Building on Success to Introduce Scalable SEM to New Markets

Part 1: Insights from California’s ongoing process to develop SEM programs
Part 2: How to leverage DOE’s latest SEM tool: 50001 Ready program

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Part 2: How to leverage DOE’s latest SEM tool: 50001 Ready program
Wild Turkeys 1 - LBNL 0
ISO 50001 and SEM

• What it is:
  — Flexible framework for managing energy
  — Management model for continual improvement of energy performance
  — Set of requirements allowing for third party verification of conformance

• What it does:
  — Builds institutional knowledge
  — Engages all staff (executive, facility, procurement, communications…)
  — Reduces business risk associated with energy cost and supply
  — Establishes culture around energy performance improvement
  — Enables cost-effective and rapid investment in advanced energy efficient technologies
ISO 50001: Initial performance data

3M and Schneider Electric SEP and ISO 50001 certified facilities show greater energy savings than non-certified facilities.

Data analysis conducted by 3M and Schneider Electric.
US DOE ISO 50001 based offerings

50001 Ready recognition: Self-attestation prepares organizations for certification options—recommended but not required!

ISO 50001 certification:
1. Confirm completeness of system management and review cycles
2. Third-party audit to verify conformance to ISO 50001 standard

ISO 50001 and SEP certification: ISO 50001 certification, plus demonstrate energy performance improvement:
1. Top-down regression analysis
2. Bottom-up sanity check
3. Third-party audit to verify energy performance improvement
50001 Ready Program

About the 50001 Ready Program

Get 50001 Ready!

The Energy Management Journey

Tools and Resources

Newsroom
Online step-by-step approach towards ISO 50001 based energy management system standard implementation

Guidance broken into straightforward sections, including:

- Getting It Done – what specifically needs to be accomplished
- Task Overview – how does this task connect with ISO 50001
- Full Guidance – comprehensive guidance about the task
- Transition Tips – from other ISO management systems

Form teams and assign tasks to team members

Access over 100 related resources

Detailed Guidance: Scope and Boundaries

Getting It Done Task Overview Full Description Notes 0 Resources History Assignments
EnPI Lite is a web based calculator that estimates energy savings relative to relevant variables, like production levels and weather, using linear regression

**EnPI Lite Steps:**

1. **Input Energy Consumption and Relevant Variable Data**
2. **Regression Analysis** *(automatic)*
3. **Adjust Data / Models as needed**
4. **Download Results**

*Note:* Provides the same fundamental analysis as the other DOE EnPI tools with similar options
Co-branding and customization

- Navigator has been developed on open-source standards to enable co-branding and customization.

- Issue 50001 Ready recognition as a partner organization

- Add Tooltips, Resources and FAQs specific to your organizational or regulatory requirements

- Track overall process of ongoing projects
266,000 square foot fruit and vegetable refrigerated warehouse

- Started project in May; recognized as 50001 Ready in June
  —5 weeks engagement, approx 80 hours effort

- Drew from expertise from every department, including HR, accounting, packing, warehouse, and executive leadership

- “Great refresher” for reconfirming operations and lessons learned from previous engagement with utility Continuous Energy Improvement program

- Hope to use EnMS practices to improve ENERGY STAR score
Find out more!

Visit the 50001 Ready website at energy.gov/50001Ready

• Download infosheets and FAQs
• Find links to the Navigator and EnPI Lite
• See 50001 Ready facilities **coming soon!
• Read case studies and additional resources
• Read more about ISO 50001 and related programs
Welcome to the SEM Program Design Tool!

This tool is provided by the US Department of Energy to provide guidance to program administrators who are considering starting or modifying an SEM program, particularly one that is compatible with 50001 Ready tools and programs.

The tool helps administrators think through different elements that influence the design of an SEM program and provides insights and recommendations on some of the major decisions that need to be made, including:

1. How long the program customer engagement should be
2. How much support the program should provide customers
3. Whether the program should be delivered through cohorts or individually
4. Whether the program should start with a pilot or launch directly

BEGIN SELF-ASSESSMENT
SEM program design tool

Recommendations

These recommendations are made based on four areas that affect an SEM program design and delivery. These four areas include:

- Engagement Length: 12-month
- Level of Support: Comprehensive
- Delivery Approach: Mix
- Launch Approach: Pilot

The recommendations given below assume that the program is trying to meet three primary goals:

1. Help the customer establish an Energy Management System (EnMS)
2. Help the customer save energy
3. Help the customer measure and validate (M&V) and report energy savings

Engagement Length

How long the SEM program engages with customers is one of the first decisions a program has to make. This...
Partner with utility ecosystem to incorporate 50001 Ready into SEM programs

Increase the number of facilities adopting an 50001 based energy management system
Divergence between DOE goal and SEM resources

Increase the number of facilities adopting an ISO 50001 based energy management system

SEM programs reference existing programs
- Those programs are not aligned with 50001
- Materials from those programs is proprietary or hard to get
- Material is difficult to edit
Value propositions of basing a utility SEM program on ISO 50001

• It is where the market is going
  —Rapidly becoming the global standard in more than just name
• Will impact supply chains
• DOE recognition for customers
• Platform to know that culture of continual improvement is thriving
• Works for your customers
  —Facilities in multiple service territories and across state lines
  —Allows the company to seek ISO certification or not, but they are in line for it
  —Clear statement of sustainability practices
• Establishes a clear benchmark for energy management
Objective – Converge SEM best practices with ISO 50001 Ready enhancements

Create a 50001 Ready “SEM” Reference Design
- Publicly and easily available
- Configurable
- Guidance
- Based on proven approaches

Work with the utility "ecosystem" to adopt the design
- National/regional entities (CEE, REEOs, ACEEE)
- Utilities, PBAs
- Implementation contractors
- Regulators
50001 Ready SEM reference design

50001 Ready Program

SEM Speak

50001 Ready SEM Reference Design
Why a 50001 Ready SEM “reference” design

50001 Ready in “SEM Speak”
• 50001 Ready for Utilities
• Allows facilities working with utilities to seek 50001 Ready attestation

Publicly Available
• Easy to find
• Available to all: Utilities, Implementers, Evaluators, regulators, etc.

Configurable
• Open Source
• Source documents available
• Easy to edit and modify
Four “buckets” of utilities/PBAs

<table>
<thead>
<tr>
<th>Established SEM Program (&gt;5 years)</th>
<th>Recent SEM Program (1-5 years)</th>
<th>No Current Program- Launch w/in 1 yr</th>
<th>No Current Program- Looking to Launch</th>
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Benefits for utilities with no SEM program

- Better Customer Offering
- Faster SEM Program Start-up
- Lower SEM Program Start-up Costs
- More SEM Program Implementers
- Better Alignment with Other Utilities
California Industrial SEM Design Guide

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Timeline for 50001 Ready “SEM” reference program design

October 2017

- Design Document Draft

December 2017

- Implementation Materials Draft

March 2017

- TBD: Utility and Implementation Tools Draft
We want partners, not just reviewers

To work with us to finalize the 50001 Ready SEM program design and then launch it!
energy.gov/50001Ready

energy.gov/ISO50001

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