



SEE Action
STATE & LOCAL ENERGY EFFICIENCY ACTION NETWORK

Utility-Manufacturing Workshop: Discussion Summary

Introduction

The State and Local Energy Efficiency Action Network (SEE Action) Industrial Energy Efficiency and Combined Heat and Power (IEE/CHP) Working Group held an industrial energy efficiency workshop on September 28, 2011, in Denver, Colorado. The purpose was to bring together diverse stakeholders and identify opportunities to overcome barriers to the delivery and uptake of energy efficiency programs with significant potential to help the industrial sector save money and improve competitiveness. More than 40 participants representing electric utilities, utility regulators, industrial end-users, state energy offices, and non-governmental organizations attended the workshop. This paper summarizes the discussions, findings, and next steps.

There are significant cost savings available in the industrial sector through cost-effective investment in energy efficiency and CHP. The industrial sector has an annual energy bill of more than \$200 billion.¹ Many facilities can save 15% or more annually through projects with payback periods of less than three years.² With these savings come additional benefits of strengthened economic competitiveness, job creation, improved system reliability, reduced emissions from fossil fuel use, and avoidance or deferral of the need for new energy infrastructure.

To help the nation realize the significant benefits available through improved industrial energy efficiency, SEE Action has set aggressive industrial energy efficiency and CHP goals. The IEE/CHP Working Group identifies and supports the adoption and implementation of policies, programs, and practices that will lead to:

- A 2.5% average annual reduction in industrial energy intensity through 2020
- Installation of 40 gigawatts (GW) of new, cost-effective CHP by 2020.

A path to achieve the goals is outlined in the IEE/CHP Blueprint.³ Meeting these goals would help save an average of one quad of energy annually through 2020, resulting in an estimated \$37 billion per year in industrial energy cost savings.⁴

One of the primary barriers identified through this work is the need to design policies and programs that lead to meaningful participation in energy efficiency efforts by industry that can be measured and verified.

The IEE/CHP Workshop

The workshop focused on three discussion topics:

1. Regulations and policies that overcome barriers that result in low industrial participation in administered energy efficiency programs
2. Energy efficiency programs that work best for industry
3. Industrial energy efficiency program evaluation and project measurement and verification.

The discussions are summarized below with key findings and next steps.

Key Points

- This document summarizes stakeholder discussions from a workshop on industrial energy efficiency with participants from electric utilities, utility regulators, state energy offices, and non-governmental organizations.
- Workshop discussions focused on regulations, policies and programs that can help manufacturers overcome barriers to significant energy and cost savings available through energy efficiency.
- Participants identified specific action steps that regulators, utilities, and industrial managers can take to overcome the barriers.

About SEE Action

The State and Local Energy Efficiency Action Network (SEE Action) is a state and local effort facilitated by the federal government that helps states, utilities, and other local stakeholders take energy efficiency to scale and achieve all cost-effective energy efficiency by 2020.

About the Working Group

The working group is comprised of representatives from a diverse set of stakeholders; its members are provided at www.seeaction.energy.gov.

Topic 1: Utility and Regulatory and Policy Frameworks for Industrial Energy Efficiency Programs

Key Discussion Points:

- Industry customers have been reluctant to participate in or support the development of industrially focused regulated energy efficiency programs. As a result, many industrial programs are not developed as part of ratepayer-funded program portfolios, and many industrial customers opt-out (do not participate) of existing programs.
- Reasons provided for the lack of industrial support and/or participation in regulated energy efficiency programs include:
 - Lack of information on programs and/or lack of understanding of program benefits
 - Preference to pursue energy efficiency projects according to their own schedule/timeline
 - Concerns about the benefits of these administered programs relative to the costs paid in by industrial customers.
- Utility participants expressed concern over industrial customers' lack of interest in participation in ratepayer energy efficiency programs, particularly in circumstances where utilities have to meet sector-specific energy efficiency targets and opt-out is available.
- Participants discussed a number of possible solutions. These included:
 - Better communication and outreach to industrial customers on the benefits of industrial energy efficiency programs as well as how to effectively participate in these programs.
 - Program frameworks that would allow for opting out for those customers successfully achieving savings on their own, such as Ohio Senate Bill 221. Under this bill, everyone, including industry, must pay the energy efficiency rider, but the bill includes an Energy Efficiency Rider Avoidance clause that allows for the reduction or elimination of the rider payment based on demonstrated energy efficiency implementation.
 - Design of ratepayer-funded energy efficiency programs in a manner that promotes the benefits of IEE program participation as securing direct benefits from the costs that industry has already paid into the program, as well as ensures that all customer classes

receive program benefits that are proportional to their program contribution.

- Increased education for industry on the role of energy efficiency as a least-cost resource that offers whole system electric benefits and end-user benefits.

Topic 2: Ratepayer-Funded Energy Efficiency Incentive Programs for Industry

Key Discussion Points:

- Utilities or program administrators often do not design energy efficiency programs with the specific and often unique needs of industry in mind. Considerations include:
 - The short window required for returns-on-investment (generally less than 18 months) for energy efficiency project investment approval, often due to operations uncertainty. This is unique from public or institutional sector projects, which often allow for up to a 10-year payback or longer.
 - The significant differences in the equipment used by manufacturers
 - The difference in efficiency opportunities for manufacturers of varying sizes
 - The need for flexibility to pursue efficiency improvements in sync with a plant's refit cycle or scheduled shutdowns.
- Industrial participants noted that internal energy efficiency project approvals require both bottom-up and top-down support within the company, requiring energy efficiency program marketing at all levels of the company.
- The core role of utility key account managers (those with an important, established relationship with industrial customers) is in energy sales, and these individuals often are not familiar with the details of the same utility's energy efficiency programs. This disconnect often interferes with the utility's overall ability to encourage industry participation in its energy efficiency programs.
- Participants discussed a number of possible solutions. These included:
 - Designing programs that include both self-direct (custom) and prescriptive program offerings to accommodate the needs of industrial customers and result in higher participation rates
 - Developing program marketing approaches appropriate for decision-makers at different

management levels of a company to ensure swift project uptake

- Taking a team approach to key accounts to effectively market energy efficiency programs to industrial customers in a manner that includes staff with long-established relationships with the company and those that are most familiar with the utility's energy efficiency program offerings.

Topic 3: Industrial Energy Efficiency Program Evaluation and Project Measurement and Verification

Key Discussion Points:

- Utility and program administrator participants noted the important distinction between measurement and verification (M&V) of projects and the evaluation of programs. Third parties, such as industry, private companies, or utilities, can conduct M&V to identify the captured energy and cost savings following an energy efficiency project's implementation, but it is program administrators that need to conduct evaluation of their program offerings, including input from industrial participants to determine their effectiveness.
- Energy efficiency and CHP program funding often must compete with other energy and non-energy investment priorities of states, utilities, and manufacturers. Strong program evaluation can support prudent prioritization of energy and non-energy investments.
- The cost of pursuing accurate measurement of program free riders may outweigh the value of knowing its impact. Stakeholders should accept some moderate level of free ridership, as long as programs remain cost-effective.
- Participants discussed a number of possible solutions. These included:
 - Placing greater importance on including evaluation, measurement, and verification (EM&V) protocols in the design of energy efficiency programs to demonstrate cost effectiveness and the results of industrial energy efficiency and CHP investment to taxpayers and ratepayers
 - Offering funding mechanisms for industry to implement M&V of project savings
 - EM&V measures should account for the non-energy benefits of energy efficiency projects such as the benefits of reduced water consumption and reduced emissions resulting from improved energy efficiency.

Next Steps

Participants noted the significant value in holding dialogues, such as those similar to the format of this workshop, that offer a setting outside of rate case hearings for stimulating productive discussions that address ratepayer-funded industrial energy efficiency programs, industry's energy efficiency needs, and related regulatory barriers and potential solutions. Workshop participants suggested that the IEE/CHP Working Group should consider replicating this type of dialogue in various regions of the U.S. As a result, the IEE/CHP Working Group is exploring holding several follow-on regional workshops. For information on upcoming events, visit www.seeaction.energy.gov.

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References

¹ \$215.56 billion nominal in 2011, taken from EIA AEO 2012 <http://www.eia.gov/oiaf/aeo/tablebrowser/#release=AEO2012&subject=3-AEO2012&table=3-AEO2012®ion=1-0&cases=ref2012-d020112c>. Figure includes feedstock energy use.

² From the IAC database: calculated by averaging the identified savings per facility as a percent of total facility energy expenditures for the 1,897 IAC assessments conducted from 2007 to present (July 6, 2012). Overall payback determined by summing implementation cost of all recommendations from the assessment of a facility and dividing by sum of all savings from recommendations from the same assessment.

³ www.seeaction.energy.gov/pdfs/industrial_efficiency_chp_blueprint.pdf.

⁴ McKinsey Global Energy and Materials. 2009. *Unlocking Energy Efficiency in the U.S. Economy*. www.mckinsey.com/client-service/electric-power-natural-gas/download-us-energy-efficiency-full-report.pdf. The report estimates 13.4 quads of total industrial energy efficiency potential in the U.S. through 2020 and \$47 billion/year in associated energy cost savings. Achieving the IEE/CHP Working Group goal of 10.4 quads of industrial energy efficiency savings represents 78% of the 13.4 quads of identified by McKinsey, presumably reflecting capture of 78% of the \$47 billion per year in associated cost savings as well, or \$36.7 billion per year.

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