2019 Northeast Strategic Energy Management Collaborative Workshop

November 14, 2019

Giselle Procaccianti, Commercial and Industrial Program Manager, NEEP
David Lis, Director of Technology and Marketing Solutions, NEEP
Throughout our meetings, participants shall comply with competition law requirements and shall not enter into any discussion, activity or conduct that may violate any applicable competition law. Should the meeting discuss matters that contravene competition law requirements, it is the responsibility of participants to notify the Moderator who will discontinue the discussion or close the meeting.
About NEEP
A Regional Energy Efficiency Organization

One of six REEOs funded in-part by U.S. DOE to support state and local efficiency policies and programs.
Northeast Energy Efficiency Partnerships

“Assist the Northeast and Mid-Atlantic region to reduce building sector energy consumption 3% per year and carbon emissions 40% by 2030 (relative to 2001)”

Mission
We seek to accelerate regional collaboration to promote advanced energy efficiency and related solutions in homes, buildings, industry, and communities.

Vision
We envision the region's homes, buildings, and communities transformed into efficient, affordable, low-carbon, resilient places to live, work, and play.

Approach
Drive market transformation regionally by fostering collaboration and innovation, developing tools, and disseminating knowledge.
NEEP’s Advanced Efficiency Strategic 2019-2021 Agenda

Advanced Efficiency Leadership Network

Assist the Northeast and Mid-Atlantic region to reduce building sector energy consumption three percent per year and carbon emission 40 percent by 2030 (relative to 2010).

NEEP Products & Services

- Events, Stakeholder Engagement, Learning Exchange
- Regional Market Transformation Strategies
- Research, Progress Tracking, Analysis, Reports, Case Studies
- Best Practice Guidelines, Tools, Technical Assistance and Resource Centers
Allies Network
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am - 9:00 am</td>
<td><strong>BREAKFAST AND NETWORKING</strong></td>
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<tr>
<td>9:00 am - 9:30 am</td>
<td>Welcome/Introduction/Ice Breaker</td>
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<tr>
<td></td>
<td><em>Giselle Procaccianti, NEEP; Todd Baldyga, NYSERDA</em></td>
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<tr>
<td>9:30 am - 10:30 am</td>
<td>Regional SEM Program Overview</td>
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<td><em>Jeff Hare, Cascade; Elizabeth Palchak, VEIC</em></td>
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<tr>
<td>10:30 am - 10:45 am</td>
<td><strong>BREAK</strong></td>
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<tr>
<td>10:45 am - 11:45 am</td>
<td>The SEM Experience: A Customer’s Journey</td>
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<td><em>Kenneth, Scherrieble, Camden Group Inc.</em></td>
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<tr>
<td>11:45 am - 1:00 pm</td>
<td><strong>LUNCH</strong></td>
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<td>1:00 pm - 2:00 pm</td>
<td>National SEM Activities</td>
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<td><em>Pete Langlois, U.S. DOE, Jeff Hare, Cascade</em></td>
</tr>
<tr>
<td>2:00 pm - 2:15 pm</td>
<td><strong>BREAK</strong></td>
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<tr>
<td>2:15 pm - 3:15 pm</td>
<td>Opportunities to Accelerate the SEM Market</td>
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<td><em>Attendee Driven</em></td>
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<td>3:15 pm – 3:30 pm</td>
<td>Debrief and Closing</td>
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<td></td>
<td><em>Giselle Procaccianti, NEEP</em></td>
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1. What was your greatest CEI/SEM accomplishment over the past year?

2. Based on your experience and lessons learned over the past years, what will you do differently re CEI/SEM program implementation next year?
1. **Peer-to-peer exchange**: Usually, very little peer-to-peer exchange occurs naturally in the WWRF sector. Facilitated peer-to-peer exchange was very meaningful to cohort members.

2. **More information from cohort members on the Value Proposition(s) of participating in SEM**. Following are a few examples from current cohort participants:

   - Participating in the SEM program has helped us to realize the impact of right sizing equipment during design and refurbishment.

   - Participating in the SEM program has given the staff the opportunity to interact with and learn from operators in other facilities around the state, leading to new relationships and new ideas for use at our facility.

   - Our original SEM goal was to reduce enough energy at the plant to counteract the impact of the new facilities (800,000 kWh/year or approximately 2.5% of the electricity used at the plant). We exceeded this goal by achieving 5% reduction and are on-track to meet the Climate Action Plan goals.
1. The biggest accomplishment is that we are currently running a third cohort and seeking approval to run additional cohorts through 2025. This was a pilot program initially (approval for 2 cohorts) so the fact that we’ve had enough positive feedback and interest to run additional cohorts is a huge success.

1. What we’re learning is that our SEM program isn’t a one-size fits all. There has been a lot of interest from entities that don’t fit within the parameters of the cohort selection criteria, so we are exploring other ways to reach those customers and get them on the SEM path.
1. Our greatest accomplishment was the successful implementation of CEI with a cohort of hospitals. It was a very specific customer group and allowed us to test our CEI approach and the SEM principles in new ways. We piloted the use of behavioral surveys and webinars to help our customers with their resource commitment to the program, and we modelled continuous learning and improvement.

2. We will continue to expand the internal team so that we can deliver on the principles and promise of CEI, while leveraging internal expertise and relationships across sectors.
1. SEM has been a positive engagement tool for customers and they value their relationship with Cascade.

2. We are currently in the process of determining the savings that Cascade is providing to customers and it is unlikely that we will look to change how the program is implemented next year.
1. Re-designing the SEM process to establish it as ready to go to market.

1. We are still in early stages and still learning about what works for customers and what we have to change. Our efforts going forward will require us to better define the value proposition of SEM and what value it brings. This is different from our RCX, O&M, PRIME, and BSC programs. There is some overlap and it can be confusing for our customers if we don’t differentiate the SEM offering clearly.
New York’s Strategic Energy Management Journey

Todd Baldyga
Director Industrial & Agriculture Market Development
NEEP SEM Collaborative Workshop, Albany NY
November 14, 2019
NYSERDA’s SEM Program Timeline

- Commenced first Industrial Cohort with 8 facilities in September 2017
- Started new cohort each yr since; 7-8 customers each
- Wastewater cohort- Completed its first yr in October 2019
NYSERDA SEM Findings

- Cohort 1: 6,132 MWh (3%), 23,199 MMBtu (6%)
- Cohort 2: 22,761 MWh (5%), 11,167 MMBtu (6%)
- Cohort 1 WRRF: 13,090 MWh, 1,158 MMBtu (4.8%)
- EMA increase: 0.4, 0.45, 0.56 avg factor increase
NYSERDA SEM Challenges

• Recruitment
• Timely Data Collection
• Scheduling (Large State)
• Confidentiality-Value Proposition-Market Transformation
NYSERDA SEM Successes and Testimonials

• “I thought we were doing a good job before, but there were things we weren’t even looking at.”
• “This is a fraction of a Level 2 audit cost. And instead of empowering one guy, you’ve empowered your team. The results could be exponential.”
• “The significant takeaway is that we are looking at energy differently and finding new perspectives to connect with more people. Now people are finally understanding the importance of energy and feeling empowered to help control costs.”
• Thanks to this increased engagement, employee dependent efforts like their recent “shut it off” campaign have been successful. “I would walk through different areas and see the lights were off and the machines weren’t running,” “It was working.”
NY SEM 2020 and Beyond

- Wastewater Cohort 2 end of November
- Submission to Increase Industrial Cohorts, expand into Commercial
- Provide technical support for ISO 50001 Ready
- Pool of SEM providers in NY
NY SEM

- ACEEE Research Paper
  - Persistence of Energy Savings
  - Negative Savings
- Learning from Others - What is working/What isn’t

Thank you!
NEEP
Strategic Energy Management Collaborative Workshop
Northeast Regional Highlights

Jeff Hare
SEM/Aquafficiency Operations Manager
What are you doing?
Where SEM is happening.
Ideal SEM Participant

Motivated to change

Resources to act

Clear roles/responsibilities

Energy opportunities

Facility size
Challenges Encountered

- Awareness of SEM
- Data collection and quality
- Energy performance reporting
- Facility personnel bandwidth
Lessons Learned

- SEM works
- Organic cultural change
- Continued engagement
- Utility program involvement
- Claim savings
Future of SEM - Region

What does the future look like?
Bright, lots of opportunities
How can NEEP/others help to move SEM forward?
Integrate SEM into portfolio
A journey of a thousand miles begins with a single step.

—Lao Tzu
Thank you!

Jeff Hare
SEM/Aquafficiency Operations Manager
Cascade Energy, Inc.
jeff.hare@cascadeenergy.com
801-995-2982
SEM Progress in Vermont and Beyond

Challenges and Successes

Elizabeth Palchak, PhD, Consultant
About VEIC

➢ Over 30 years of enhancing the economic, environmental, and societal benefits of clean and efficient energy use for all people

• Comprehensive approaches, high-impact results
• Energy efficiency, renewable energy, and transportation
• Program design and implementation
• Transformative policy, advocacy, and research

➢ Clients: utilities, government agencies, regulators, foundations, and advocates, colleges and universities
Major Initiatives
Elizabeth Palchak, Ph.D.

- Consultant, specializing in behavioral science and equity issues in the energy efficiency industry
- Expertise in behavioral program design for energy efficiency – working in Wisconsin, Tennessee, Washington D.C., Oregon, Vermont
- Leader in sustainability strategies for colleges and universities
- Supported the development of equity metrics guidance for the energy industry
- Adjunct faculty at the University of Vermont and Vermont Law School
- Lover of all things winter
SEM Progress

• Efficiency Vermont’s Continuous Energy Improvement (CEI) Program
  • Mixed Industrial/Healthcare/Hospitality Cohort
  • Technology focused cohort – Dairy Industry
  • Wastewater Cohort

• SEM Colleges/Universities
VEIC work in SEM outside Vermont

NYSERDA
- wastewater
- industrial

Hawaii Energy
- hospitality – 4 hotels
- employee engagement
VEIC helped to improve current SEM program

Δ SEM is a significant time commitment
Hospitals

- 8 participants
- Wrapping up

+ multiple energy efficiency projects and capital upgrades across participant organizations
  - LED lighting projects converting entire hospital
  - mechanical insulators installed, increasing performance and efficiency
  - #6 fuel to compressed natural gas

+ survey sent to hospital employees found that 97% believed that saving energy is important
  - sent immediately prior to the employee engagement workshop
  - strong employee engagement efforts – Efficiency Vermont tabling, banners
Dairy Industry

• 2018
Δ modeling challenges
  changes in baselines
  unable to claim savings
+ peer-to-peer engagement/learning

Lessons learned
Continued model maintenance is required
Internal Account Management (SEM coaches) for SEM participants should be minimized
Wastewater treatment centers

• 7
• Currently underway
• This is the first year that Efficiency Vermont can officially claim savings
Self Assessment at start of SEM

Energy Management Assessment Score

35%

September 2018

Rated 2 - Systemic
Self Assessment at end of SEM

Energy Management Assessment Score

June 2019

Rated 4 - Integrated
Unique to colleges and universities

Students and faculty  
Multiple campus buildings  
Resource constraints**  
Commitments  
Tracking systems
Changing behavior on campus

Messenger
Incentives
Norms
Defaults
Salience
Priming
Affect
Commitments
Ego

https://www.bi.team/publications/mindspace/
SEM for Colleges and Universities

- Learning with other colleges and universities
- Workshops and webinars
- Student internships and competitions
- In-person training for staff
- Modeling and analysis
- Alignment with STARS credits
SEM in STARS

Based on review of STARS technical manual V2.2 Jan 2019

209 total possible points

39 points achievable thru SEM

16% STARS score are supported by SEM and applicable to full implementation of ISO50001 across a campus

STARS 2.2

Technical Manual
The definitive guide to STARS credits and reporting requirements (v.2.2, published June 2019).

Download the Manual
SEM for Colleges and Universities

Continuous Energy Improvement with Efficiency Vermont
5 commitments/2 outstanding opportunities
internship for students**
custom approaches/high touch

SEM with DCSEU
year-long cohort with 8 schools to provide support
pitching SEM to schools individually
workforce development and/or internships
Next steps

Customize as much as possible
Develop an employee engagement module that includes students
Individual offerings versus full program
  Treasure hunts
  Behavior competitions
Thank you!

Elizabeth Palchak
epalchak@veic.org
Ken Scherrieble
President

CAMDEN Group
Safety Moment
• Contract Operations Firm
• Operating approximately 30 Drinking Water and Water Resource Recovery Facilities in NY State
• Entered a Public Private Partnership with the City of Oswego in February of 2016
• Clients are always looking for ways to save operating cost and provide better asset management solutions.
• 3 largest costs in operating these facilities
  • People
  • Power
  • Chemicals
City of Oswego
West Side Water Resource Recovery Facility
STRATEGIC ENERGY MANAGEMENT Process
City of Oswego Energy Team

William J. Barlow Jr., Mayor
Kenneth Scherrieble, President
Bhavin Bhayani, PhD. Energy Champion
Timothy Woodard, Energy Team
Kevin White, Energy Team
Elizabeth Schoolcraft, Energy Team
Power

• According to a 2008 NYSERDA study
  • Power generally accounts for 25% - 40% of a municipal Water Resource Recovery facility budget
  • For Drinking Water facilities it can be as much as 80% of the budget
  • Nationally, these facilities account for 35% of a municipalities energy budget
  • Drinking Water and Wastewater represents 2% of the Nations Electrical usage adding 45 million tons of greenhouse gasses annually. (US EPA, 2016)
Facility Overview

- Serves the westside of Oswego including the college.
- Activated Sludge utilizing Contact Stabilization
- Average Daily Flow: 3.57 MGD
- Design Daily Flow: 4.0 MGD
- Maximum Wet Weather Flow: 12.0 MGD
Reasons for joining the SEM program

• Understand the strengths and weaknesses of current management practices
• Identify capital and process improvements
• Learn about new and advanced technologies
• Increasing staff energy IQ
Electric as percentage of Budget

2018 Operating Budget      $1,462,437
2018 Electric Costs         $  102,305
% of Operating Budget       7%       Well below the national average 25-40%
kWh per year                1,454,310
$ per kWh                    $0.07    per kWh. Including Demand Charges
Max kW                       292.6
Motivational Slide

Feeling pretty good about our 7%. Can we get even better?
Project Execution - Partnership

Strategic Energy Management – Sponsored by NYSERDA

Cascade Energy
- Working Partner/Mentor
- Workshops
- Liaison for different activities
  - Conference calls
  - Treasure Hunt
    - Other facilities (peers)
    - Fellow participants

VEIC
- Developing an energy consumption model
- Providing acquisition kit

Capital Projects

National Grid
- Provide rebates/credits
- Provide sanity check on projects

In-house activities
- Data Collection
  - Electrical consumption
  - Counting of fixtures
- Process Changes
- Monthly meetings
- Education
- In house presentations
- Team members
- Staff assistance and buy in
Coaching

• Cascade Energy
  • Provide mentorship in the areas of Employee engagement
  • 6 workshops and 2 webinars covering different areas

• VEIC
  • Provided use of the data acquisition devices and software
  • Energy modeling
  • Identify capital and process improvements
  • Learn about new and advanced technologies
The Process

• Description of the process/roadmap
  • (6) workshops
    • Program Overview (07/24/2018)
    • Saving Energy without Capital Improvements (08/22/2018)
    • Gaining Momentum (10/16/2018)
    • New Technology & Making SEM stick (12/04/2018)
    • Networking, Education, Incentives & Rewards, Communications (04/09/2019)
    • Final (10/16/2019)
  • (1) Treasure Hunt (09/24/2018)
What do you do when you get stuck!
Treasure Hunt Takeaways

• Outside Lights on During the day
• Large Exhaust Blower for odor control on but not doing much
• Old electric water heaters for small volume of water
• Bad gas Pressure Reducing valve
• Should benchmark each blower (amp draw)
• Are solids optimized in the Aeration tanks
• Is solids removal being optimized
• LED lighting
Obstacles

• Employee Motivation
  • Small gems and quick wins while planning for long term strategic projects
  • Providing regular updates on project progress and potential savings
  • Employee recognition for their work

• Capital Projects
  • Finding the vendors that can supply certified products
  • Providing the correct head count of electrical fixtures (506)
  • Extensive paperwork to be completed for submission to National grid for credit/rebates
SEM Journey – Model and metrics

![Actual Power, Modeled Power and Savings](image)

Baseline
Why is blower #2 most efficient?

<table>
<thead>
<tr>
<th>Blower</th>
<th>Amps</th>
<th>Min</th>
<th>Max</th>
<th>Average</th>
<th>STDEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blower 1</td>
<td></td>
<td>71.35</td>
<td>93.99</td>
<td>84.46</td>
<td>0.11</td>
</tr>
<tr>
<td>Blower 2</td>
<td><strong>73.69</strong></td>
<td>81.75</td>
<td></td>
<td><strong>75.91</strong></td>
<td>0.19</td>
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<tr>
<td>Blower 3</td>
<td>79.87</td>
<td>93.32</td>
<td></td>
<td>83.55</td>
<td>0.16</td>
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SEM Journey – Lessons learned

• There are small but quick gems everywhere!
• Incremental changes can result in huge savings
• Future strategic capital projects should consider energy efficiency
• Quick wins are essential to gain and keep the momentum and commitment for bigger projects
• Take advantage of incentives from the utility!
SEM Journey – Year 1 actions taken

• Increased staff awareness and training
  • TURN OFF THE LIGHTS
  • Set timers or photo cells
  • Shut down odor control that is not doing anything!

• HVAC ($800,000 project going to bid this December)

• Blower measurement and optimization
  • D.O. Profiling
  • Improved control of Dissolved Oxygen in the Contact Tank
  • $1.2 Million SCADA and DO analysis project

• Improved solid waste management and process control improvements
  • Estimated savings of 61,300 kWh and $4,100 (4% Electrical savings)
## Baseline 2018 January - October

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<tr>
<th>Description</th>
<th>Value</th>
<th>Unit</th>
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<tr>
<td>Million Gallons Treated</td>
<td>923.6</td>
<td>MG</td>
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<tr>
<td>kW Used</td>
<td>1,252,691</td>
<td>kW</td>
</tr>
<tr>
<td>kw/MG</td>
<td>1,356.31</td>
<td>kW/MG</td>
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<tr>
<td>$/Kw</td>
<td>$0.07</td>
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<td>$/MG</td>
<td>$90.52</td>
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January – October 2019

<table>
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<th>Metric</th>
<th>Value</th>
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<tr>
<td>Million Gallons Treated</td>
<td>943.56</td>
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<tr>
<td>kW Used</td>
<td>1,110,800</td>
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<tr>
<td>kw/MG</td>
<td>1,177.24</td>
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<tr>
<td>$/kw</td>
<td>$0.07</td>
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<td>$/MG</td>
<td>$83.57</td>
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Percent difference Tracking to end of July

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<th>2019</th>
<th>Difference</th>
<th>%</th>
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<tr>
<td>$/MG</td>
<td>$90.52</td>
<td>$83.57</td>
<td>$6.95</td>
<td>7.7%</td>
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OUR GOAL

5% REDUCTION IN ELECTRIC CONSUMPTION

3.57 MGD x 365 days = 1,303.05 MG x $6.95/MG = $9,056.20 or 7.7% in year 1
SEM Journey – Year 2 actions planned

- Continue engaging and training staff
- Implement LED lighting project
- Implement full time DO monitoring of aeration blowers
- Invest in blowers capable of greater turndown
- Further optimize biomass handling
LED Lighting

• Replace 506 fixtures with LED lighting
• Cost of fixtures $10,595. In house labor
• Annual Savings $7,213
• Payback before rebates 1.5 years
• Savings is another 7% of our annual electric spend!
• $9,056.20 (process changes) + $7,213 (LED) = $16,269.20 ($102,305) 15.9% reduction over 2 years!
Progress Report- Energy Management Assessment

Start of the Program

Program Element | Primary Assessment Point | Score |
--- | --- | --- |
COMMITMENT | Policy & Goals | 2.00 |
| Resources | 3.25 |
| Communication | 1.50 |
PLANNING AND IMPLEMENTATION | Project Management | 2.00 |
| Employee Engagement | 1.50 |
| Reassessment | 1.00 |
MEASURING AND REPORTING | Data Collection & Availability | 1.00 |
| Analysis | 1.00 |
| Reporting | 1.25 |

Year 1 Progress

Program Element | Primary Assessment Point | Score |
--- | --- | --- |
COMMITMENT | Policy & Goals | 4.00 |
| Resources | 4.25 |
| Communication | 4.00 |
PLANNING AND IMPLEMENTATION | Project Management | 3.50 |
| Employee Engagement | 3.50 |
| Reassessment | 4.25 |
MEASURING AND REPORTING | Data Collection & Availability | 3.5 |
| Analysis | 4.00 |
| Reporting | 3.25 |
Technology keeps getting more efficient

Blowers
Motors
HVAC
Lights
VFD’s
All electric devices are getting more efficient every day

Your SEM should
• Optimize what you currently have
• Operate as efficiently as possible (top of mind for staff)
• When replacing see if you can upgrade (get the latest tech)
• Make Energy Efficiency a part of all future capital projects
Technology Marches on
Conclusion

• Create an SEM team (internal and external)
• Keep your team informed of their progress and reward progress
• Look for hidden gems and ways to cut electricity without purchasing new equipment
• Look at configuration of piping, air lines etc.
  • Reduce Friction losses! Friction loss means increased electricity
• When replacing equipment what is long term payback of energy efficient equipment (IF ITS MORE THAN 10 YEARS OLD, THERE IS PROBABLY A MORE EFFICIENT VERSION ON THE MARKET)
• Make sure project team, including engineers are on board with energy efficiency when designing long term capital plans.
• Set an efficiency goal annually and strive to meet or beat it
THANK YOU

City of Oswego
Water Resource Recovery Facility
STRATEGIC ENERGY MANAGEMENT Process

Ken Scherrieble
Time for lunch
50001 Ready Update
November 14, 2019

Pete Langlois
ISO 50001 Programs Manager
pete.langlois@ee.doe.gov
DOE’s Spectrum Approach to ISO 50001 Adoption

DOE has developed an energy management continuum that begins with market-driven business culture and culminates in verified savings.

50001 Ready:
Recognition for ISO 50001 conformance using guidance in DOE’s 50001 Ready Navigator tool

Superior Energy Performance 50001™ (SEP 50001™):
Recognition for ISO 50001 certification and 3rd party verification of energy performance improvements

- Self attested
- Top down energy data results
- No cost and no audit required
- DOE recognition, not certification, for established 50001 EnMS in place

- ISO 50001 certification required
- Top down and bottom up energy calculations
- Audit required at cost
- Provides 3rd party verification of savings from 50001

Guidance / Training / Management Tools / Data Analysis / Business Case / Success Stories / Recognition / Promotion
1. Implement ISO 50001 principles
   Complete 25 Tasks in US DOE’s 50001 Ready Navigator free, self-guided online tool

2. Present energy performance
   Submit energy performance data. May use EPA’s Portfolio Manager or DOE’s EnPI Lite

3. Self-attest to 50001 Ready
   Sign-off by management of 50001 Ready implementation and commitment
50001 Ready Program History

• Why: Expand ISO 50001 adoption efforts to overcome common barriers
  – Cost of certification
  – Lack of market demand and reputation benefits
  – Confusion on how to begin and proceed
• What: Create a “dynamic” e-Guide to allow teams to understand and manage the process, and be rewarded when they put the EnMS in place

• 2016-17: 50001 Ready program and software development
• May 2017: Navigator software and program go live online
• June 2017: First facility recognized (Four Seasons Produce)
• April/May 2018: In-plant training workshops, utility network calls begin
• May 2018: Environmental Leader Product of the Year award
• August 2018: ISO 50001 standard is revised
• September 2018: 1000\textsuperscript{th} Navigator user account created
• November 2018: Multi-site functionality added (Navigator 2.0)
• May 2019: \textbf{Partner platform} functionality added
• 2018-19: LOIs and MOUs with Saudi Arabia, Canada, and Mexico
• \textit{December 2019: Navigator 3.0}

• Currently:
  – 52 recognized facilities / 994 system implementation projects / 2,053 users
  – Utilities and partners engaged with the partner platform:
The 50001 Ready program is designed to be used by program administrators and implementers in whatever way fits their goals. A Wide Spectrum of Utility Programs with varying needs:

- **DIY**
  - Offer 50001 Ready tools to customers as a program they can implement on their own

- **Train**
  - Offer training to customers on how to use 50001 Ready tools

- **Supplement**
  - Supplement existing custom or O&M programs with 50001 Ready tools

- **SEM**
  - Develop and offer an SEM Program using 50001 Ready tools and reference designs
Utilities and Implementers: Increase SEM Participation

• When facilities self attest to the completion of 50001 Ready, DOE helps to promote the success of the facility, implementer, and utility through project showcases and implementer case studies
What Can You Do With the Partner Platform?

1. Organize multiple facilities into cohorts.

Allow individuals from any organization access to track progress and provide custom guidance.

2. Use 50001 Ready logo on your website and materials

3. Your logo on Navigator and recognition certificate

4. Add custom guidance for each task
SEM Partner: Leidos

Operates SEM programs for Wisconsin Focus on Energy, PG&E, Ameren Illinois, and Detroit Edison

  - Certified coaches
  - Peer Network

“Our bottom line is that we need to produce energy savings for the program, and SEM with 50001 Ready is a great way to get at those savings without costly capital improvements. This energy management approach delivers great benefits to our customers – particularly those that have already captured the easiest energy savings.”
  - Tim Dantoin, Engineering Manager, Leidos

Focus on Energy, Wisconsin’s utility-funded efficiency program, introduced 50001 Ready to this Neenah specialty paper facility
SEM Partner: Strategic Energy Group (SEG)

Works with many utilities across North America including TVA, PG&E, PPL Electric Utilities, and Idaho Power

- **TVA Energy Right Solutions program:** SEG integrated 50001 Ready and the Navigator tool midway through its initial two-year SEM offering, earlier on in second cohort

- **Idaho:** Guided several school districts served by Idaho Power to 50001 Ready recognition

“It’s all about organizational change and 50001 Ready provides a pathway and annual gap analysis for an energy management process. With a structured approach like SEM and 50001 Ready, we have experienced a savings range of five to twenty-two percent net of capital.”

— Ed Birch, Principal, Strategic Energy Group
50001 READY FOR UTILITIES, IMPLEMENTERS, AND ENERGY SERVICE PROVIDERS

Jump to: Overview | Partner Program | Program Design Resources

OVERVIEW

50001 Ready is an approach for facilities to establish a culture of continual energy improvement in conformance with the ISO 50001 voluntary standard for energy management systems in industrial, commercial, and institutional facilities. The standard is complementary 50001 Ready is an approach for facilities to establish a culture of continual energy improvement in conformance with the ISO 50001 voluntary standard for energy management systems in industrial, commercial, and institutional facilities. The standard is complementary to other professional benchmarks and certifications, such as ENERGY STAR® or LEED; implementation of an ISO 50001 structure can improve a facility’s performance within other energy commitments.

The 50001 Ready program offers your customers:

1. A self-paced, no cost, do-it-yourself approach to implement ISO 50001 practices without certification
2. Improved guidance to identify facility-wide energy use and develop action plans for performance improvement

50001 Ready Utility Network Series: Join DOE’s forum for utilities, public benefit administrators (PBA), third-party implementers, consultants, and regulators who share an interest in energy management systems (EnMS) including and ISO 50001 and DOE’s 50001 Ready program.

Case Studies: Find out how
Visit the 50001 Ready website at energy.gov/50001Ready

- Download info sheets and FAQs
- Find links to the Navigator and EnPI Lite
- See 50001 Ready recognized facilities
- Read case studies and additional resources
- Read more about ISO 50001 and related programs

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Updates clarify expectations for organizations committed to ISO 50001

- **Top management**: expanded role and description of responsibilities
- **Continual energy performance improvement**: strengthened demonstration and emphasis on measurable benefits
- **Types of energy** within the scope and boundaries cannot be excluded
- **Topics with new clarifying details**:
  - Energy review, energy performance indicators and associated energy baselines
  - Energy data collection plan (previously the energy management plan)
  - Normalization for variables that affect performance
- **Reorganized content and user friendliness**
  - Adopts ISO’s new “high-level structure” that aligns all management system standards for consistency and greater cross-discipline integration

*ISO 50001:2011 to 2018 Transition Guide* Created by the DOE, LBNL, and the US TAG to navigate this revision including:

- Section by section comparison of changes
- Addition of High Level Structure (HLS) as found in other popular ISO standards (14001 / 9001)
Utility/Implementer Relationship: Who Should Be a Partner?

- **Pop Quiz!**
  - ABC Utility has an SEM program and wants to use Ready!
  - ABC Utility has two SEM cohorts, one run by Implementer A and the other by Implementer B
  - Implementer A is already a 50001 Ready Partner with DOE
  - Implementer B isn’t a 50001 Ready Partner

- **Questions:**
  - Should ABC Utility be the Partner?
  - Does Implementer A have to give up their Partnership to work under ABC Utility’s Partnership?
  - Why isn’t Implementer B a Partner already?

- **Answer:** The Partner Platform allows for all to be Partners and custom manage cohorts and co-branding so any utility/implementer(s) relationship works!
To learn more about the 50001 Ready Partner Program, visit the Better Buildings Solutions website at: Energy.gov/50001Ready “50001 Ready for Program Administrators & Implementers” "DOE’S 50001 Ready Partner Program" section at top of page

https://betterbuildingssolutioncenter.energy.gov/iso-50001/50001Ready/50001-ready-program-utilities-admin-implementers

To sign up, click the link to fill out a Partner Requisition form
Link found on the Better Building Solution site or [https://navigator.lbl.gov/partnerEnrollmentForm](https://navigator.lbl.gov/partnerEnrollmentForm)

*You’ll want to set up an account in the Navigator first.*

Just complete this form and the 50001 Ready Help Desk will contact you with next steps!
Partner Dashboard

Banner indicates your location within the tool

Add or Update General Tips

Add or Update Cohort Tips

Track projects, task progress, cohort assignments and notes
Northeast Strategic Energy Management Collaborative Workshop
Northeast Regional Highlights

Jeff Hare
SEM/Aquafficiency Operations Manager
Let’s talk turkey
Our SEM Experience

- Programs: 18
- Cohorts: 37
- Workshops: 222
- SEM participants via utility programs: 295
- Industrial sites served directly: 425
- Participants recruited: 213
What’s New?
Natural Gas
Flex SEM

**Phases**
- **Year 1**
  - O&M Projects
  - O&M savings, deep project scoping, activated customers
- **Year 2**
  - Capital Projects
  - Completed capital projects
- **Year 3**
  - SEM Principles
  - Energy teams, policy, goals, and tracking; more projects
  - Persistent SEM
  - Savings persistence, customer satisfaction; more projects

**Outcomes**
- **Year 1**
  - O&M savings, deep project scoping, activated customers
- **Year 2**
  - Completed capital projects
- **Year 3**
  - Energy teams, policy, goals, and tracking; more projects
  - Savings persistence, customer satisfaction; more projects
California Independent System Operator
Multiple Utility Engagements
Exceeded energy savings targets

Built trust with utilities

Expand into new sites
Sole Industry SEM
The horizon looks great for SEM
Thank you!

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TIME FOR A BREAK
Thank you to our sponsors

Thank you to our Allies
• There is a need to understand that state barriers are different from customer barriers. Important to find ways to overcome both.

• Messaging to customers must be very clear:
  ➢ Language that is palatable to customers should be used.
  ➢ Customers should understand the value of SEM programs and not just potential claimable savings.

• Find ways to engage facilities that are on the fence about SEM – introduce them to activities like treasure hunts, etc.

• Leverage benefits that come from teaming up utilities – sharing best practices, lessons learned, and case studies.
More Takeaways From 2019 Northeast SEM Collaborative

• There is a need to understand differences across states in identifying barriers to energy savings in the industrial, commercial and municipal sectors.
  ➢ Understand problems on a state by state basis, and tailor solutions accordingly.
  ➢ Accept that SEM is not always the solution, especially during the nascent stages of finding solutions – sometimes long-term engagement is required.

• Leverage positive outcomes that can be recognized from customers with multiple facilities.
1. How can we share more successes/challenges among Northeast programs?

2. What are reasons customers do not enroll in the program? How can we address them?

3. How can we engage facilities that are on the fence about SEM? (introduce them to activities like treasure hunts, etc.)

4. What are some SEM state barriers? Customer barriers? What are some ways in which we can overcome both?
Thank You!

For more information, contact:

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