



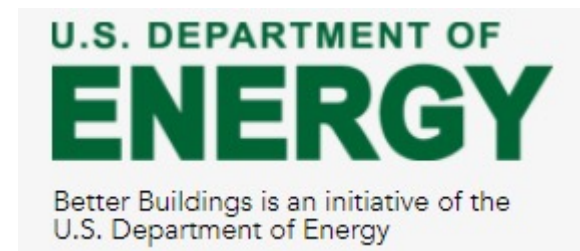
Strategic Energy Management (SEM) with ISO 50001 and 50001 Ready

ORNL 50001 Ready Training
Webinar Series, Session 1
January 18, 2022
10:00 a.m. to 12:30 p.m.

Agenda – Session ONE



- Welcome, Safety, and Housekeeping
- Introductions
- Today's Content – Introduction and Overview
 - Training versus Implementation
 - Why Strategic Energy Management (SEM)
 - Why 50001?
 - Introduction to the 50001 Ready Navigator
- Webinar Training Schedule
- Resources
- Q&A



Polling Question 1

Polling Question

1) Why did you decide to attend this training on 50001 Ready and energy management?

- A. Curiosity
- B. My boss signed me up
- C. It is free
- D. I have a corporate mandate to improve energy management
- E. I am in a new role requiring better energy management skills
- F. I need professional development hours
- G. I heard Mike Stowe was the best instructor ever
- H. Other

Welcome



- Welcome to the Virtual INPLT 50001 Ready webinar training series
- Eight, 2-1/2 hour webinars, focused on Strategic Energy Management (SEM), in general, and the ISO 50001 standard and 50001 Ready Navigator, in particular
- The webinars will help you understand the why and how of SEM and the 50001 Ready Navigator tool
- Thank you for your interest!



Safety and Housekeeping

- Please make sure that your surroundings are safe:
 - If you are driving, please use hands free mode
 - If you are in a building, be sure you know the exit paths
 - If you are at home, be sure there are no distractions
- You are welcome to ask questions at any time during the webinar
- When you are not asking a question, please MUTE your mic and this will provide the best sound quality for all participants
- We will be recording all these webinars and by staying on-line and attending the meeting you are giving your consent to be recorded
 - A link to the recorded webinars will be provided, afterwards



Our 50001 Ready Training Group



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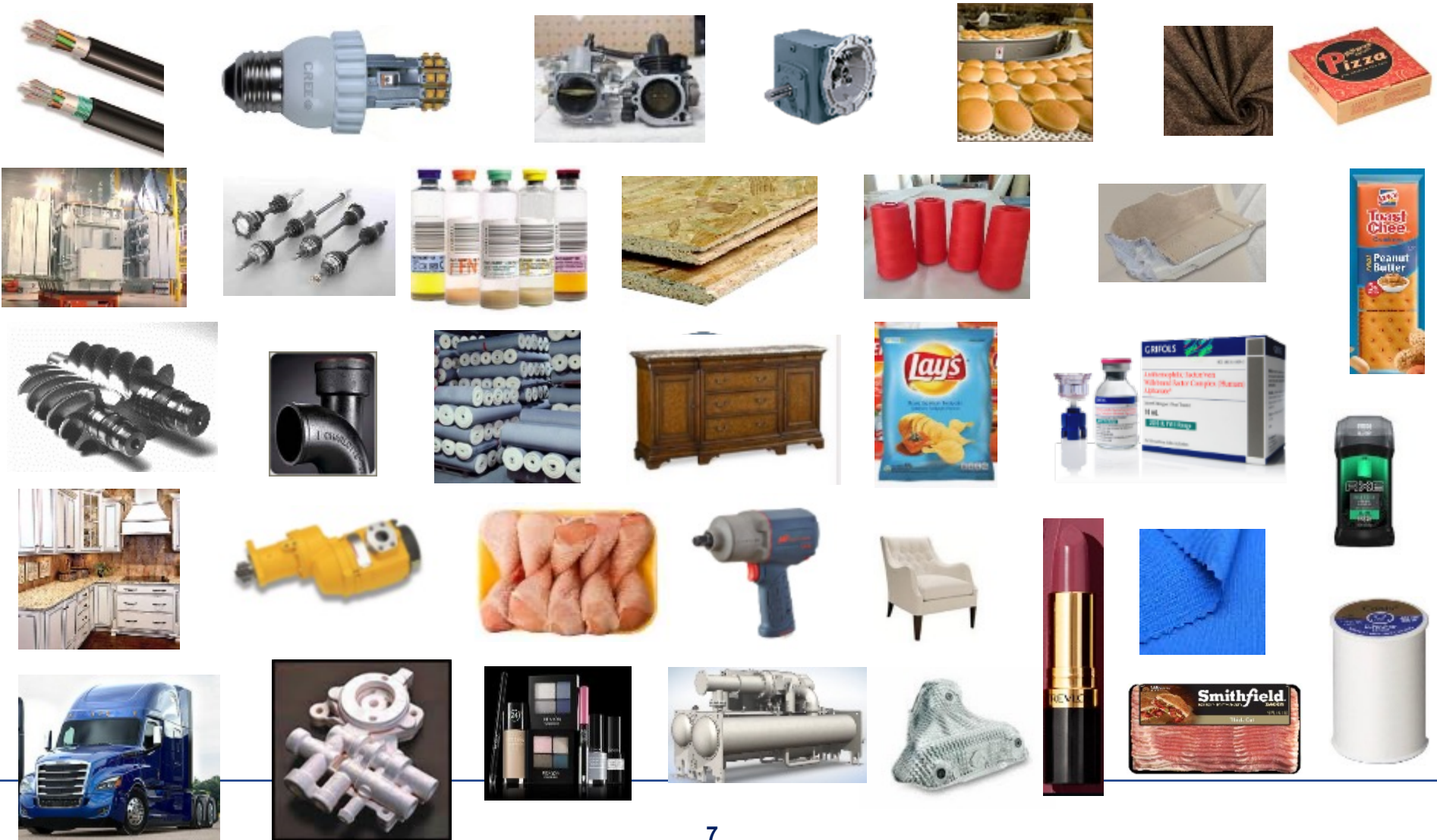
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ESTÉE LAUDER



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- Today's Content

Introduction and Overview of 50001 Ready

Today's Topics



- Quick List of Acronyms
- 50001: Training vs. Implementation
- Why Strategic Energy Management (SEM)?
- Why 50001?
- Overview of 50001 Ready Navigator Tool



Quick List of Acronyms

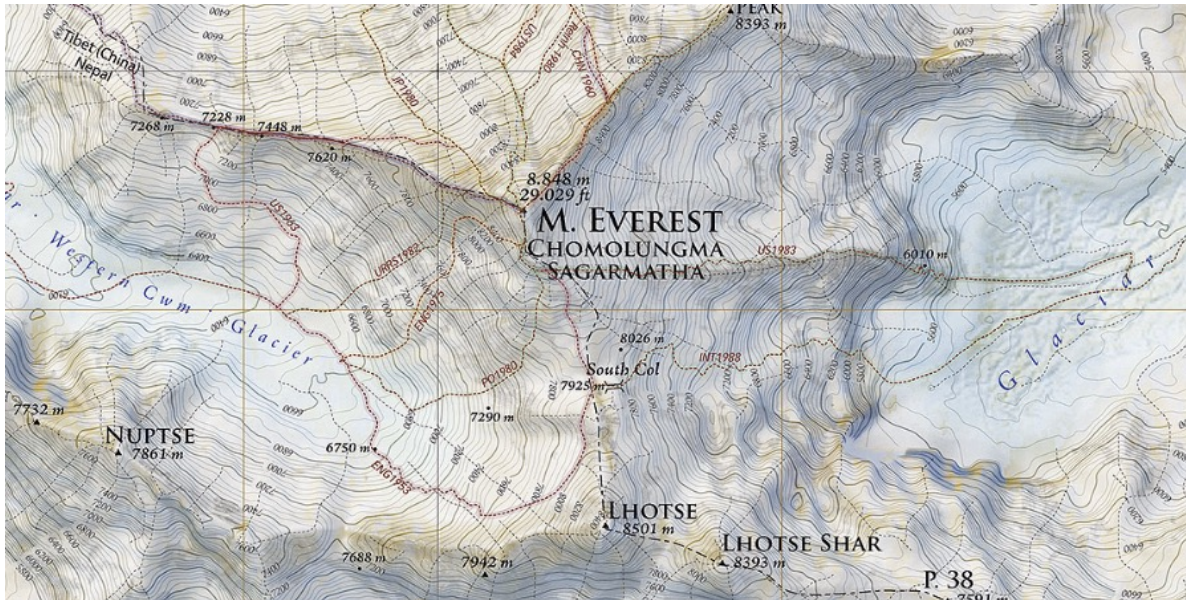
- SEM = Strategic Energy Management
- EnMS = Energy Management System
- SEU = Significant Energy Use
- EnPI = Energy Performance Indicator
- EnB= Energy Baseline
- PDCA = Plan, Do, Check, Act
- Glossary

50001: Training versus Implementation

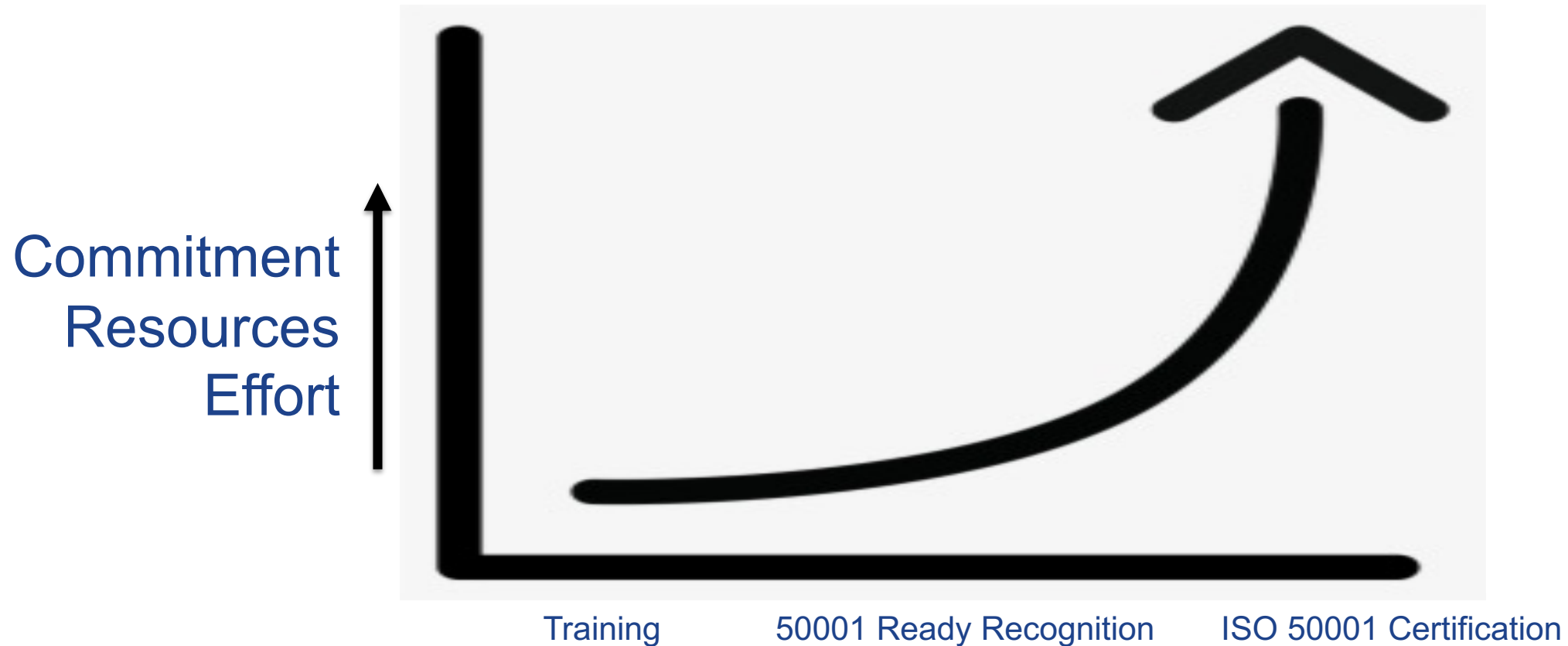
- This eight-week webinar series is focused on knowledge transfer to help you:
 - Understand energy management principles
 - Gain an overview of the scope of 50001 based energy management
 - Learn about the 50001 Ready navigator tool and its 25 tasks
 - Understand where your organization is relative to the requirements of 50001
 - Evaluate where your organization will go next on its energy management journey
- During this webinar series, please consider if you and your organization are ready for a deeper dive into energy management via the DOE/AMO sponsored cohort program
 - We will talk about this option during our webinar series

50001: Training versus Implementation

- There is a significant difference between studying the map (i.e., training) and climbing the mountain (i.e., implementation)



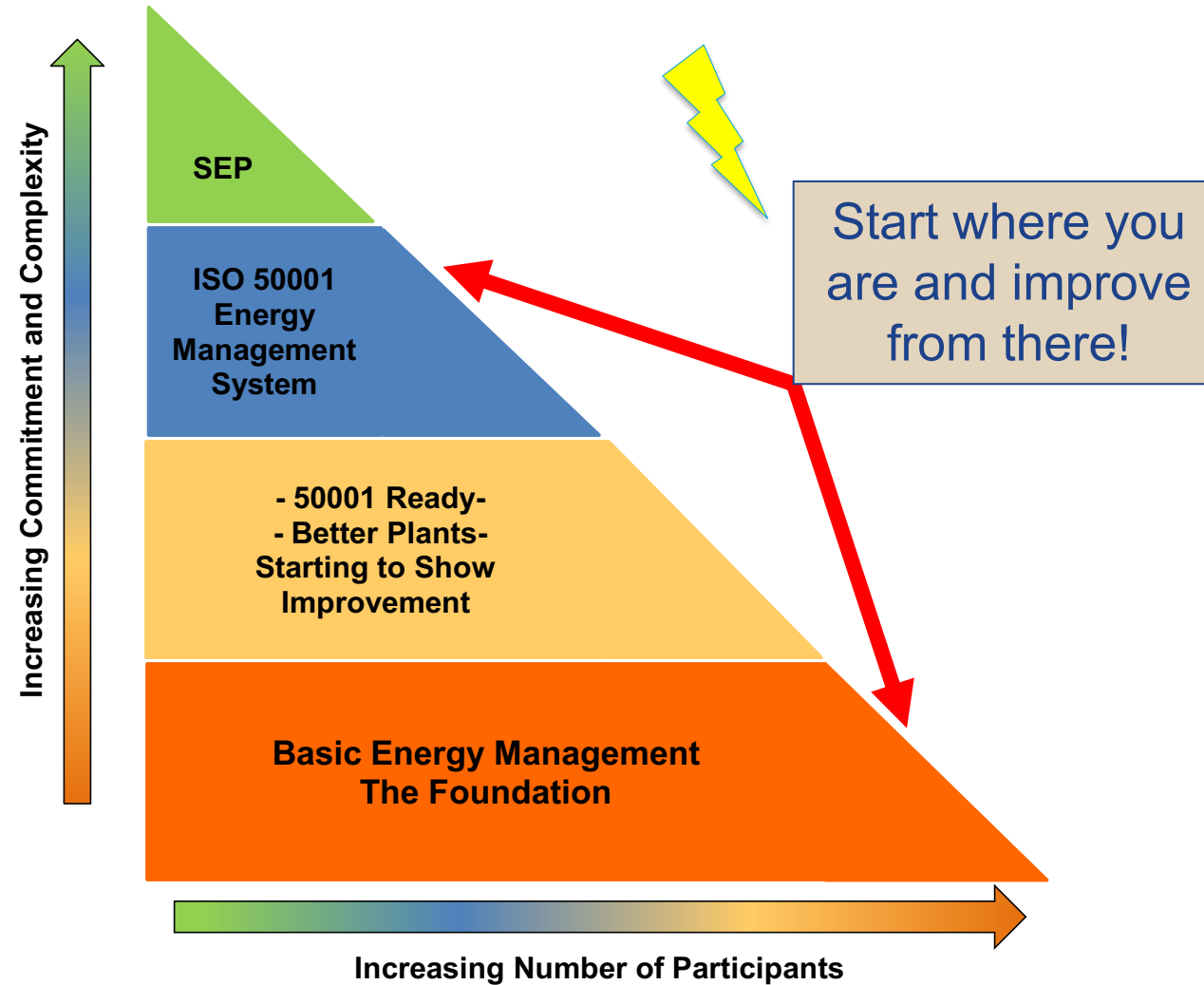
50001: Training versus Implementation



50001: Training versus Implementation

Item Description	Training	Implementation
Signed participation agreement	NO	YES
Data collection: surveys, site info, energy info, gap assessments, etc.	NO	YES
Set up a 50001 Ready account	Recommended	Required
Webinar training sessions	YES	YES
Polls and Knowledge Checks	YES	YES
1-on-1 calls with each site	NO	YES
Homework assignments	Surveys Only	YES
Download task playbooks from 50001 Ready	Optional	Required
Complete playbooks for each task	NO	YES
Maintain task status in 50001 Ready	NO	YES
Apply for and achieve 50001 Ready Recognition	NO	YES

Why SEM? - The Continuum

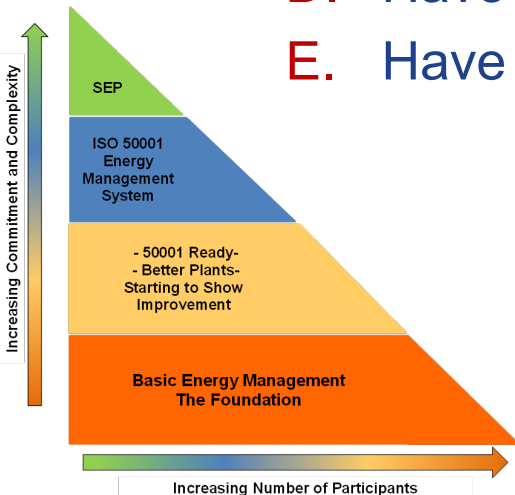


Polling Question 2

Polling Question

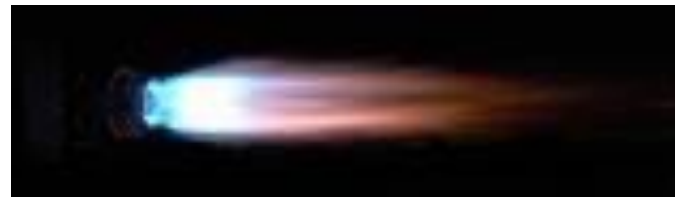
2) Based on the SEM Continuum on the previous slide, where do you feel your company is?

- A. Just starting with the basics
- B. Have been working with Better Plants and are ready to engage more with 50001 Ready
- C. Have some sites with 50001 Ready Recognition and plan to do more
- D. Have some sites with ISO 50001 certification and plan to do more
- E. Have plans to pursue Superior Energy Performance (SEP) at one or more sites



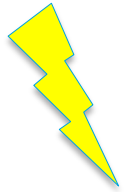
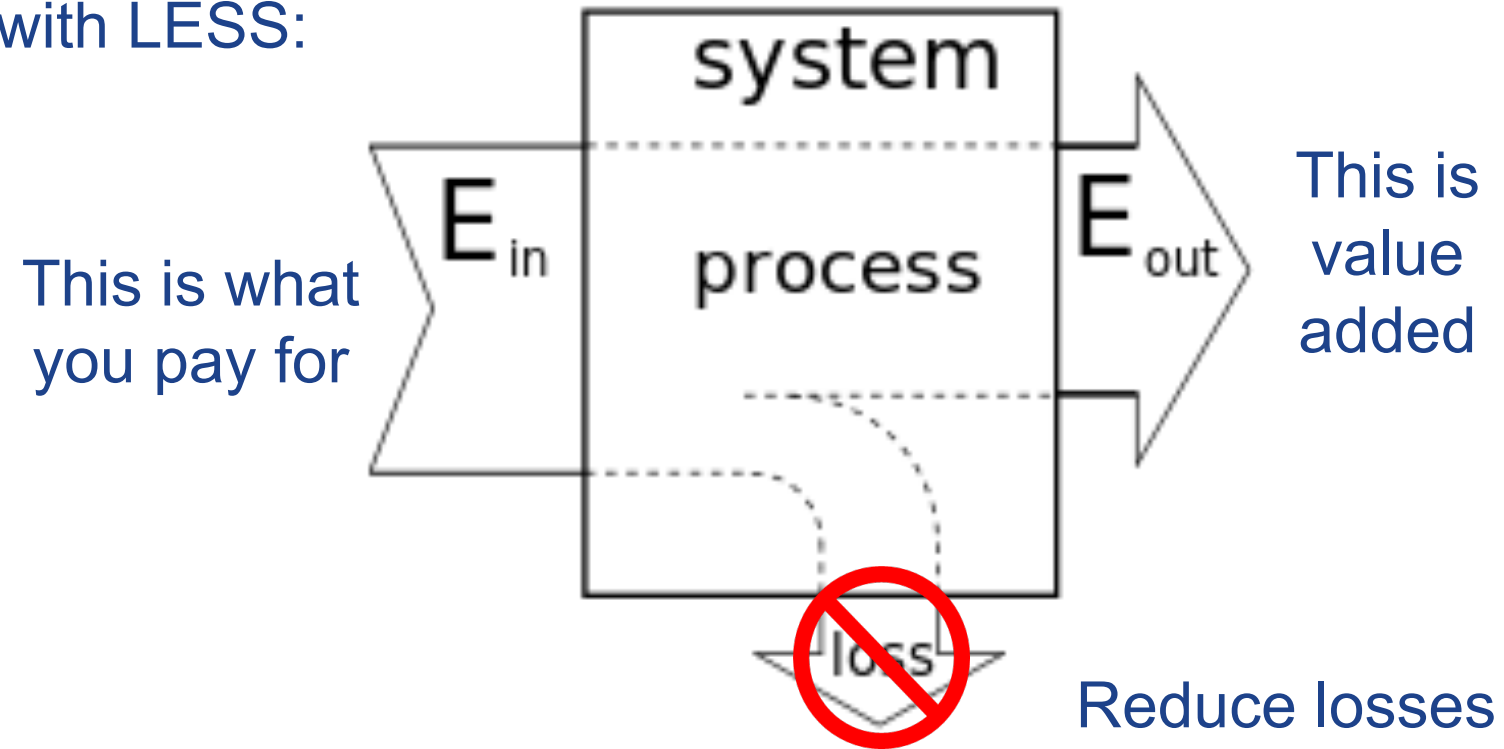
Why SEM?

- 33.63 Quadrillion BTUs
- Make more with less
 - Lean Principles
- Reduce energy intensity
 - LESS MMBTU/ton
 - LESS MMBTU/linear yard
 - LESS MMBTU/widget
 - LESS MMBTU/square foot
- Cleaner and Greener:
 - Reduce carbon footprint and greenhouse gases



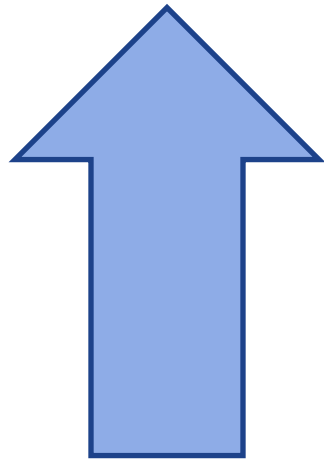
Why SEM? - Energy Efficiency

- Make MORE with LESS:



Get as close to 100% as is technically and economically possible

Why SEM? – EE & EI



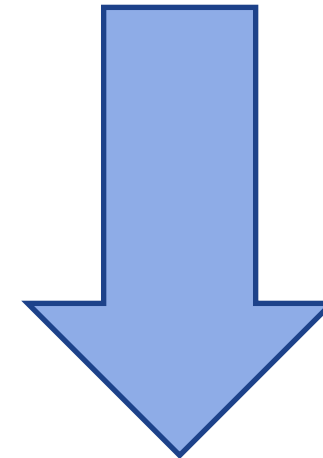
INCREASE Energy Efficiency (EE)

TO

REDUCE Energy Intensity (EI)

&

REDUCE Energy Costs \$\$\$



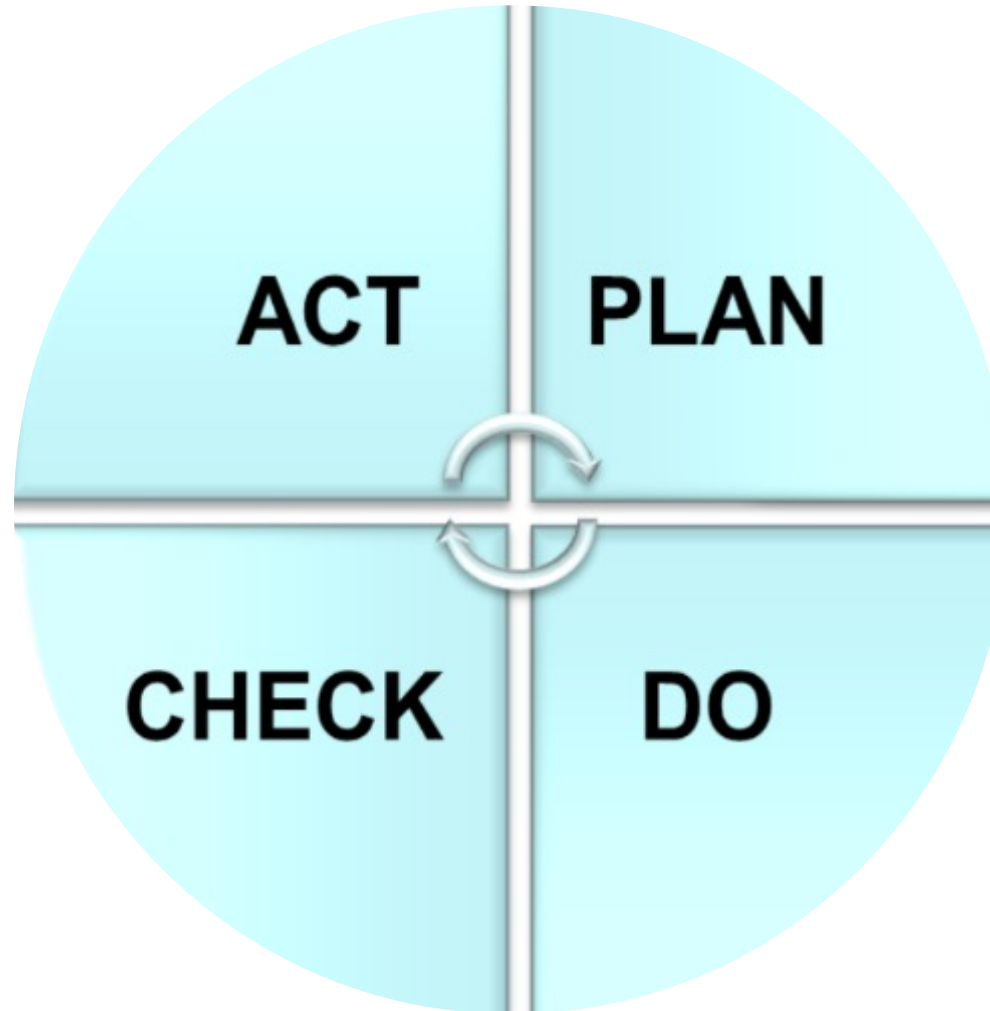
Why SEM? - Non-Energy Benefits

Non-Energy Benefits of Energy Projects:

- Increase plant productivity
- Improve product quality
- Reduce scrap
- Break a process bottleneck
- Reduce overtime
- Improve worker comfort
- Increase available floor space
- Improve work-flow
- Reduce emissions
- Improve safety



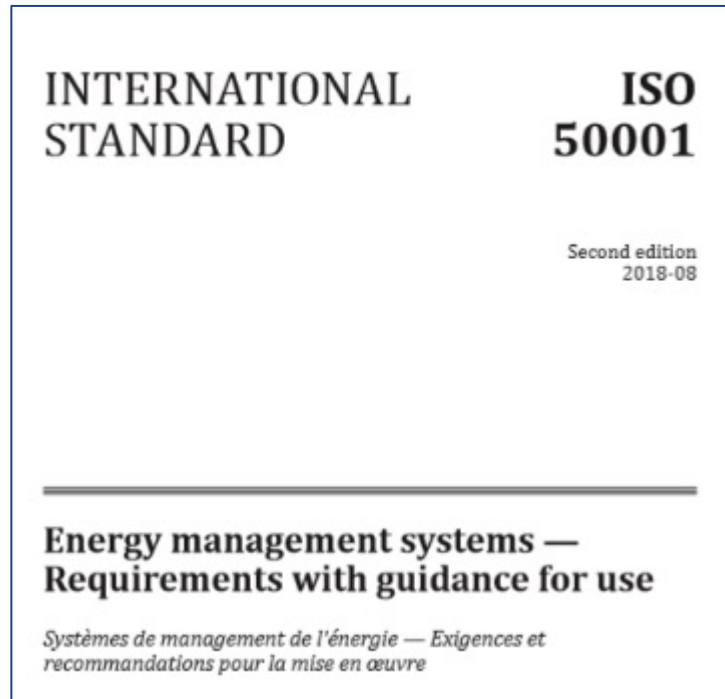
Why SEM? - Continual Improvement



Why 50001?: Background



50001 Ready is a recognition program based on the ISO 50001 Standard





Why 50001?: A System

Navigator

LANGUAGE
English

Log In

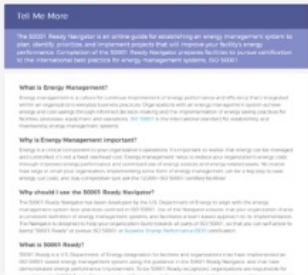


Welcome to the 50001 Ready Navigator!

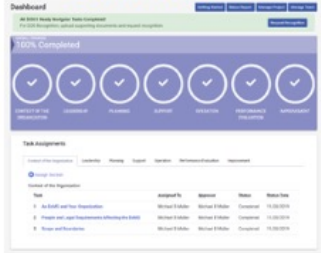
The 50001 Ready Navigator is an online application that provides step-by-step guidance for implementing and maintaining an energy management system in conformance with the ISO 50001 Energy Management System Standard. Join the 23,000+ sites worldwide benefiting from an energy management system!

The 50001 Ready Navigator has been updated to reflect the changes made to the ISO 50001 standard in 2018. The original version of the 50001 Ready Navigator, based upon the 2011 publication of ISO 50001, will be available online for one year and accessible by existing projects to allow for a seamless transition to the revised version. Information about the full transition from the current to updated 50001 Ready Navigator is available below.

About the Navigator



Explore the Navigator



Create an Account or Log-in to Get Started

EMAIL ADDRESS

ENTER PASSWORD

Log In

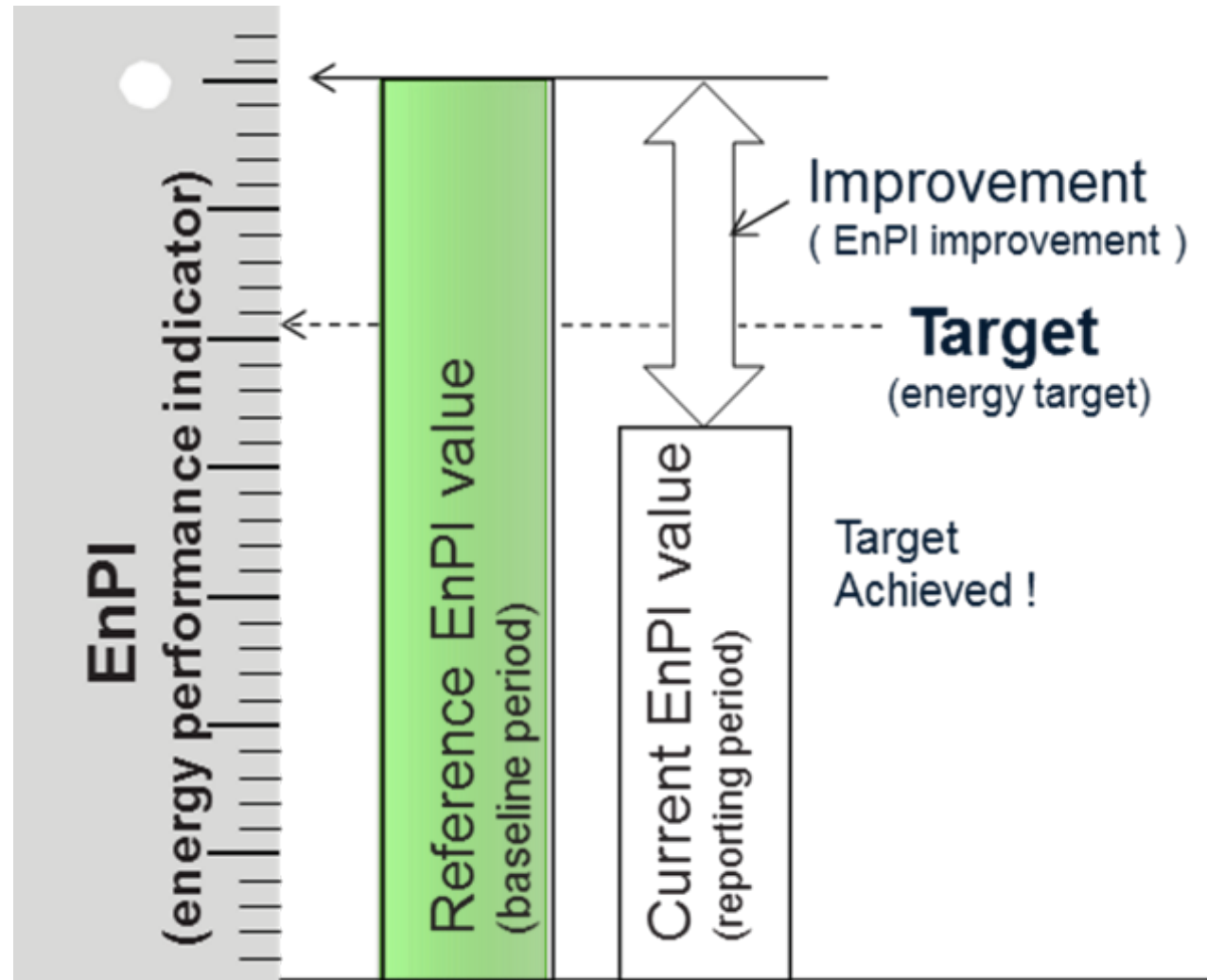
[Forgot password?](#)

50001 Ready Navigator ISO 50001:2018 Update

The 50001 Ready Navigator's structure and tasks have been updated to align with ISO 50001:2018. Documentation of this can be found here:

[Navigator crosswalk](#)

Why 50001?: Goal Oriented & Data Driven



Why 50001?: Proven Results

- Companies with formal SEM systems have better energy performance improvement:
 - Schneider Electric
 - 19% average improvement with ISO 50001
 - Versus 11.5% without
 - 3M
 - 10.5% average improvement with ISO 50001
 - Versus 6.5% without
- ISO 50001 will help formalize your energy management into a system

Continual Improvement



Energy & Cost Reduction Over Time

Why 50001?: Requires Commitment

STRONG management commitment is essential:

- Allow time for energy team participation
- Allow time for EnMS development
- Provide resources needed to succeed
- Provide resources for travel to trainings, as needed
- Provide capital funding for energy improvement
- Communicate energy policy and its importance
- Provide resources for internal auditing
- Conduct meaningful management reviews



Why 50001?: Leverage

Previous experience with other ISO management systems is a plus:

- ISO 9001 for Quality
- ISO 14001 for Environmental
- OSHAS 18001, now ISO 45001: for Occupational Health and Safety

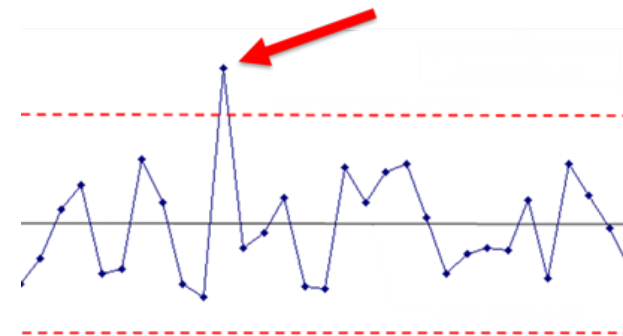


...but not a requirement.

50001 Ready supports starting from scratch also.

Why 50001?: Similarities to Other ISOs

- Similarities to ISO 9001, 14001 & 45001
 - Many processes are the same
 - Management systems topics are similar
 - Energy specific topics are unique for 50001
- Basics for all management systems
 - Scope and boundaries
 - Top management commitment
 - A related policy with objectives/targets
 - Awareness and communications
 - Documents and records
 - Internal auditing
 - Corrective action process
 - Management review
 - A continual improvement process



Why 50001?: A Pathway to Meet YOUR Organizations Goals



50001 Ready is part of a Pathway toward ISO 50001 Certification and (if desired) Validated Energy Savings in SEP

Why 50001?: Summary

- Worth the effort
- An alternative
- Help for the weary
- A heavy lift needs leverage
- The right tools
- Step-by-step
- Proven improvement
- Dashboard tracking
- Great resources
- Self attesting
- Lots of FREE support





The 50001 Ready Navigator



Active Partner Referral | Advanced Energy

[more information](#)[cancel referral](#)



Partnering with:


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, prioritize, and implement projects that will improve your facility's energy performance. Completion of the 50001 Ready Navigator presents facilities to pursue certification to the international best practice for energy management systems, ISO 50001.

What is Energy Management?

Energy management is a culture for continual improvement of energy performance and efficiency that's designed and/or an organization's strategic business objectives. Organizations with an energy management system achieve energy and cost savings through informed decision making and the implementation of energy saving practices for facilities, processes, equipment, and operations that align with the international standard for sustainability 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. It's not a fixed overhead cost. Energy management helps to reduce your organization's energy costs through improved energy performance and optimized use of energy systems and energy resources. No matter how large or small your organization implementing some form of energy management can be a key step to lower energy costs, and the competitive edge with the 50001 ISO 50001 certification.

Why should I use the 50001 Ready Navigator?

The 50001 Ready Navigator has been developed by the U.S. Department of Energy to align with the energy management system best practice outlined in ISO 50001. The online Navigator allows that your organization shares a consistent definition of energy management systems and provides a step-by-step approach to its implementation. The Navigator is designed to help your organization rapidly establish all parts of ISO 50001, so that you can be certified to being "50001 Ready" or receive ISO 50001 or ISO 50001 Energy Partner status ISO certification.

What is 50001 Ready?

50001 Ready is a U.S. Department of Energy program 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 recognized, organizations are responsible for:

Explore the Navigator

Dashboard

100% Completed

100% Completed

100% Completed

100% Completed

100% Completed

Task Assignments

Planning

Task	Assigned To	Status	Status Date	Action
1. Scope and Resources	First Name Last Name	Completed	1	
2. Energy Policy	First Name Last Name	Completed	2	
3. Management Commitment	First Name Last Name	Completed	3	
4. Energy Team	First Name Last Name	Completed	4	
5. Legal Requirements	First Name Last Name	Completed	5	


Create an Account *or* Log-in to Get Started

EMAIL ADDRESS

ENTER PASSWORD

Log In

[Forgot password?](#)

 **Better Plants**
U.S. DEPARTMENT OF ENERGY

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ENERGY

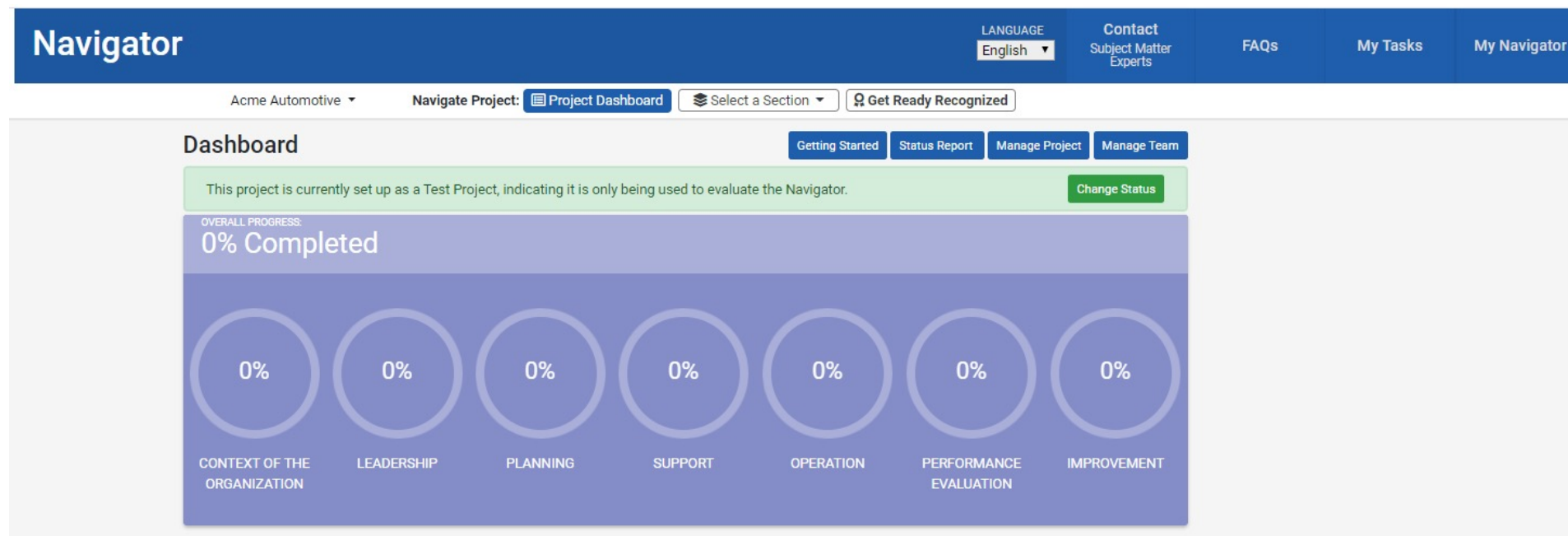
Overview of 50001 Ready - The Tool

1. Recognition for self-attesting to implementation of an EnMS based on the structure of ISO 50001
2. No certification required from third-parties
3. Open-source software tools, designed to be adopted by implementers
4. Suite of resources to support continual improvement in institutional, commercial and industrial facilities
5. Able to support enterprise or multi-facility companies



Overview of 50001 Ready - Dashboard

50001 Ready is an online, web-based 25 task process for energy management



Overview of 50001 Ready - Multisite

There is functionality for tracking a multisite effort with a central office with many separate locations working together

[CO] Glen Raven ▾







Central Office Portfolio View


Central Office Dashboard | Manage Central Office | Manage CO Team | Add Site

Central Office CONTRIBUTOR

Central Office Tasks: ☐ Not Started ☐ In Progress ☐ Ready for Review by Site ☐ Support Only ☐ Completed

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

Contact	Site Name	Task Progress	Action	Last Activity
	GR Offices	<div><div>1 2 3 4 5 6 7 8 9 10 11 12 13</div><div>14 15 16 17 18 19 20 21 22 23 24 25</div></div>	Continue Setup	01/25/2021 Notes 0 Remove
	GR Anderson	<div><div>1 2 3 4 5 6 7 8 9 10 11 12 13</div><div>14 15 16 17 18 19 20 21 22 23 24 25</div></div>	Continue Setup	01/25/2021 Notes 0 Remove
	GR Burnsville	<div><div>1 2 3 4 5 6 7 8 9 10 11 12 13</div><div>14 15 16 17 18 19 20 21 22 23 24 25</div></div>	Continue Setup	01/25/2021 Notes 0 Remove
	GR Norlina	<div><div>1 2 3 4 5 6 7 8 9 10 11 12 13</div><div>14 15 16 17 18 19 20 21 22 23 24 25</div></div>	Continue Setup	01/25/2021 Notes 0 Remove
	GR Novelty Yarn	<div><div>1 2 3 4 5 6 7 8 9 10 11 12 13</div><div>14 15 16 17 18 19 20 21 22 23 24 25</div></div>	Continue Setup	01/25/2021 Notes 0 Remove
	GR Yarn Plant	<div><div>1 2 3 4 5 6 7 8 9 10 11 12 13</div><div>14 15 16 17 18 19 20 21 22 23 24 25</div></div>	Continue Setup	01/25/2021 Notes 0 Remove

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50001 Ready Navigator Tasks

Context of the Organization	Leadership	Planning	Support	Operation	Performance Evaluation	Improvement
1. An EnMS and your Organization	4. Management Commitment	7. Risks to EnMS Success	14. Competence and Training	17. Operational Controls	20. Monitoring and Measurement of the EnMS	24. Corrective Action
2. People and Legal Requirements	5. Energy Policy	8. Energy Data Collection and Analysis	15. Awareness and Communication	18. Energy Considerations in Design	21. Monitoring and Measurement of Energy Performance Improvement	25. Continual Improvement
3. Scope and Boundaries	6. Energy Team and Resources	9. Significant Energy Uses	16. Documenting the EnMS	19. Energy Considerations in Procurement	22. Internal Audit	
		10. Improvement Opportunities			23. Management Review	
		11. Energy Performance Indicators (EnPIs) and Baselines (EnBs)				
		12. Objectives and Targets				
		13. Action Plans for Continual Improvement				

Context of the Organization (3)

Building a foundation for your EnMS



Regarding my EnMS, what are the:

- *Risks, opportunities and strategic issues;*
- *Legal and other requirements;*
- *Interested parties;*
- *Scope and boundaries?*

Leadership (3)

Commitment and guidance from the top



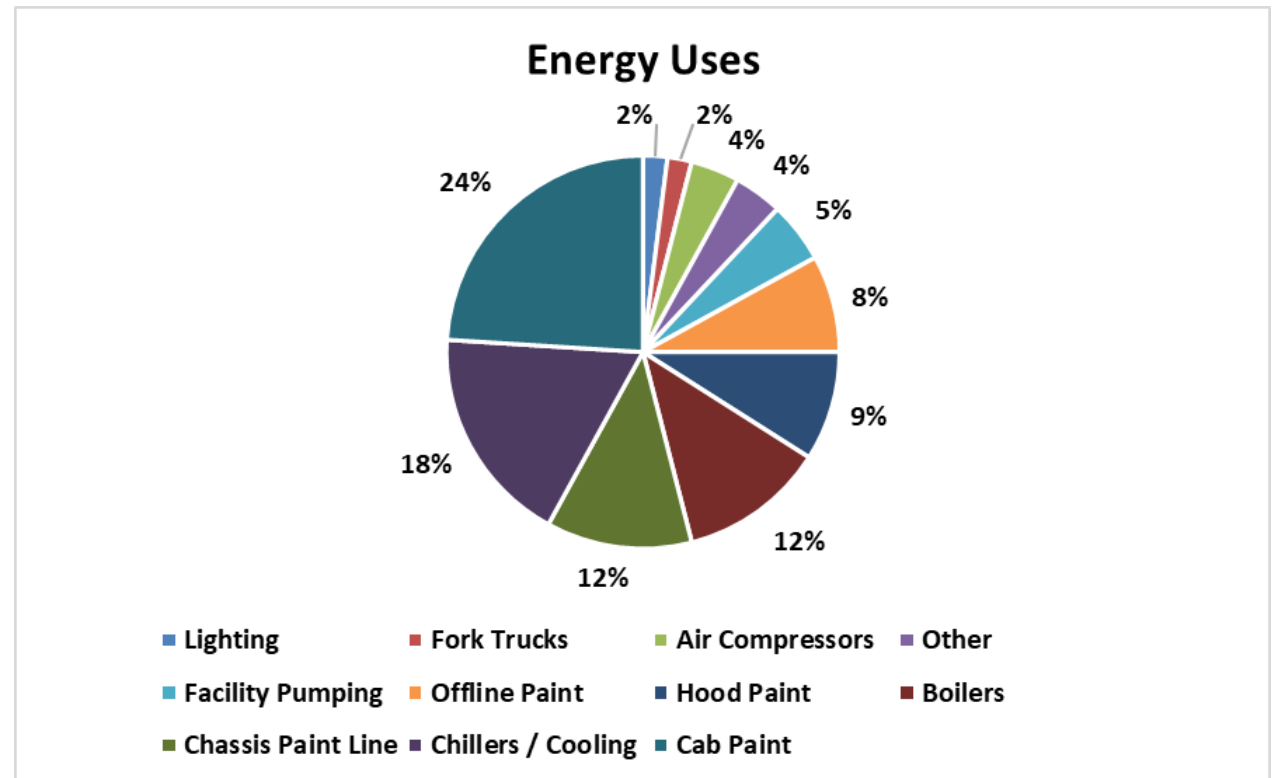
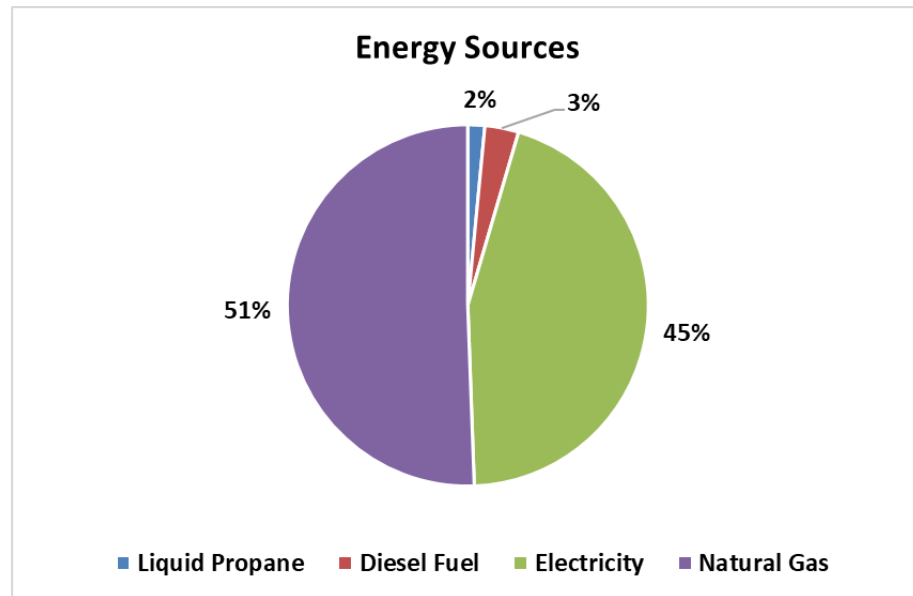
Is there strong top management commitment to the EnMS?

Is there a clear and well-communicated energy policy?

Are there adequate resources for the energy team to carry out the implementation of the EnMS?

Planning (7) – Two Key Pies

Understanding your energy performance



What energy comes into my site?

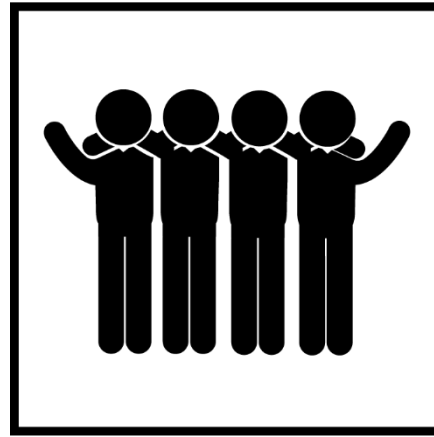
Where does all this energy go? [SEUs]

What are my EnPIs and EnBs?

What are my objectives, energy targets & action plans?

Support (3)

Ensure all team members who impact energy performance understand their role



Who impacts energy performance and our EnMS?

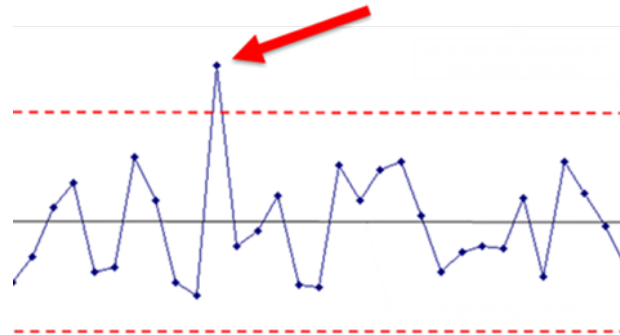
Are they aware, competent, trained, documented?

Is our training for them effective?

Do we maintain good documentation and records of our EnMS?

Operation (3)

Operate, maintain, design and procure to optimize energy performance



Do I have good operational and maintenance controls for my SEUs and action plans?

Do my operators know what to do when energy expectations are not met?

Are design and procurement teams are engaged?

Performance Evaluation (4)

Check on how you are doing for both your EnMS and your energy performance improvement



Are you effectively monitoring and measuring your EnMS and your energy performance improvement?

How are your tracking systems working?

Are internal audits and management reviews all set up?

Continual Improvement (2)

When we check, if things are not okay, then we act to fix them, and we do this in an ongoing method



Do you have a strong corrective action program to fix and follow up on nonconformities to your EnMS?

Do you continually improve both your EnMS and your energy performance?

Overview of 50001 Ready - Measured

Must measure energy performance for 50001 Ready recognition



50001 Ready Measurement & Verification Protocol

Revision Date: 19 April 2017

Activity: Walkthrough of the 50001 Ready Navigator

- Creating an account
- Creating a project and the multi-site function
- Explore the 50001 Ready Navigator
 - My Navigator Pull Down Menu
 - FAQs
 - Review the tabs on the tasks
 - Review playbooks
 - Notes, history and assignments tabs
 - Updating your site task status
 - Help



Overview of 50001 Ready - Guidance

Use the task completion guidance:
Start with the “Getting It Done” Tab

The screenshot displays the 50001 Ready task completion guidance interface. At the top, a purple header bar contains the 'Tasks:' dropdown menu set to 'Scope and Boundaries'. Below this, a navigation bar shows 'Previous', '1', '2', and '3' (the active tab), and 'Next Section →'. The main content area is titled 'Task 3: We have documented and approved the scope and boundaries of our 50001 Ready energy management system.' and includes a 'Get Help' button with a '50001 Ready Help Desk' link. The 'Current Status' is 'In Progress', and a note states 'You are currently not assigned to this task.' Below this, a 'Partner Task Guidance From: FEMP' section provides context on federal statutory requirements. The 'Detailed Guidance: Scope and Boundaries' section features a tabbed interface with 'Getting It Done' (selected), 'Task Overview', 'Full Description', 'Notes' (0), 'Resources', 'History', and 'Assignments'. A red arrow points to the 'Getting It Done' tab. The 'Getting It Done' section lists two steps: 1. Consider the strategic issues and requirements identified as part of Task 1 [An EnMS and Your Organization](#) to determine the scope and boundaries of the energy management system (EnMS). 2. Develop and document an EnMS Scope and Boundaries Statement.

Overview of 50001 Ready – Cross Reference

Use the cross-reference to ISO 50001

Tasks: Management Commitment

← Previous Section 4 5 6 NEXT →

Task 4: Our top management demonstrates leadership and commitment to continual improvement of energy performance and the effectiveness of the 50001 Ready system.

Get Help
50001 Ready Help Desk

Not Started ✕ In Progress ⚙ Ready For Review 🔍 Completed ✓

Your roles for this task: Contributor & Approver

Partner Task Guidance From: FEMP

42 U.S. Code § 8253(f)(2)(A) calls for the selection of an energy manager.

42 U.S. Code § 8262 may be used to clarify roles within the Energy Team.

Detailed Guidance: Management Commitment

Getting It Done Task Overview Full Description Notes 🟡 Resources History 👤 Assignments

Task Overview

Probably the most critical key to the success of an energy management system (EnMS) is involvement and commitment by top management. This does not mean top management needs to be at energy team meetings and approve all decisions but they need to provide honest, constant, and visible commitment to the concept and implementation of the EnMS. In addition to providing the leadership needed to improve energy performance and the EnMS, top management must demonstrate that they perform the specific responsibilities assigned to them within the continual improvement framework of the EnMS. Not only does top management approve and authorize an EnMS, they are responsible and accountable for ensuring its ongoing suitability, adequacy, and effectiveness.

This guidance is relevant to Section 5.1 of the ISO 50001:2018 standard.

Overview of 50001 Ready - Playbooks

Download and use the “playbook” resource for each task. These are word documents that can be filled in with your information.

Tasks: Energy Policy

← Previous 4 5 6 NEXT →

Task 5: We have an energy policy statement, which has been approved by top management and communicated across the organization.

Get Help
50001 Ready Help Desk

Current Status: **In Progress**
You are currently not assigned to this task.

Partner Task Guidance From: FEMP

42 U.S. Code § 8253 contains the core of the federal requirements related to energy performance and energy management that may be used for this Navigator task.

Detailed Guidance: Energy Policy

Getting It Done Task Overview Full Description Notes Resources History Assignments


Resources

Name	Type	Description
50001 Ready Playbook Task 05	docx	Energy Policy

Task 9: Playbook - EXAMPLE

Activity

- Look at Task 9 in 50001 Ready
- Look at the Task 9 Playbook

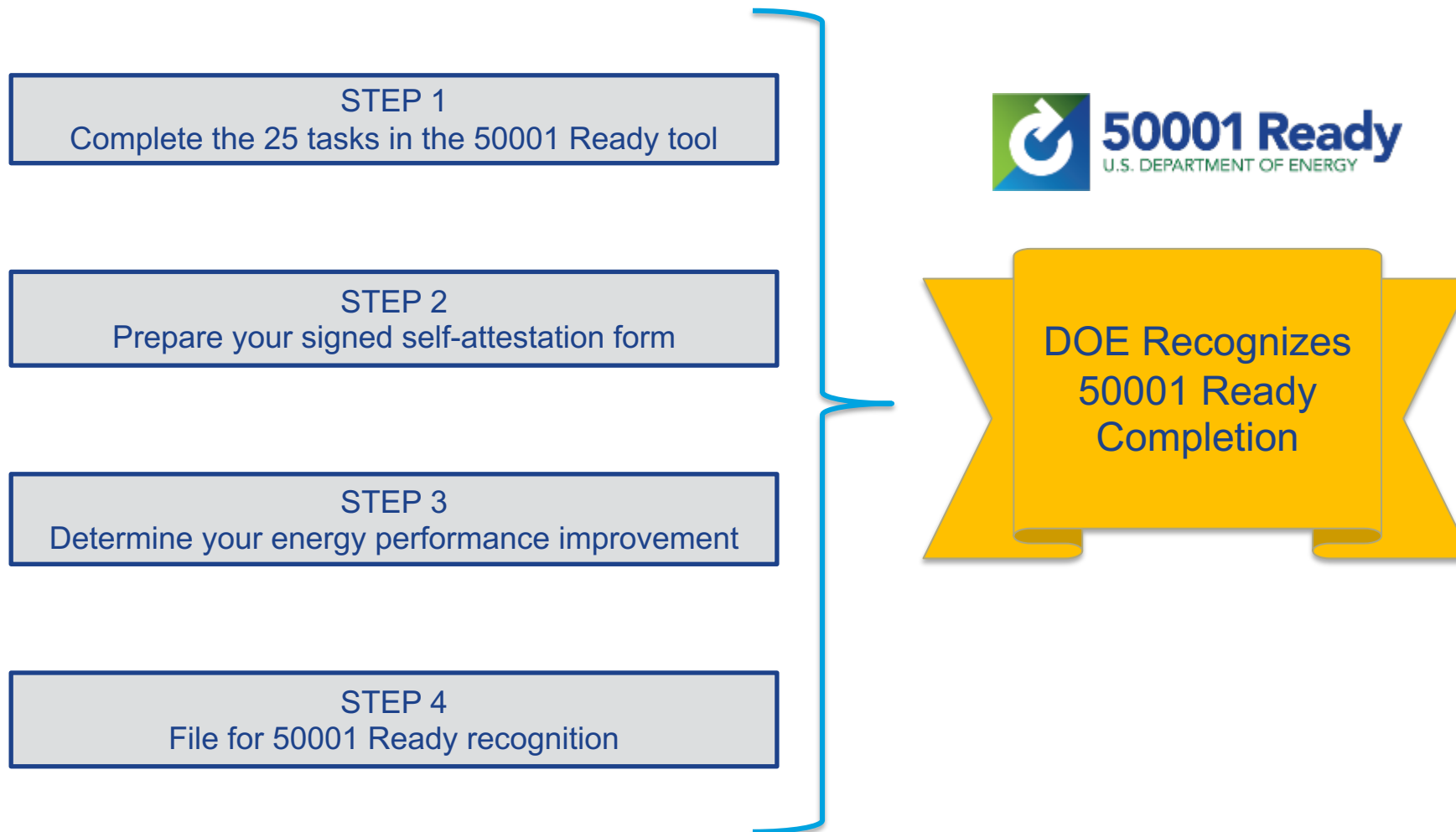
	50001 Ready U.S. DEPARTMENT OF ENERGY	50001 Ready Navigator Playbook
Task 9: Significant Energy Uses (SEUs)		
Date last modified/updated: Click here to enter a date.		Internal audit: Click here to enter a date.
Who last modified/updated: Click here to enter text.		Management review: Click here to enter a date.
<p>This part of the Navigator Playbook is completed when you have:</p> <ol style="list-style-type: none">1. Identified the energy uses that consume the most energy within your boundaries.2. Identified factors and persons that affect the energy consumption of identified energy uses.3. Established selection criteria for identifying which of these energy uses should be a significant energy use (SEU).4. Determine SEU energy performance based upon energy consumption and relevant variables as appropriate.5. Review the SEU selection criteria as part of the SEU update process.		
<ol style="list-style-type: none">1. <u>Identify the energy uses that consume the most energy within your boundaries.</u>2. <u>Identify factors and persons that affect the energy consumption of identified energy uses.</u>		

Overview of 50001 Ready - Goals

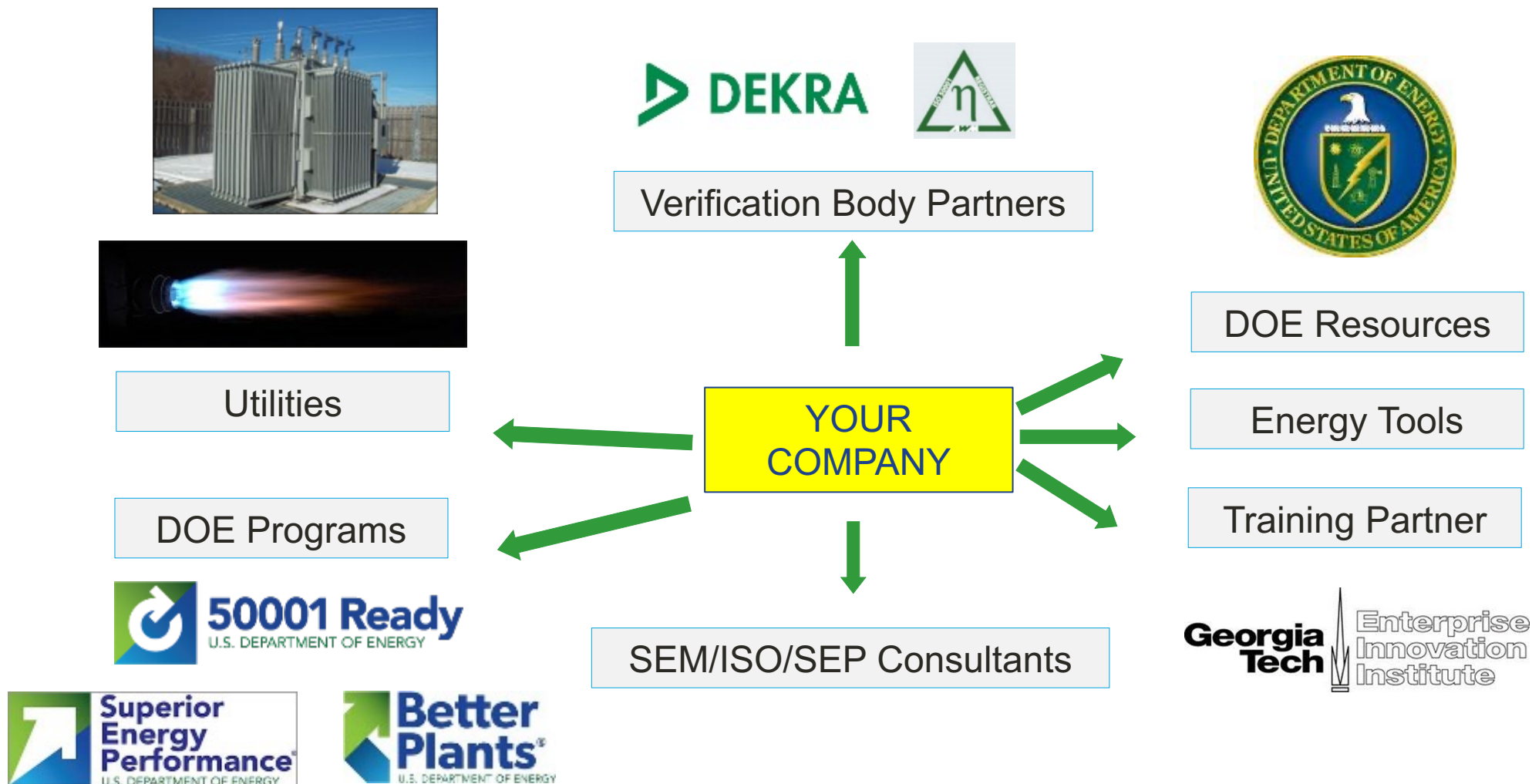
- Gain an understanding of ISO 50001
- Use the 50001 Ready Navigator tool to complete the 25 tasks
- Gain DOE recognition for self-attesting to this completion
- Demonstrate continual energy performance improvement (now a “shall” in ISO 50001: 2018)
- Improve overall plant operations



Overview of 50001 Ready – Goals - Recognition



Overview of 50001 Ready: Summary



Survey Says.....

4 out of 5 energy consultants surveyed*
recommend you use



To prevent this from happening to your
energy team



*No actual survey was taken. This is just used to make a point.

Polling Question 3

Polling Question

- 3) After listening to today's webinar session, how do you feel about 50001 Ready helping you with your energy management plans:
- A. Overwhelmed
 - B. Cautiously optimistic
 - C. Encouraged
 - D. Ready to get Ready
 - E. I want my money back. Oh, wait. It was free!

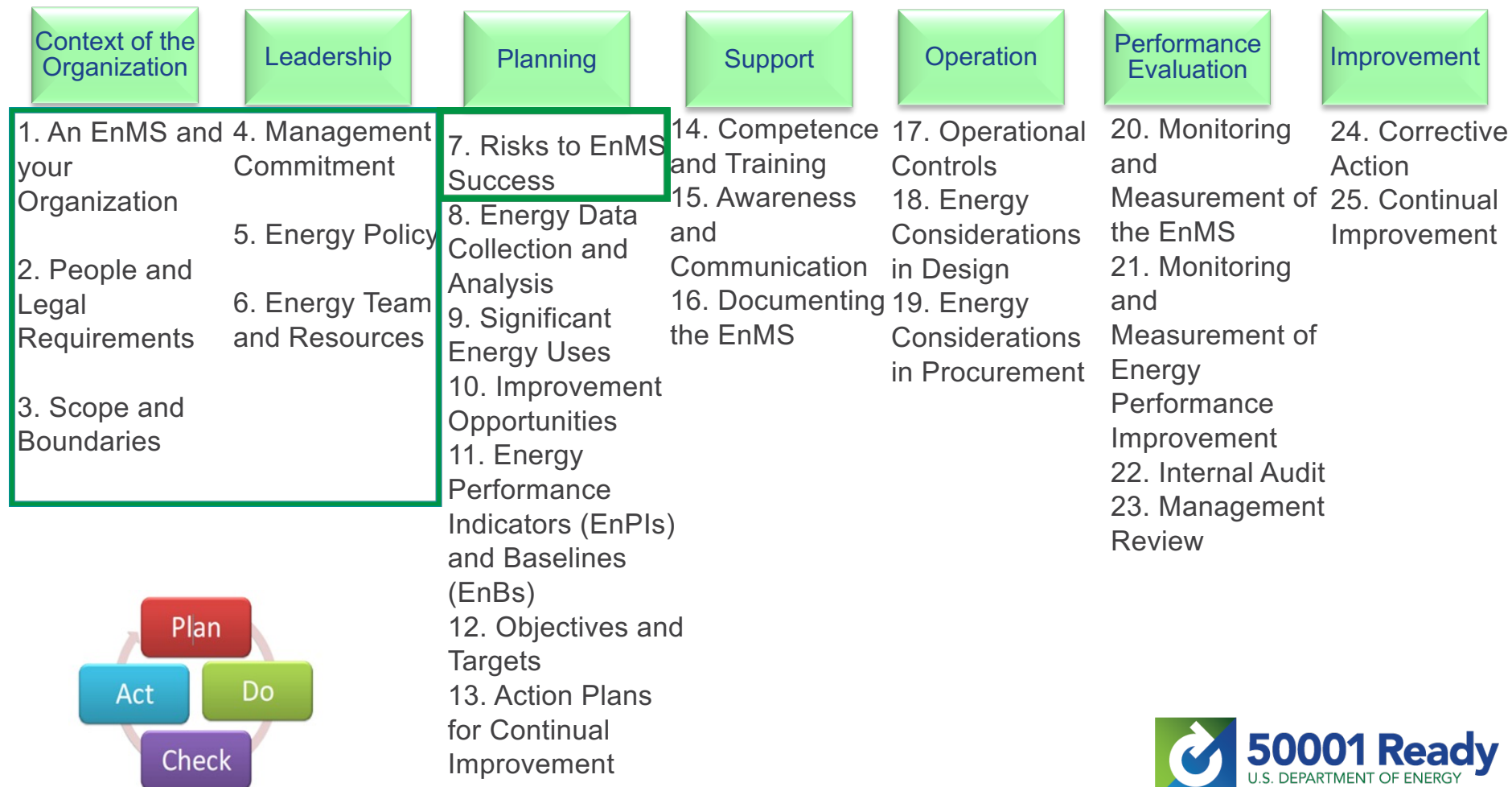
- Review and Wrap Up

Webinar Training Schedule & Preparations

Kahoot Quiz Game

Q&A

50001 Ready Navigator Tasks: Webinar #2



Training Schedule: By Session

1. An Overview – TODAY – January 18
2. Laying the Foundation of 50001 – NEXT – January 25
3. Where does all the Energy Go? – February 1
4. Sorting out the Energy Data – February 8
5. Engaging Other Functions – February 15
6. Evaluating Performance – February 22
7. Ensuring Continual Performance – March 1
8. Wrap Up and Next Steps – March 8

Preparation for Session TWO

- If desired, purchase the ISO 50001: 2018 standard
- Set up your 50001 Ready account
- Prepare for Session TWO:
 - Review task 1-7 in the 50001 Ready navigator
 - “Getting it Done” section gives a great overview
 - Consider your legal requirements (2).
 - Consider your scope and boundaries (3).
 - Do you have top management commitment (4)?
 - Do you have an energy policy (5)?
 - Do you have an energy team (6)?



Between each session we will send out a quick survey. Please complete and return these.

Overview of 50001 Ready - Resources

- 50001 Ready Program
 - <https://www.energy.gov/eere/amo/50001-ready-program>
- 50001 Ready Navigator
 - <https://navigator.lbl.gov/>
- Energy Footprint Tool
 - <https://www.energy.gov/eere/amo/downloads/energy-footprint-tool>
- EnPI Lite Tool
 - <https://enpilite.lbl.gov/>
- 50001 Ready at Better Building
 - <https://betterbuildingsolutioncenter.energy.gov/better-plants/software-tools>

And now, our Kahoot Quiz Review Game



Question and Answer Time



Thank you!



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