Tuesday Webcast for Industry: Regional Energy Efficiency Programs

December 13, 2011
MEEA’s Midwest Industrial Initiative

Stacey Paradis
Deputy Director
Midwest Energy Efficiency Alliance

Mission

MEEA is a collaborative network whose purpose is to advance energy efficiency to support sustainable economic development and environmental preservation.
MEEA’s Role in the Midwest

• Designing and Evaluating Programs & RFPs
• Administering Programs
• Delivering Training & Workshops
• Developing Marketing and Outreach
• Advancing Energy Efficiency Policy
• Coordinating Utility Program Efforts
• Regional Voice for DOE/EPA & ENERGY STAR
• Evaluating & Promoting Emerging Technologies
Need for Industrial EE in the Midwest

- Midwest accounts for >28.3% of industry energy usage in the US
  - 48.3% of total industrial coal consumption (870.1TBtu)
  - 22.9% of total natural gas electricity (1,853TBtu)
Regional Industrial Overview
Total Use: 6,179.70 Trillion BTU

Total Industrial Energy Consumption, 2008 (trillion BTU)

- Ohio, 4: 1,341.00
- Illinois, 7: 1,236.90
- Michigan, 11: 756
- Iowa, 13: 654.1
- Wisconsin, 15: 619
- Minnesota, 16: 615.1
- National Average: 614
- North Dakota, 37: 213.7
- South Dakota, 44: 129.9
Regional Industrial Activities

• Key Industries
  – Food manufacturing
  – Machinery manufacturing
  – Transportation equipment manufacturing
  – Fabricated metal product manufacturing
  – Chemical manufacturing
  – Computer and electronic product manufacturing
Combined Electric & Gas Ratepayer-Funded Efficiency is on the Rise

Midwest Total Efficiency Funding Projections

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$1.06 billion</td>
<td>$1.24 billion</td>
<td>$1.41 billion</td>
<td>$1.57 billion</td>
<td>$1.67 billion</td>
<td>$1.72 billion</td>
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</tbody>
</table>

January 2011
## Projected Total Electric & Natural Gas EE Budgets

<table>
<thead>
<tr>
<th>State</th>
<th>2010</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA</td>
<td>$151,864,307</td>
<td>$193,097,488</td>
</tr>
<tr>
<td>IL</td>
<td>$175,105,135</td>
<td>$309,888,951</td>
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<tr>
<td>IN</td>
<td>$31,000,000</td>
<td>$85,733,283</td>
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<tr>
<td>KS</td>
<td>$5,400,000</td>
<td>$6,997,727</td>
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<tr>
<td>KY</td>
<td>$29,000,000</td>
<td>$34,482,657</td>
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<tr>
<td>MI</td>
<td>$95,750,832</td>
<td>$250,275,342</td>
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<tr>
<td>MN</td>
<td>$152,912,628</td>
<td>$167,138,000</td>
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<tr>
<td>MO</td>
<td>$40,500,000</td>
<td>$38,245,504</td>
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<tr>
<td>ND</td>
<td>$200,000</td>
<td>$200,000</td>
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<tr>
<td>NE</td>
<td>$12,987,000</td>
<td>$9,345,853</td>
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<tr>
<td>OH</td>
<td>$163,800,000</td>
<td>$239,028,467</td>
</tr>
<tr>
<td>SD</td>
<td>$1,460,046</td>
<td>$1,673,570</td>
</tr>
<tr>
<td>WI</td>
<td>$199,368,218</td>
<td>$381,100,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$1,059,348,166</td>
<td>$1,717,206,842</td>
</tr>
</tbody>
</table>
Industrial Self-Direct/Opt Out

- **YES**
  - Illinois
  - Indiana
  - Michigan
  - Minnesota
  - Missouri
  - Ohio
  - Wisconsin

- **NO**
  - Iowa

- **N/A**
  - Nebraska
  - North Dakota
  - South Dakota
Regional Industrial Energy Efficiency Programs

• Characteristics of Utility Funded Rebate Programs, varied across utilities
  – Common Prescriptive Incentives
    • Lighting, Refrigeration, HVAC, Variable Speed Drives, Sensors, and Weatherization among others
  – Program Cost Rebates
    • Utilities fund 25%-75% of project costs, under a certain threshold, often $50,000, but can be more
  – Energy Audits
    • To guide management in adopting EE technology
Midwest Industrial Initiative
Focus

• Regional allies
• Industrial areas of opportunity
• Support existing efficiency programs
• Measures of success
• Other potential strategies
Regional Allies

• Create ally network within the region
  – Especially utility and state contacts
• Facilitate discussions with industrials on what would increase participation of EE programs
  – Work through sticky issues as they arise
• Launch Midwest Industrial Utility Forum
  – Utility discussion group to discuss industrial strategies
• Goal is to reach Executive level support across industrial plants (corporate buy-in and support)
Industrial Areas of Opportunity

- Lots of opportunities to promote EE
- Need to prioritize target areas and technologies

Sample technologies include:
- Process energy
- Compressed air
- Steam
- Fans
- Pumps
- Motors
- Chilled water systems
- Waste heat recovery & CHP
- Building envelope
Support Existing EE Programs

• Government
  – Work with SEEAction and other initiatives

• Utility-based incentives
  – Develop web portal mwalliance.org/industrial
    • Database of industrial policies in Midwest
    • Catalogue of case studies
    • Network of utility contacts and program information
Measures of success

- Regional network solidified and runs autonomously
- Quality case studies with measurable savings
- Heavy enrollment in DOE’s SEP program or other long term energy management plan (ISO 50001, etc.)
- Heavy traffic to MEEA’s industrial page
- Interest in emerging technologies
- Increased uptake of utility and state EE funding
- Increased industrial participation in the program
- Long term funding for the Initiative
Other Potential Strategies

- Leverage existing regional infrastructure (IAC, RAC, MEP, etc) to increase industrial involvement
- Outreach to state and regional trade associations
- Standardization of Industrial Education and Training certification across region/nation
- Emerging Tech Working Group
  - Bridge new technologies and utility program design needs
- Support of regional activities aligned with goals
  - Midwestern Governors Association, others
- Regional Industrial-Utility Summit in 2012
The Size of the Prize: Midwest Industrial Energy Efficiency Summit

- What are the economic development and employment opportunities with IEE and through the supply chains?
- Which US manufacturing sectors are poised for growth?
- Which states and sectors provide the greatest opportunity for industrial efficiency savings?
- What are the biggest factors that influence capital investment?
- Which policies would improve the investment environment?
- How do different fuel types, energy prices and air regulations influence investment decision?

January 11, 2012 – 8:30am-1:00pm
The Fairmont Hotel – Chicago

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

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Deputy Director

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www.mwalliance.org
Industrial Energy Efficiency Network
A Resource for Southeast Manufacturing

Rick Marsh
Program Director
Industrial Energy Efficiency Network
December 13, 2011
• Rick Marsh
  - Has worked in various capacities in the SE most recently with the Southeast Energy Efficiency Alliance
  - Participant in national level EE work groups
    • State Energy Efficiency Action Network
    • IETC Advisory Board
  - Arranged resources to launch the Industrial Energy Efficiency Network as a stand-alone group that supports the manufacturing sector
Network Overview

• Regionally focused collaborative effort that unites cross-sector industrials

• Peer-to-peer manufacturing network
  – Elevate best practices & project implementation
  – Link industry to financial & technical resources
  – Promote energy efficiency opportunities
State of the Southeast Region

• SE Industry consumes 29% of total US manufacturing energy annually (EIA Consumption 2008)

• Annual growth rate for industrial GDP was 10% higher compared to national average 2002-2007 (Census Bureau 2007; Census Bureau 2002)

• Energy consumption per dollar of GDP is 17% higher than national average (EIA Expenditures 2008; BEA 2008)

Consumption is outpacing growth = Opportunity
Network - Execution

- Platform for collaboration, education and a link to key financial & technical resources
- Open to any manufacturing firm
- Meetings held quarterly throughout central part of Southeast region
- Information sharing between meetings
Quarterly Meetings

• Agenda focuses on collaboration & open discussion among attendees – not a day of presentations

• Round Robin Activity
  – Key topics
  – Questions from the group

• Project Presentations
  – One sheet format
  – Archive

• Peer Dialogues
Networking at Meetings

• Networking is a focus:
  – Open times before & after meeting
  – No speaker during lunch
  – Dedicated breaks

• Relationships lead to collaboration between quarterly meetings
Q4 Meeting Recap

• 60 Attendees & 21 Different Companies Represented

- Baldor Electric Company
- Beaulieu
- Buckeye Technologies
- Cooper Tire & Rubber Company
- Covidien
- Energizer
- General Motors
- Honda Manufacturing
- Johnson Controls
- JPS Composite Materials
- Kimberly Clark
- Alabama Power
- ARCADIS
- Pathway Lending

- Leggett & Platt
- M-TEK Inc.
- McKee Foods
- Michelin North America, Inc.
- SABIC Innovative Plastics
- Saint-Gobain NorPro
- Schneider Electric
- Shaw Industries Group Inc.
- Toyota Manufacturing
- Yates Services - Nissan
- Tennessee Tech - IAC
- TVA
Q4 Meeting Recap - Agenda

• Open Discussion Topics:
  – What have been the primary obstacles or barriers to implementing EE projects or program initiatives?
  – How is your company engaging your supplier network in energy efficiency?
  – Has your company developed a specific Corporate Energy Policy document? What was the process? How has this helped your energy program?

• Project Examples from SABIC Innovative Plastics

• Metering Discussion Topics:
  – To what levels are you tracking - plant, department, corporate?
  – Discuss tangible benefits achieved through capturing energy data
  – Employee engagement & metering – holding managers accountable for departmental use or visibility of real time data shared with shop floor employees

• Schneider Electric’s “Standard Practice Energy Manual”
Connections Between Meetings

- Best Practice Discussion Board
- Project One Sheets
- Technology Briefs & Webcasts
- 2012 Summit
- Utility / Industry Workshop
- Industrial ee.org Website
Value to Participants

• Elevation of project ideas lead to implementation successes – the spark!

• Exchange of qualified vendor references between peer energy managers in manufacturing can shorten the time to project initiation

• Activity at individual companies is being validated and celebrated by energy management peers
Desired Results

- Inspire manufacturers to become more energy efficient thereby driving region-wide change
  - Drive implementation

- Leverage successes to grow availability of industrial energy efficiency resources
  - Utility & State level

- Adoption of Energy Management resources
  - ISO 50001
  - Superior Energy Performance
For Additional Information

Rick Marsh
Director
Industrial Energy Efficiency Network

rick@industrialee.org
Industrial Energy Efficiency Resources in the Southwest

Neil Kolwey, Senior Associate

DOE AMO Webinar
December 13, 2011
Overview

- Colorado program
- Utah program
- Other resources
Who is SWEEP?

Southwest Energy Efficiency Project; Non-profit focused on promoting energy efficiency in 6 Southwestern states

- Utility efficiency programs (including industrial), building codes, transportation policies
- State industrial EE programs in Colorado and Utah
Benefits:
• Governor recognition
• Energy assessments
• Networking and trainings

Requirements:
• At least $200k per year energy costs
• Set 5-yr energy goal
• Report energy use annually
Governor Recognition
## Goal Flexibility

<table>
<thead>
<tr>
<th>Partner</th>
<th>Industry Type</th>
<th>Energy Goal</th>
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<tbody>
<tr>
<td>Amgen</td>
<td>Biopharmaceutical products</td>
<td>Reduce total energy consumption by <strong>20%</strong> from 2007-2012</td>
</tr>
<tr>
<td>Avago Technologies</td>
<td>Semi-conductor devices</td>
<td>Reduce energy consumption per unit of production by <strong>40%</strong> from 2008-2013</td>
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<tr>
<td>Carestream Health</td>
<td>X-ray photographic materials</td>
<td>Reduce total energy consumption by 12% from 2009-2014, based on estimated savings from projects compared to 2009 consumption</td>
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<tr>
<td>Crested Butte Resort</td>
<td>Ski resort</td>
<td>Reduce total energy consumption by 8% from 2008-2015</td>
</tr>
<tr>
<td>Hunter Douglas</td>
<td>Window coverings</td>
<td>Reduce energy consumption per production unit by <strong>18%</strong> from 2008-2013</td>
</tr>
<tr>
<td>MillerCoors</td>
<td>Brewery</td>
<td>Reduce energy consumption per barrel of beer by 12% from 2010-2015.</td>
</tr>
<tr>
<td>Corden-Pharma</td>
<td>Pharmaceuti-cal products</td>
<td>Reduce total energy consumption by 10% from 2009-2014</td>
</tr>
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Quarterly Networking Meetings

- Discussion of strategic energy management topics
- Presentations of successful projects
- Open discussions of challenges, upcoming projects
- Site tour
Energy Assessments

- Scoping
- 2-3 days on-site
- Steam
- Process heating
- Compressed air
- Pumps and fans
- Hybrid
Workshops

- Compressed air – fundamentals and advanced
- Steam system optimization
- Strategic energy management
  - Management support
  - Meaningful goal
  - Good metrics and tracking
  - Break-down of energy use, sub-metering
  - Energy teams that meet regularly
<table>
<thead>
<tr>
<th>CIEC Partner Companies</th>
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<tbody>
<tr>
<td>Advanced Energy</td>
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<tr>
<td>Amgen</td>
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<tr>
<td>Anheuser-Busch</td>
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<tr>
<td>Atmel</td>
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<tr>
<td>Avago Technologies</td>
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<tr>
<td>Carestream Health</td>
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<tr>
<td>Corden Pharma</td>
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<tr>
<td>Encana</td>
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<tr>
<td>Frito-Lay</td>
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<tr>
<td>Golden Aluminum</td>
</tr>
<tr>
<td>Hunter Douglas</td>
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More information

- CIEC web site, with case studies, other resources:

Utah Industrial EE Program

- Recognition
- Workshops
- Networking
- Open to all Utah industrial firms
Utah IEE Program, cont.

- Governor’s Energy Summit, Feb. 15
  - Highlights Utah’s 10-yr Strategic Energy Plan
  - 90 minute session on IEE

- For more information:
  utahefficiency@nexant.com
  http://utahindustryleaders.com/index.html
Other Resources

CHP and heat recovery
Intermountain Clean Energy Application Center
http://www.intermountaincleanenergy.org/

Utility efficiency programs
- Technical assistance and custom rebate programs
- Prescriptive rebate programs
- Self-direction programs
Contact Info

- nkolwey@swenergy.org
- 303-499-0213
To access the slides from this and previous Webcasts, please visit:
http://www1.eere.energy.gov/industry/resources/tuesday_webcasts.html
Next Month’s Webcast

Please join us for our next Webcast.

**Topic:** Key Energy-Saving Activities for Smaller Facilities

**Presenter:** Richard Feustal of Briggs & Stratton

**Date and Time:** Tuesday, January 10 at 11:00 a.m. PST/2:00 p.m. EST

**To Register:**
https://www1.gotomeeting.com/register/453056753