



Engaging customers with 50001 Ready

September 2018, version 1.0

Advanced Manufacturing Office

50001 Ready Program for Utilities and
Implementers



How to drive deep, sustainable energy savings through energy management

Presentation Sections:

1. What is an EnMS and why is it important?
2. The 50001 Ready Program
3. Options and resources for utility programs and implementers



EnMS, An Overview: ISO 50001, SEM & CEI



- An **Energy Management System (EnMS)** integrates active energy management into everyday business systems and procedures.
 - Enables organizations to better manage energy usage, to achieve operating cost savings, and to continuously improve energy efficiency.
 - Active management results in the continued implementation of *energy actions*.
- An **EnMS** is a holistic approach to continuous improvement of a site's or corporations energy performance.
 - A commitment by top corporate management
 - Technical, cultural, and behavioral improvements that are tracked, measured, and evaluated annually
 - Includes energy efficiency, energy security, energy use and consumption
 - Resetting of improvement goals & objectives annually



A management system is:

- ✓ Say what you do
- ✓ Do what you say
- ✓ Prove it
- ✓ Improve it

*An **EnMS** can be implemented in many different ways.*

***ISO 50001** was developed to establish international standards for*

***EnMS** and energy improvement*

You can't manage what you don't measure!



- Would you buy stock in a company without a financial management system?
 - Doubtful! **International Financial Reporting Standards (IFRS)**
- Would you invest in a company without a good environmental management system?
 - Doubtful!.... **ISO140001**, Dow Jones Sustainability Index, CP100,
- Would you buy products from a company without quality control system?
 - Don't think so! **ISO 9001**
- Would you work for a company without a good safety management system?
 - No chance!.... **ISO 45001** *Occupational health and safety management systems*

Corporate system standards are core to every well managed company
HR, purchasing, supply chain, operations, testing...

All have long institutionalized company systems with industry standards.

An Energy Management System is critical to any successful company!



International standards require a company to systematize a company policy that drives ongoing management and performance improvement in a particular area of operation



- By adopting standardized systems, companies streamline processes, trim costs, earn and maintain market access, and boost their bottom line.
- The same principle applies to energy management
 - EnMS can help control costs, boost energy efficiency, improve environmental quality ...
 - Integrating EnMS policy into company cultures will improve their energy productivity, bottom line and brand.

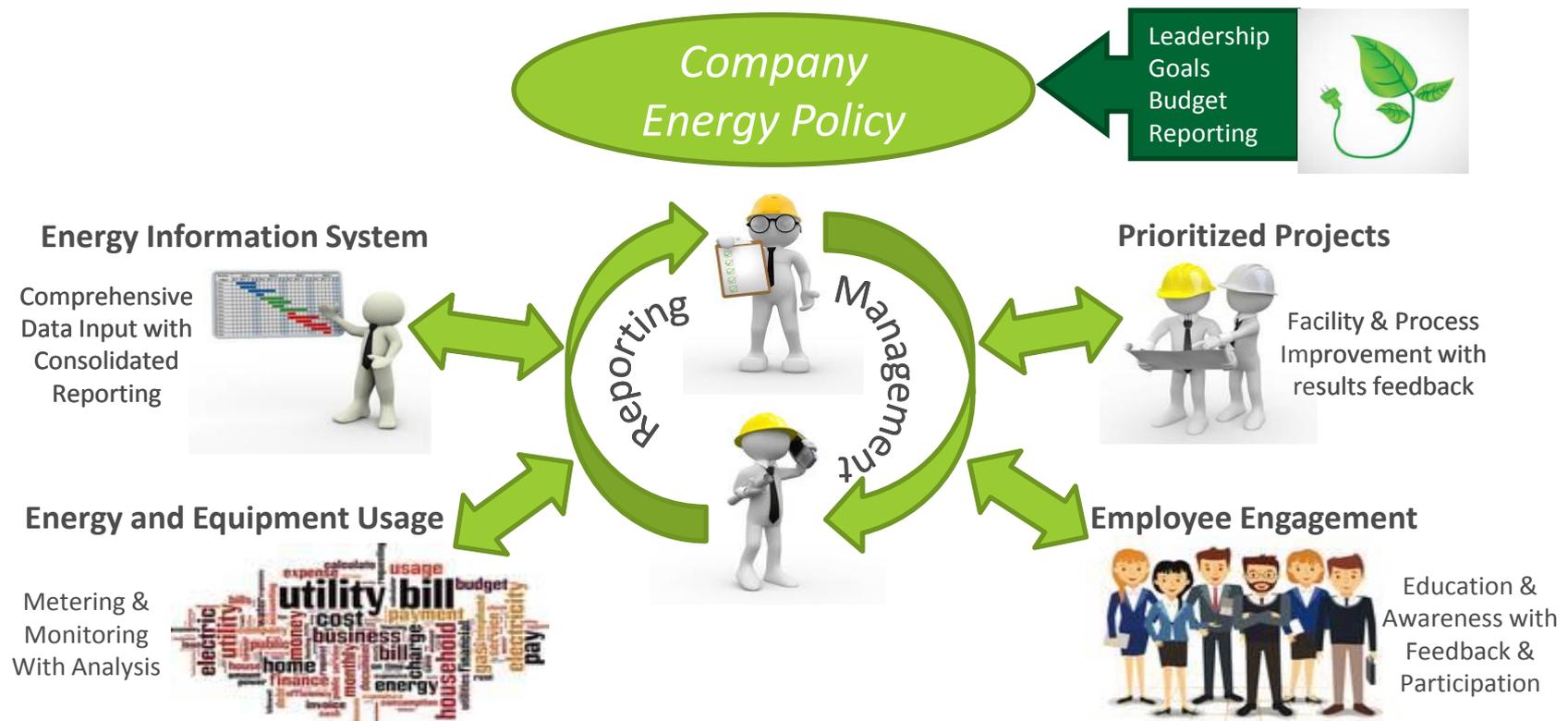
Energy Management Systems need to be integrated into a company's policy & culture; just like fiscal management, quality, safety, ...

Energy Policy – How is it executed in a corporation?



Sr. Management mandates an internal policy for improving energy performance.

- Procedures & practices for systematic planning, tracking, & analysis of enterprise energy performance.
- Engages & tracks all aspects of energy usage including equipment, processes, people, and supply.
- The continuous process is resourced, financed, and reviewed on an annual basis.



Systematic and active energy management is the most effective approach to improve energy performance

ISO 50001: an EnMS defined by an international body



- Developed to create consistency between the multiple national energy management standards that were being developed
- Published in 2011, recently updated
 - 44 ISO member countries and 14 observer countries participated in the development
- Describes an ***Energy Management System framework***
 - A management model for continual improvement similar to existing models for quality (ISO9001) and environmental management (ISO14001)
 - A ***requirements specification*** for establishing, implementing, maintaining and improving an energy management system.



SEM and CEI: an EnMS defined by CEE's minimum Elements



- Developed to create consistency between emerging utility and implementer SEM/CEI programs across North America
- Published in 2014
 - Created by CEE's Industrial SEM working group, which included utilities with existing SEM programs
- Describes the *minimum conditions* an industrial company or facility should have in place to continuously improve energy performance.





ISO 50001 and SEM/CEI

- ISO 50001 and SEM/CEI minimum elements are complementary documents
 - CEE’s SEM definition looks at the minimum (like building codes)
 - 50001 considers a holistic or comprehensive system
- Because 50001 looks at a holistic system, it requires additional “elements” that are not required by CEE:
 - *Legal Requirements*
 - *Operational Controls*
 - *Corrective Actions*
 - *Design*
 - *Documentation*
 - *Procurement*
 - *Internal audit*
 - *Management Review*
- Those “elements” that are required by both documents are complementary

Implementers and Utility programs are moving towards ensuring their programs are ISO 50001-compatible, whether or not they require all of the “elements”



***Bridging the Gap:
The DOE 50001 Ready Program
for utilities and implementers***



“Don't need a complex SEM/CEI type program”

“ISO 50001 documents are too complicated”

“Running an ISO 50001 implementation is too costly to design and implement”

“ISO 50001 does not provide immediate savings”

“Other SEM/CEI program designs can provide the same benefits”

The 50001 Ready Program and resources are designed to help utilities overcome these issues



The DOE Objective

The Objective

- Create readily adoptable, easy-to-use resources for utilities and implementers that want to offer their customers a continuous energy improvement program. Provide self-attestation and recognition.



50001 Ready is

1. Open source software tools and resources, designed to be enhanced by implementers and offered to end-users
2. Suite of resources to support utilities and implementer who want to work with customers in institutional, commercial and industrial facilities
3. Available to support 'enterprise' or multi-facility adoption
4. Recognition for self-attesting to *conformance* with ISO 50001. There are no certification requirement from third parties



The DOE Approach

1. Provide tools, resources, and support to promoters and advocates of energy efficiency in the U.S. to help accelerate EnMS & ISO 50001 adoption
 - Tools will follow the ISO 50001 framework.
 - All tools are open source for co-branding and customization
 - DOE & LBNL will provide back office support for any initiative
2. Encourage U.S. companies to use DOE tools & resources to *pilot an EnMS or to create an EnMS gap analysis*
 - Pilot or analyze without commitment to certification
 - Benchmark company against international EnMS specifications
 - DOE will support these efforts with resources and training.
3. Encourage associations, integrators, service providers, and advocacy groups to reach out and stimulate the market
 - Get engaged, take actions, DOE will support your efforts!

Pathway to
an
ISO 50001
compliant
EnMS



DOE wishes to share all resources freely and support you in your efforts



50001 Ready Process

Three Steps to Becoming 50001 Ready

STEP 1 Self-declared implementation of ISO 50001

50001 Navigator

- ✓ The Navigator walks a user through the steps of implementing an EnMS consistent with an ISO 50001 framework.
- ✓ Each step is checked off and validated by the user

STEP 2 Validation of energy and emissions reductions

DOE EnPI (Energy Performance Indicator)

- ✓ Run a regression-based calculator for single or multiple fuels to determine energy savings. DOE makes an EnPI tool available
- ✓ The User can utilize the DOE EnPI tool, an Energy Star tool, a third party tool, or their own tools to validate the results.

STEP 3 Submission of results to DOE for recognition

Recognition Program

- ✓ Complete Navigator with > 0 results
- ✓ Complete EnPI with YES to all questions
- ✓ Submit to DOE signed attestation of completion along with EnPI results

DOE or Utility
recognized
success for
conformance to
ISO standards

*STEP 4 (non-DOE program)
Pursue ISO 50001 Certification if desired*

Move to achieve ISO 50001 Certification

- ✓ *Decide on facility or enterprise level*
- ✓ *Organize submissions of policy, framework fulfillment and performance*
- ✓ *Work with external auditor & certification body to receive ISO 50001 Certification*



Build a System

The 50001 Ready Navigator

Free online step-by-step guide to help develop a robust EnMS consistent with ISO 50001.

The core tool of 50001 Ready for EnMS development, benchmarking, and assessment.

Additional Supporting Tools

Plan

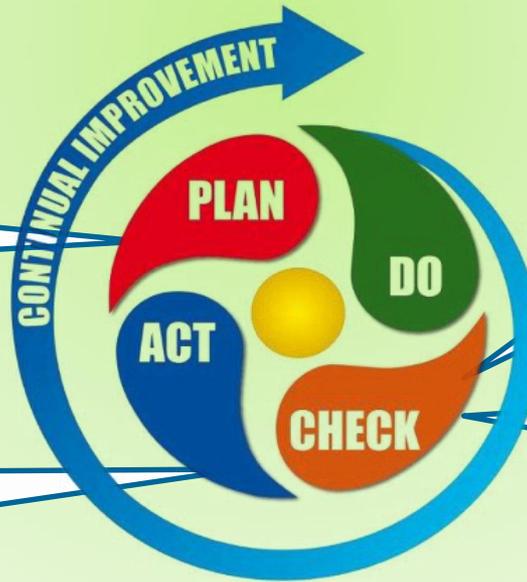
Energy Footprint Tool

Track energy consumption and determine significant energy end-uses

Act & Check

Automated Register of Implemented Actions

Organize & track actions to implement an EnMS.
Bottom up check



Additional Supporting Tools

M&V

EnPI Lite

Top down regression. Establishes baseline, energy performance indicators, tracks progress & savings

M&V

EnPI

Added functionality for accounting for variables and more robust regression analysis

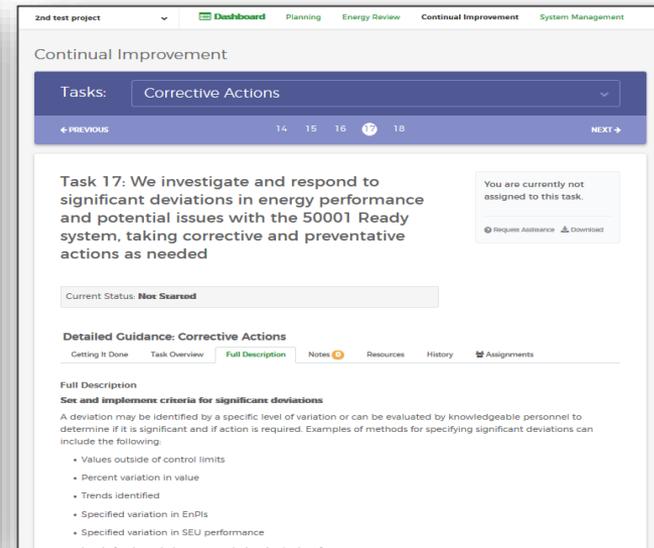
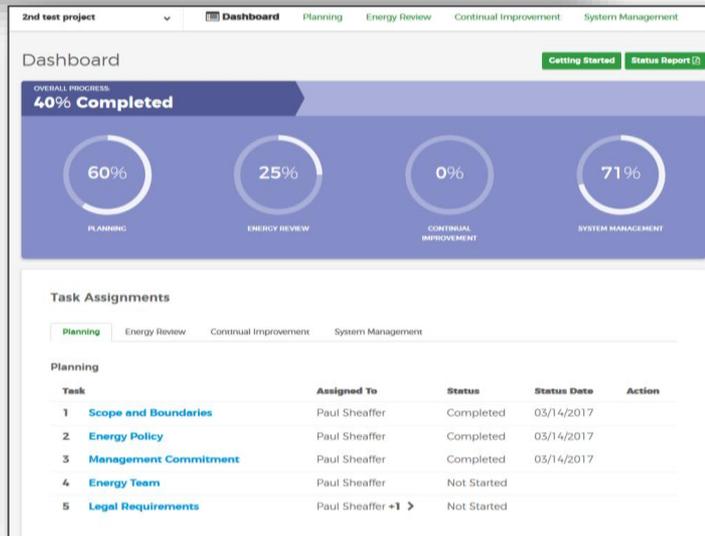


50001 Ready Tools

50001 Navigator Tool



- ✓ Online tool, with simple, step-by-step approach to ISO 50001 implementation
- ✓ 25 tasks divided into 4 sections
- ✓ Ability to assign tasks to team members
- ✓ Extensive guidance available in each module

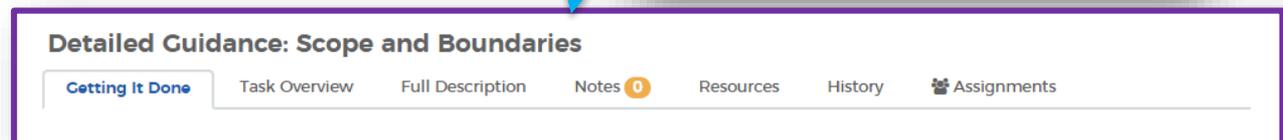
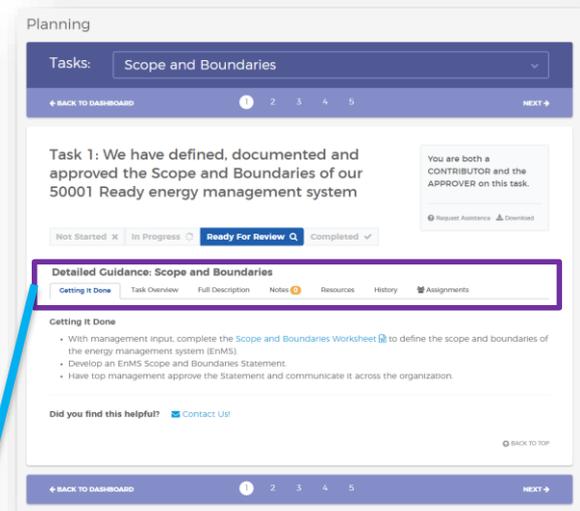




50001 Ready Tools

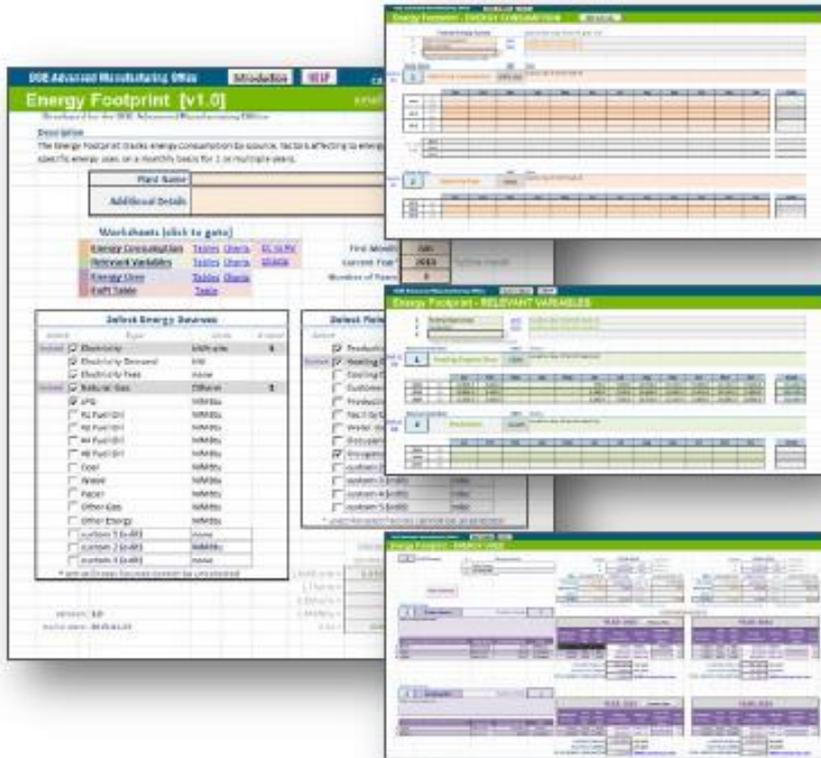
50001 Navigator Tool

- Guidance broken into straight forward sections, including:
 - Getting It Done – what specifically needs to be accomplished
 - Task Overview – how does this task connect with ISO50001
 - Full Guidance – comprehensive guidance about the task
 - *Optional* Transition Tips – from other ISO management systems or ENERGY STAR
- Track and update task progress
- Form teams and assign tasks
- Download guidance
- Create multiple projects
- Access over 100 related resources
- **DOE 50001 Ready Recognition!**





DOE Energy Footprint Tool



Developed to support manufacturing, industrial and commercial facilities that are implementing energy management plans

Organize Data to Easily track and analyze:

- **Energy consumption**
Electricity, natural gas, etc.
- **Relevant variables**
Production levels, degree days, operating hours, occupancy rates, etc.
- **Energy Uses**
i.e., Application of energy
- **Calculates energy-related greenhouse gas emissions**

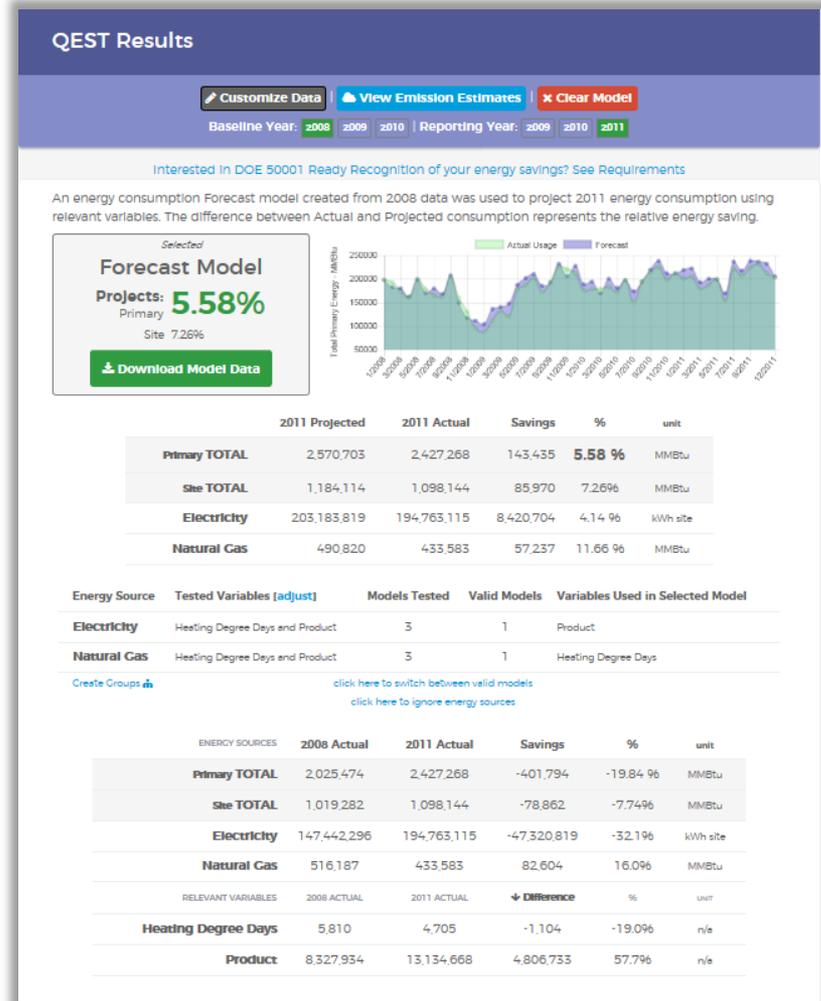


DOE Energy Performance Indicator Tool (EnPI Lite)

EnPI Lite: Navigator's companion tool for facility-level energy performance

- Enter or upload energy use data and account for mitigating factors (e.g., production levels, occupancy changes, weather)
- Top-down regression analysis calculates energy change from baseline year
- Accepts input from DOE Energy Footprint tool and ENERGY STAR Portfolio Manager
- The EnPI Lite Output file is one option for reporting energy performance for DOE recognition

<https://enpi.industrialenergytools.com/>





Automated Register of Implemented Actions

- “The Register” assists with implementation of an EnMS including, but not limited to ISO 50001.
- Energy savings over the reporting period are reflected; typically, this will be annual savings.
- The Register summarizes key details of each EnMS action’s implementation
 - Action description
 - Actual energy savings
 - Source of energy savings determination
 - Responsible party.

ACTIONS												
#	ACTION	Type (Select from the List)	Date Initiated	Date Completed	Energy Types Impacted	Primary Energy Conversion Factor	Change in Energy Consumption During the Reporting Period (MMBtu)					
							Use "+" for savings and "-" for increased consumption					
							Anticipated			Actual		
			DD/MM/YYYY				Measurement Method	Site	Primary	Measurement Method	Site	Primary
1	Motor replacement (Example)	Equipment	1-Sep-2014	1-Oct-2014	Electricity	3	Engineering Assessment	154,000	462,000	Calculated	120,000	360,000
2	Repair steam leaks (Example)	Operations	11-Aug-2014	10-Sep-2014	Natural Gas	1	Engineering Assessment	90,000	90,000	Calculated	90,000	90,000
3	Switching electric steam boiler to waste heat & NG boiler (Example)	Processes	6-Jul-2014	1-Dec-2014	Electricity	3	Engineering Assessment	97,000	291,000	Calculated	97,000	291,000
					Natural Gas	1	Engineering Assessment	(79,000)	(79,000)	Metered	(81,000)	(81,000)
4	Eliminating Inappropriate Use of Compressed Air (Example)	Behavior	1-Jan-2014	1-May-2014	Electricity	3	Other (Please describe)	1,257	3,771	Calculated	943	2,829

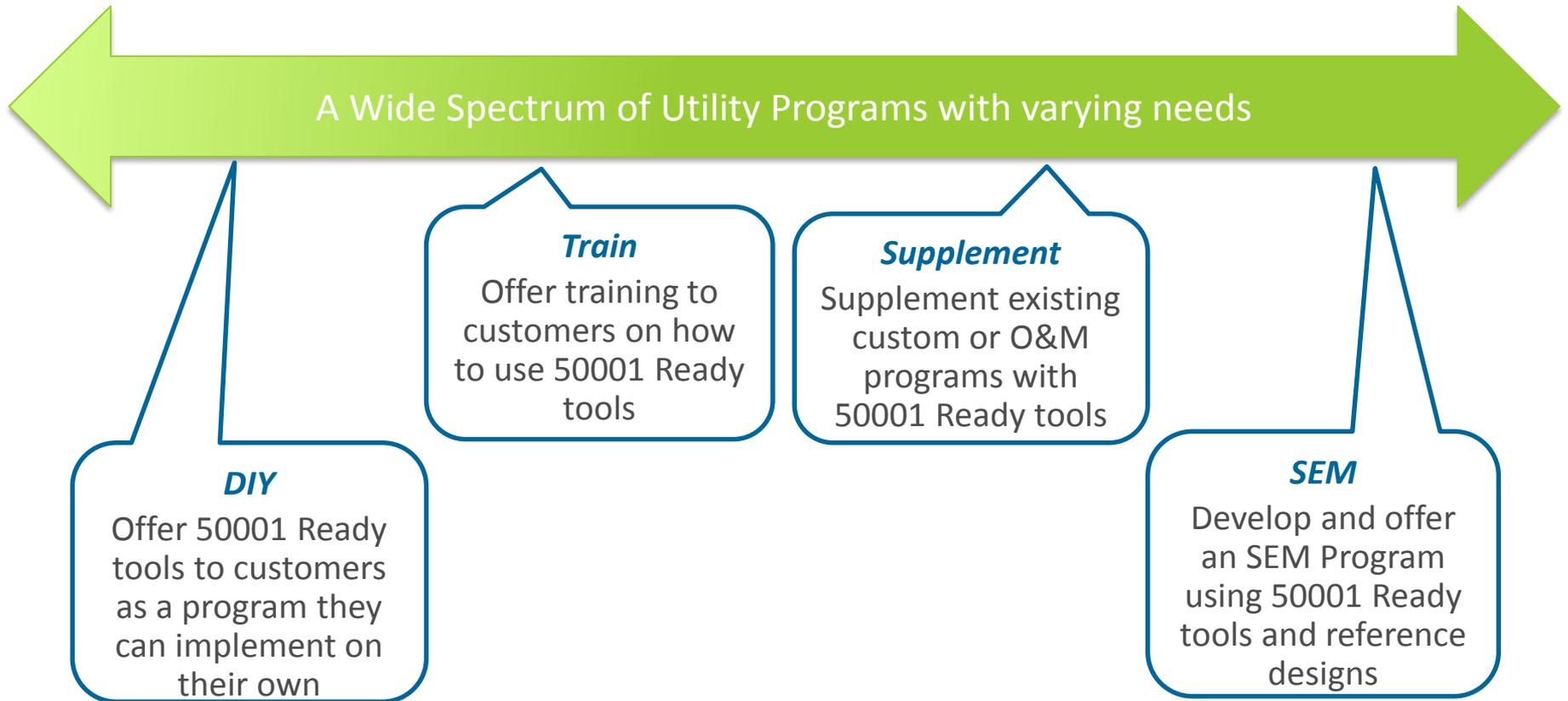


Options and resources for utility programs and implementers

50001 Ready Program for Utilities and Implementers



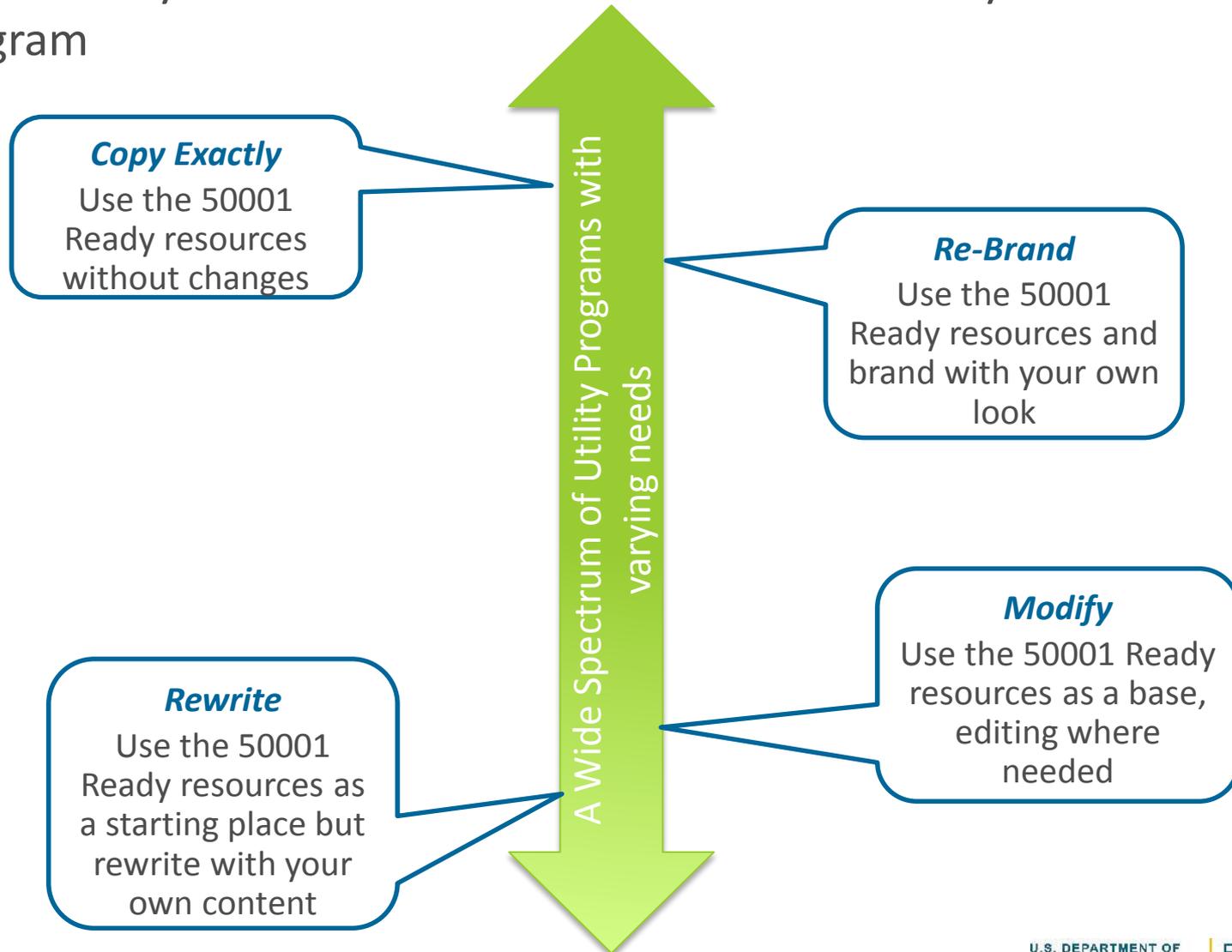
- The 50001 Ready program is designed to be used by program administrators and implementers in whatever way fits their goals

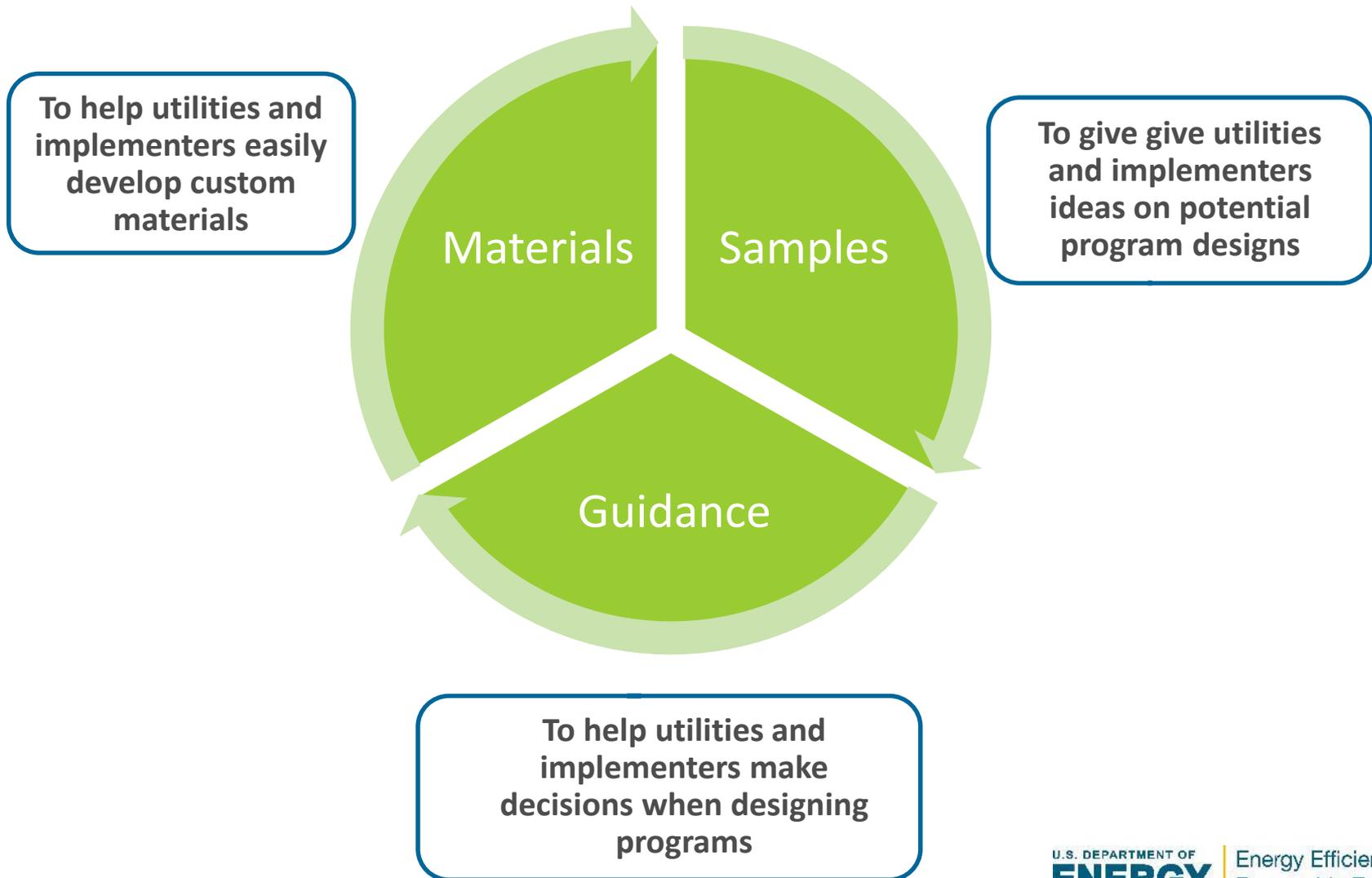


50001 Ready Program for Utilities and Implementers



- 50001 Ready resources can be used in whatever way is best for each program

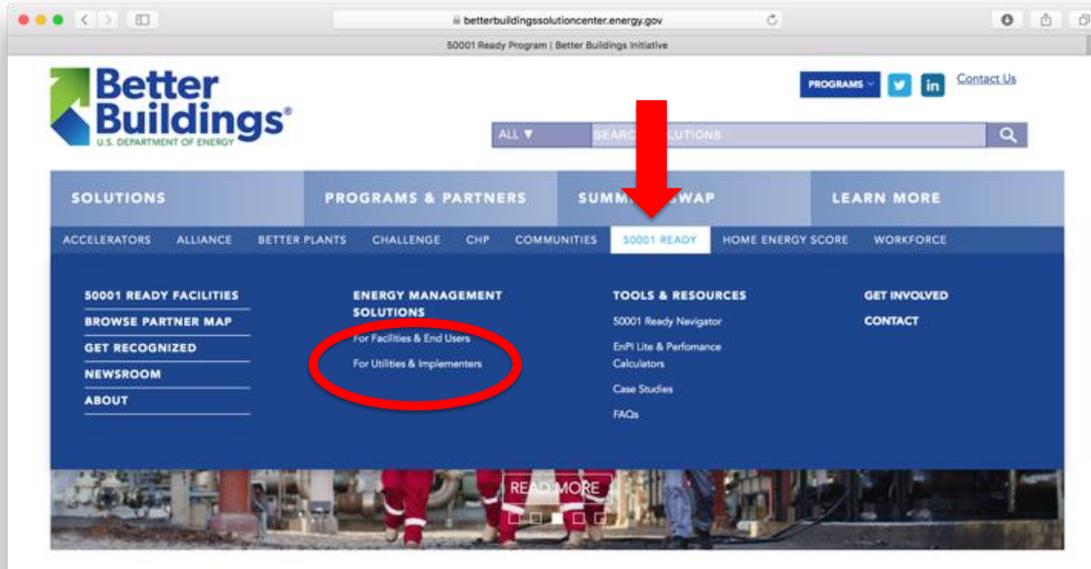




How Do Utilities or Implementers Get Started?



1. Go to energy.gov/50001Ready for more information



2. Craft a program - Contact DOE for assistance & advice
 - Sponsor DOE supported training or webinars
 - Integrate 50001 Ready into your existing programs or materials
 - Develop a custom 50001 Ready Program

Contact Sandy.Glatt@ee.doe.gov
for more info or to get started



Appendix

*Backup slides & information organized
by topics that may need to be addressed*



Overview of 50001 Ready Utility and Implementer Materials

Purpose of 50001 Ready Utility Resources



Make it easy for utility program administrators and implementers to use 50001 Ready by providing:

- Samples- to give ideas on how use 50001 Ready can be used
- Guidance- that helps make decisions on how to use 50001 Ready
- Materials- that make it easy to develop offerings using 50001 Ready

Resources in ENERGY.GOV/50001READY



betterbuildingsolutioncenter.energy.gov

50001 Ready Program | Better Buildings Initiative

Better Buildings
U.S. DEPARTMENT OF ENERGY

PROGRAMS [Contact Us](#)

ALL ▾ SEARCH SOLUTIONS 🔍

SOLUTIONS **PROGRAMS & PARTNERS** **SUMMARY SWAP** **LEARN MORE**

ACCELERATORS ALLIANCE BETTER PLANTS CHALLENGE CHP COMMUNITIES **50001 READY** HOME ENERGY SCORE WORKFORCE

50001 READY FACILITIES
BROWSE PARTNER MAP
GET RECOGNIZED
NEWSROOM
ABOUT

ENERGY MANAGEMENT SOLUTIONS
For Facilities & End Users
For Utilities & Implementers

TOOLS & RESOURCES
50001 Ready Navigator
EnPI Lite & Performance Calculators
Case Studies
FAQs

GET INVOLVED
CONTACT

READ MORE

50001 READY PROGRAM

The U.S. Department of Energy's 50001 Ready program recognizes facilities and

Open "https://betterbuildingsolutioncenter.energy.gov/50001Ready" in a new tab

organizations that practice INFLUENCE-based energy management. The program does



Resources for Utilities and Implementers



50001 Ready for Program Administrators and Implementers | Better Buildings Initiative

Better Buildings
U.S. DEPARTMENT OF ENERGY

PROGRAMS [Contact Us](#)

ALL

SOLUTIONS PROGRAMS & PARTNERS SUMMIT & SWAP LEARN MORE

EXPLORE BY TOPICS BROWSE SOLUTION TYPES TOOLKITS FINANCING NAVIGATOR

50001 READY FOR PROGRAM ADMINISTRATORS AND IMPLEMENTERS

What value does 50001 Ready bring to program administrators and implementers?

50001 Ready is an approach for facilities to establish a continuous energy improvement practice 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 or credentials.

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
3. A means to quantify and track overall facility energy savings across all fuels, including the ability to separate capital projects from operations and maintenance improvements
4. 50001 Ready recognition upon accomplishment of self-attested achievement, without external audits

Support for Various Types of Engagement



The screenshot shows a web browser window with the URL betterbuildingsolutioncenter.energy.gov. The page title is "50001 Ready for Program Administrators and Implementers | Better Buildings Initiative". The content is organized into three columns, each representing a different engagement option:

- Option A: Direct Customers to 50001 Ready**
Direct your customers to 50001 Ready to enhance their engagement in energy efficiency and support their performance in your energy program.
- Option B: Supplement Your Program**
No matter how you engage your customers, components of the 50001 Ready program can be used to supplement your existing offerings and build customer satisfaction.
- Option C: Adapt or Launch a Program**
Whether you have an existing SEM program or are thinking about launching one, 50001 Ready can help you design a program that unlocks the benefits of EnMS through a best-practice offering.

Option A — Direct your Customers to 50001 Ready

The 50001 Ready program and its resources are simple, free, and applicable to all industries. Enhance your client services by directing your customers to 50001 Ready on the DOE website, as a way for them to improve their energy efficiency and bolster their performance in your energy program. DOE can provide remote technical assistance for all 50001 Ready resources and support utility customer engagement.

[MORE](#)

Option B — Supplement Your Offerings with 50001 Ready

No matter how you engage your customers, the 50001 Ready program can be used to improve client satisfaction and supplement your existing offerings. The 50001 Ready program has been designed to encourage flexibility, allowing you to identify the components most applicable to your



Option A — Direct your Customers to 50001 Ready

The 50001 Ready program and its resources are simple, free, and applicable to all industries. Enhance your client services by directing your customers to 50001 Ready on the DOE website, as a way for them to improve their energy efficiency and bolster their performance in your energy program. DOE can provide remote technical assistance for all 50001 Ready resources and support utility customer engagement.

If you are interested in having your customers use the 50001 Ready program and Navigator tool, DOE resources are available to help you communicate the benefits of 50001 Ready. These templates can be customized to meet your program and customer needs. Several examples are listed below; for editable versions or additional assistance with developing your customer-facing material, please [contact us](#).

- [Learn more about how 50001 Ready benefits your customers](#)
- [50001 Ready - Infosheet - Overview for Program Participants \(PDF\)](#)
- [50001 Ready - Slide Deck - Program Overview \(PDF\)](#)

Additionally, DOE would like to hear feedback from you and your customers regarding the value and usability of the 50001 Ready Navigator and other program resources. Please [contact us](#) to see how your partnership with DOE can contribute to future program and software development.

Option B Resources



Option B — Supplement Your Offerings with 50001 Ready

No matter how you engage your customers, the 50001 Ready program can be used to improve client satisfaction and supplement your existing offerings. The 50001 Ready program has been designed to encourage flexibility, allowing you to identify the components most applicable to your offerings, and to choose how and where to customize them.

If you are interested in using 50001 Ready to supplement your existing offerings, below are sample designs to help you get started.

Sample design: [Pair an existing Custom Program with 50001 Ready: Overview](#)
[50001 Ready Sample Design Guide](#)

The 50001 Ready program is comprised of multiple components, including the 50001 Ready Navigator as a software platform, energy management guidance within the Navigator, and protocols for recognition. Depending on your program's offerings and intended outcomes, some components may be more relevant to your customers than others. Under a partnership agreement with DOE, you may be able to leverage and customize these components to support your program.

Example scenarios include:

- Entering an agreement to issue joint recognition for 50001 Ready with DOE.
- Hosting your own version of the 50001 Ready Navigator as a learning module or team management tool, without the recognition program.
- Using EnPI Lite as a requirement for your own energy efficiency program.

[Download an informational slide deck for program implementers \(PDF\)](#)

Please [contact us](#) to explore potential possibilities for your program.

Sample Design: Supplement with 50001 Ready



Utility Resources | **SAMPLE DESIGN**
Pair an existing Custom Program with 50001 Ready

Program administrators and implementers: Use this sample design as a starting point to provide supplement your existing Custom program.

Benefits:

1. Expand portfolio of energy efficiency offerings with a Program based on ISO 50001.
2. Leverage DOE's world-class resources to create value for customers while minimizing program development and implementation costs.
3. Provide industrial and large commercial customers with national recognition from US DOE.

This sample design is based on US DOE's award-winning 50001 Ready Navigator, an online guide to establish or enhance an energy system, and is supported by a variety of tools and resources publicly available from US DOE.

In this design, customers are guided through 4 workshops over a year. These workshops:

1. Teach customers how to use 50001 Ready Navigator
2. Introduce Navigator's four sections, and
3. Presents the tasks for each section and tools available to complete the tasks.

In addition, utilities can provide custom program resources to support the identification of energy efficiency projects

Sample Design:

	Workshop	Navigator Tasks
1	Planning	1-5
2	Energy Review	6-13
3	Continual improvement	14-18
4	System management	19-25



All overviews are similar one-page snapshots:

- Brief description
- Benefits
- Overview of the design

Think this is the right approach for you? Contact Sandy Glatt at sandy.glatt@ee.doe.gov

Learn more at energy.gov/50001Ready

Version 2.0





Option C — Adapt or Launch a New 50001 Ready SEM Program

Whether you have an existing SEM or CEI program or are thinking about launching one, 50001 Ready resources can help you design a program that unlocks the benefits of 50001 Ready with a best-practice offering.

If you are interested in using 50001 Ready with an SEM or CEI program, below are sample designs to help you get started.

Sample designs:

- Create a New SEM Program using 50001 Ready: [Overview](#) and [Details](#)
- Enhance an Existing SEM Program with 50001 Ready: [Overview](#) and [Details](#)
- Provide 50001 Ready for SEM "Graduates": [Overview](#)
- Provide 50001 Ready for Advanced SEM "Graduates": [Overview](#)
- [50001 Ready Sample Design Guide](#)

Details provide:

- One page per unit
- Sequencing and timing
- Links and recommendations

Utilities and other program Administrators throughout the US have found SEM programs to be an effective way to help their industrial and institutional customers achieve deeper energy savings from capital projects and operations & maintenance improvements, but how they get there can vary significantly. Choosing an SEM program that is aligned with 50001 Ready prepares your customers to self-attest or certify their plant to ISO 50001 if and when they choose to, giving them a program and language that is consistent with efforts taken globally by other plants.

[For those just getting started: [What is an SEM program?](#)]

Create a New SEM Program using 50001 Ready: Overview



Utility Resources | **SAMPLE DESIGN**
Create a New SEM Program using 50001 Ready

Program administrators and implementers: Use this sample design as a starting point to create a new SEM program using 50001 Ready.

Benefits:

1. Expand portfolio of energy efficiency offerings with a Strategic Energy Management (SEM) Program based on ISO 50001 best practices.
2. Claim savings from operations and maintenance (O&M) and business-practice (or behavioral) energy efficiency projects.
3. Develop a pipeline of capital and custom energy efficiency projects.
4. Leverage DOE's world-class resources to create value for customers while minimizing program development and implementation costs.
5. Provide industrial and large commercial customers with national recognition from US DOE.



This sample design is based on US DOE's award-winning 50001 Ready Navigator, an online guide to establish or enhance an energy system, and is supported by a variety of tools and resources publicly available from US DOE.

In this design, customers are guided through 7 units over two years. Each unit combines:

- Group workshops that train participants on tasks defined by 50001 Ready Navigators, and allows sharing of ideas between facilities
- Site-specific activities that allow the utility to provide customers individualized help and support

Sample Design:

	Units	Workshops	Site-Specific Activities	Navigator Tasks
1	Planning	Workshop #1	Kick-off Meeting Data collection plan Baseline data collection	1-5
2	Energy Review	Workshop #2	Energy footprint Treasure hunt	6-13
3	Continual improvement	Workshop #3	Energy performance Operational controls	14-18
4	System management	Workshop #4	Communication & Training Management review Savings calculation review	19-25
5	Review of Planning and Energy Review	Workshop #5	50001 Ready Navigator review Treasure hunt	1-13
6	Review of continual improvement and system management	Workshop #6	Energy savings review Internal audit Management review	14-25
7	Celebration and Next Steps	Workshop #7	Planning for next steps Presentation development Energy savings review	-

More details on this design and other design options can be found at energy.gov/50001Ready

Think this is the right approach for you? Contact Sandy Glatt at sandy.glatt@ee.doe.gov



All overviews are similar one-page snapshots

- Brief description
- Benefits
- Overview of the design

Create a New SEM Program using 50001 Ready: Details



2.1 Unit 1: Planning

Workshop	Site-Specific Activities
Planning <i>months 1-2</i> Workshop #1: <i>Planning</i>	Kick-Off Meeting Data Collection Plan Baseline Data Collection

Unit 1 introduces the facility staff to the overall program aligned with 50001 Ready. The goal of this unit is to help staff understand the program goals. This unit closely follows the 50001 Ready Navigator and covers two additional activities.

The **Kick-Off Meeting**, which is held before the program begins, introduces facility staff to the requirements of the program and identifies the steps needed to identify and collect relevant **Baseline Data**.

Workshop #1, which typically lasts 8 hours, introduces facility staff to the requirements and gives them practical guidance on how to work on and share thoughts on:

1. Task 1: The definition and documentation of energy performance metrics
2. Task 2: The development and approval of the energy management plan
3. Task 3: The commitment required for the program
4. Task 4: The establishment and the implementation of the program
5. Task 5: The identification and documentation of energy performance metrics
6. Task 6: The identification and collection of energy performance metrics
7. Task 9: The determination and documentation of energy consumption
8. Task 15: Ensuring energy monitoring and measurement activities are accurate and repeatable
9. Task 25: Holding periodic review of the program

After the workshop, program staff and facility staff discuss potential updates. It is also expected that at the end of the unit any collected **Baseline Data** will be shared with the program staff.



2.2 Unit 2: Energy Review

Workshops	Site-Specific Activities
Unit 2 Energy Review <i>months 3-6</i> Workshop #2: <i>Energy Review</i>	Energy Footprint Treasure Hunt

Unit 2 helps facility staff understand how the facility uses energy, how to prioritize and plan improvement opportunities, and how to track energy performance. The goal of this unit is to identify, prioritize and plan improvement opportunities and system for tracking energy performance. This unit closely follows the 50001 Ready Navigator.

Workshop #2, which typically lasts 8 hours, introduces facility staff to the basics of energy management and how their facility uses energy. It also provides an opportunity for staff to identify and plan improvement opportunities. During this workshop, participants will complete the following tasks:

1. Task 6: Identifying all energy sources and loads
2. Task 7: Analyzing energy consumption data
3. Task 8: Determining Significant Energy Uses
4. Task 9: Determining the relevant variables
5. Task 10: Identifying Energy Performance Metrics
6. Task 11: Establishing an energy baseline
7. Task 12: Identifying and prioritizing energy improvement opportunities
8. Task 13: Developing action plans to implement improvement projects

The **Energy Footprint** activity, which takes place during the workshop, uses the DOE Energy Footprint Tool to track energy consumption by end-uses. This activity is led by the program staff.

The **Treasure Hunt** activity, which takes place during the workshop, has the goal of identifying improvement opportunities. Typically, this activity is a full-day activity and requires technical program staff to lead the activity.



2.3 Unit 3: Continual Improvement

Workshops	Site-Specific Activities	Navigator Tasks Covered	Navigator Tasks Completed
Unit 3 Continual Improvement <i>months 7-10</i> Workshop #3	Energy Performance Operational Controls	14: Monitoring 15: Measurement 16: Operational Controls 17: Corrective Actions 18: Energy Consideration in Design 24: Calculate Energy Savings	14: Monitoring 15: Measurement 16: Operational Controls 17: Corrective Actions 18: Energy Consideration in Design

Unit #3 helps facility staff reflect on their Energy Management System and plan how to set up controls that will allow both the system and the facility's energy performance to continuously improve. The goal of this unit is to create a systematic approach to monitor and measure key metrics of the system and respond to any potential issues. This unit closely follows the five tasks of the Continual Improvement Section in the 50001 Ready Navigator.

Workshop #3 typically lasts 6-8 hours and gives facility staff the opportunity to understand and begin work on continuously improving their Energy Management System, which includes:

1. Task 14: Developing a plan for the ongoing monitoring and analysis of key performance metrics
2. Task 15: Ensuring energy monitoring and measurement activities are accurate and repeatable
3. Task 16: Setting, communicating, and implementing operations and maintenance criteria for Significant Energy Uses
4. Task 17: Investigating and responding to significant deviations in energy performance or in the performance of the Energy Management System

Option C: SEM or CEI Program



Option C — Adapt or Launch a New 50001 Ready SEM Program

Whether you have an existing SEM or CEI program or are thinking about launching one, 50001 Ready resources can help you design a program that unlocks the benefits of 50001 Ready with a best-practice offering.

If you are interested in using 50001 Ready with an SEM or CEI program, below are sample designs to help you get started.

Sample designs:

- Create a New SEM Program using 50001 Ready: [Overview](#) and [Details](#)
- Enhance an Existing SEM Program with 50001 Ready: [Overview](#) and [Details](#)
- Provide 50001 Ready for SEM "Graduates": [Overview](#)
- Provide 50001 Ready for Advanced SEM "Graduates": [Overview](#)
- [50001 Ready Sample Design Guide](#)

Design Guide provides:

- Overview of design elements
- Guidance

Utilities and other Program Administrators throughout the US have found SEM programs to be an effective way to help their industrial and institutional customers achieve deeper energy savings from capital projects and operations & maintenance improvements, but how they get there can vary significantly. Choosing an SEM program that is aligned with 50001 Ready prepares your customers to self-attest or certify their plant to ISO 50001 if and when they choose to, giving them a program and language that is consistent with efforts taken globally by other plants.

[For those just getting started: [What is an SEM program?](#)]



>> LAUNCHING A NEW 50001 READY SEM OR CEI PROGRAM

SEM programs are complex, and program development is complicated and can be costly. If you are considering implementing an SEM program, 50001 Ready resources are available to jumpstart the process, reduce the costs of your program development efforts, and provide your customers with a globally recognized approach.

Energy efficiency program administrators that want to launch a 50001 Ready SEM program can take the following steps:

1. Decide what type of 50001 Ready SEM program is right for you.

SEM programs, including the 50001 Ready SEM program, can come in many different "flavors" (e.g., length of engagement, amount and type of support to provide, whether to provide group workshops or cohorts). DOE's **50001 Ready SEM Program Design Tool** is available to help you make key decisions on what type of program might be right for you. Answer a few brief questions in the online tool and immediately receive recommendations to consider in designing an SEM program. [Use the 50001 Ready SEM Program Design Tool >](#)

Design tool provides guidance for designing a new SEM Program



50001 Ready U.S. DEPARTMENT OF ENERGY

Welcome to the 50001 Ready Navigator!

The 50001 Ready Navigator is an online application that provides step-by-step guidance for implementing and maintaining an energy management system in conformance with the ISO 50001 Energy Management System Standard. Join the 23,000+ facilities worldwide benefiting from an energy management system!

About the Navigator

Tell Me More

The 50001 Ready Navigator is an online guide for establishing an energy management system to plan, identify, procure, and implement projects that will improve your facility's energy performance. Completion of the 50001 Ready Navigator prepares facilities to pursue certification to the international best practice for energy management systems, ISO 50001.

What is Energy Management?

Energy management is a process for continual improvement of energy performance and efficiency that is integrated with an organization's existing business activities. Organizations with an energy management system achieve energy savings through continual decision making and the implementation of energy saving projects for facilities, processes, equipment and operations. ISO 50001 is the international standard for capturing and implementing energy management systems.

Why is Energy Management important?

Energy is a critical component to your organization's operations. It's important to realize that energy can be managed and controlled in a cost-effective manner. Energy management helps to reduce your organization's energy costs through improved energy performance and optimized use of energy systems and energy-related assets. To realize the savings of an energy management system, your organization should first implement an energy management system that can help you to save energy, cut costs, and stay competitive just like the 18,000+ ISO 50001 certified facilities!

Why should I use the 50001 Ready Navigator?

The 50001 Ready Navigator has been developed by the U.S. Department of Energy to help with the energy management system best practices outlined in ISO 50001. Use of the Navigator ensures that your organization stays a consistent distance from energy management systems and follows a clear, step-by-step approach to the implementation. The Navigator is designed to help your organization build towards all parts of ISO 50001, so that you can get access to being 50001 Ready, or pursue ISO 50001 as a higher Energy Performance Opportunity.

What is 50001 Ready?

50001 Ready is a U.S. Department of Energy designation for facilities and organizations that have implemented an ISO 50001-based energy management system using the guidance in the 50001 Ready Navigator and that have demonstrated energy performance improvements. To be 50001 Ready, participating organizations are responsible for

Explore the Navigator

Dashboard

100% Completion Required to Earn 50001 Ready! The DOE award support energy in your region.

100% Completed



Task Assignments

Energy Policy, Energy Team, Management Commitment, Legal Requirements

Energy Policy

Task, Assigned To, Status, Action

1. Energy Policy, Eric Name Last Name, Completed

2. Management Commitment, Eric Name Last Name, Completed

3. Energy Team, Eric Name Last Name, Completed

4. Legal Requirements, Eric Name Last Name, Completed

Create an Account or Log-in to Get Started

EMAIL ADDRESS

ENTER PASSWORD

Log In

Forgot password?

Task Resources



50001 Ready
U.S. DEPARTMENT OF ENERGY

Navigator

Language: English

[Log In](#) [Contact](#) [FAQs](#) [Explore](#)

[+ Create New Project](#) [Dashboard](#) [Planning](#) [Energy Review](#) [Continual Improvement](#) [System Management](#)

Dashboard

[← Back to Main](#) [Getting Started](#) [About the Navigator →](#)

OVERALL PROGRESS:
0% Completed

0% PLANNING

0% ENERGY REVIEW

0% CONTINUAL IMPROVEMENT

0% SYSTEM MANAGEMENT

Task Assignments

[Planning](#) [Energy Review](#) [Continual Improvement](#) [System Management](#)

Energy Review

Task	Assigned To	Approver	Status	Status Date
6 Data Collection		Log in to track progress		
7 Data Analysis	none	Log in to track progress		
8 Significant Energy Uses (SEUs)	none	Log in to track progress		
9 Relevant Variables	none	Log in to track progress		
10 Performance Indicators (EnPIs)	none	Log in to track progress		
11 Baselines, Objectives and Targets	none	Log in to track progress		
12 Improvement Opportunities	none	Log in to track progress		
13 Improvement Projects	none	Log in to track progress		

Task Resources: Learning Modules and Task Text



The screenshot shows the 50001 Ready Navigator interface. At the top, there is a navigation bar with '50001 Ready U.S. DEPARTMENT OF ENERGY' on the left, 'Navigator' in the center, and 'Log In', 'Contact', 'FAQs', and 'Explore' on the right. Below this is a secondary navigation bar with 'Dashboard', 'Planning', 'Energy Review', 'Continual Improvement', and 'System Management'. The main content area is titled 'Energy Review' and features a 'Tasks:' dropdown menu set to 'Data Collection'. A progress indicator shows sections 6 through 13, with section 6 highlighted. The task description for 'Task 6: We have identified all our energy sources and uses and accurately collected the related energy consumption data' is displayed. To the right of the task description is a callout box asking for more guidance and providing a link to 'View Learning Module'. Below the task description is a 'Detailed Guidance: Data Collection' section with tabs for 'Getting It Done', 'Task Overview', 'Full Description', 'Notes', 'Resources', 'History', and 'Assignments'. The 'Getting It Done' tab is active, showing a list of instructions. At the bottom of the task description, there is a 'Need assistance?' section with links to 'Contact the 50001 Ready Help Desk' and 'Download as PDF'.

Training videos for this task for end-users

All text for the task

Task Resources



50001 Ready
U.S. DEPARTMENT OF ENERGY

Navigator

Language: English

Log In | Contact | FAQs | Explore

+ Create New Project

Dashboard | Planning | Energy Review | Continual Improvement | System Management

View Guidance | Task Index | Resource Index | EnPI Lite Calculator

Dashboard

← Back to Main | **Getting Started** | About

OVERALL PROGRESS:
0% Completed

0%	0%	0%	0%
PLANNING	ENERGY REVIEW	CONTINUAL IMPROVEMENT	SYSTEM MANAGEMENT

Task Assignments

Planning | Energy Review | Continual Improvement | System Management

Planning

Task	Assigned To	Approver	Status	Status Date
1 Scope and Boundaries	none	Log in to track progress		
2 Energy Policy	none	Log in to track progress		
3 Management Commitment	none	Log in to track progress		
4 Energy Team	none	Log in to track progress		
5 Legal Requirements	none	Log in to track progress		



50001 Ready Navigator Resources

The following is a complete list of all 50001 Ready Navigator support resources. See **50001 Ready Navigator guidance** for specific lists of resources by task.

FILTER BY: Show All Resources [128]

128 Resources

Name	Short Description
Business Drivers and the EnMS	This Resource is helpful to understand the different types of business drivers for the development of an EnMS and to help organizations to think about energy management and improved energy performance within the context of their organization and its current and future business priorities and needs.
Management Review Record Form	A template that may be used to document the management review, attendees and what was covered/need follow up.
Energy Tracking Small Enterprise Case Study (example)	This resource shows a very simple approach to energy tracking which may be adequate for many small businesses.
Case Study for a Large Enterprise	This resource shows energy tracking data for a large food manufacturing plant. Energy data being tracked include utility inputs, annual energy cost for electricity and natural gas, and water usage and cost.
Energy Footprint Tool	The Energy Footprint Tool can help manufacturing, commercial and institutional facilities to track their energy consumption, factors related to energy use, and significant energy end-use.
Data Collection Management Matrix Commercial (example)	A data collection management matrix table with example commercial data populating fields for reference purposes.

Filter by task

Download any Navigator "resource"

- Tools
- Forms
- Templates
- Examples



- On any of the resources
- On additional resources that may be useful
- On the website

Sandy Glatt: sandy.glatt@ee.doe.gov

Sergio Dias: Sergio@SergioDiasConsulting.com