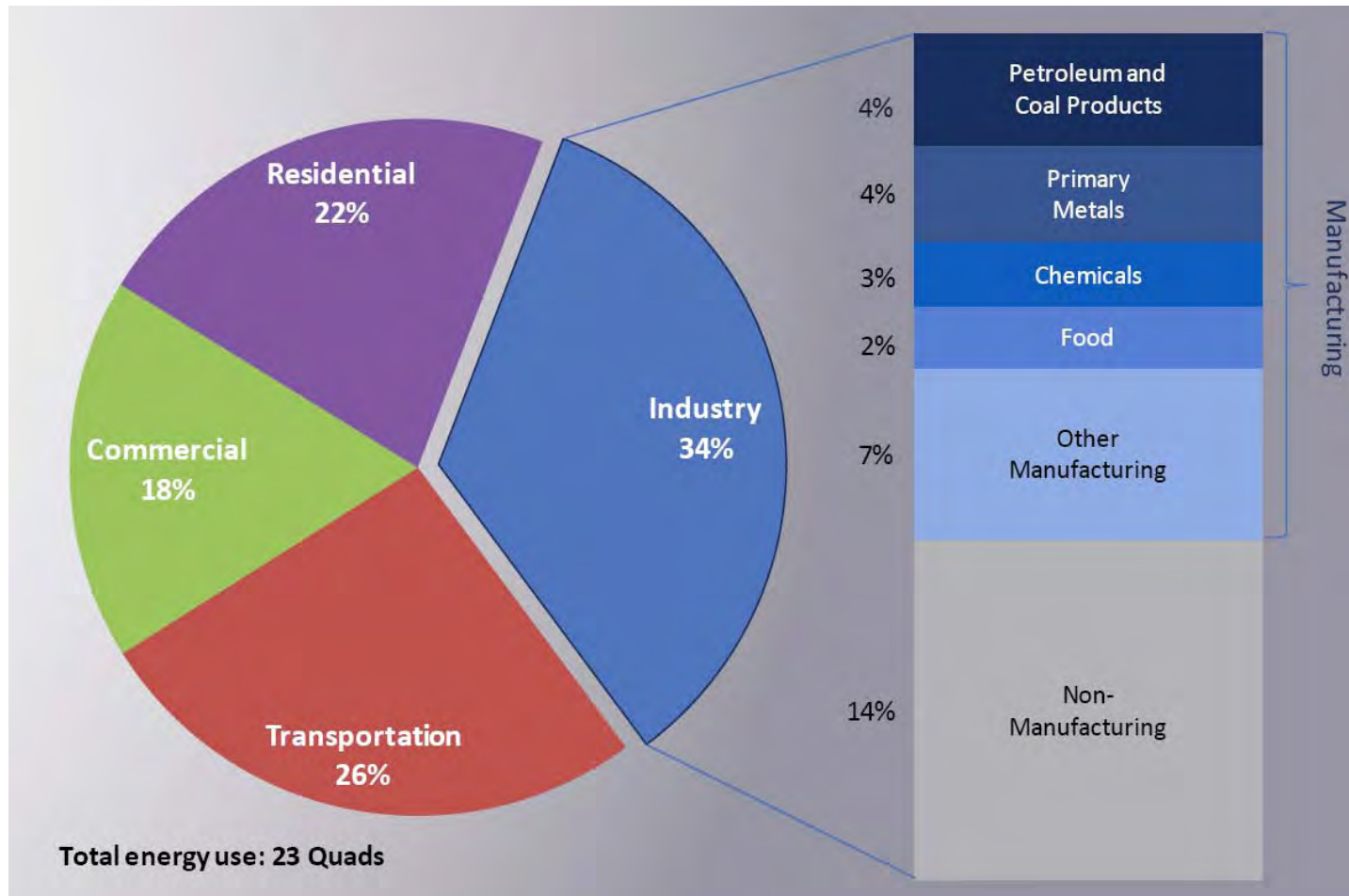
# Implementation

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-----Education/Information/Technical Assistance-----



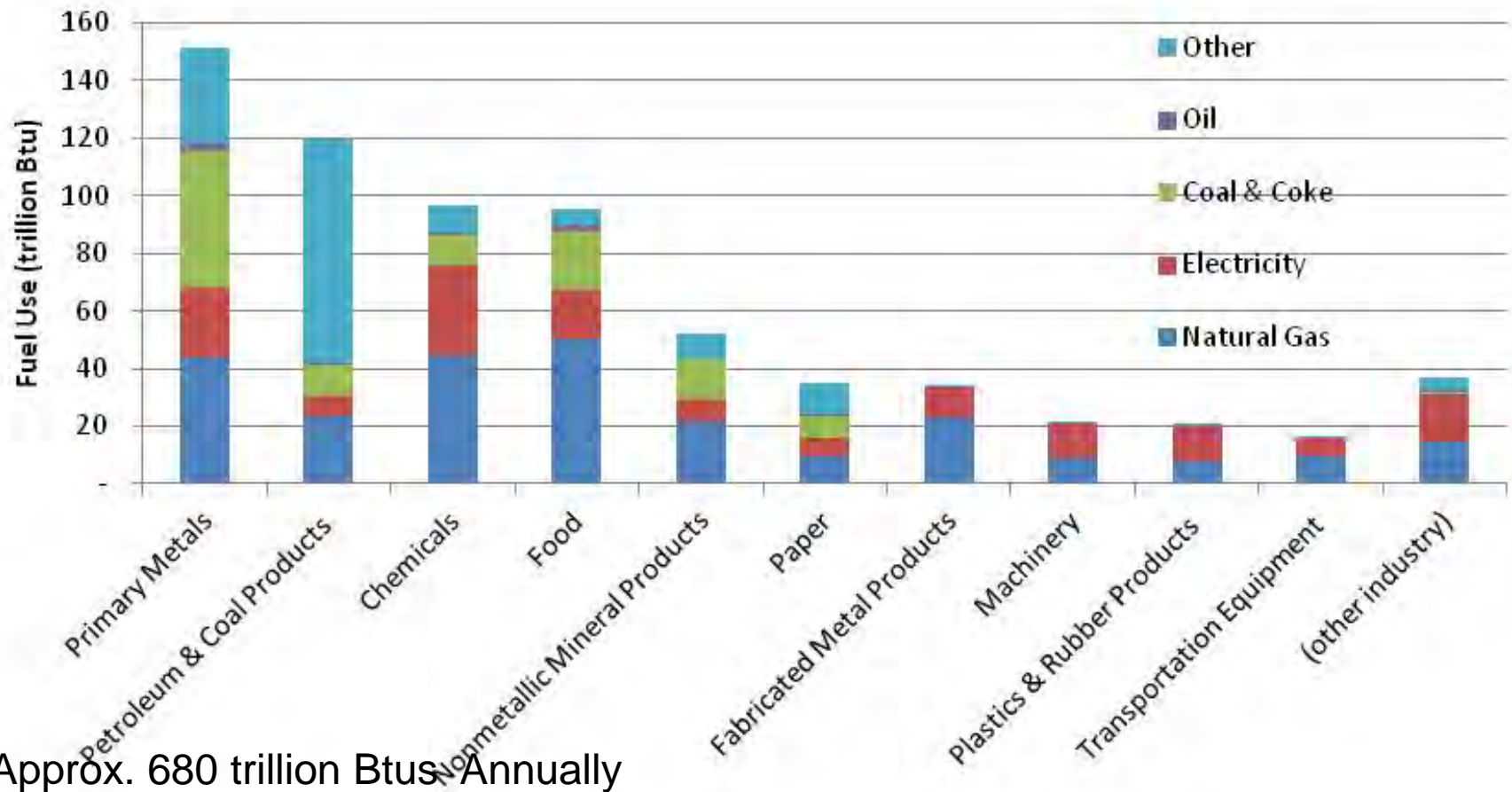
# Midwest Total Energy Use by Sector



Sources: EIA, MECS; U.S. Census, ASM; EIA, State Energy Data System 2006 Data and World Resources Institute - Midwest Industrial Energy Efficiency Summit

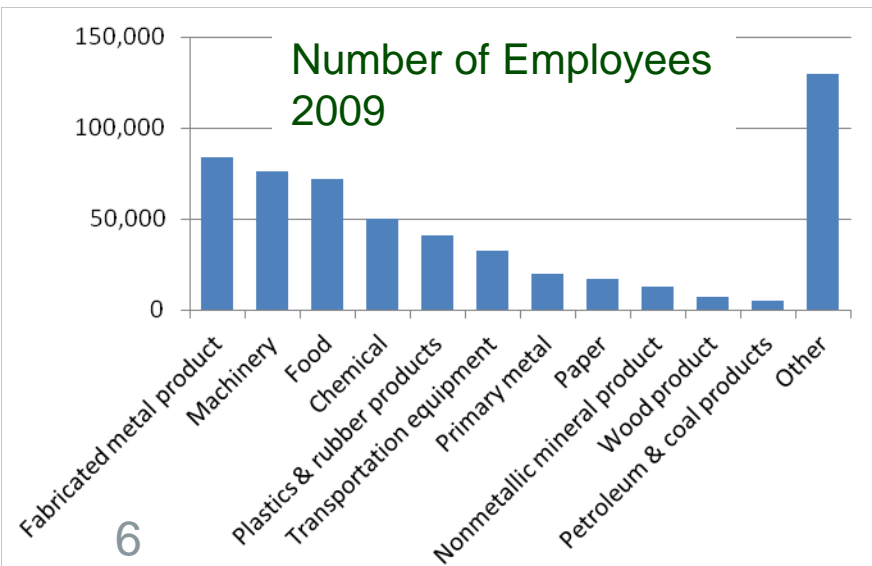
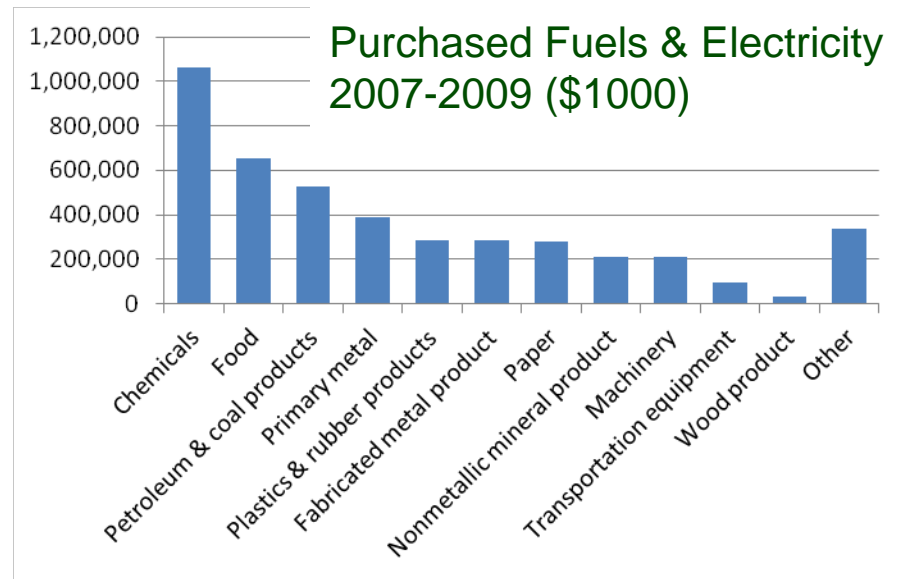
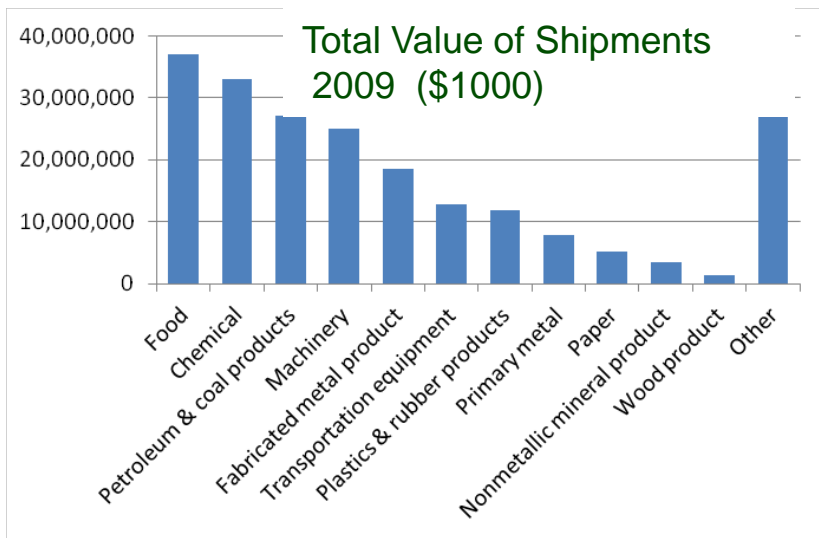
<http://www.wri.org/event/2012/01/size-prize-midwest-industrial-energy-efficiency-summit>

# Fuel Use by Illinois Manufacturing



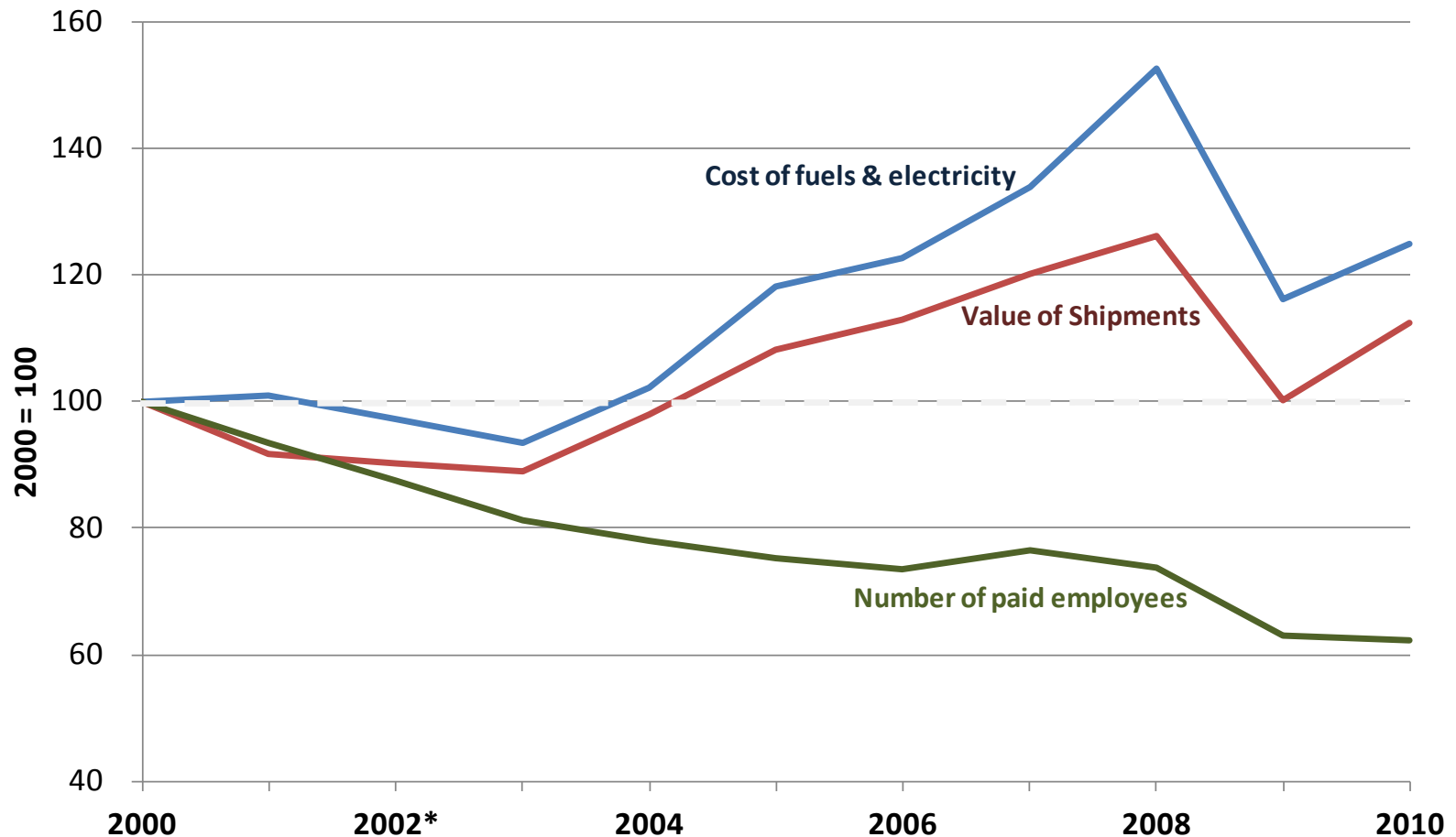
Sources: EIA, MECS; US Census, ASM 2006 Data and World Resources Institute - Midwest Industrial Energy Efficiency Summit  
<http://www.wri.org/event/2012/01/size-prize-midwest-industrial-energy-efficiency-summit>

# Illinois Manufacturing



Sources: US Census (ASM), World Resources Institute  
 \*\*Derived from national-level data

# Index of Manufacturing Energy Costs, Value of Shipments, and Employment



# Why Don't Industrials Invest More in EE & CHP?

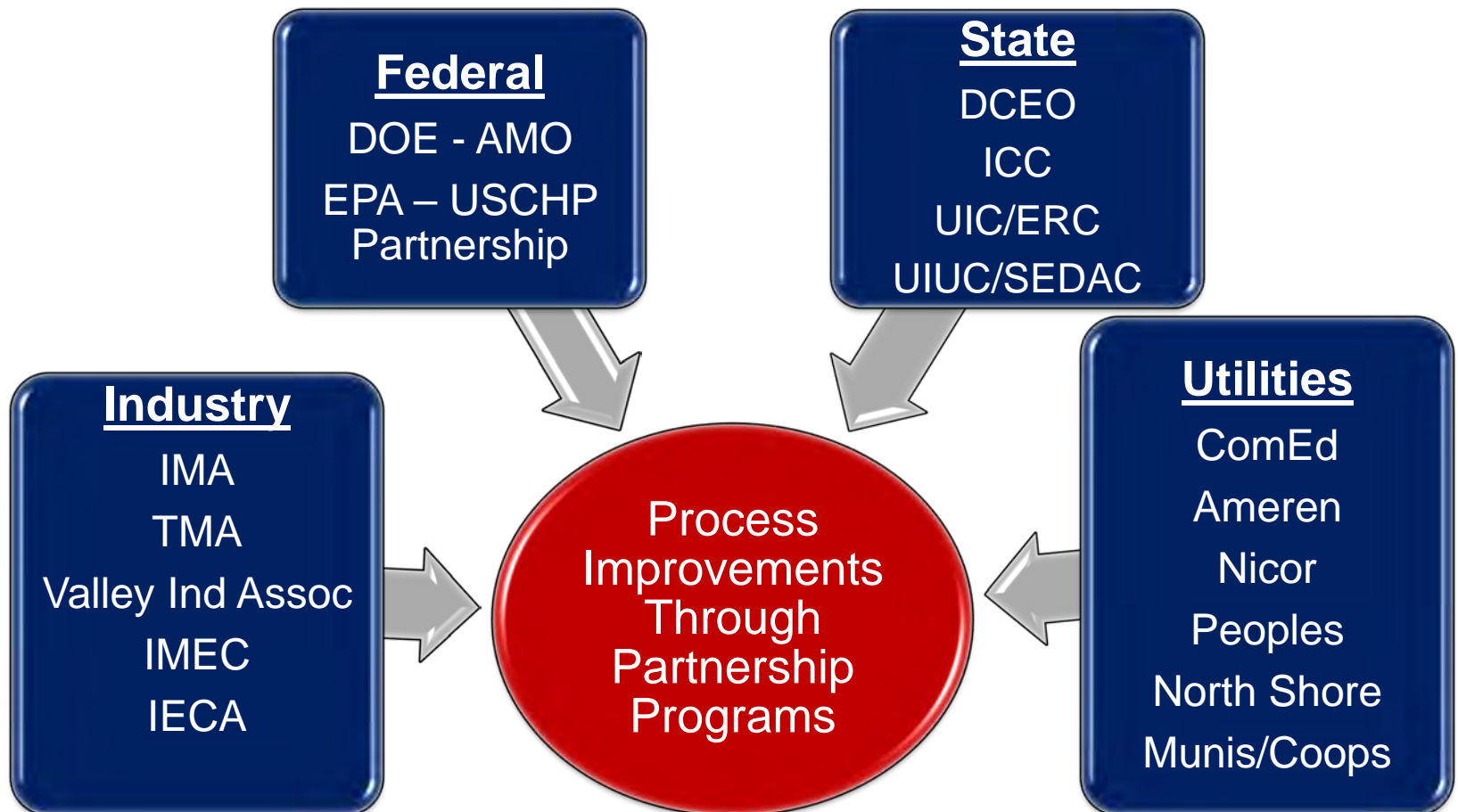
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- Not aware of the total value of EE and CHP on ROI
- Energy costs typically < 5% of operating costs (non energy intensive industries)
- Complain about energy costs but viewed as cost of doing business – not a variable cost they can easily control
- Often do not link process improvements to EE and therefore EE investments often viewed as non-essential, discretionary
- Capital constraints & competing priorities
- Often times require short payback periods < 2 years
- Ability to “opt out” of state-level policies
- Lack of dedicated & trained staff (energy) – Small/Mid Size Co



# Illinois

## -----Education/Information/Technical Assistance-----



# ERC --- Illinois Industrial Activities

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- DOE Midwest Clean Energy Application Center (CEAC) – 12 Midwest States
- Student Energy Assessment Center -- 10 to 15 students trained each year in energy engineering (*modeled after DOE IACs but with no federal funds*)
- Active member of the SEEAAction Industrial EE & CHP Working Group (*blueprint development / deployment implementation*)
- Superior Energy Performance (ISO- 50001) – Worked with DOE and Midwest States to develop the Midwest Pilot – 9 companies in the process of completing certifications by March, 2012

# ERC --- Illinois Industrial Activities

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- Save Energy Now (forerunner to Better Buildings, Better Plants)
  - major energy industrial forums in Illinois (*also Iowa, Minnesota, Michigan, Missouri, Indiana, and Ohio*)
  - Identified over 200 SEN partnerships
- Implementer, DCEO Large Energy User Program
  - 13 major capital investment projects (> 13 million therms in annual savings) ... Total Investment \$35M ---ARRA funds \$14M
- Active member – Illinois Energy Efficiency Stakeholder Advisory Group (*provide guidance and support - utility efficiency programs*)

# Commonwealth Edison – Smart Ideas Program

June, 2008 thru May 2011 - C&I Prescriptive & Custom Program

Building Type	Project Count		kWh Savings		Incentive	Percent
Grocery	429	5.9%	21,688,272	3.3%	\$ 1,400,284	2.8%
<b>Heavy Industry</b>	<b>357</b>	<b>4.9%</b>	<b>99,203,958</b>	<b>15.2%</b>	<b>\$ 7,227,463</b>	<b>14.5%</b>
Hotel / Motel	62	0.8%	12,818,802	2.0%	\$ 745,077	1.5%
<b>Light Industry</b>	<b>889</b>	<b>12.2%</b>	<b>144,097,493</b>	<b>22.0%</b>	<b>\$ 10,915,244</b>	<b>21.9%</b>
Medical	192	2.6%	44,981,590	6.9%	\$ 2,727,119	5.5%
Miscellaneous	728	10.0%	56,652,649	8.7%	\$ 4,215,616	8.4%
Office	985	13.5%	59,008,587	9.0%	\$ 7,136,975	14.3%
Restaurant	117	1.6%	2,165,790	0.3%	\$ 127,186	0.3%
Retail/Service	2862	39.2%	87,448,631	13.4%	\$ 6,274,215	12.6%
School/College	128	1.8%	6,283,078	1.0%	\$ 797,163	1.6%
WareHouse	546	7.5%	119,414,069	18.3%	\$ 8,332,065	16.7%
<b>Grand Total</b>	<b>7295</b>	<b>100.0%</b>	<b>653,762,919</b>	<b>100.0%</b>	<b>\$ 49,898,407</b>	<b>100.0%</b>

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NASEO --- State Energy Offices  
ASERTTI --- State Energy RD&D Organizations  
have served as a very effective DOE resource in  
Applied R&D  
Technology Development  
Technology Demonstration and Deployment

# Thank You

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