

Notes from SEM Summit 2018 -- SEM Collaborative

Wednesday, August 15, 2018

1:13 PM

Welcome & Introduction - Chad Gilles, Stillwater Energy

Panel: What's New in Federal Programs

Tracy Narel, EPA (representing Walt, EPA, who is on leadership team)

- 2002 Summer Study - unveiled prototype graphic of continuous improvement.
- Partnership of EnergyStar and industrial sector is on engaging organizations to commit to reducing energy use in their operations
- EPA, more than creating practice, has distilled best practices for commercial and industrial sectors.
- Put it in practice - examples
 - Aug 26th, will release updated energy scores based on updated CBECS data. Many scores will go down. As people want to raise their score, EPA hopes to engage the building owners and operators to get scores back up to where they'd like them to be.
 - Building Performance with EnergyStar. Commercial program model available for utility and program sponsor partners that mirrors the strategic approach EPA has woven into EnergyStar partnerships.
- Quite a few materials available for programs to utilize to promote facility-level performance. Also tools like facility performance indexes.
- Building recognition - public and within programs - are a big driver.
- EPA is trying to connect with target sectors (ex. industrial)

Peter Therkelsen, LBNL/DOE

- Can look at definitions of energy management systems and program for continuous improvement - EPA's continuous improvement, 50001, 50001 Ready by DOE.
- Shouldn't be seen as conflicting, but complementary.
- Efforts to push through utility programs.
- If doing EnergyStar, consider engaging some of DOE's efforts. They complement each other well.
- Utility sector is strong pathway to success. Trust with customer, relationships with customers.
- DOE: Take principles of EnergyStar and put together 50001Ready Navigator as online textbook guide with varying levels of detail to get each of 25 parts done, you might pass 50001 certification, but in any case you will have a functional energy management program. Can get EPA, DOE certificates.
- Voluntary program with resources that are intended to be leverage by utility programs.
- Seeing successes, uptake already of 50001 Ready.
 - There are 5 utility cohorts already running. About 10 are in development. About half are focused on commercial, the other half on industrial. Most are focusing on customers that have done some efficiency improvements already and are focusing on getting energy management baked into company.
 - Projects in pipeline are almost all commercial.
 - Varying levels of engagement with customers via 50001Ready Navigator.
- About 1000 users of Navigator to date.
- Developments for 50001Ready Navigator
 - Multi-site approach: corporate-level functionality. Facility level could do some, corporate level could do other tasks. For example, corporate participants might drive updates to corporate-wide energy policy.

- Easier interface for utility programs to provide greater visibility to energy projects happening in participating facilities. Now includes opportunity for user to identify utility. DOE can then give utility visibility into projects being done by the facility (or cohort?). Utility can set up programs and enable its 3rd party implementers to see projects connected with that program cohort.
- DOE/LBNL available to provide technical assistance to utilities and their customers. DOE is not running the program - but can provide tools, materials and technical assistance. They welcome feedback.

NRCAN

- Target of 8% energy use to be managed with SEM by 2030.
- Want to accommodate a range of responsibilities
- Value of SEM serving as an onramp to more rigorous programs
- 30% savings available through SEM in Industrial, up to 40% in commercial

Ethan Rogers, ACEEE, Industrial Program

- SEM has got to be top opportunity to reduce energy use in large buildings
- Working to create a community of practice

Panel: SEM Experiences

Led by Martin Lott, Cascade Energy, SEM Coach

Jessica Raker, PSE

- Several things have worked well, though some have had Mixed success

John Nichol, Leidos

- Most of his work has been in WI, IL
- 2003 in WI, audits just aren't getting the results we'd like. Tried something they called practical energy management and participated in ISO development.
- Looked at SEM more recently.
- Running Leaders program that is SEM-based. Geared toward ISO certification.
- Also have a lighter touch offering.
- Is this cost effective?

Warren Fish, NEEA

- NEEA's work goes back ways. Pilot SEM in partnership with program administrators.
- As SEM was adopted by programs, NEEA's role shifted to infrastructure for region
 - Convening practitioners in NW SEM Collaborative
 - Achieve economies of scale
 - SEM Hub - clearinghouse for tools and resources. Many of the tools can be customized by individual programs.
 - Energy Management Assessment tool - in process of launching.
- See a lot of continued future potential, continually looking for ways to support movement toward SEM in NW.

Alex Novie, Sr. Product Manager, ETO

- Focus on technical management of information
- Using NEEA's tool to assess organizational maturity.

- Recently shared 50001Ready with participants, asked what's lacking.
- Participants and coaches getting good with models.
- Trying to figure out What gaps can we fill? how can we think about long term engagement? What is system for holding participants accountable
- Trying to employ learning management tools and 50001Ready tools.
- Energy information management is a challenge.

Discussion

- Martin: Challenges and lessons from getting SEM program off the ground
- Jessica: There is a min energy consumption required for SEM. Tried out light touch SEM via third party implementer playing champion and coach. Low uptake, mixed success. Need capacity within participating org. Can't do it for them. To maintain capacity, there must be some serious engagement between program implementer and participant in smaller companies. Ended SEM light. Must engage with someone with the power and capacity to make changes within org. Original SEM program involved paying facility to have a resource conservation manager. Have evolved from there.
- Alex: working to align fiscal year and empowering energy coach. Getting champion to figure out what to do is a development opportunity. ETO struggles to figure out right fit - do they have the ear of the HR person to get energy team together, for example.
- Jessica: With commercial SEM, most obvious thing is energy schedule. Implementer within facility must have power to make that change.
- Alex: Standard protocol for weather, schedule and occupancy - 20% of models don't have access to schedule and/or occupancy, which is a challenge
- Audience (Laura with ClearResults?): Challenges in getting production data for industrial customers - recommendations?
- John: 50001 may have been too big of a place to start with customers. Once getting past cherry picked customers is hard. We've found it's best to start with the model, because the manager has a statistically valid way to track. Another path to success is to gather energy data from building as a requirement of sign-up.
- Antonio, PG&E: Discussion of NDA as tool (needed or not needed?) in data submission
- Julie Hayes, Milepost: Idea of giving points toward completion once data is submitted
- Warren: CRE is riddled with barriers. NEEA spurred companies who haven't been participating in EnergyStar via kilowatt crackdown. Harder part was engaging customers in deep energy retrofits.
- CRE and leased office especially has been tough nut.
- Alex: Multifam - instead of engaging employees, they engage tenants. CRE is untapped. McKinsey study showed huge opportunity. A lot to be done in terms of value proposition.
- Jessica: Building owner and property manager are different entities, and property manager may switch frequently. It's hard to have sufficient impact without both, but hard to engage both.
- LBNL: Looking at NEBs will one more important things to help with value prop for business. See LBNL's white paper on bringing ISO 50001 to commercial. Look at rent premium for leased spaces in LEED certified buildings versus others. Given some of the renters are giving more attention to green aspects of building, maybe there will be enough data points to say whether ISO 50001 managed buildings start to see advantage in their rent. Point is that there are other value streams we need to look at.
- Jessica: Thoughts about geographically focused SEM (Bellevue). Set up value propositions for how to approach the many sectors represented in downtown core. Not successful in meeting PSE savings targets - was not cost effective within pilot timeframe. But from customer engagement stand point it was successful. The ramp up time was long. A one year performance period was not

long enough. In this case, had conversations with managers and owners about other value streams. But hard for utility to succeed with such efforts when tied to performance goals.

- Jessica: PSE linked wellness program to energy savings campaign - taking stairs lowers energy use and gives health discounts.
- Audience: What are challenges to doing cohort program?
- Alex: recruitment
- John: Geographic commonality
- Alex: cohort programs are the design. Value in energy champions talking to each other.
- Laura, ClearResult: Need for more rigorous binding between owner and property managers?
- Alex: Old buildings have simpler systems and tend to be running well. Newer building more complicated, harder to get running at optimum. Something there in terms of empowering with common language, best practices.
- Kim: SEM, teach them to fish program design. How do you figure out who is a good commercial customer for SEM, versus program where they don't have to go it themselves.
- Jessica: Even going through contracting process is first filter. If they can't get onboard with that process, then probably not a good fit. Definitely try with different types of customers and learn from those experiences that work or don't. Really engaged energy champion who wants to give it a go, they give it a chance. Indicator is volunteer energy champion within org.
- Alex: Trying to experiment with different ways of enrolling sites.
- Chad: Enrollment comment. It's rare that SEM programs come in to a customer who hasn't engaged with any program at all. But people who engage in program are not always the champion needed for SEM within org. Real challenge is level of buy-in above them - often don't realize who the right person to engage is within org.
- LBNL: Seen success within orgs engaging SEM or 50001 is that they've been working on SEM for a decade or two. Once they have done low hanging fruit and early wins, they are excited to do more. They start to look at capital investments. SEM or 50001 give opportunity/structured objectives and targets to understand what to do next, make the case, measure the results. In commercial, buildings are usually smaller, bills are smaller. Being able to have centralized expertise or resources within that org that can drive for multiple sites makes it more cost effective.
- Audience: Participants in cohort vs. sites enrolled in program. Sometimes need to let participants go, or let sites go. One thing that makes a customer a good choice is sheer volume. Some participants have many sites. So if you can enroll several participants that have multiple sites, it allow you to pick through things a little easier.
- Alex: SEM programs often aren't first touch. Larger budget capital programs - ETO's outreach staff on these know to plant seeds for SEM participation.
- Martin: What can efficiency community to do make your programs better?
- Jessica: Interaction of utility incentive programs for SEM in cities with something like a building tune-up ordinance. Can't incentivize things that are required, as is happening with tune-up accelerator. (i.e. how to play nice with codes)
- NY: Changed that policy in NY so that required tune-ups are eligible for incentives.
- Jessica: how to do away with measure life as a determinant of cost effectiveness
- Jessica: Negative savings, i.e. increasing consumption during a calendar year.
- John: All the ways of measuring SEM savings. How can we measure/track SEM savings?
- Warren: Get rigorous about qualitative factors, like NEBs.
- Alex: Better ways to talk about this. Pull meta-level program data to track engagements. Need vision to talk about this externally.

All of the Group's topic ideas (including the five that were breakout sessions):

- How can we better use data to feed ideas, help others learn from each other
- How can/should this tie to P4P programs?
- How to engage intrinsic motivations
- Do we need consistency in SEM?
- EMPs for SEM - related to negative savings and being able to explain/model them
- How to SEM program relate to other programs - before, during and after
- Getting SEM participants to swap positions with other participants
- Better management/use of HVAC controls
- How to get participants to act.
- At what point do you reach diminishing returns? What is minimum duration of engagement?
- Getting NEBs into the equation
- Cost effectiveness
- Pathway to capital projects. Breakthrough legislation in IL - first year savings > life of measures. Positive change for deeper, longer life measures. Could come at expense of SEM measures. Legislation undermining models unless it's a pathway to capital measures.
- Measure life - drives cost effectiveness, and for states focused on lifetime savings it's a big question.
- Identifying the right customers. How to set them up for SEM in longer term. How can utilities leverage current programs to set customers up to take advantage of SEM programs.
- Customers driving utilities. C-suite, internal motivation driving participation.
- M&V and automatability of energy modelling. Data automation and web-based tools.
- Customer value proposition

Topic D: NEBs

- Be able to quantify or at least talk to the variety of benefits that might accrue
- Use to sell management
- Can help justify program better
- Monetize where possible, better justification for program
- Sometimes EE drives NEBs and other times it's the other way around
- Management systems, sensors collect all kinds of information that could be utilized
- Challenges:
 - Siloed thinking
 - Utilities
 - Hard to quantify
 - Legit
 - Corroborate
 - Variable
 - Customer-specific
 - Language
- Ideas:
 - Use technology to capture and analyze data
 - Push out to people communicating NEBs ex. Fact sheets
 - Develop SOP with SEM to collect NEBs data. Sector specific.
 - Share info with regulators/PUCs and other stakeholders
- Actions:
 - Share known reports
 - Push info to people in programs

- Distill ACEEE compendiums into an infographic
- Develop standard procedures within SEM - ask what types of NEBs might this customer want to collect

Topic E: Negative savings

- When do/don't you count savings? When can you justify zeroing out?
- Be able to work with capital project teams to figure out reasons for negative savings, understand if/how model could be adjusted to reflect.
- Proposed solution:
 - 1st year: no claimed savings, no negative savings
 - 2nd year: exclude site with justification - prove why they went negative. Factor in non-routine adjustments
 - Capital influence: Work with capital project team
 - Error band: fixed baseline
 - Compare w/ similar facilities
- Actions:
 - Propose to NW M+V Working group
 - White paper on knowns and unknowns - model uncertainty

Topic C: How to get customers to act

- Marketing and case study materials that show impact
- Encourage recurring participation, up participation level of individual customers
- Figure out right frequency of interaction: frequent low touch, less frequent high touch
- How to tie SEM/EE to other business functions?
- Question attribution requirement
- Recognition and rewards to adopt/integrate practices
- Gamification
- Actions:
 - Survey existing customers - what worked, what could we do more of
 - Work with SEM group to share ideas, see what works
 - Read Nudge - discuss with this group at future gathering

Topic B: Relationship of SEM to other programs

- Think about what's best for customers.
- Break down utility silos to serve them better. (EE silos in utility or at customer site - I think utility?)
- SEM as umbrella program - general contractor model vs. _____
- Target appropriate measures at appropriate time
- Need more comprehensive understanding
- Increase prevalence of SEM savvy professionals within and outside utility
- Actions:
 - Increase capacity of SEM-savvy implementation
 - Programs
 - Employees
 - Program designs
 - ...

Topic A: Ensuring measure savings durability

- Assemble work/studies to date

- Get specific about number of years, results
- What does it take to have a stable baseline?
- What is the measure - reference to Julia's discussion of what is an SEM program. Is retro-commissioning in or out?
- Consider interactions between measures, whether they are implemented at the same time or different times.
- Actions:
 - Document future discussion topics
 - Assemble library - NEEA?
 - Reach out to CEE, EPRI to ensure that our efforts are complementary and we are building on each other's work.
 - Conference calls - there is already a report-out scheduled for October on work to date. Then share with others across the country.

Facilitators will:

- take pictures
- harvest ideas
- follow up with group

Wishes for the coming year:

- Kim: Develop a research plan
- Greg: Completion of next steps
- David: Tap into expertise of group and regional collaborative for individuals' questions. Drive involvement.
- Steve: Process to assign leads to action items