Energy Program
WASHINGTON STATE UNIVERSITY

SEM for RCMs

Commercial Strategic Energy Management for Resource Conservation Managers

Karen Janowitz
WSU Energy Program

Patrick Urain
Tacoma Power

Seth McKinney
Pierce County

April 24, 2019

Thank You to Our Funder

This project was supported by Grant No. DE-EE0008296 awarded by the U.S. Department of Energy, Energy Efficiency & Renewable Energy Office. Points of view in this document are those of the author and do not necessarily represent the official position or policies of the U.S. Department of Energy, Energy Efficiency & Renewable Energy Office.

Grant funds are administered by the Washington State Energy Office, Washington State Dept. of Commerce.

Webinar Objectives

Energy Program
WASHINGTON STATE UNIVERSITY

- Understand Commercial Strategic Energy Management
- Relationship of CSEM and RCM
- CSEM Advantages
- PNW Utilities with CSEM Programs
- Tacoma Power CSEM from a utility perspective
- Pierce County CSEM from an energy champion perspective

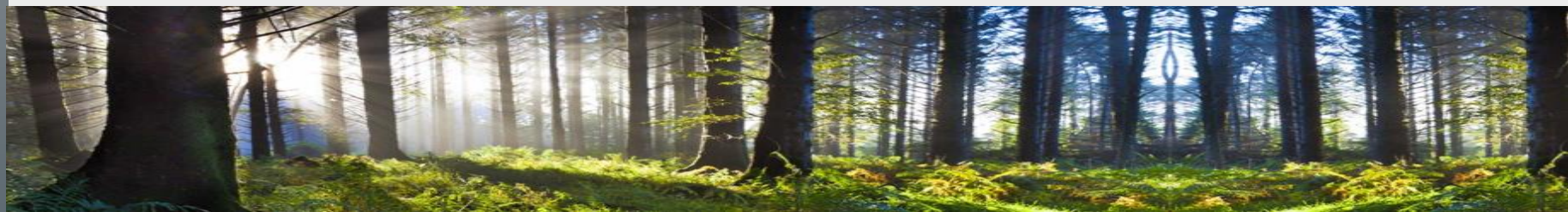
What is SEM?

Energy Program
WASHINGTON STATE UNIVERSITY

Strategic Energy Management *is a self-sustaining energy management system based on the well-established principles of process management and the* ***Plan-Do-Check-Act*** *process of continual improvement. SEM helps businesses permanently embed long-term energy management practices into the key areas of their operations: people, manufacturing systems, measurement, and organizational structure.*
–NEEA SEMHUB

Strategic energy management is a long-term approach to energy efficiency that includes setting goals, tracking progress, and reporting results.
-DOE

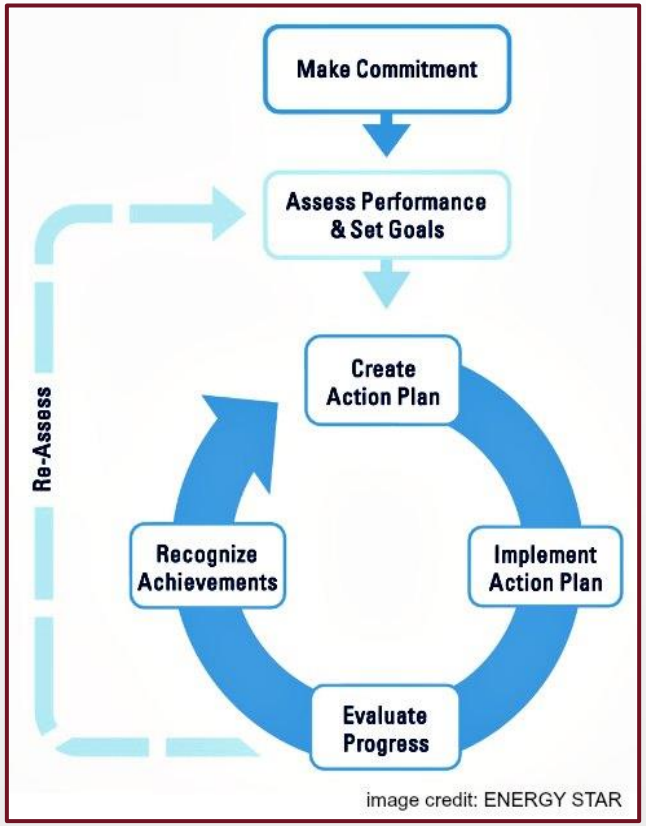
SEM is a holistic approach to energy management

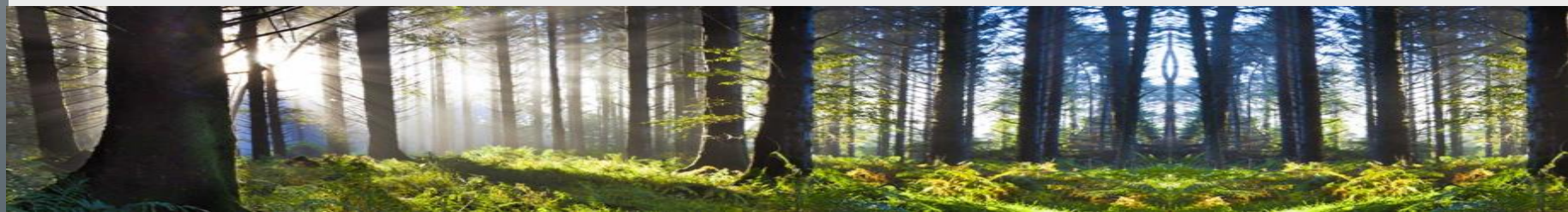


What is SEM?

Energy Program
WASHINGTON STATE UNIVERSITY

Energy Star's Guidelines for energy management, a commonly referenced process for implementing SEM



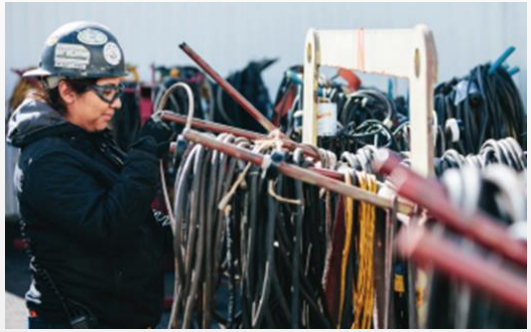


Is SEM a Proven Concept?

Energy Program
WASHINGTON STATE UNIVERSITY

Commercial Strategic Energy Management (CSEM)

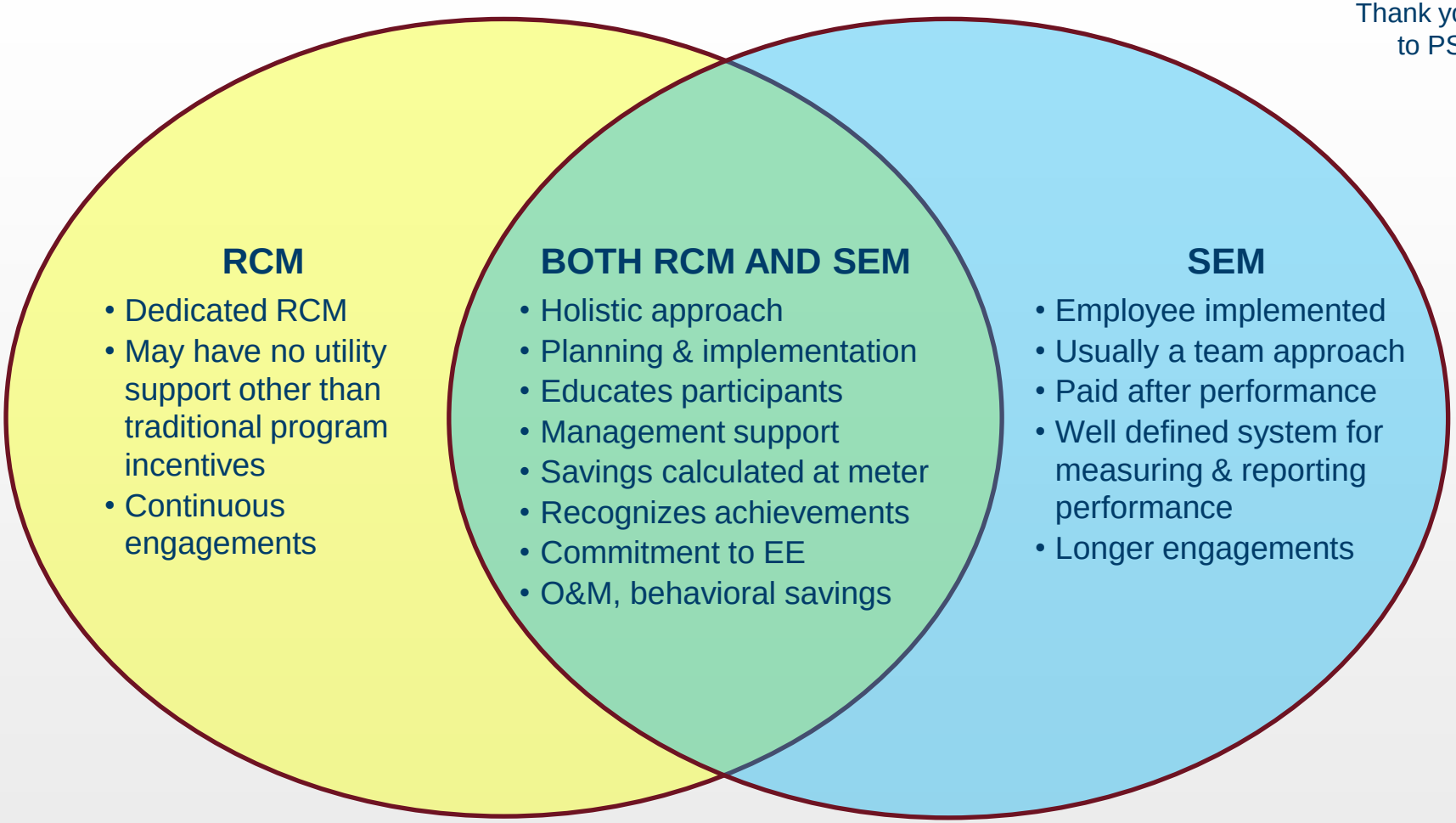
- Not a brand new concept - SEM started as the industrial sector
- Many successful utility SEM programs in the Pacific Northwest and British Columbia
- Has been around about 20 years
- Now focusing on Commercial Strategic Energy Management (CSEM)
- Utility incentive program that is NOT traditional widget-based
- CSEM approach very similar to RCM approach



Intersection of SEM and RCM

Energy Program
WASHINGTON STATE UNIVERSITY

Thank you to PSE



Pay for Performance: utility incentive program that targets deep retrofits and capital projects, usually contractor implemented. Incentive payments are paid over time based on whole building energy savings measured at the electric meter

CSEM Advantages

Energy Program
WASHINGTON STATE UNIVERSITY

1. CSEM develops and taps the skills of your own staff to manage energy for long-term energy savings.

2. CSEM is usually delivered through a cohort—a group of diverse agencies providing opportunities for peer-to-peer learning.

3. CSEM Provides tailored energy management or “Scalable Strategic Energy Management”

4. CSEM helps agencies meet regulatory requirements of Environmental Action Plan; Ex. Carbon reduction goals, kWh reduction goals, etc.

5. CSEM incentives may be available for Therms, kWh, Cu. Ft. H2O, etc. Incentives vary by utility.

6. CSEM is flexible - CSEM is designed to meet participants where they’re at.

CSEM Programs in the NW

Energy Program
Washington State University

- Tacoma Power – In collaboration with BPA
- Clark County PUD – In collaboration with BPA
- Bonneville Power Administration (BPA) – Implementer for smaller NW utilities SEM programs
- Puget Sound Energy – Long running program
- Seattle City Light – Pay for Performance program
- Energy Trust of Oregon
- BC Hydro

Program requirements, process, and incentives vary by utility

Tacoma Power CSEM Pilot

Energy Program
Washington State University

- Participation is FREE!
- Baseline 1 million kWh usage annually.
- Participate for two years.
- Support an energy champion and team.
- Engage in activities and projects that will reduce energy consumption.
- Share learning experiences with other participants by presenting to your cohort.

Tacoma Power CSEM Pilot

Energy Program
Washington State University

Tacoma Power Commercial Strategic Energy Management (CSEM) Program Basics

1. Identify an energy champion and executive sponsor in your business.
2. Create an energy team. (Mindset is important!)
3. Conduct an energy management assessment (EMA).
4. Conduct building scan to develop opportunity register.
5. Establish an energy strategy for your facilities.
6. Develop a energy policy or mission statement.
7. Identify and prioritize activities and projects that reduce energy use.
8. Celebrate the savings!

Tacoma Power CSEM

Energy Program
Washington State University

Cohort 1 Participants

- Tacoma Power
- City of Tacoma
- Tacoma School District
- Pierce County
- Bethel School District
- University Place School District
- Bates Technical College

Tacoma Power SEM Program Features

Energy Program
WASHINGTON STATE UNIVERSITY

Cohort 1 Program Characteristics

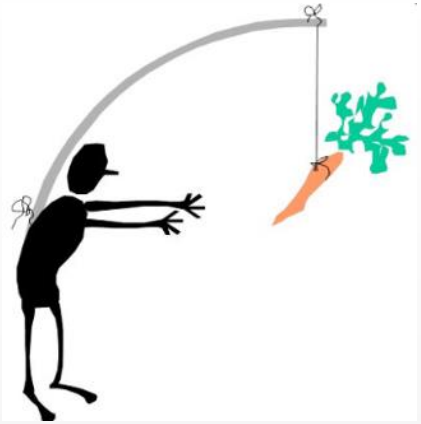
- Pilot program in collaboration with BPA
- Approach to SEM
  - Cohort based approach
  - All public agencies
- Program Implementer (Contractor)
  - Program strategic planning (the day-to-day)
  - Statistical reporting (monthly performance Reports)
  - Specific customer engagement strategies

Building Scan
City of Tacoma

Tacoma power CSEM Program Incentives

Energy Program
Washington State University

Three primary types of incentives



- **Milestone Incentives**
  1. Build energy team and meet twice
  2. Implement new energy policy
  3. Conduct survey
  4. Paid in year 1 only

Tied to the achievement of a specific objective

- **Performance Incentives**
  1. Paid annually for kWh savings
  2. Tacoma Power CSEM $0.025 per kWh

A reward for achieving pre-defined desirable outcomes

- **High Achievers Performance Incentive (HAP)**
  1. Paid annually for kWh savings
  2. Performance incentives for energy savings which exceed the contract kWh limit.

A reward for achieving outcomes that exceed the annual Performance Incentive.

Tacoma Power CSEM Program

Energy Program
WASHINGTON STATE UNIVERSITY

Cohort 1 Characteristics (Continued)

- 5 of 7 participants in the Tacoma Power pilot program;
  - Have established RCM
  - Identified RCM as the Energy Champion

- RCMs may build the foundation for CSEM more quickly.
  - Volunteer vs. voluntold
  - Level of technical expertise
  - Customer engagement experience
  - Understand customer drivers and motivations specific to their organization

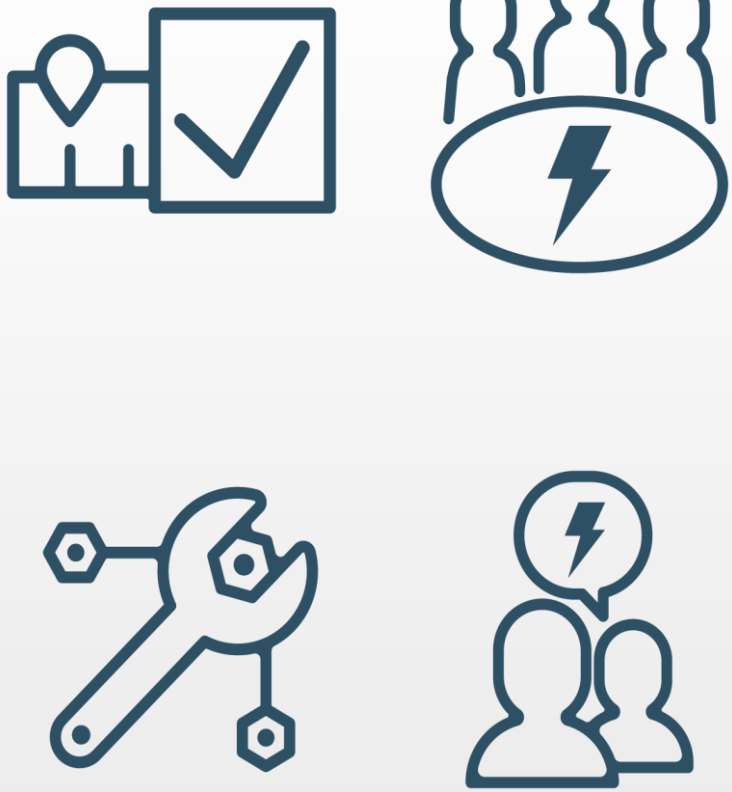
TACOMA POWER
CSEM Workshop #3

What's Working?

- Working well
  - Cohort based approach
  - Shared learning perspective
    - Workshops
    - Peer to peer calls
  - Milestone incentive – carrot
- Not so well
  - RCM vs no-RCM (bigger learning curve)
  - Understanding energy modeling
  - Common language interpretation
    - What is a Policy?
    - What is a Survey?
    - Be specific!

Leveraging the SEM Curriculum

- Organizational Structure
- Engagement – Employee, Executive
- Opportunities – Operations, maintenance and behavioral
- Metrics – Set goals, develop KPIs



What are our challenges?

- Engaging people
- Getting people to change behaviors
- Measuring impacts
- Dealing with competing priorities

What are our challenges?

- Aging building stock
- Lots of deferred maintenance (really, a lot)
- Navigating department cultures
- Competing Priorities
- Program funding sources
- Project funding sources
- Communication Silos
- Coordinated planning & effort
- Reliable data
- Lack of standards
- Leadership awareness
- Workforce engagement

FUTURE STATE

Strategic | Pursues County objectives

Integrated | Part of the culture and process

Data Driven | Reliably inform decisions

Funded | Connect strong business case

Director-Level Buy-in

Informed | Directors influence the org

Priorities | Dept. concerns vary

Inter-departmental Team

Engage | Enlist Executive Sponsors

Team | Broad representation

Policy | A statement of values

Goals | Triple Bottom Line

Opportunity & Behavior

Find | Develop good questions

Message | Tell stories well

Better Metrics & the Business Case

Benchmark | Changes in Building Energy

Model | Capture behavioral influence

Report | Inform decisions

Decide | Prioritize the highest return

Success Factors

- Strategic Communication Plan
- Diverse Resource Conservation Team
- Accurate Data
- Effective Policy and Follow-through

CSEM Resources

- SEM hub https://semhub.com
- WSU RCM Program http://www.energy.wsu.edu/PublicFacilitiesSupport/ResourceConservation.aspx
- NW SEM Collaborative https://semhub.com/nwcollaborative
- Tacoma Power CSEM https://www.mytpu.org/ways-to-save/business-rebates/commercial-strategic-energy-management/

Thank you!

Karen Janowitz
Program Manager
WSU Energy Program
janowitzk@energy.wsu.edu

Patrick Urain
Conservation Program Manager
Tacoma Power
PUrain@ci.tacoma.wa.us

Seth McKinney
Resource Conservation Manager
Pierce County
seth.mckinney@piercecountywa.gov

Energy Program

WASHINGTON STATE UNIVERSITY

www.energy.wsu.edu