



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

ORNL 50001 Ready Training
Webinar Series, Session 2
February 16, 2021
10:00 a.m. to 12:30 p.m.

Agenda – Session TWO



- Welcome, Safety, and Housekeeping
- Review Previous Sessions
- Today's Content – **Building the Foundation**
 - Section 1: Context of the Organization
 - Tasks 1, 2 & 3
 - Section 2: Leadership
 - Tasks 4, 5 & 6
 - Section 3: Planning
 - Tasks 7
- Webinar Training Schedule & Preparations
- Kahoot Quiz Game
- Q&A



Task 7 ties back to Task 1



But first, a
POLL!

Polling Question 1

Polling Question

- 1) The 50001 Ready navigator tool is a great resource. What is your status/plans for setting an account for your organization in 50001 Ready?
- A. I have already set up a single site account for my organization
 - B. I have already set up a multi-site account for my organization
 - C. I plan to set up a single or multi-site account soon
 - D. I am undecided if I will set up an account
 - E. I was going to set up my account but the soft serve ice cream machine in the plant cafeteria broke down and that took priority
 - F. My dog ate my “getting started” document
 - G. I do not plan to set up an account for my organization

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:

- 25 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
Brewery beverages
City government
Wastewater treatment
Industrial machinery
Shrimp peeling equipment
Filtration media
Tape
Medical

Review of Session ONE



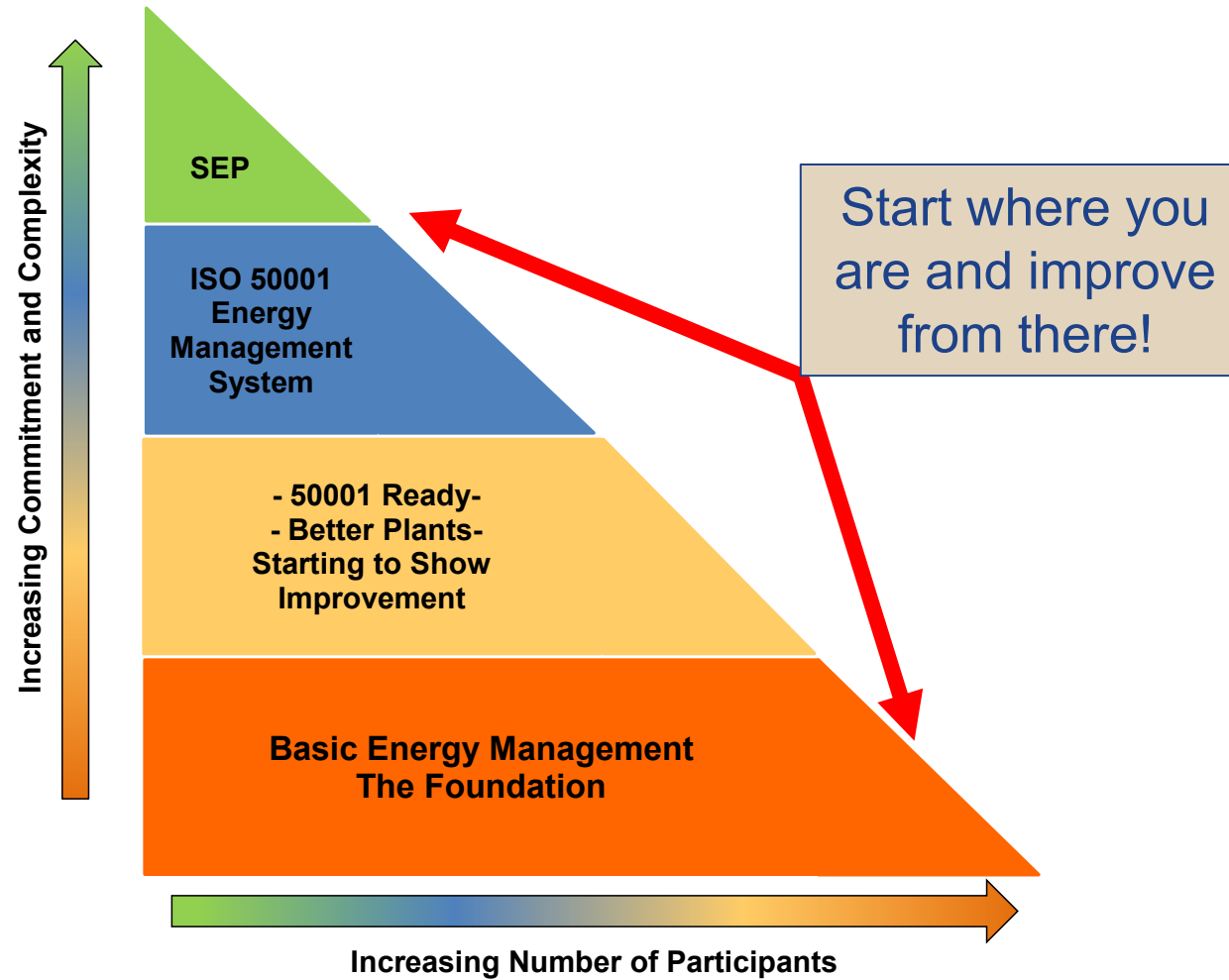
- Quick List of Acronyms
- Why Strategic Energy Management (SEM)?
- Why 50001?
- Introduction to the 50001 Ready Navigator



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 SEM? - The Continuum



Why 50001?: A System

Navigator

LANGUAGE
English ▼

Log In

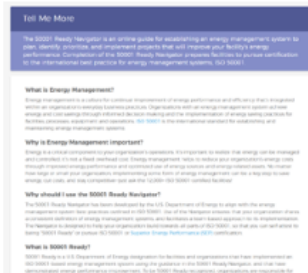


Welcome to the 50001 Ready Navigator!

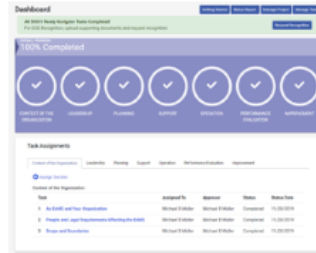
The 50001 Ready Navigator is an online application that provides step-by-step guidance for implementing and maintaining an energy management system in conformance with the ISO 50001 Energy Management System Standard. Join the 23,000+ sites worldwide benefiting from an energy management system!

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

Review Question 1

Review Question

1) The information flow using the 50001 Ready navigator is:

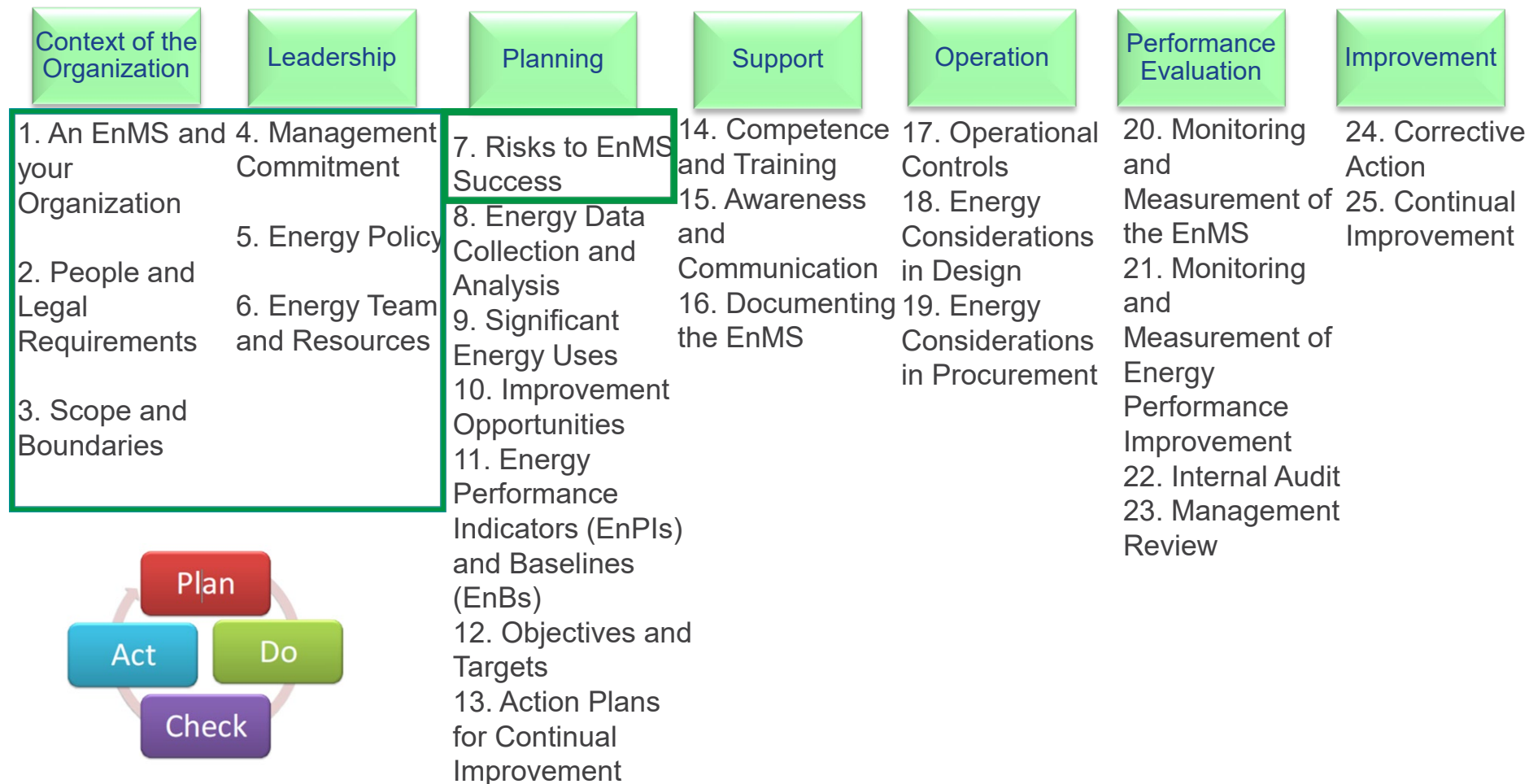
- A. There is not any information flow, the site is read only
- B. Information flow is ONE way, downloads only 
- C. There is information available, but you must add a credit card to access it
- D. Information flow is TWO way, you download and then upload items 



- Today's Content

Tasks 1-7

50001 Ready Navigator: Today's Tasks





Building a foundation for your EnMS



Regarding my EnMS, what are the:

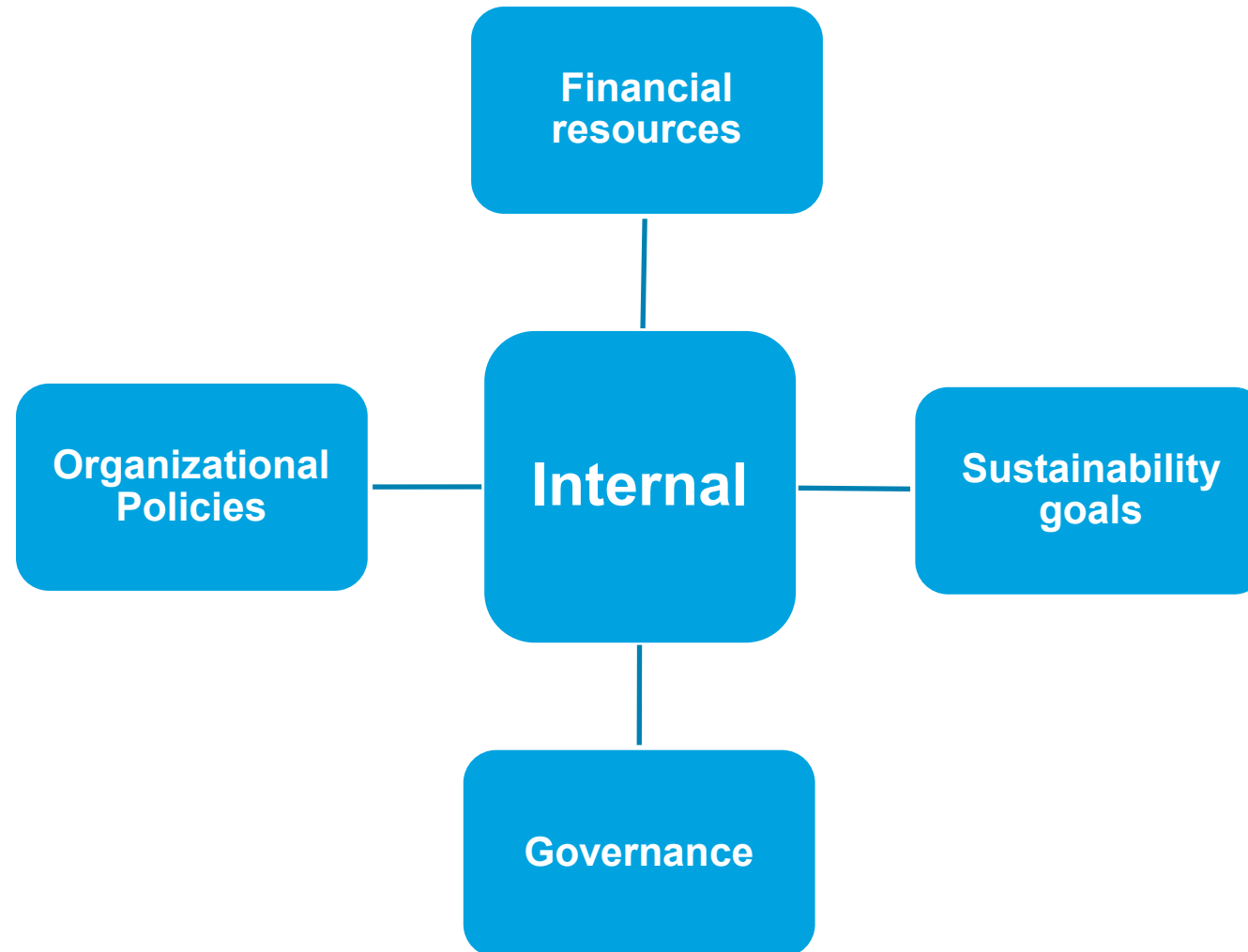
- *Risks, opportunities and strategic issues;*
- *Legal and other requirements;*
- *Interested parties;*
- *Scope and boundaries?*

Task 1: An EnMS and Your Organization

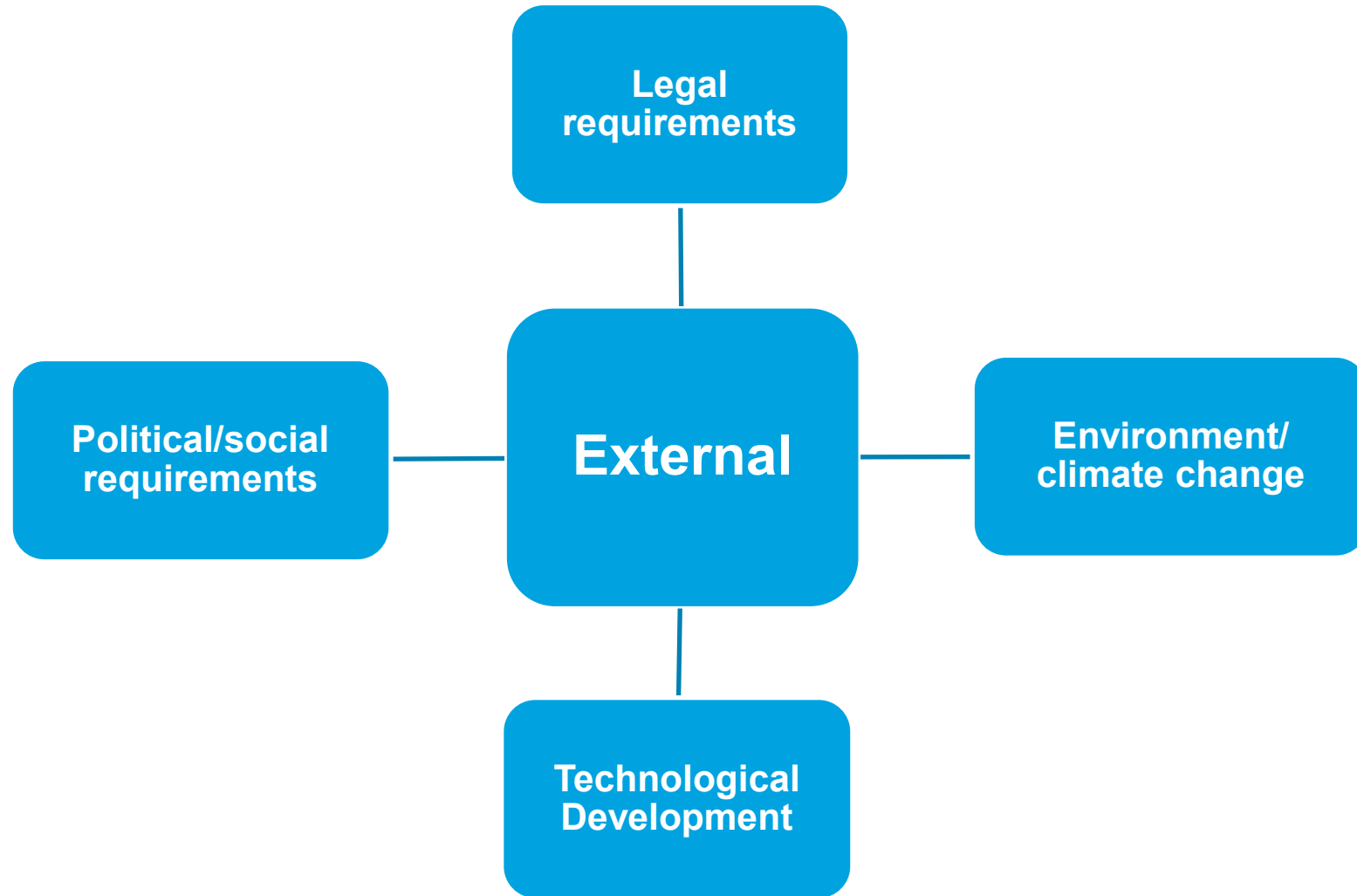
Task 1: We determine the strategic issues that affect our ability to improve our energy performance and achieve the goals of our 50001 Ready EnMS.



Task 1: Internal Issues




Task 1: External Issues



Task 1: Playbook

Activity

- Look at Task 1 in 50001 Ready
- Look at the Task 1 Playbook

**50001 Ready**
U.S. DEPARTMENT OF ENERGY

50001 Ready Navigator Playbook

Task 1: An EnMS and Your Organization

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.](#)

For Task 1: This part of the Navigator Playbook is completed when you have:

1. Identified the external and internal issues that affect your organization's ability to improve its energy performance and achieve the intended outcomes of the EnMS.
2. Recorded this information.

For Task 7: This part of the Navigator Playbook is completed when you have:

1. Identified the impacts, likelihood of occurrence, and risk level arising from the issues you already recorded
2. For each of the identified risks and opportunities, plan and implement actions to address them using the processes of the EnMS.

Add this information to the Risks and Opportunities Register by completing columns four through eight.

Review Question 2

Review Question

- 2) When determining issues that may impact your organization's ability to have a successful EnMS, you should:
- A. Evaluate internal issues only
 - B. Do not worry about any issues, just wing it
 - C. Evaluate external issues only
 - D. Evaluate both internal and external issues



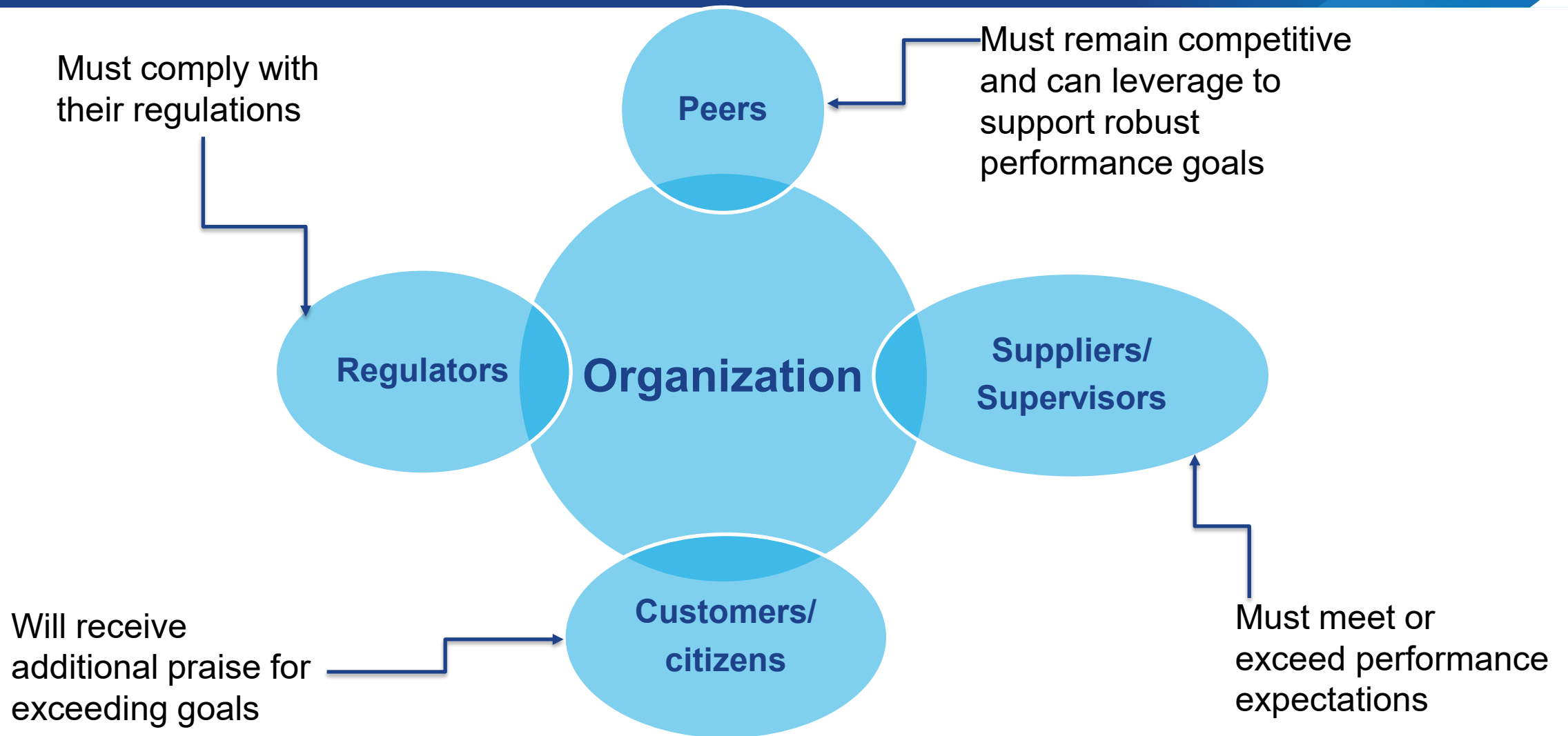
Task 2: People and Legal Requirements Affecting the EnMS

Task 2: We determine the interested parties and energy-related legal and other requirements relevant to our energy performance and the energy management system.

At defined intervals, we review these requirements and evaluate our compliance with them.



Task 2: Interested Parties, Plus Requirements



Task 2: Relative to the Audit Process

- REMEMBER THIS!
- Anything that you invoke on yourself as an EnMS requirement in Task 2 becomes part of the audit criteria that will be evaluated later, either internally or by a third party



Task 2: Playbook

Activity

- Look at Task 2 in 50001 Ready
- Look at the Task 2 Playbook

**50001 Ready**
U.S. DEPARTMENT OF ENERGY

50001 Ready Navigator Playbook

Task 2: People and Legal Requirements Affecting the EnMS

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.](#)

For Task 1: This part of the Navigator Playbook is completed when you have:

1. Identified and recorded the interested parties relevant to your organization's energy performance and **EnMS** using the Worksheet or similar document.
2. Determined the needs and expectations of these interested parties as they relate to your organization's **EnMS**.
3. Identified the applicable legal and other requirements related to energy.
4. Assigned responsibilities and establish a frequency for reviewing and updating the completed matrix.
5. Implemented a process to periodically evaluate compliance with the identified requirements.

1. Identify interested parties and
2. Determine their needs and expectations

Review Question 3

Review Question

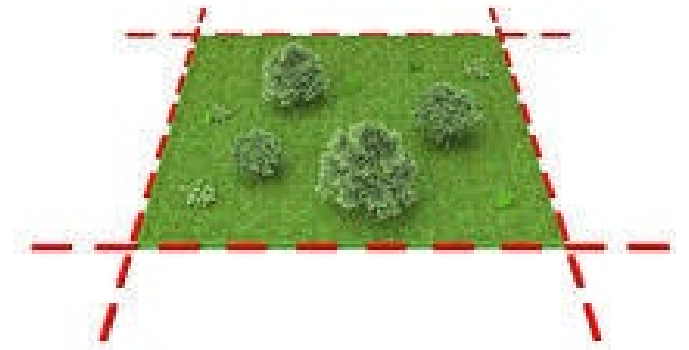
3) Joining the Better Plants program and following its goals is an example of _____, in terms of 50001 Ready.

- A. A Tennessee State Law
- B. A legal requirement
- C. A nonconformity
- D. An “other” requirement



Task 3: Scope and Boundaries

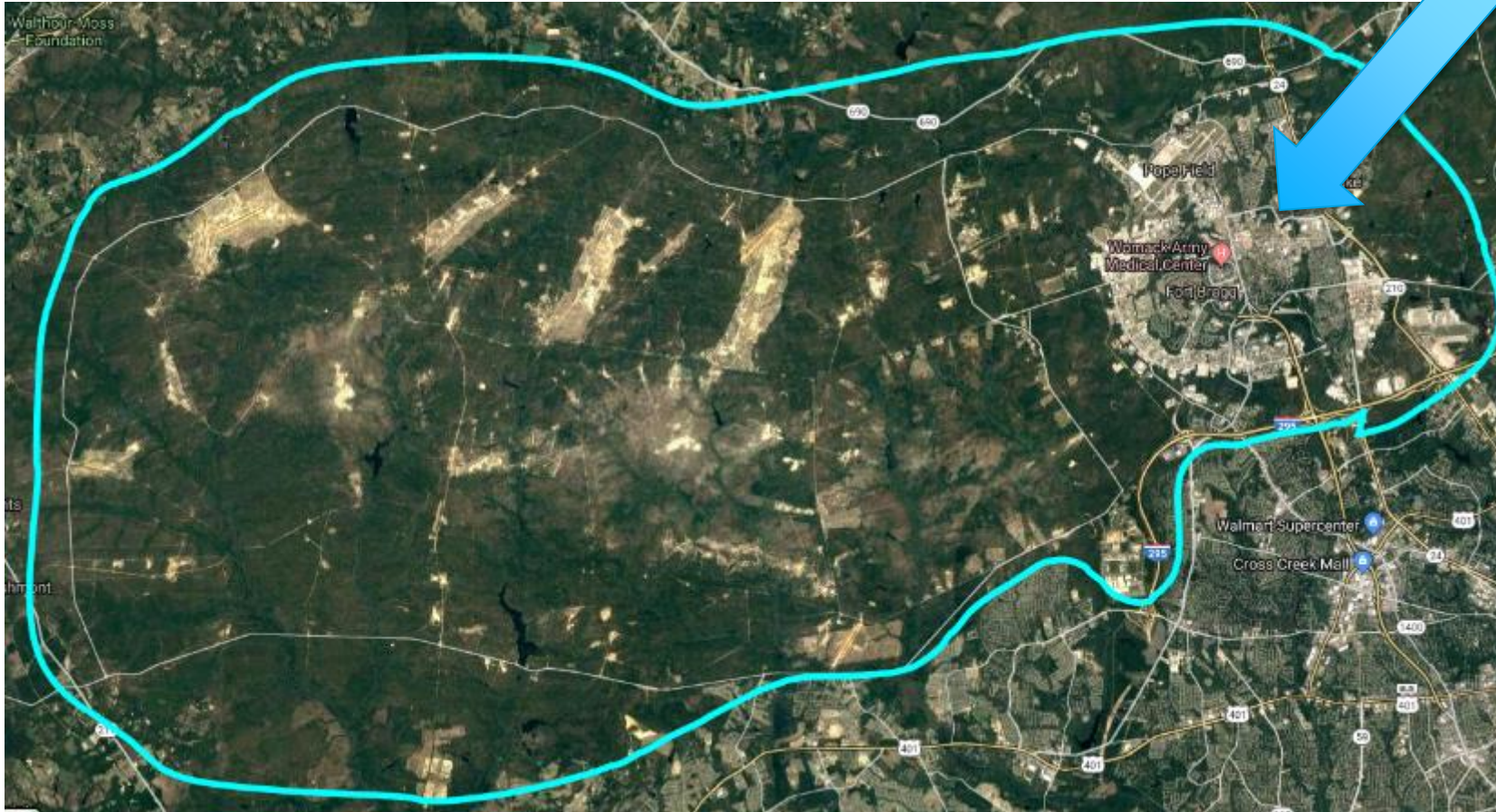
Task 3: We have documented and approved the scope and boundaries of our 50001 Ready energy management system.



Task 3: Boundary Examples




Task 3: A Big Scope and Boundary



Task 3: Playbook

Activity

- Look at Task 3 in 50001 Ready
- Look at the Task 3 Playbook

 50001 Ready Navigator Playbook	
Task 3: Scope and Boundaries	
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.
This part of the Navigator Playbook is completed when you have:	
<ol style="list-style-type: none">1. Considered the strategic issues and requirements identified as part of Task 1 (An <u>EnMS</u> and Your Organization) determined the scope and boundaries of the energy management system (<u>EnMS</u>).2. Developed an <u>EnMS</u> Scope and Boundaries Statement.	
<ol style="list-style-type: none">1. <u>Determine Scope and Boundaries</u><ul style="list-style-type: none"><input type="checkbox"/> We considered the strategic issues and requirements identified in Task 1 (An <u>EnMS</u> and Your Organization) before determining our scope and boundaries.<input type="checkbox"/> Identified the extent of activities, facilities, and decision structures to be included in your EnMS	

Review Question 4

Review Question

- 4) Your organization must have the authority to control its energy efficiency, energy use, and energy consumption within your selected scope and boundaries.
- A. TRUE
 - B. FALSE



Polling Question 2

Polling Question

2) Thinking about Tasks 1 – 3:

Task 1: An EnMS and Your Organization

Task 2: People and Legal Requirements Affecting the EnMS

Task 3: Scope and Boundaries

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

- A. We essentially already have all of this in place based on other ISO systems and/or our current energy management program. 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 feel like Cher Horowitz.



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?

Task 4: Management Commitment

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



Task 4: Questions to Ask

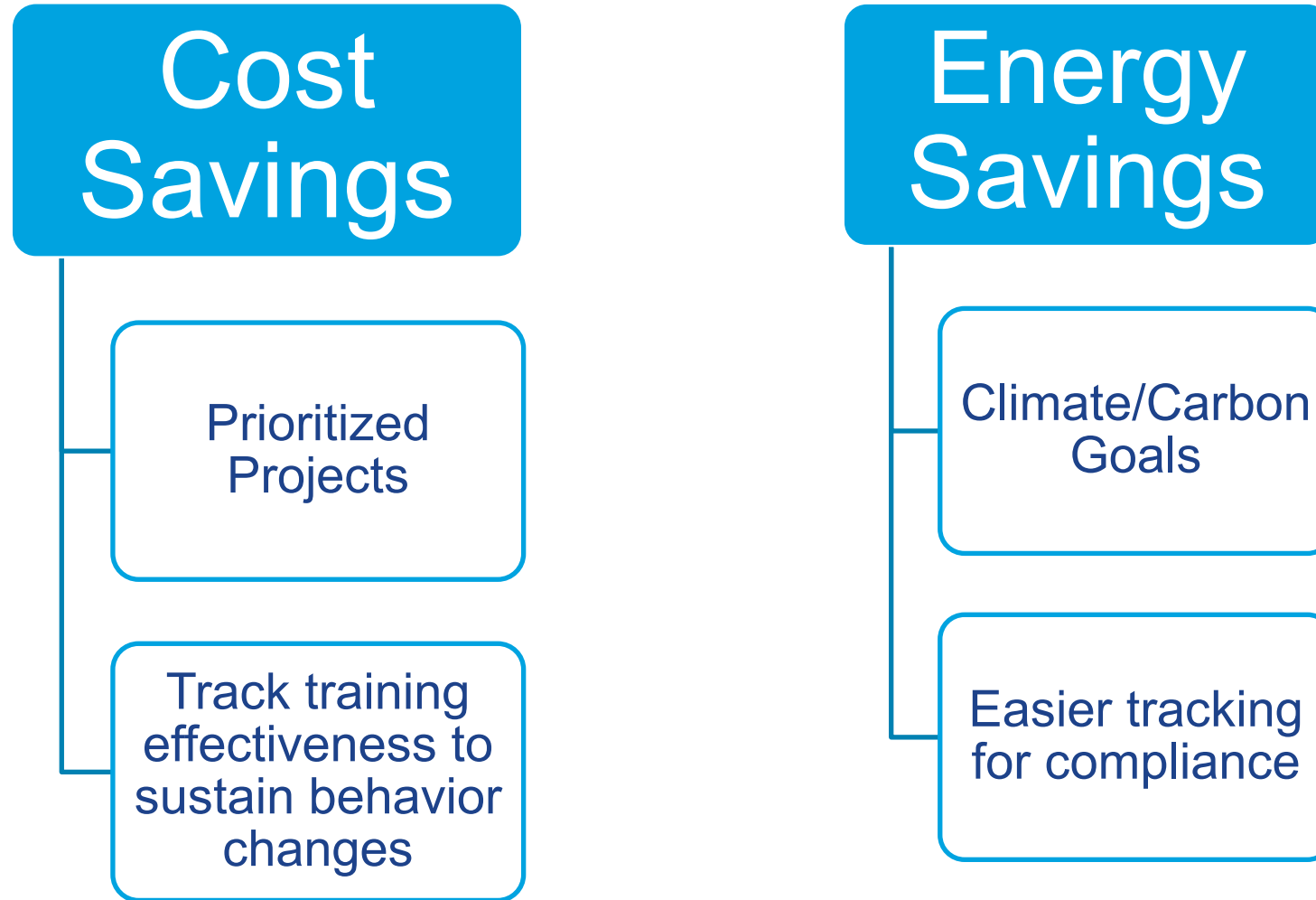
- Where does top management reside?
 - At an individual sites?
 - At a central office?
 - At a level above the central office?
- Who sets the energy policy?
- Who will do the management review?
- Who will establish and confirm management commitment?
 - Use the 50001 Ready Navigator Task 4 playbook resource

Task 4: Management Responsibility

- ✓ Ensure that scope and boundaries are established
- ✓ Ensure the energy policy and objectives and targets are established
- ✓ Ensure integration of EnMS requirements into business process.
- ✓ Ensures that actions plans are approved and implemented
- ✓ Ensure adequate resources are available
- ✓ Communicate the importance of effective energy management and conforming to EnMS requirements
- ✓ Ensure the EnMS achieves intended outcomes

- ✓ Promote continual improvement of energy performance and the EnMS
- ✓ Ensure the formation of the energy team
- ✓ Direct and support persons to contribute to the effectiveness of the EnMS and energy performance improvement
- ✓ Support other management roles to demonstrate leadership
- ✓ Ensure that EnPI(s) appropriately represent energy performance
- ✓ Ensure that processes are established and implemented to identify and address changes affecting the EnMS and energy performance

Task 4: Speak the Language



Task 4: What is the 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



Task 4: Playbook

Activity

- Look at Task 4 in 50001 Ready
- Look at the Task 4 Playbook

	50001 Ready U.S. DEPARTMENT OF ENERGY	50001 Ready Navigator Playbook
Task 4: Management Commitment		
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. Optionally, identified business drivers and benefits applicable to your organization.2. Optionally, prepared and delivered a briefing to top management on the identified business drivers and benefits, management roles and responsibilities, and how these responsibilities will be met.3. Secured commitment from top management to continual improvement of energy performance and the development and use of a 50001 Ready system.4. Briefed top management on their EnMS leadership responsibilities.5. Planned for how top management will meet their responsibilities.		

Polling Question 3

Polling Question

- 3) At this point in your organization's energy management journey, please estimate your top management's understanding and commitment to implementing a 50001 based EnMS:
- A. My top management totally gets it and I feel fully supported
 - B. I know my top management believes that energy management is a good thing, but I do not think that they fully understand the resource requirements for a 50001 Ready implementation
 - C. I am just learning about 50001 and will need to educate my top management on this and see where we go from there
 - D. I think this is going to be a real uphill battle with my top management
 - E. I do not know

Task 5: Energy Policy

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



Task 5: Energy Policy Requirements

- Is appropriate to the purpose of the organization
- Provides a framework for setting and reviewing objectives and energy targets
- Includes a commitment to ensure the availability of information and necessary resources to achieve objectives and energy targets
- Includes a commitment to satisfy applicable legal requirements and other requirements
- Includes a commitment to continual improvement of energy performance and the EnMS
- Supports the procurement of energy efficient products and services that impact energy performance
- Supports design activities that consider energy performance improvement.



**We shall
save
energy!**

Task 5: The Energy Policy Shall...

- The energy policy shall:
 - Be available as documented information
 - Be communicated within the organization
 - Be available to interested parties, as appropriate
 - Be periodically reviewed and updated as necessary

Task 5: Example Energy Policy

As an energy intense facility, we strive to reduce our energy consumption and costs to promote the long-term environmental and economic sustainability of our operations.


We are committed to:

- **R**educe energy use per ton of product by 25% in 10 years
- **E**nsure continual improvement in our energy performance
- **D**eploy information and resources to achieve our objectives and targets
- **U**phold legal and other requirements regarding energy
- **C**onsider energy performance improvements in design and modification of our facilities, equipment, systems and processes
- **E**ffectively procure and utilize energy-efficient products and services

Task 5: Playbook

Activity

- Look at Task 5 in 50001 Ready
- Look at the Task 5 Playbook

 50001 Ready U.S. DEPARTMENT OF ENERGY		50001 Ready Navigator Playbook	
Task 5: Energy Policy			
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.	
This part of the Navigator Playbook is completed when you have:			
<ol style="list-style-type: none">1. Drafted your energy policy statement.2. Had top management approve the energy policy.3. Incorporated the energy policy into your <u>EnMS</u> awareness program.			
<ol style="list-style-type: none">1. <u>Draft your energy policy statement</u>			
<u>Energy policy includes commitments to the following:</u>			

Review Question 5

Review Question

- 5) Which of the following IS NOT a requirement for your organization's energy policy?
- A. Be available as documented information
 - B. Be communicated within the organization
 - C. Be submitted to your state government's environmental department for approval, prior to implementation
 - D. Be periodically reviewed and updated as necessary



Task 6: Energy Team and Resources

Task 6: We have established an energy team authorized by top management to oversee the EnMS. Responsibilities and authorities are assigned and communicated, and processes are in place to identify and provide resources.



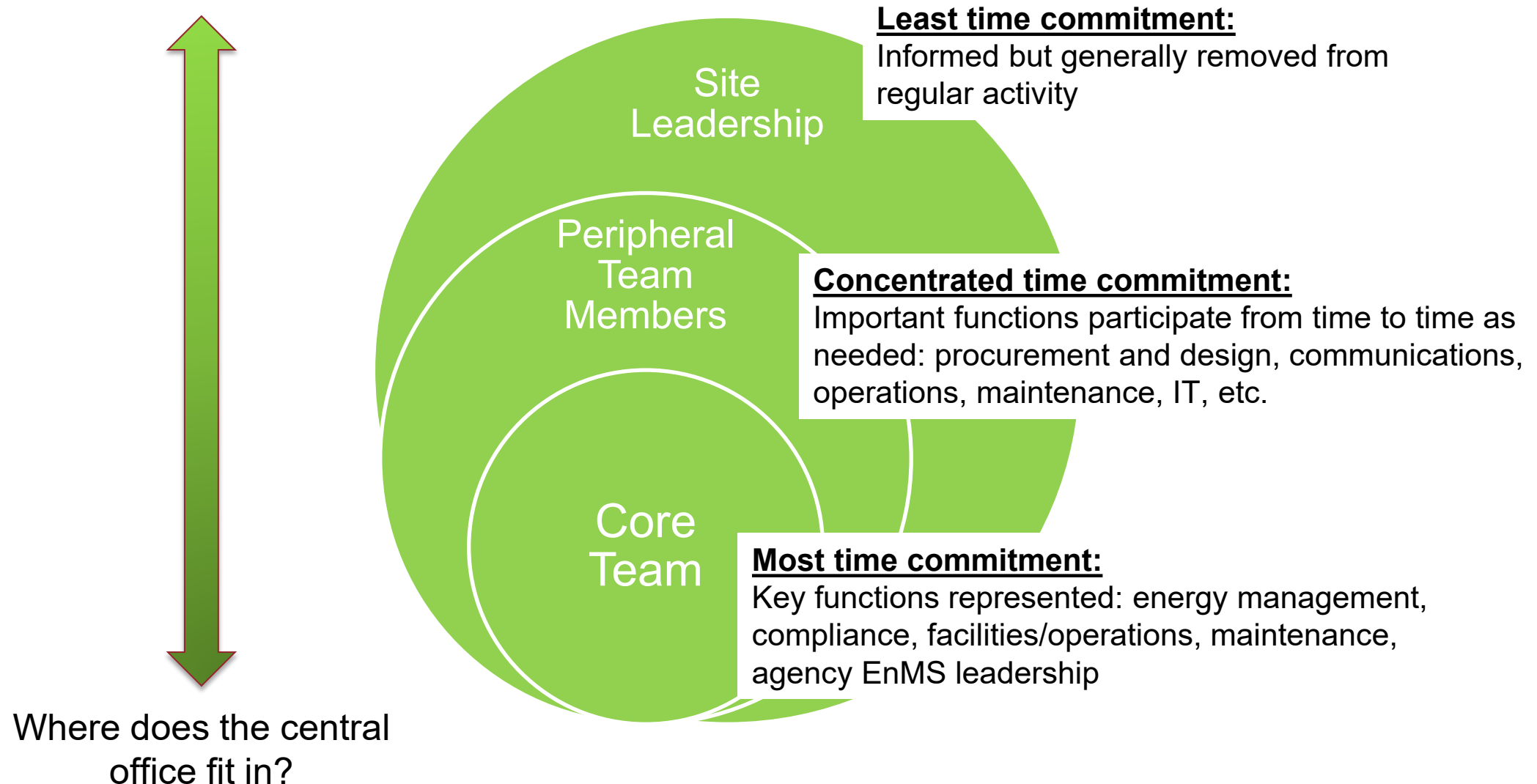
Task 6: Questions to Ask

- How will you organize your energy teams at your sites?
 - Is this structure already in place?
 - What role at the sites will typically lead the energy teams?
 - How will the central office support the energy teams?
- Are responsibilities and authorities assigned?
- Are processes in place to ensure proper resources?
- How will the central office communicate with the individual site teams?

Task 6: Energy Team and Resources

- Form and authorize the team
- Cross functional is better
- Identify and authorize the team leader
- Confirm team resources are available
- Assign responsibilities
- Make a roster
- Set up team meeting times
- Promote awareness and acceptance outside the team


Task 6: Energy Team Roles and Time Commitment



Task 6: Playbook

- Look at Task 6 in 50001 Ready
- Look at the Task 6 Playbook

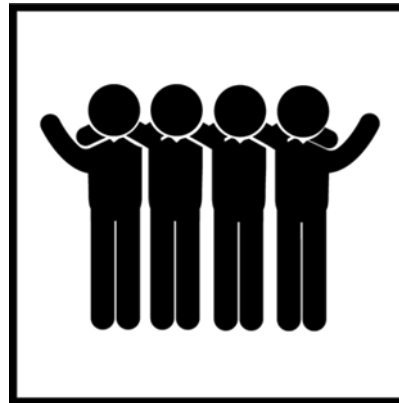
Activity

	50001 Ready U.S. DEPARTMENT OF ENERGY	50001 Ready Navigator Playbook
Task 6: Energy Team and Resources		
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. Formed an energy team and obtained authority from top management for it to oversee the <u>EnMS</u> and carry out assigned responsibilities.2. Documented who the energy team leader is.3. Scheduled regular energy management team meetings.4. Assigned and communicated <u>EnMS</u> responsibilities and authorities within the organization.5. Addressed and communicated responsibilities for other relevant roles.6. Identified, communicated to top management, and allocated the resources needed for the <u>EnMS</u>.		
<ol style="list-style-type: none">1. <u>Form an energy team and obtain authority from top management for it to oversee the <u>EnMS</u> and carry out assigned responsibilities</u>		

Review Question 6

Review Question

- 6) A typical energy team consists of a core group, people who help from time to time, and leadership.
- A. TRUE
 - B. FALSE

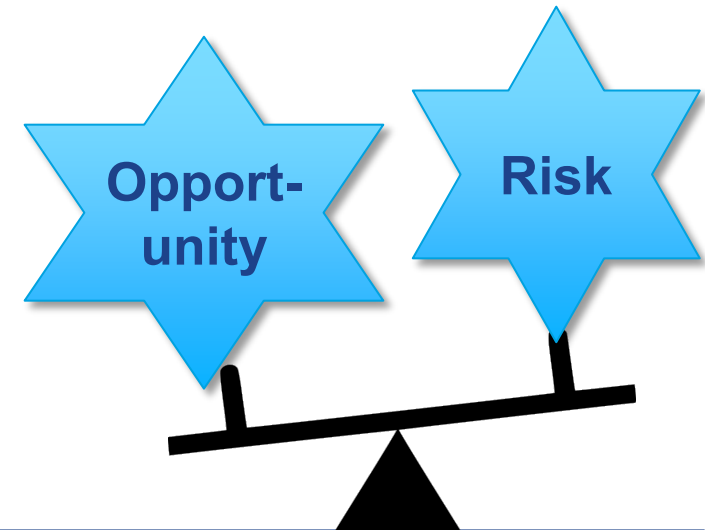


Task 7: Risks to EnMS Success (in Planning)

Task 7: We determine strategic risks and opportunities to ensure that our organization can achieve the intended outcomes of our EnMS and energy performance improvement.

We plan and implement actions to address these risks and opportunities and evaluate the effectiveness of the actions taken.

**In other words:
What gets in the way of
your success? ...and
What helps?**



Task 7: Key Terms

- Risk: Something that poses a threat
- Opportunity: Something that has the potential for a positive impact



The Energy Team defines methods for identifying and assessing these items

Task 7: Risk Examples

EnMS

- Assess the context you identified in Task 1
- Contracted design team that doesn't follow specs
- Disconnect between changing reporting requirements and EnMS system
- Complicated data collection processes
- High turnover in operational controls positions for SEUs

Energy Performance Improvement

- Weather that is much hotter or colder than expected
- Severe weather such as hurricanes, tornadoes and thunderstorms
- Poorly maintained equipment that decreases in efficiency over time
- Limit capital resources
- Long and difficult capital approval processes



Task 7: Actions to address these risks & opportunities


- Risk and opportunities must be evaluated in terms of how they impact the success of:
 - The EnMS
 - Continual energy performance improvement
- Once the risks and opportunities have been identified, plan actions to address them as part of your EnMS
- Be able to demonstrate this process to an auditor



Task 7: Playbook

Activity

- Look at Task 7 in 50001 Ready
- Look at the Task 7 Playbook (which is tied back to Task 1)



50001 Ready Navigator Playbook

Task 7: Risks to EnMS Success

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.

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

1. Identified the risks and opportunities pertaining to the ability of your EnMS to achieve its intended outcomes.
2. For each of the identified risks and opportunities, planned and implemented actions to address them using the processes of the EnMS and record this information.
3. Planned for how the actions taken will be evaluated for effectiveness. Performed an effectiveness evaluation.

Review Question 7

Review Question

- 7) Tasks 1 & 7 work together to help your organization evaluate risk and opportunities that need to be addressed to:
- A. Give assurance that the EnMS can achieve its intended outcome(s), including energy performance improvement
 - B. Prevent or reduce undesired effects
 - C. Achieve continual improvement of the EnMS and energy performance
 - D. All the above



Polling Question 4

Polling Question

4) Thinking about Tasks 4 – 7:

Task 4: Management Commitment

Task 5: Energy Policy

Task 6: Energy Team and Resources

Task 7: Risks to EnMS Success

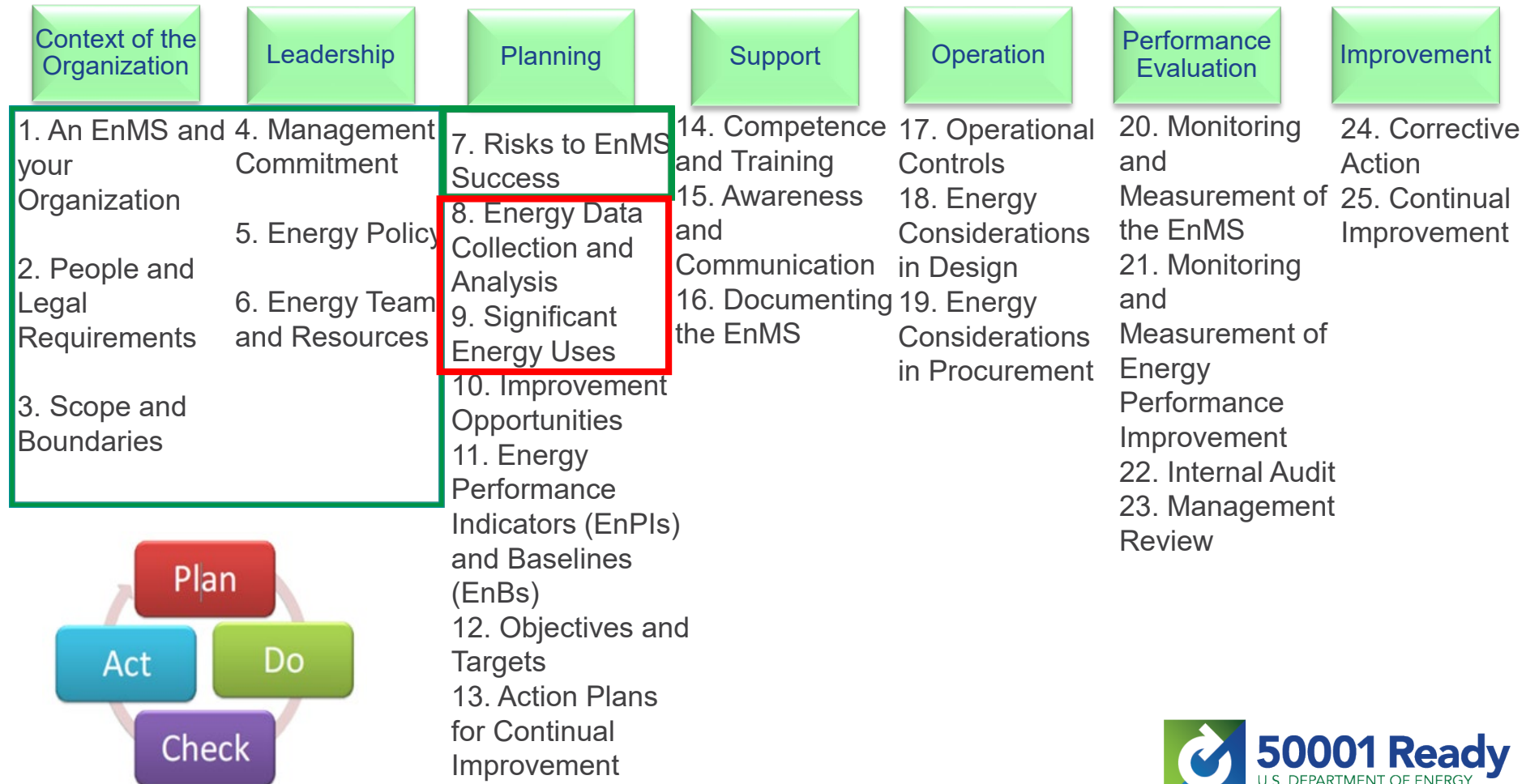
Where do you feel your organization is relative to these four tasks?

- A. We essentially already have all of this in place based on other ISO systems and/or our current energy management program. 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 still feel like Cher Horowitz.

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

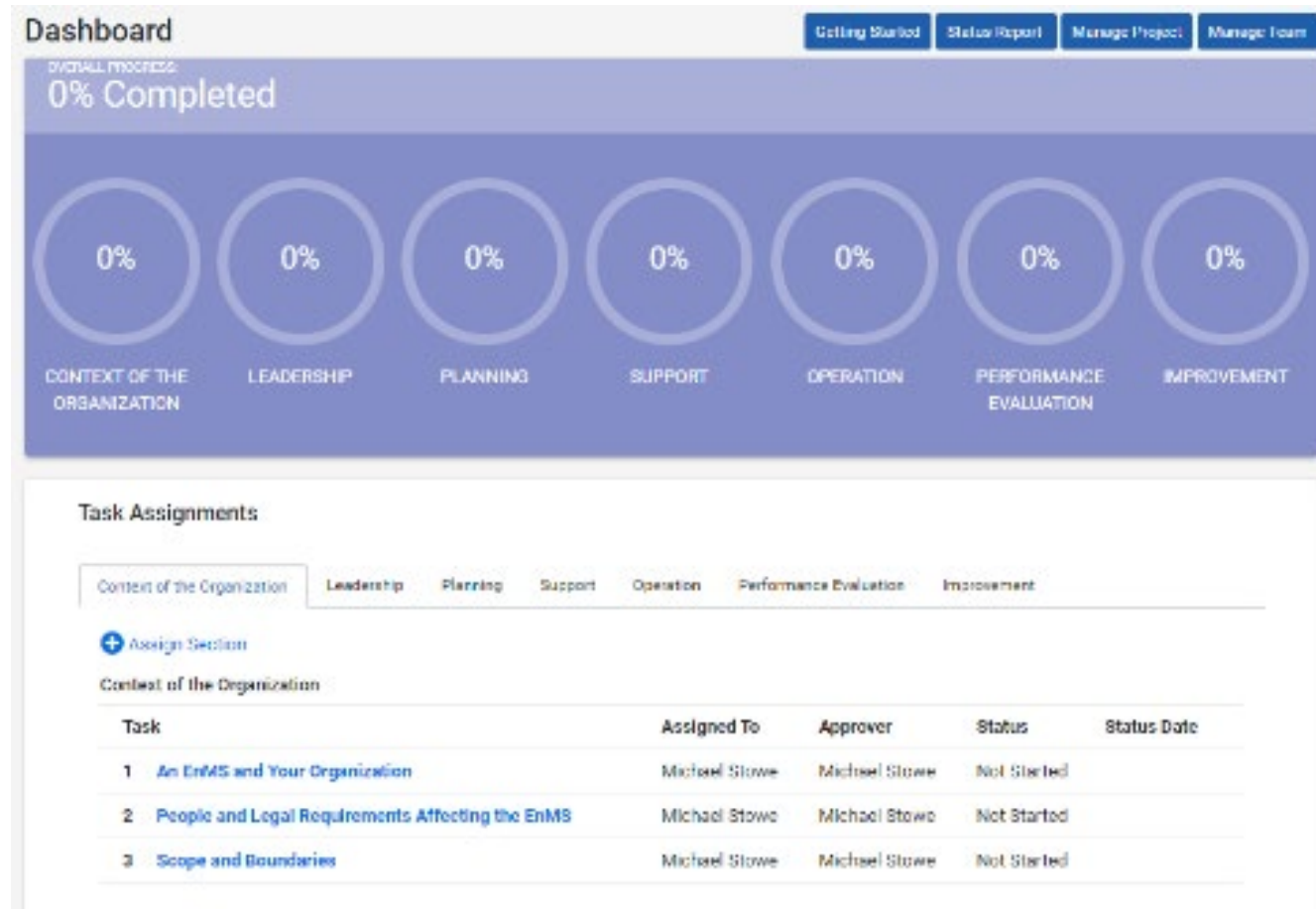
Preparation for Session THREE

- If desired, purchase the ISO 50001: 2018 standard
- Set up your 50001 Ready account
- Prepare for Session THREE:
 - Review tasks 8-9 in 50001 Ready
 - Be prepared to discuss your site energy data collection methods (Task 8).
 - Think about your significant energy users (SEUs) by equipment, process, or system? (Task 9)



Between Sessions

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



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

Polling Question 5

Polling Question

- 5) After listening to today's webinar session TWO, 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 some better
 - C. Cautiously optimistic
 - D. Encouraged
 - E. Ready to get Ready
 - F. I want my money back. Oh, wait. It was free!

And now, our Kahoot Quiz Review Game



Question and Answer Time



Please Contact Us With Any Questions



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mstowe@advancedenergy.org

www.advancedenergy.org