

Meeting Summary –
Industrial Energy Efficiency Meeting,
Boise, ID

Panel on Industrial Success Stories

The three companies represented on this panel have developed model industrial energy efficiency strategies over a long period of time. The panel included Don Sturtevant for JR Simplot; Stephen Sands, for Kennecott; and Mark Dixon, for IBM. All three companies have leaders who are committed to incorporating energy efficiency into their respective corporate cultures. Leadership and involvement at the top is considered a key ingredient to a successful IEE program.

These companies have been committed to IEE from 1 to 20 years, during which they have seen significant cost savings. JR Simplot has signed onto the U.S. Department of Energy's Save Energy Now program and has committed to reducing energy intensity by 25 percent within 10 years. Sturtevant noted that by simply applying behavioral changes, one plant was able to realize a three percent reduction in energy consumption in one year alone and with no capital expenditures.

Sands and Dixon, with Kennecott and IBM respectively, noted that their companies incorporated energy efficiency into their overarching corporate governance. The companies viewed IEE not only as benefiting the environment, but also their business' profitability and, therefore, its sustainability. Having a constant source of reliable energy is critical to Kennecott's operations, but upper management also views the implementation of energy efficiency measures as key to maintaining the company's competitiveness. Thus IEE projects are high on the list of priorities with upper management. Sands suggested that energy efficiency projects should be incentivized across all energy producing sources, not just electricity, as non-electrical savings produce similar benefits of reducing energy consumption, emissions and overall costs. Dixon emphasized that IBM has a long history of conserving energy and protecting the environment. He stressed that by constantly analyzing and measuring results, IBM has been able to achieve significant cost savings and reductions in CO₂ emissions. IBM now takes the lessons learned internally and works with partners all over the world to increase energy efficiency.

All presenters noted that efficiency projects compete with capital resources and have a short payback period. However, energy savings projects help retain jobs within the industrial sector. By controlling energy costs, companies are able to increase their ability to maintain a competitive edge. Furthermore, successful programs had strong leadership and utilized technical resources across all spectrums, whether federal or regional.

Utility Energy Programs

The utility panel was represented by Shawn White from Xcel, Carol Hunter from PacifiCorp, Campbell Hawkins from Southern California Edison (SCE) and Todd Schultz from Idaho Power. The panelists focused on utility programs and incentives within their companies. The resounding message from all the utility representatives was that money spent on energy efficiency projects resulted in significant energy

savings that also benefited utility customers. They noted it is more cost effective to reduce energy consumption through EE projects than to build new generation plants.

Schultz began the discussion by reviewing IEE and Demand Response programs implemented by Idaho Power and the respective savings. Idaho Power has direct incentives, but attributes successful implementation of projects to an experienced staff, direct customer interaction, and a full suite of Industrial EE programs. The utility is actively engaged in working with regional resources and educating their customer base, making energy efficiency the resource of choice.

Drivers behind energy efficiency projects vary across state lines. Hawkins identified key drivers as California's AB 32, the Energy Policy Energy Action Plan, decoupling and incentives. As a result, SCE has more than 50 programs that are focused on EE projects both internally and via third party contractors. Their extensive network of partnerships enabled SCE to reduce industrial power consumption by 30 MW from 2006-2010. PacifiCorp, operating in five northwestern states, utilizes operating and cost recovery tariffs to complete extensive EE programs throughout their territory. For those customers participating in a variety of PacifiCorp programs, a one dollar investment can yield \$4.10 to \$5.60 in long-term savings. Energy savings over time are predictable, measurable and long lasting.

Xcel also operates in a numerous states. Like the other utilities, White pointed out that Xcel uses a series of programs, both prescriptive and self-directed to incentivize industrial energy projects. One of the biggest challenges in implementing IEE projects is that technical issues vary from industry to industry with no standard template for implementation. Xcel has built a team of account managers that work closely with industrial customers to provide initial energy audits throughout project construction.

The utilities elaborated on different mechanisms for funding IEE programs via public purpose tariffs or cost recovery mechanisms. All of the panelists commented that there is a dearth of technical expertise to analyze and build energy efficient programs. Creating a knowledge base could greatly expand the execution of IEE. Across all of the discussions, developing a straightforward measurement and verification system for IEE is key to a successful program and improving future projects. Competition for capital to support EE projects versus standard industrial improvements, limits the capacity to develop projects. However, simple behavioral and operational modifications can result in significant changes that stimulate demand for and interest in larger, more capital intensive projects. In the end, all utility customers benefit from energy efficiency projects with lower energy costs and positive impacts to the environment.

State Energy Efficiency Programs Panel

Oregon, Colorado and Utah presented on state-led programs to promote industrial energy efficiency. Anthony Buckley from Oregon elaborated on programs lead by the Oregon Department of Energy (ODOE) and the Energy Trust of Oregon (ETO). The ODOE provides incentives for EE projects via business tax credits and small-scale loan programs. The ETO buys down project costs with incentives and offers industrial customers no-cost technical assistance. The technical assistance provides companies with facility assessments, along with training and project analysis to reduce energy consumption. The ETO is funded via a small public benefits charge on ratepayer bills.

Representing Utah's Industrial Energy Efficiency program, Chris Tallackson presented on incentives Utah has implemented to aggressively reduce industrial energy consumption. Utah has created a set of EE standards for state buildings, and works with firms to create best practices, energy savings goals and

procedures for pursuing EE capital projects. The program has been recognized by the Governor and media as being a key, low-cost element to successfully developing EE programs. Colorado's (name department or agency) launched the "Colorado Industrial Energy Challenge" (CIEC) in March 2010 to spur companies to commit to five-year energy savings goals. The program was spurred by the state's Climate Action Plan. This plan recognizes that industry could contribute 15 percent towards the state's energy efficiency goals. Joel Asreal, the CIEC program manager, noted that the average goal of the 19 committed companies is to reduce energy consumption by 10 percent. The reduced consumption translates into energy savings of more than \$8.7 million.

The state presenters identified Governor recognition as a key element to successfully creating excitement for industrial energy efficiency projects. Whether the recognition focused on ceremonial or media recognition, the results were positive. Furthermore, the states found that partnerships and networking opportunities were a low-cost alternative to identifying best practices and promoting EE programs.

Regional Energy Efficiency Programs

Sandy Glatt, representing DOE's Industrial Technologies Program (ITP), led the regional energy efficiency program panel and stressed the importance of the industrial sector to the U.S. economy. Energy efficiency projects in the industrial sector enhances economic competitiveness, retains industrial jobs and helps to achieve national energy savings goals. There is more "bang for the buck" when addressing industrial EE compared with residential EE. The potential energy savings at an industrial site can average 11.1 billion BTUs of savings compared with 24.5 million BTUs of savings in a home. Industrial efficiency projects are obviously more highly sophisticated to implement and DOE has introduced numerous programs to help provide technical assistance. The *Save Energy Now* program is designed to reduce industrial energy intensity by 25 percent over the next 10 years and 2.5 percent annually. The program addresses all levels of expertise from plant energy managers, including those with little knowledge of how to implement EE projects, to those with extensive experience. Under the LEADER program, companies pledge to reduce energy consumption by 2.4 percent annually and are supported by DOE with a technical account manager, recognition and ongoing technical support for plant personnel. Furthermore, DOE's ITP programs encourage regional and state partnerships that support networking amongst private and public entities.

One such program that partners with DOE is the Clean Application Energy Application Centers. Patti Case, from the ETC Group, represents one of the eight centers throughout the U.S. She described the Center's mission as a facilitator to industrial clients to help them adopt efficient and well-designed CHP, waste heat recovery, and district energy networks. These centers provide free project screening assessments designed to help companies take the next steps towards implementing EE projects. They also help with permitting issues, tariffs/rate assessments, equipment questions, convincing upper management, and third party reviews of proposals. These centers work closely with state energy offices to leverage resources and increase industrial energy efficiency adoption.

The Midwest Energy Efficiency Alliance (MEEA) is an example of a regional partnership whose mission is to create a collaborative network aimed at increasing industrial energy efficiency. The organization, as described by Brian Olsen, with MEEA, is composed of diverse stakeholders, including state energy offices, non-government organizations, utilities, industrial companies and research organizations. MEEA is in the

early stages of creating outreach and networking channels that will encourage EE adoption. This will be accomplished by identifying regional allies, areas for opportunity and best practices and by creating measurements for success. These strategies will support state energy offices, companies and utilities and will build upon DOE's efforts to promote energy efficiency.

All panelists emphasized the need to build partnerships across the various industrial sectors. While noting that industrial energy efficiency projects are highly technical, all panelists emphasized the significant energy cost savings a company can realize while reducing carbon emissions and building a safer, more competitive industrial facility.

BREAKOUT RECOMMENDATIONS:

Barriers that impede Industrial Energy Efficiency –

- Lack of private sector technical expertise; Integrate EE within educational institutions.
- “EE” is unconnected to the core business
- Market regulatory uncertainty
- Efforts need to be scaled to small and medium industrial customers; Attention needs to focus on not only the largest industries.
- Efficiency seems to only cover electricity; should also encompass other forms of energy.
- Fragmented system of incentives.
- Comparative ‘payback’; EE projects have to compete for capital from traditional operations
- Not enough coordination and sharing of information.
- Some DSM leads to increases in rates.
- Lack of availability in human resource; lack of technical expertise
- Regulatory restraints to other components of industry conflict with various agencies. i.e. air regulations may impede development of EE projects if they trigger air upgrades.
- Disconnect between avoided cost – what you get paid vs cost of next resource.
- Known projects may not meet company internal IRR.
- Corporate culture resistant
- Policy timescale must be commensurate with project timelines
- Lack of common vision; coordinated policy leadership (states and feds lack coordination)
- Low priority of Industrial “EE”; not same priority as residential and commercial. Separate industrial program and not a commercial/industrial program. What about agricultural?
- Lack of trust of government by industry; constantly changing policy creates uncertainty and risk.
- Lack of maturity of measurement verifications and technologies; verifications of operational behavioral solutions
- Engagement in EE can run at cross purpose to regulatory nature of govt.

Governor leadership is integral; State leadership on these issues –

- Stakeholder outreach
- Promote peer to peer networking.
- State Governor level recognition at the plant level. Cheap way to create high impact.
- Align programs and standards at a federal, state, regional level. Don't like to manage multiple programs. Creates confusion and drives up cost. Increase participation in programs.
- Education! Needs to apply to the workforce.

- Industry players should be recognized if introducing new technologies and best practices
- Focus on retention through retraining and workforce development. Less costly to retain a job than creating a job.
- Goals integrated with real programs
- Govs need to take long term view is one step to sustainability and competitiveness. Assign someone to deal with EE. Develop single point of contact that can create synergies with other organizations
- Recognize IEE is important and large opportunity. Prioritize the industrial sector.
- Set high level goals and make sure all relevant state agencies are committed to the larger goal. Can save jobs and prevent manufacturing from going overseas. EE is dollars kept within your state.
- Must merge programs and agency missions to focus on both; eliminate silos

Policy Opportunities to Promote Industrial Energy Efficiency

- Place incentives on EE intensity/productivity; top down, in addition to, than bottom up. This provides flexibility and engages companies at the CEO level and is more strategic than tactic. May induce more companies to participate.
- Policies should integrate emissions reductions with EE reductions; more comprehensive look at EE benefits; less emissions; less pollution
- Align regulations with EE and emissions
- Integrate EE standards into RPS. This creates flexibility for utilities to implement goal which ultimately reduces cost of compliance and rate impact; promotes efficiency as green and clean
- Policies should be consistent.
- Regulatory rate making cycle needs to account for long lead time of industrial scale projects.
 - Allow for grandfathering in credits for long term projects.
 - Reduces risk and promote construction; reduces dead end projects; economic development goals. Reduce risk on non-payment at project completion; keep partnerships alive. Encourage longer and larger projects.
- Avoid picking winners and losers.
- Tax incentives for upgrading equipment for EE purposes (accl depreciation)
- Put demand side resources on equal footing with supply side resources (incentives should be based on avoided cost). Encourage best practice sharing
- Need incentive to support CHP. Generation occurs where load is and reduce transmission. Better security and reliability. Longer term viability for the company.
- Tie in incentives for companies to use energy efficiently when moving into new state.
- Incentivize utilities to buy from industry or industry to sell to utilities. (EE rather than building a new power plant).
- Allow conservation and demand response to be shared across WECC wide rather than utility specific.
- Allow fuel switching – more efficient
- Go beyond electricity; natural gas, diesel, should be included in programs and incentives.
- Standards become ceilings but industry doesn't go any further. Reward for going above and beyond
- Loan programs
- Incentives - Look at end results – combine looking at emissions and energy efficiency wholistically. Rewarding and integrating environmental processes.
- Use what we have before creating more regulations; regulations should be used to stimulate competition and creativity.
- Tax credit for conservation; prevents need to purchase energy from out of state or out of country.

- Business models that encourage utilities reduce usage, but still maintaining profitability.
- On Bill Financing – used to fund EE projects. EE projects don't generally seek loans and rely on internal capital projects. Having the utility on board with them in incurring the risk of a project.