



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

ORNL 50001 Ready Training
Webinar Series, Session 5
March 9, 2021
10:00 a.m. to 12:30 p.m.

Agenda – Session FIVE



- Welcome, Safety, and Housekeeping
- Review Previous Sessions
- Today's Content – **Engaging Other Functions**

SUPPORT, Section 4:

- Task 14 - Competence and Training
- Task 15 - Awareness and Communication
- Task 16 - Documenting the EnMS

OPERATION, Section 5:

- Task 17 - Operational Controls
- Task 18 - Energy Considerations in Design
- Task 19 - Energy Considerations in Procurement

But first, a
POLL!

- Webinar Training Schedule & Preparations
- Kahoot Quiz Game
- Q&A



Polling Question 1

Polling Question

- 1) Based on your organizations goals for the implementation of an energy management system, what level of interest do you think you would have in participating in a follow on 50001 Ready cohort with a deeper and longer-term commitment?
- A. We are interested in this and would like to participate
 - B. We are interested, but need to know more
 - C. This sounds interesting. We may consider this.
 - D. We would not be interested at this time, but maybe later
 - E. We do not intend to pursue 50001 Ready
 - F. Does this mean I will have to listen to Mike for more webinars?!?!?
NO WAY!!

Blah.
Blah.
Blah.

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



Team Review



- Our Team for this 50001 Ready Training



Our 50001 Ready Training Group

■ Information on our 50001 Ready Training Group:

- 26 different organizations, many with multiple sites
- Many with global footprints
- Size of sites range from 100,000 square feet up to 586 acres
- A wide range of products and markets:
- Primary Energy types:
 - Electricity
 - Natural Gas
 - Liquid Propane
 - Diesel and other Fuel Oils
 - Some solar, some biogas, and some CHP



Energy Consulting
Cheese & Whey
Plastics
Composites
Chemicals
Automotive vehicles
Automotive batteries
Automotive fuel systems
Electronics
Fiberglass
Flooring materials
Organic foods
Packaging
Glass
Craft beers
City government
Wastewater treatment
Industrial machinery
Shrimp peeling equipment
Filtration media
Tape
Medical

Review of Previous Sessions



- Review Homework from Session THREE
- Quick List of Acronyms
- The 50001 Ready navigator
- Sessions 2-4 Review: Tasks 1 - 13
 - Laying the Foundation
 - Where Does all my Energy Go?
 - Sorting out the Energy Data



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

Why 50001?: A System

Navigator

LANGUAGE
English ▼

Log In

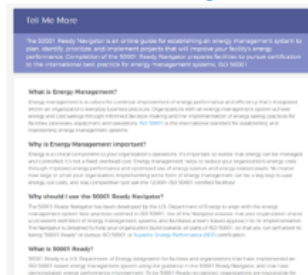


Welcome to the 50001 Ready Navigator!

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?](#)

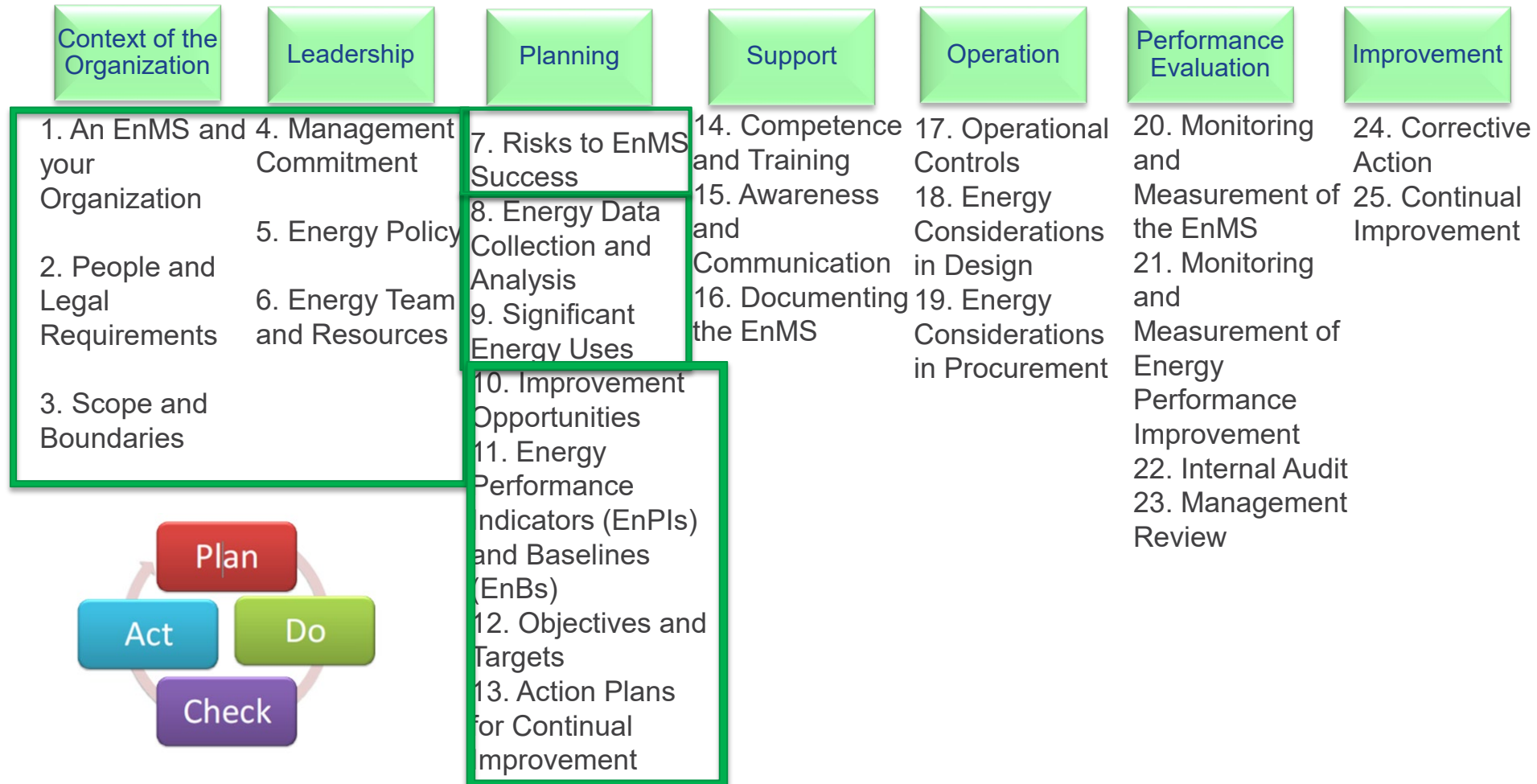
50001 Ready Navigator ISO 50001:2018 Update

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](#)

- FREE
- Download ONLY, one way information flow
- None of your site info is uploaded
- Single site or multi-site capability

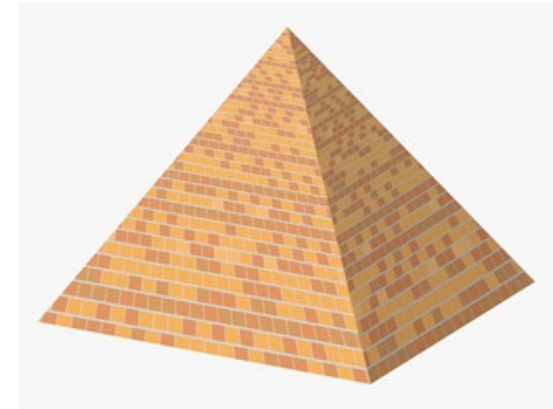
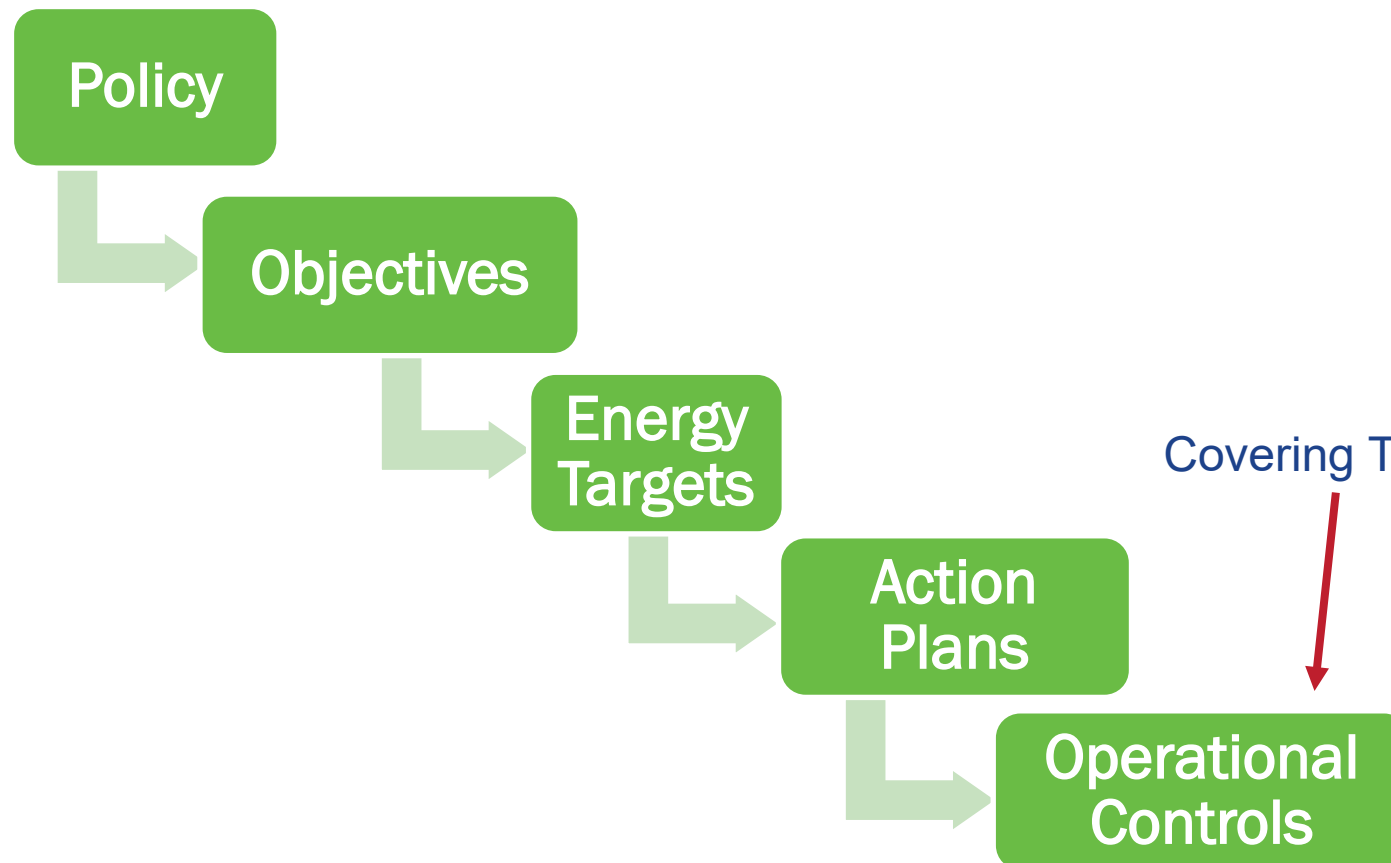
50001 Ready: Review Previous Tasks



Tasks 8-13: The Big Picture



- Building the energy success pyramid starts with a wide base of small actions that build to the completion of energy policy

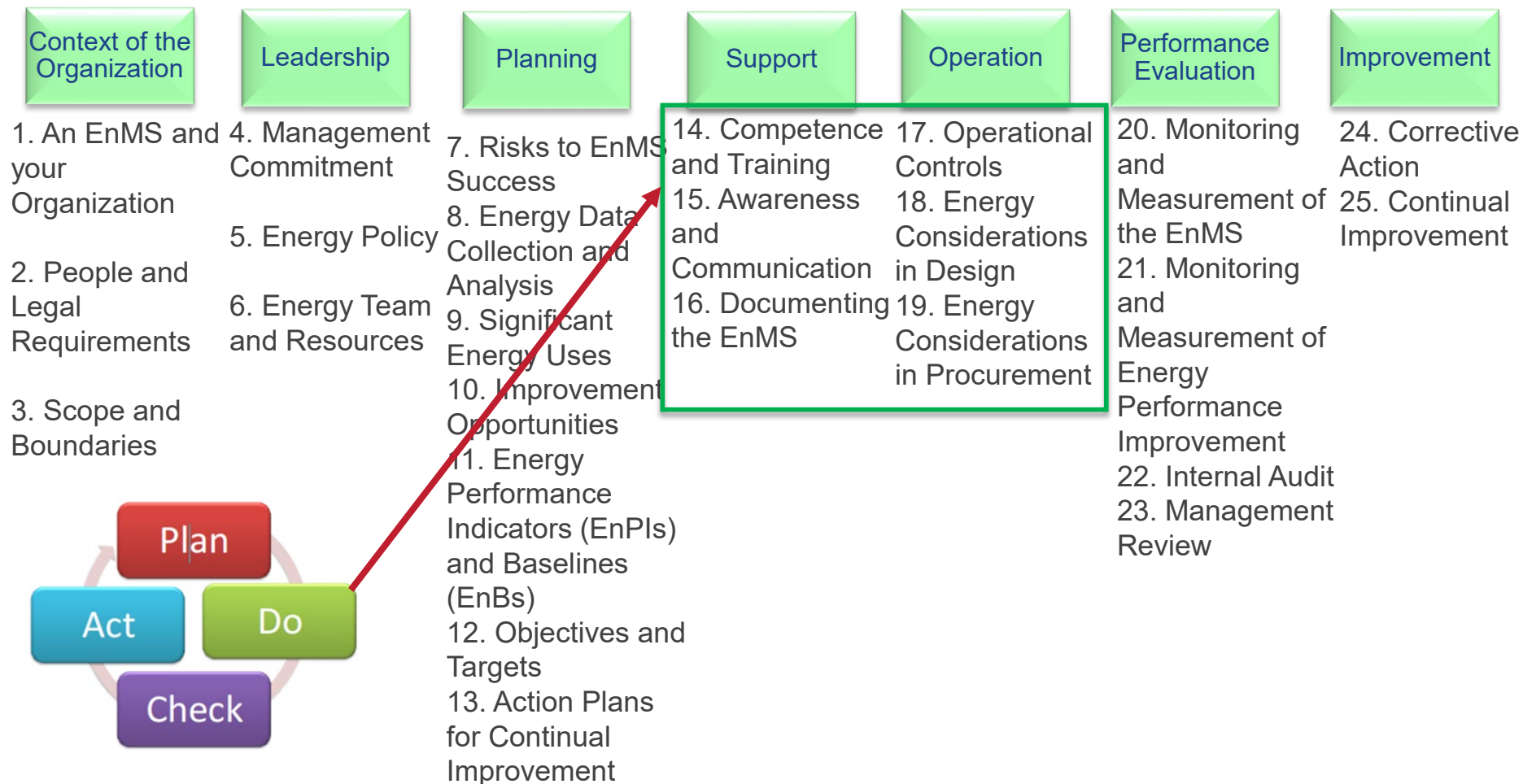


Covering Today

- Today's Content

Tasks 14 - 19

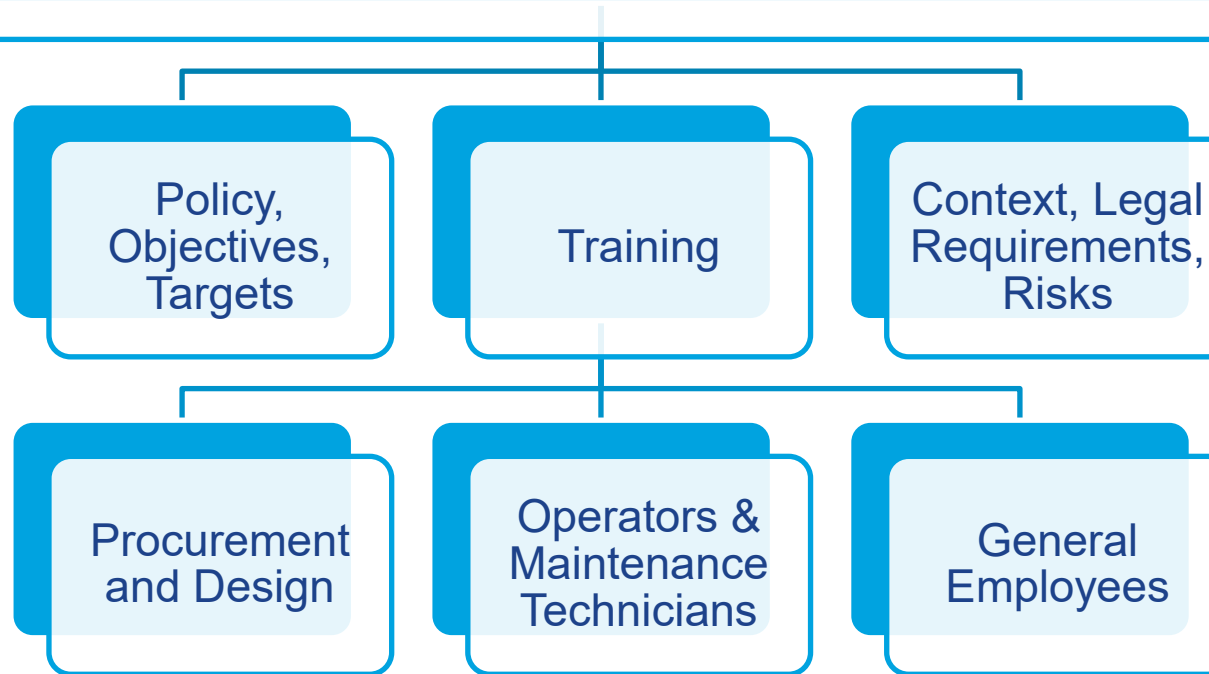
50001 Ready Navigator: Today's Tasks



Engaging Other Functions

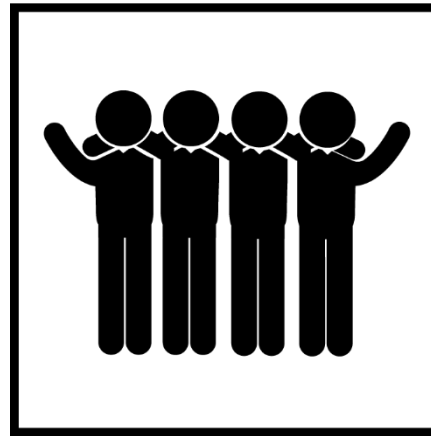


Integrate energy as a priority across your site



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?

Task 14: Competence and Training

Task 14: We ensure the competence of personnel whose work affects our energy performance and EnMS.

We evaluate for effectiveness of actions taken to acquire competencies.

We retain appropriate records of competencies and training.



Task 14: Competence Defined

What does competence in a role mean?

Who requires competence?

What are specific tasks this function performs?

What is automated and what depends on the individual?

How is performance assessed in this role?



3.4.12

competence

ability to apply knowledge and skills to achieve intended results

Task 14: Who Needs Competence

- Boiler Technicians
- HVAC Technicians
- Process Operators
- Energy team members
- Data collectors
- Others



Functions who impact energy performance and the EnMS, including those who work directly with SEUs, EnPIs, O&M, data collection, etc.

Task 14: Ensuring Competence

How can we establish competence?

Through:

- *Education – a certain degree requirement*
- *Training – must attend and pass specific classes*
- *Skills – must obtain a maintain a specific certification, e.g. boiler or wastewater operator, etc.*
- *Experience –number of years working in a particular area*



Task 14: Actions for Competence

How can we ensure competence is maintained?

Can performance be linked to employee evaluations?

Can trainings be held for all relevant employees regularly (annually or on other relevant interval)?


Tracking system for certifications, classes, etc.?



Task 14: Playbook

Activity

- Look at Task 14 in 50001 Ready
- Look at the Task 14 Playbook

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50001 Ready Navigator Playbook

Task 14: Competence and Training

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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.](#)

This part of the Navigator Playbook is completed when you have:

1. Determined necessary competencies for personnel and evaluated their current competencies.
2. Identified any gaps in the competencies of personnel whose work affects energy performance and the EnMS, and training needs to address competency gaps.
3. Evaluated the effectiveness of the actions taken.
4. Retained records of competence and related actions.

Task 15: Awareness and Communications

Task 15: Our personnel and on-site contractors are aware of our energy policy and their energy-related roles and responsibilities.

We have processes in place for internal and any applicable external EnMS communications.



Task 15: Communications Start at the Top

- Leadership
 - Communicating the importance of effective energy management and of conforming to the EnMS requirements
- The initial message
 - Who, what, when, where, why and how of the EnMS
 - Broadest possible communication
- Deeper message to key affected personnel
 - The bigger the potential impact the more they need to know



Task 15: Communications Are Ongoing

Ongoing Communication Topics:

- Energy policy
- Importance of energy management
- Energy management responsibilities and authorities
- Energy objectives
- Energy performance successes



GET INPUT:


Have a method or system to get input on the EnMS from employees and contractors.



Task 15: Playbook

Activity

- Look at Task 15 in 50001 Ready
- Look at the Task 15 Playbook

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Task 15: Awareness and Communication

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Management review: [Click here to enter a date.](#)

This part of the Navigator Playbook is completed when you have:

1. Developed and delivered an initial EnMS communication from top management that included the importance of energy management and the organization's energy policy.
2. Developed the details for EnMS awareness training for specific personnel or departments.
3. Planned and implemented awareness training.
4. Conducted awareness training and retained records.
5. Planned and implemented internal communication processes of the EnMS, including a suggestion system.
6. Planned and implemented external EnMS communication processes.

Polling Question 2

Polling Question

- 2) Thinking about tasks 14 and 15, for competence, training, awareness, and communications, where do you feel that your organization is with regards to establishing these systems?
- A. We already have robust systems in place and these tasks are essentially complete
 - B. This all makes sense, and we are close, just need a little tweaking
 - C. We have some of this in place, but we do not have a consistent process
 - D. It would take a significant effort to get this set up and implemented
 - E. “What we’ve got here is a failure to communicate!”



Task 16: Documentation

Task 16: We have the documented information we determined is needed to ensure EnMS effectiveness and demonstrate energy performance improvement, as well as that required by the guidance of the 50001 Ready Navigator. We have processes in place for creating, updating and controlling our documented information.

Think Missouri...
The “Show Me” state



Task 16: Key Terms

Document:

Information that guides action or communicates expectations

Record:

Captures activities performed as evidence of the activity

3.3.5

documented information

information required to be controlled and maintained by an organization (3.1.1) and the medium on which it is contained

Task 16: Documentation

- ISO 50001 tells you what needs to be documented
- The new term is:
 - **DOCUMENTED INFORMATION**

This appears 18 times in the ISO 50001 standard:

...shall retain documented information (see [7.5](#))...


What do you think some of these item might be?



Task 16: Playbook

Activity

- Look at Task 16 in 50001 Ready
- Look at the Task 16 Playbook

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Task 16: Documenting the EnMS

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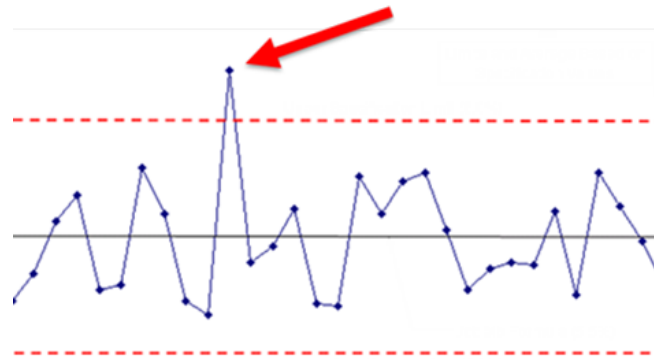
Management review: [Click here to enter a date.](#)

This part of the Navigator Playbook is completed when you have:

1. Ensured that your EnMS includes the documented information suggested by the guidance of the 50001 Ready Navigator for the processes implemented to this point. As you continued EnMS implementation, added the other suggested documented information.
2. Determined what additional documented information you needed to ensure the effectiveness of the EnMS and to demonstrate energy performance improvement.
3. Listed your EnMS documents, assigned document owners and document approvers, and defined the relevant document controls. Made document owners responsible for conformance with the controls for the documented information to be maintained (i.e. documents).
4. Listed your EnMS records, assigned record owners, and defined the relevant record controls. Made record owners responsible for conformance with the controls for documented information to be retained (i.e. records).
5. If your organization has existing processes for controlling documents and records, customized them as necessary to meet the documentation needs for your EnMS. If your organization has an existing records policy, made sure that the controls implemented for EnMS records are consistent with the requirements of that policy.

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?

Task 17: Operational Controls



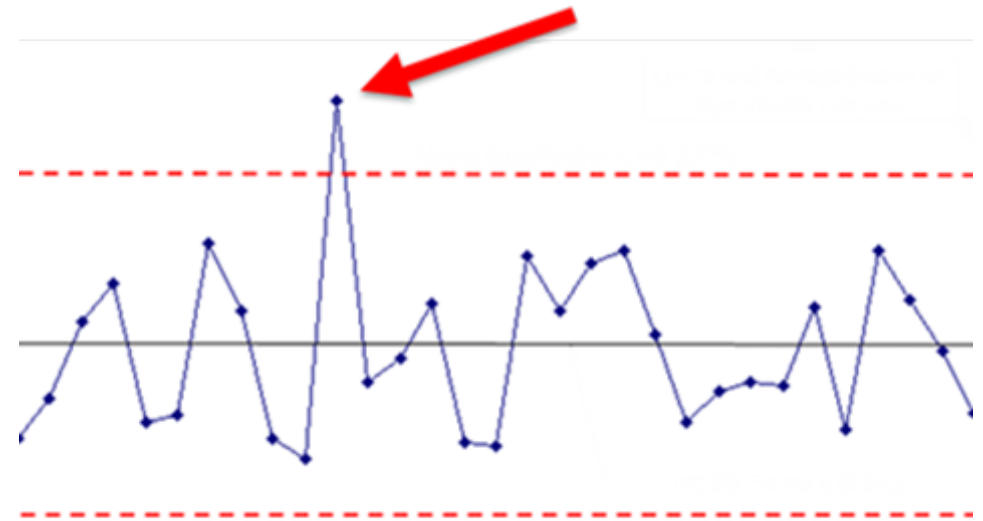
Task 17: We plan and control the processes related to our SEUs and action plans and set operation and maintenance criteria where there are risks of significant deviations in energy performance.

We operate the SEU and action-plan related processes in accordance with the criteria and communicate the criteria to relevant personnel.

We control planned changes, along with outsourced processes related to SEUs.

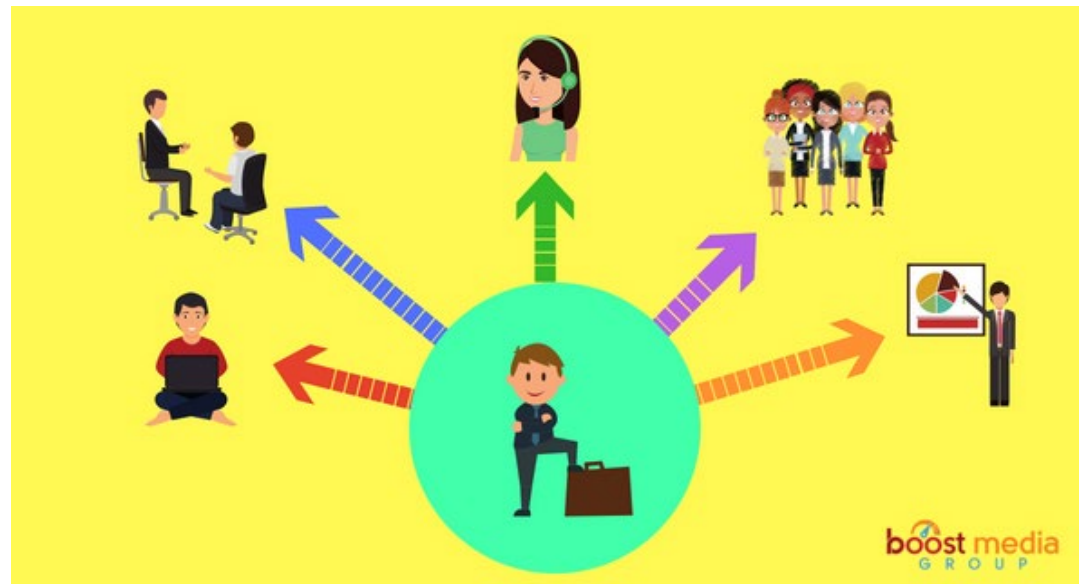
Task 17: Determining Appropriate Controls

1. Document all current official operating practices for each SEU.
2. Map processes that use SEUs or have related action plans for improvement.
3. Identify opportunities for streamlining SEU controls.



Task 17: Delegate Responsibilities

- Communications and training for all related personnel
- Verification that best operations practices are followed
- Data collection for verification process



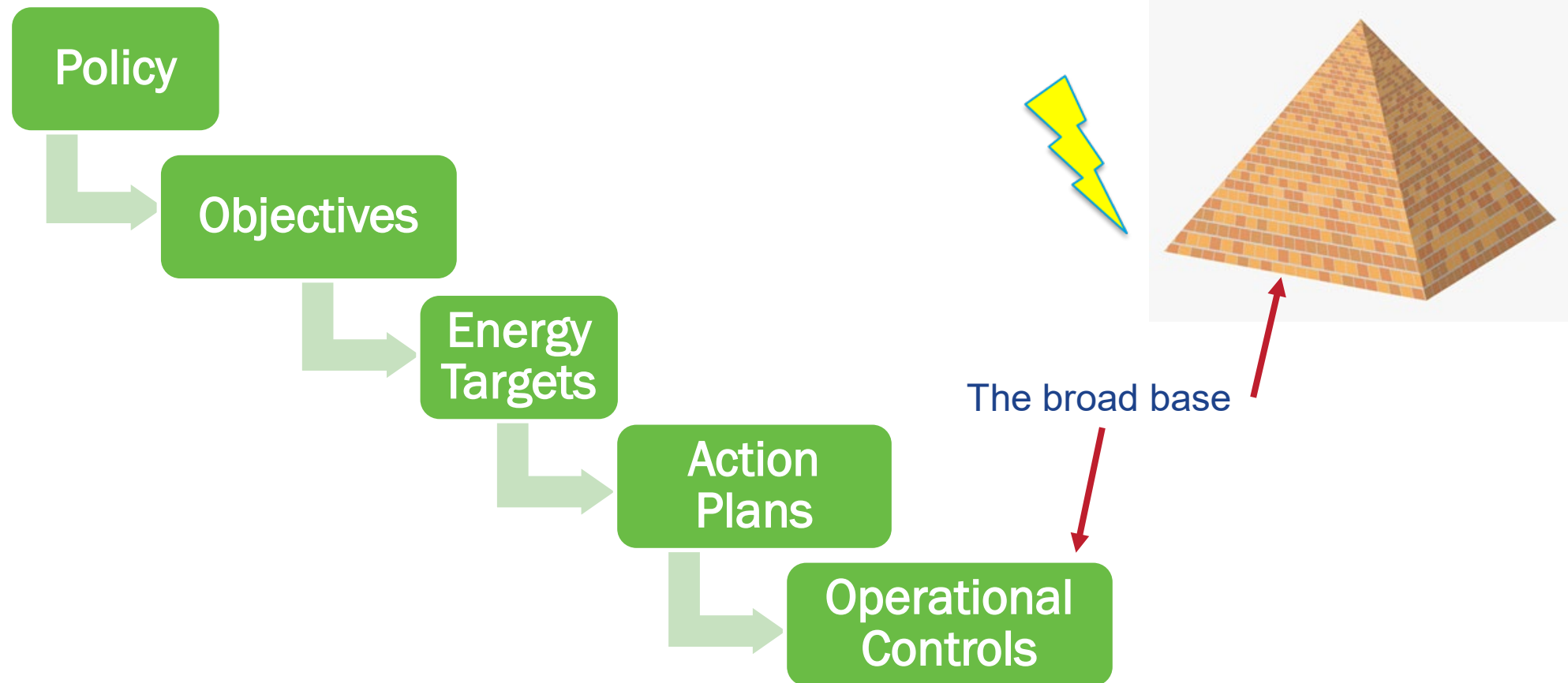
Task 17: Communicating Operational Controls

- Who is involved in SEU operations over its lifetime at your site?
- What information do they need to follow the best operations practice you outline?



Tasks 8-13: The Big Picture

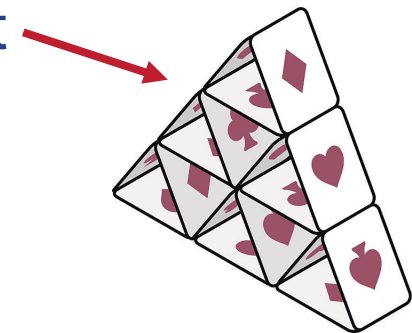
- Building the energy success pyramid starts with a wide base of small actions that build to the completion of energy policy



Polling Question 3

Polling Question


- 3) Thinking about the energy success pyramid on the previous slide, how would you rate the strength of your organization's pyramid?
- A. On solid rock and nearly complete
 - B. On solid rock and a work in progress
 - C. We have found solid rock and are working on the foundation
 - D. Still digging the foundation and looking for that solid rock to start on
 - E. It looks like a pyramid, but a strong wind could take it out
 - F. "It was a foolish man who built his house on the sand!"



Task 17: Playbook

Activity

- Look at Task 17 in 50001 Ready
- Look at the Task 17 Playbook



50001 Ready Navigator Playbook

Task 17: Operational Controls

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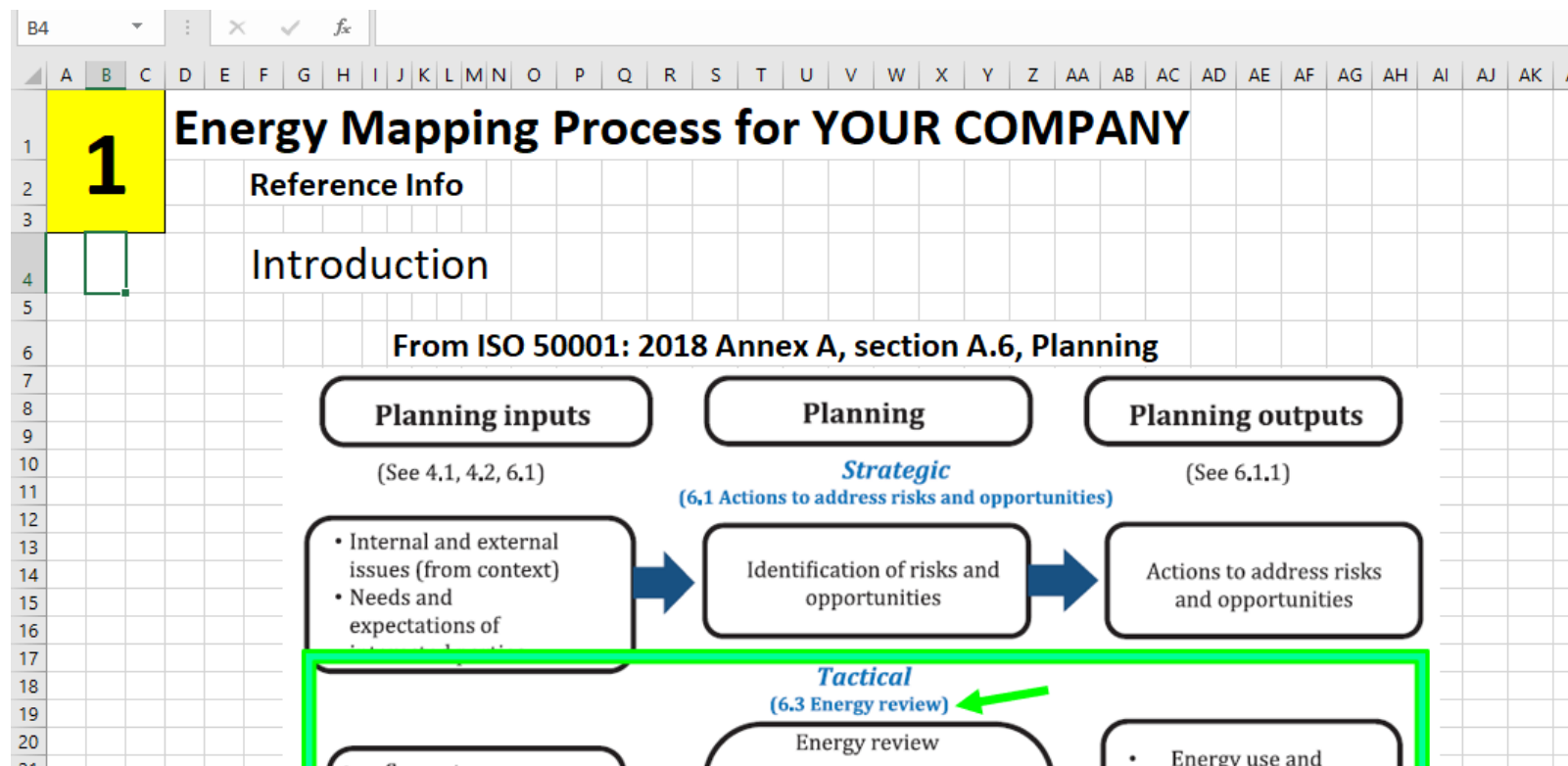
This part of the Navigator Playbook is completed when you have:

1. Created a significant energy use operating criteria worksheet and operational controls checklist to determine and set the required criteria and controls for each significant energy use.
2. Ensured critical factors affecting energy performance are known, communicated to responsible personnel.
3. Ensured that the operational and maintenance control sections of your action plans have been completed and implemented.
4. Operated and maintained facilities, equipment, systems, or processes associated with your SEUs to meet the determined criteria.
5. Established processes to control planned changes impacting operational and maintenance criteria or controls.
6. Controlled outsourced SEUs or processes related to SEUs.

Task 17: Operational Controls Worksheet

Activity

- Review the tabs of the Energy Mapping Template Tool



Task 18: Energy Considerations in Design

Task 18: We consider energy performance improvement opportunities and operational controls when designing new, modified, or renovated facilities, equipment, systems and processes.



Task 18: Consideration in Design


- Consider energy performance improvement and operations in the design of new, modified and renovated facilities over the lifetime
- Design the facility to be efficient right from the start and ongoing
- Include these items in the design specifications that are sent out for quote



Task 18: Playbook

Activity

- Look at Task 18 in 50001 Ready
- Look at the Task 18 Playbook

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Task 18: Energy Considerations in Design

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Management review: [Click here to enter a date.](#)

This part of the Navigator Playbook is completed when you have:

1. Identified the facilities, equipment, systems, and processes that can have significant impact on energy performance.
2. Incorporated consideration of energy opportunities and operational controls in design projects.
3. Included results of energy performance considerations in specification, design, and procurement activities, where applicable.
4. Retained records of the results of design activities related to energy performance.

Task 19: Energy Considerations in Procurement

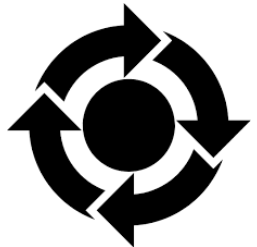
Task 19: We establish energy performance criteria spanning the operating life for purchases affecting energy performance, inform suppliers that this is a factor in procurement, and define and use specifications for energy supply purchases.



Task 19: Specific Actions



- Inform suppliers of energy performance as an evaluation factor for SEU-related purchases
- Establish operating lifetime energy performance criteria for purchases that can significantly affect energy performance
- Develop documented specifications for:
 - the purchase of energy supply
 - ensuring the energy performance of procured equipment and services



Task 19: Playbook

Activity

- Look at Task 19 in 50001 Ready
- Look at the Task 19 Playbook

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Task 19: Energy Considerations in Procurement

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Management review: [Click here to enter a date.](#)

This part of the Navigator Playbook is completed when you have:

1. For purchases related to SEUs, clearly identified any energy performance-related requirements. Communicated these requirements to suppliers and/or service providers, and informed them that energy performance is part of the evaluation criteria.
2. Evaluated your organization's current procurement processes for items that can significantly impact energy performance.
3. Determined and taken any needed actions to adjust existing procurement processes to meet **EnMS** requirements.
4. Developed life-cycle criteria for specific types of procurement activities if you do not have them already.
5. Developed and communicated specifications for the purchase of energy supply and ensuring the energy performance of procured equipment and services.
6. Determined if any specifications for the purchase of energy supplies are applicable to ensure the energy performance of equipment and services purchased.

Polling Question 4

Polling Question

4) Thinking about Tasks 14-19:

Task 14: Competence and Training

Task 15: Awareness and Communication

Task 16: Documenting the EnMS

Task 17: Operational Controls

Task 18: Energy Considerations in Design

Task 19: Energy Considerations in Procurement

Where do you feel your organization is relative to these six tasks?

- A. We essentially already have all of this in place. Just a little tweaking is needed.
- B. These make sense and my organization has some of this in place. It would not take too much effort to complete these.
- C. Most of this is new to my organization, but we do have some basics in place. It would take some effort to get this in place.
- D. I would basically have to start from scratch to get these tasks completed.
- E. “I used to be concerned, now I am just amused!”

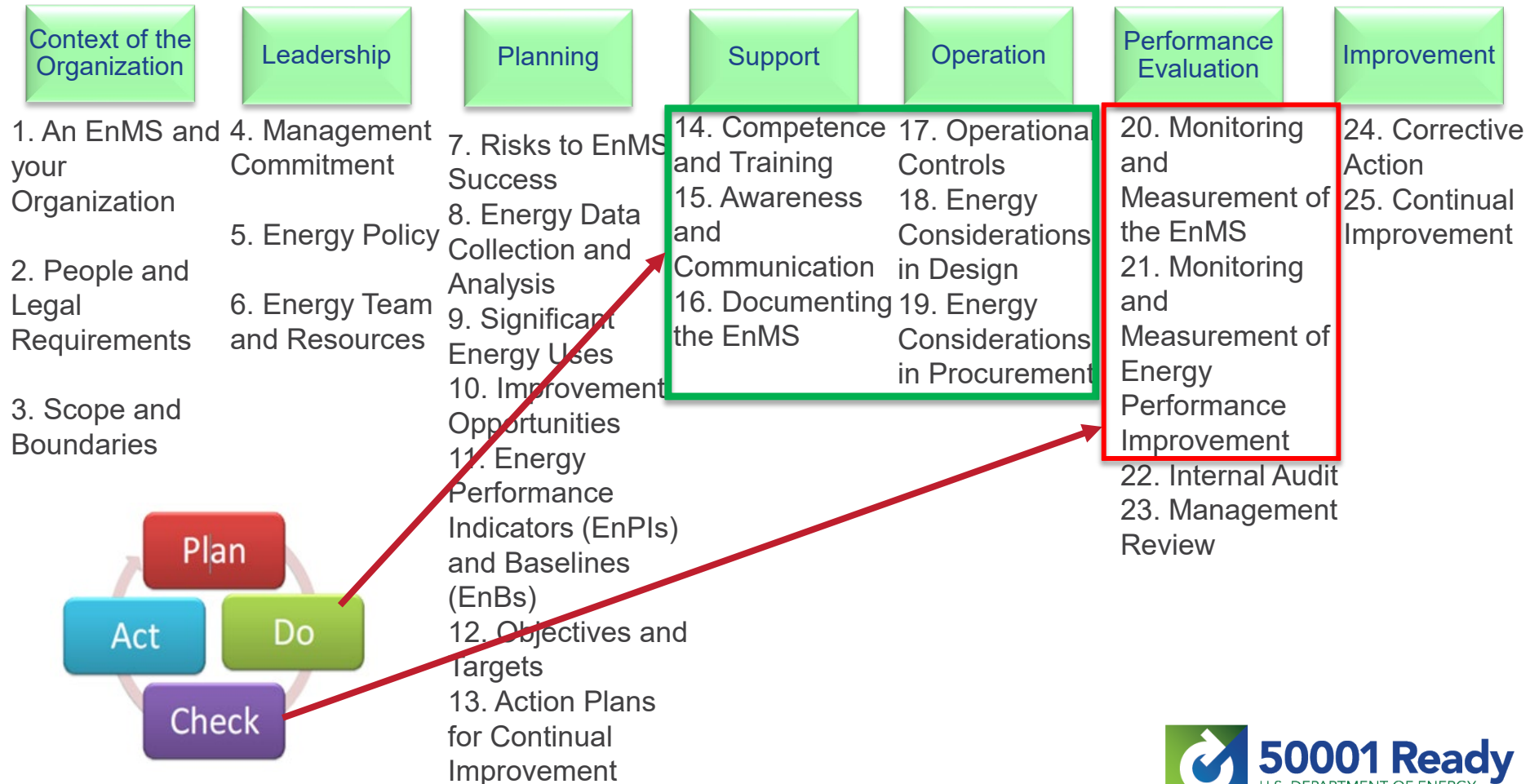
- Review and Wrap Up

Webinar Training Schedule & Preparations

Kahoot Quiz Game

Q&A

50001 Ready Navigator Tasks: Webinar #5, and then #6



Training Schedule: By Session

1. An Introduction and Overview – DONE – February 9
2. Laying the Foundation of 50001 – DONE – February 16
3. Where does all the Energy Go? – DONE – February 23
4. Sorting out the Energy Data – DONE – March 2
5. Engaging Other Functions – **TODAY** - March 9
6. Evaluating Performance – **NEXT Webinar**
a) March 16, 10:00 a.m. to 12:30 p.m.
7. Ensuring Continual Performance Improvement – March 23
8. Wrap Up and Next Steps – March 30

Preparation for Session FIVE

- If desired, purchase the ISO 50001: 2018 standard
- Set up, use, and maintain your 50001 Ready account
- Prepare for Session FIVE:
 - Review tasks 20 & 21 in 50001 Ready
 - Download the playbooks for task 20 & 21, if desired
 - Do you currently evaluate your energy performance, year over year? How?
 - Are significant deviations from your planned energy performance investigated (20, 21)?
 - Is monitoring and measuring to evaluate your EnMS and energy performance well defined (20,21)?



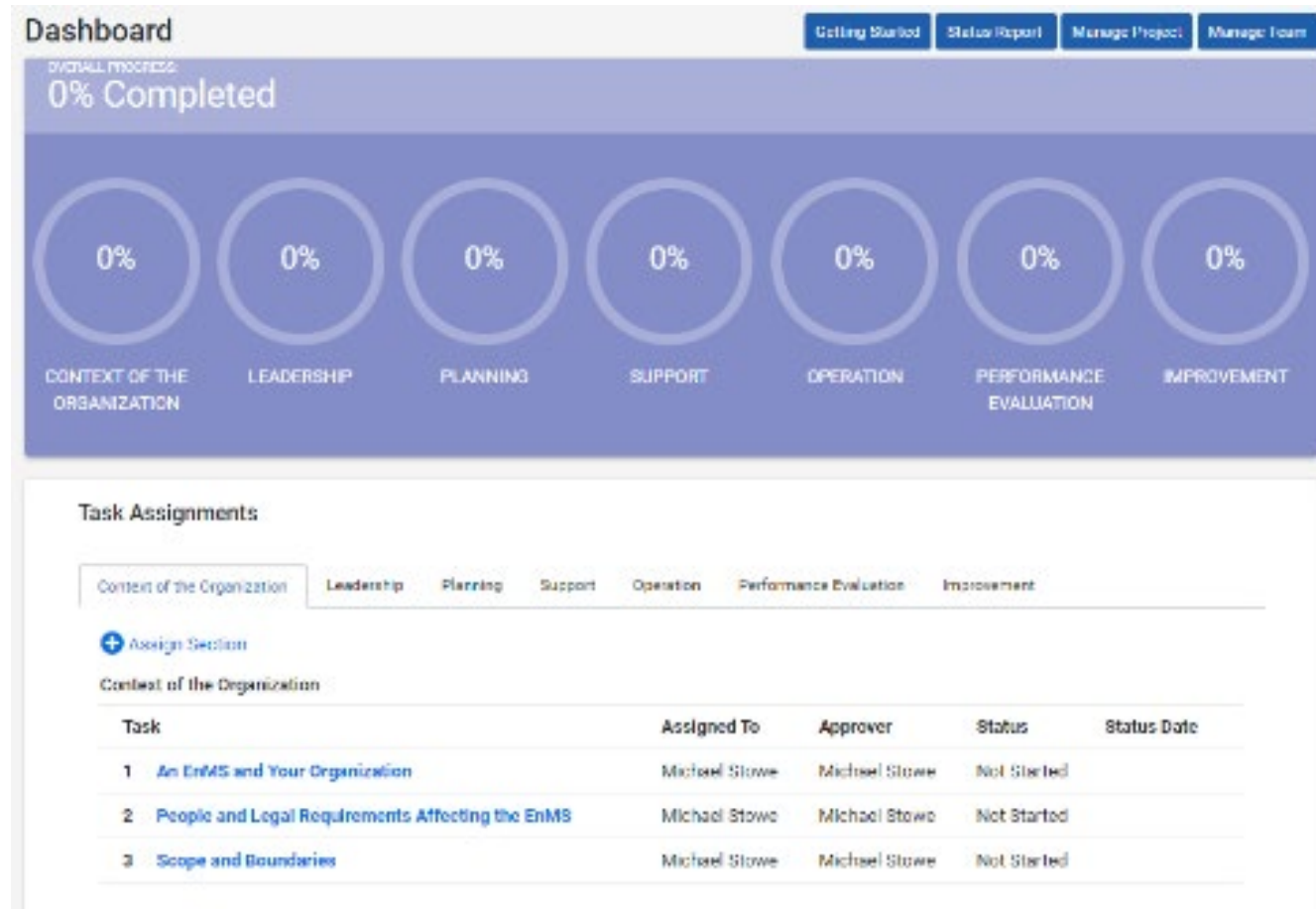
Polling Question 5

Polling Question

- 5) Thinking about the homework email, the session prep email, the 50001 Ready navigator, and the playbooks, how do you feel these have helped you prepare and get the most out of the training sessions??
- A. Excellent help and I am using them all
 - B. Very good and I use most of these
 - C. Good resources, but I have not had time to use them all
 - D. I have not had the time to use these resources
 - E. The dog keeps eating my homework, my email server keeps crashing, and I lost my password to my 50001 Ready account, but the soft service ice cream machine is working!

Between Sessions

As a routine, use the 50001 Ready Navigator to assign tasks and update task completion status



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://betterbuildingssolutioncenter.energy.gov/better-plants/software-tools>

Polling Question 6

Polling Question

- 6) After listening to today's webinar session FIVE, and now having covered tasks 1-19, how do you feel about 50001 Ready as a resource to help you with your energy management plans:
- A. Still overwhelmed
 - B. Overwhelmed, but feeling much better
 - C. Optimistic
 - D. Very encouraged
 - E. Ready to get Ready
 - F. "Houston, we have a problem!"



And now, our Kahoot Quiz Review Game



Question and Answer Time



Please Contact Us With Any Questions



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