

Efficiency  
Vermont



# Northeast Strategic Energy Management Collaborative Workshop

CO-HOSTS

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# Big thanks to our Host/Sponsor



U.S. DEPARTMENT OF  
**ENERGY**

Energy Efficiency &  
Renewable Energy

**Schneider**  
Electric





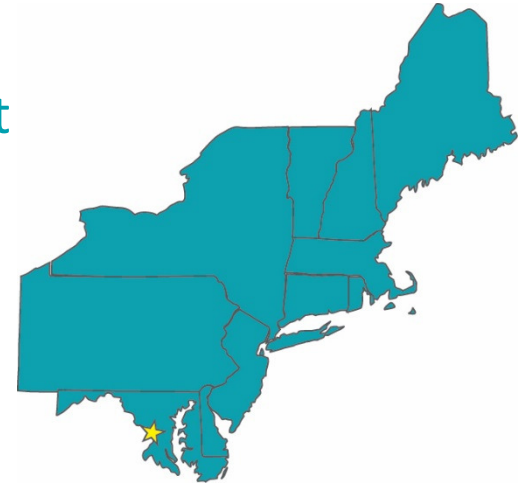
# About NEEP

## Mission

Accelerate energy efficiency as an essential part of demand-side solutions that enable a sustainable regional energy system

## Approach

Overcome barriers and transform markets via ***Collaboration, Education and Enterprise***



## Vision

Region embraces **next generation energy efficiency** as a core strategy to meet energy needs in a carbon-constrained world

*One of six regional energy efficiency organizations (REEOs) funded by the US Department of Energy (US DOE) to link regions to US DOE guidance, products and programs*



# Objectives of today's Workshop

1. Share experiences/expertise related to energy efficiency program planning and delivery of SEM
2. Address outstanding questions related to SEM generally and program delivery of SEM more specifically
3. Foster growth of regional SEM infrastructure



# How did we get here?

Building on lots of existing efforts/groups working to drive adoption of improved energy management practices in the Industrial and large Commercial sectors





# Industry SEM Activity

- Growth of ISO 50001 energy management certification
- Growing awareness that SEM in Industrial and large commercial represents opportunity for new energy savings
- Growing SEM service industry





# National SEM Activity

- DOE's Advanced Manufacturing Office
- CEE SEM Working Group
- Northwest SEM Collaborative
- ACEEE Industrial Summer Study
  - Dedicated track for SEM





# Regional SEM Activity

- Increasing number of programs and states exploring expanded SEM offerings
- Northeast Discussion group
- NEEP working in support of AMO
  - 2015 SEM Workshop







# Today's Agenda

- Session 1- Level setting for Strategic Energy Management
- Session 2- Sharing experiences on SEM planning and implementation (Break included)
- Lunch (Speaker)
- Session 3- Drilling into specific SEM questions
- Break
- Session 4- Tools and resources to support SEM
- Debrief/Wrap up





# Key Questions

- Why was your program attracted to SEM?
- What delivery models do you use/plan to use? What are the specific mechanics of this model?
- How much does it cost to start up an SEM program?
- How much savings can be expected from SEM offerings?
- Do the energy savings justify the investment?
- How have programs evolved/blended their current industrial offerings with SEM programs?
- Lessons Learned: What is working and what is not?
- How did you get started in your planning?



# Digging deeper

1. Sub-metering
2. Model Management/Level of granularity
3. Examples of customer SEM experiences
4. Customer behavior change/staying relevant to existing site systems
5. “How to” implementation guidance
6. Barriers to EE program incorporation
7. Set up costs
8. Cohorts- Pros/Cons
9. Length of necessary engagement
10. Best practices for incorporating SEM w existing programs



# Workshop debrief

- Observations?
- What was compelling?
- What was not so compelling?
- Insights?
- Ways forward? ...individually, collectively?





# Collaborative Vehicles

- Northeast SEM Discussion Group
- CEE SEM Working Group
- ACEEE Summer Study
- DOE's Better Buildings Summit





# THANK YOU!

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# STRATEGIC ENERGY MANAGEMENT

Emerging opportunity for EE Programs to achieve savings in the Commercial and Industrial Sector



**SEM is the holistic approach to managing energy use in industrial facilities in order to continuously improve energy performance and achieve energy, cost and carbon savings over the long term**

**SEM focuses on business practice change from senior management through shop floor staff, improving organizational culture to reduce energy waste and improve energy productivity<sup>1</sup>**

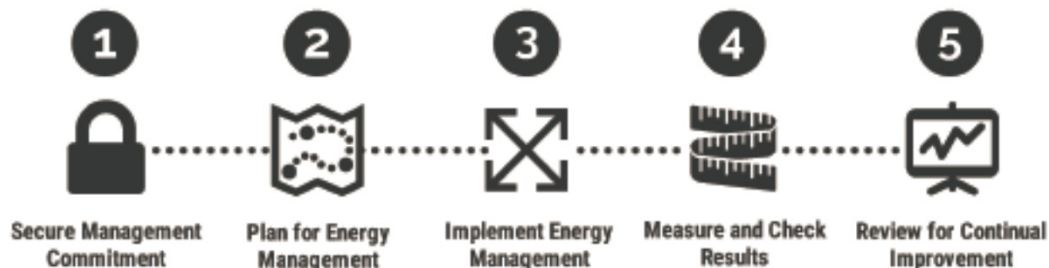


*"SEM fundamentally shifts the dynamic of energy efficiency initiatives—from energy efficiency programs promoting measures to companies actively seeking further savings opportunities."*

*—2015 ACEEE paper, When does Energy Management become Strategic?*

## SEM CORE ELEMENTS

Strategic Energy Management generally follows the Plan-Do-Check-Act model. Businesses' level of SEM Implementation falls on a continuum, with customers ranging in both their breadth and depth of implementing core elements of SEM. Core elements include:



<sup>1</sup>—CEE Strategic Energy Management, Minimum Elements, [https://library.cee.org/sites/default/files/library/12283/SEM\\_Minimum\\_Elements.pdf](https://library.cee.org/sites/default/files/library/12283/SEM_Minimum_Elements.pdf)



# STRATEGIC ENERGY MANAGEMENT



## BENEFITS

### TO CUSTOMERS

- Improved profits
- Reduced energy costs
- Improved processes
- Reduced emissions
- Reduced risk to energy price fluctuations

### TO EE PROGRAMS




- Pathway to achieve energy savings via Operations and maintenance (O&M)
- Increase capital projects
- Enhanced verification of savings
- Foster strong/enduring customer relationships
- SEM creates predictable pipeline of projects

Efficiency Vermont, Bonneville Power Authority, Energy Trust of Oregon, are just a few of the energy efficiency programs offering SEM programs today.

## IMPLEMENTATION APPROACHES

-  TREASURE HUNTS
-  COHORTS
-  ENERGY MANAGERS
-  TECHNICAL ASSISTANCE

## SEM

-  Energy Trust of Oregon achieved over 44 million kWh of savings in 2013
-  Bonneville Power Authority saw participating customers reduce energy 1 around 2% the first year and 5.5% by the fourth year
-  Annual costs associated with implementing Energy Trust of Oregon's SEM programs to C&I customers have ranged from \$.03/kWh to \$.23/kWh depending on program maturity, but average \$.06/kWh over five years

## MORE INFORMATION

DOE's E-Guide includes comprehensive tools and resources to assist programs and customers in their adoption of SEM.  
[https://ecenter.ee.doe.gov/\\_layouts/ecenter/ppc/eguide/home.aspx](https://ecenter.ee.doe.gov/_layouts/ecenter/ppc/eguide/home.aspx)