



# Agenda – Session ONE

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

**But first, a POLL** 













- 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 <u>50001 Ready</u> webinar training series
- Eight, 2.5-hour webinars, focused on Strategic Energy Management (SEM), in general, and the ISO 50001 standard and <u>50001 Ready Navigator</u>, in particular
- The webinars will help you understand the why and how of SEM and the application of the <u>50001 Ready Navigator</u> tool
- Thank you for your interest!









# Safety and Housekeeping

- Please make sure that your surroundings are safe:
  - o If you are driving, please use hands free mode
  - o If you are in a building, be sure you know the exit paths
  - o 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 <u>MUTE</u> 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





























**OZINGA**®







SAINT-GOBAIN







Avon Lake Regional Water



Didion





















# Advanced Energy – C&I Group









































































### Your Advance Energy Coaching Team



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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



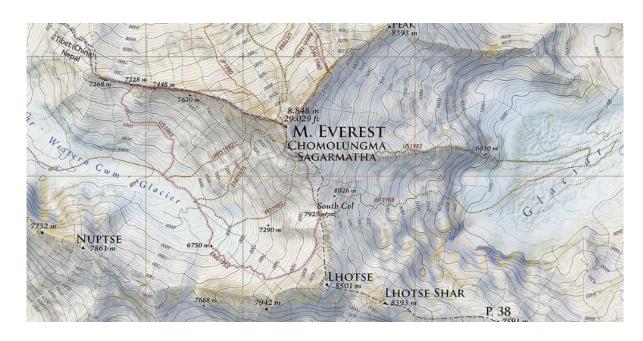


- This eight-week webinar series is focused on knowledge transfer to help you:
  - Understand energy management principles
  - Gain an overview of the scope of 50001 based energy management
  - Learn about the 50001 Ready navigator tool and its 25 tasks
  - Understand where your organization is relative 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





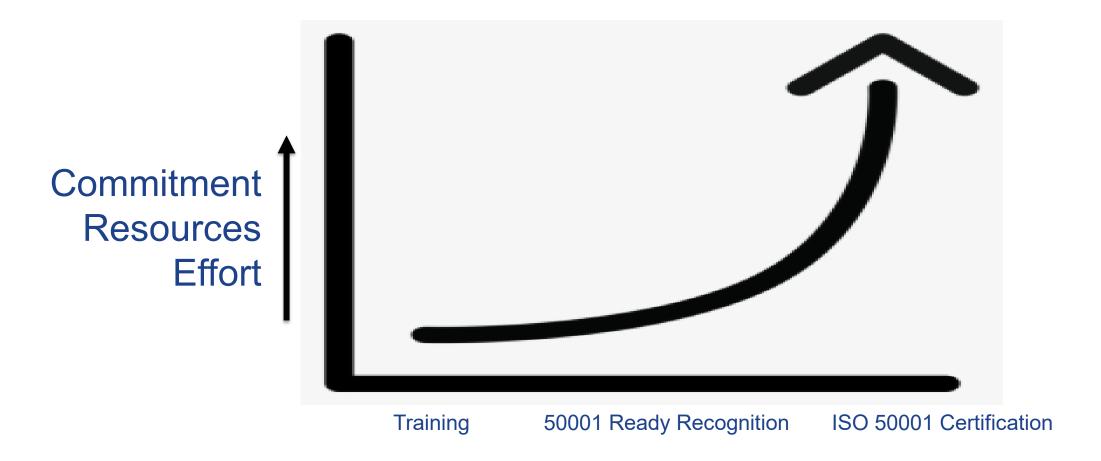
 There is a significant difference between studying the map (i.e., training) and climbing the mountain (i.e., implementation













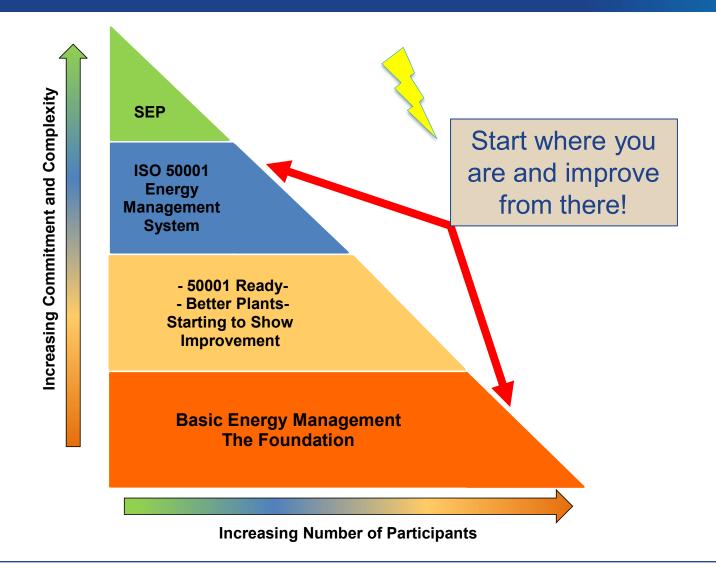


Item Description	Training	Implementation
Signed participation agreement	NO	YES
Data collection: surveys, site info, energy info, gap assessments, etc.	NO	YES
Set up a 50001 Ready account	Recommended	Required
Webinar training sessions	YES	YES
Polls and Knowledge Checks	YES	YES
1-on-1 calls with each site	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





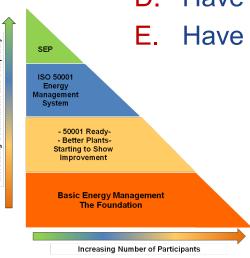
### Why SEM? - The Continuum







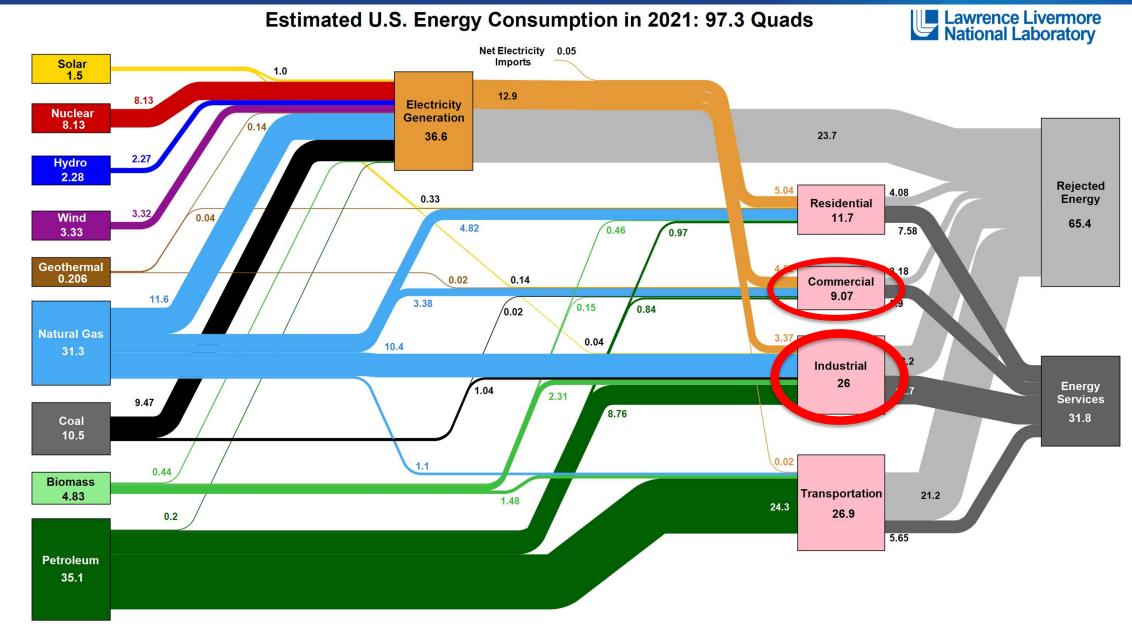
- 2) Based on the SEM Continuum on the previous slide, where do you feel your company is?
  - A. Just starting with the basics
  - B. Have been working with Better Plants and are ready to engage more with 50001 Ready
  - C. Have some sites with 50001 Ready Recognition and plan to do more
  - D. Have 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







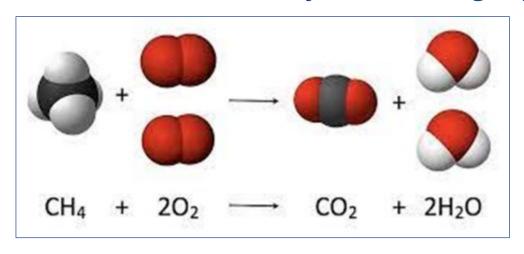
### Why SEM? – The Big Picture



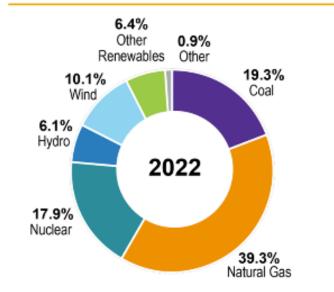


### Why SEM? – The Energy –Carbon Connection

The best way to manage your carbon is to manage your energy.



Electric Companies Use a Diverse Mix of Resources to Generate Electricity



2022 National Energy Resource Mix

"Other Renewables" includes universal for large-scale) solar, private (or rasthog) solar, gasthermal, and game altofrom biomass sources (agricultural visite, kindfill ges-moreory, municipal solid weeks, wood, non-wood waste),

Source: U.S. Department of Energy, Energy Information Administrative





EEI



### Why SEM?

35.07 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

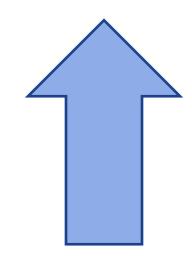
Make MORE with LESS: system This is value This is what added you pay for Reduce losses







## Why SEM? – EE & EI



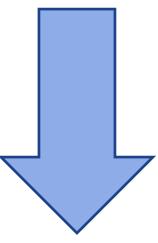
**INCREASE** Energy Efficiency (EE)

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

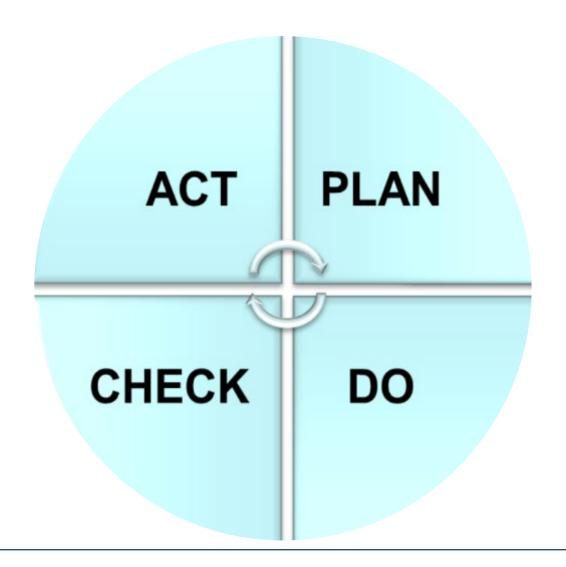








### Why SEM? - Continual Improvement







Why 50001?



### Why 50001?: Background

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

INTERNATIONAL STANDARD ISO 50001

> Second edition 2018-08

Energy management systems — Requirements with guidance for use

Systèmes de management de l'énergie — Exigences et recommandations pour la mise en œuvre



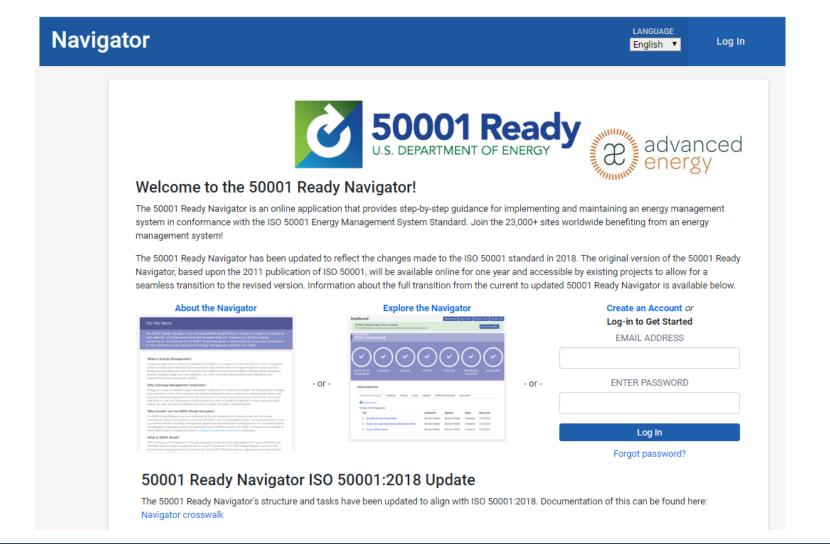








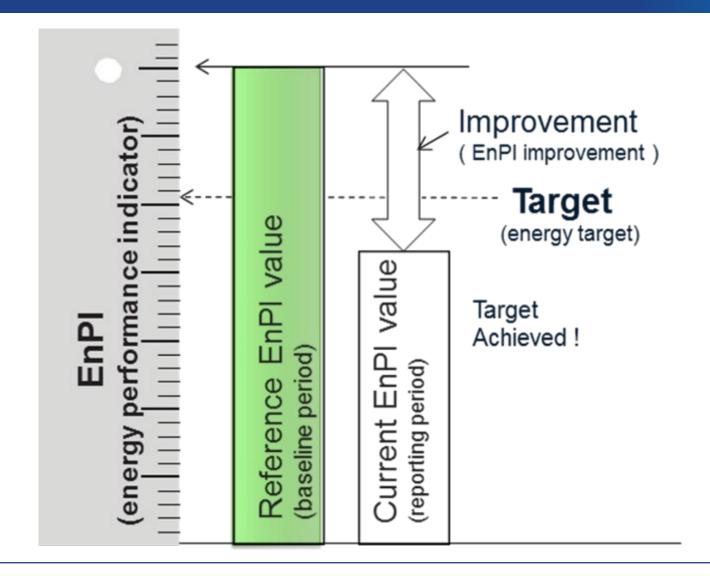
### Why 50001?: A System







### 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
  - **3**M
    - 10.5% average improvement with ISO 50001
    - Versus 6.5% without
- ISO 50001 will help formalize your energy management into a system





**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 <u>not</u> a requirement.

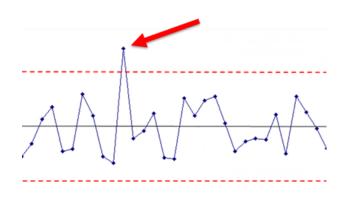
50001 Ready supports starting from scratch also.





### 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



- 1. Complete the 25 Tasks
- 2. Self-attest to completion
- 3. Report energy performance
- 4. Receive DOE recognition

- 1.3<sup>rd</sup> Party Audit
- 2. Receive certification from the certification body
- 3. A prerequisite to SEP

- 1. Rigorous proven savings
- 2. 3<sup>rd</sup> Party Audit
- 3. 3<sup>rd</sup> party verified savings
- 4. Received certification from the certification body

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





### Why 50001?: Summary

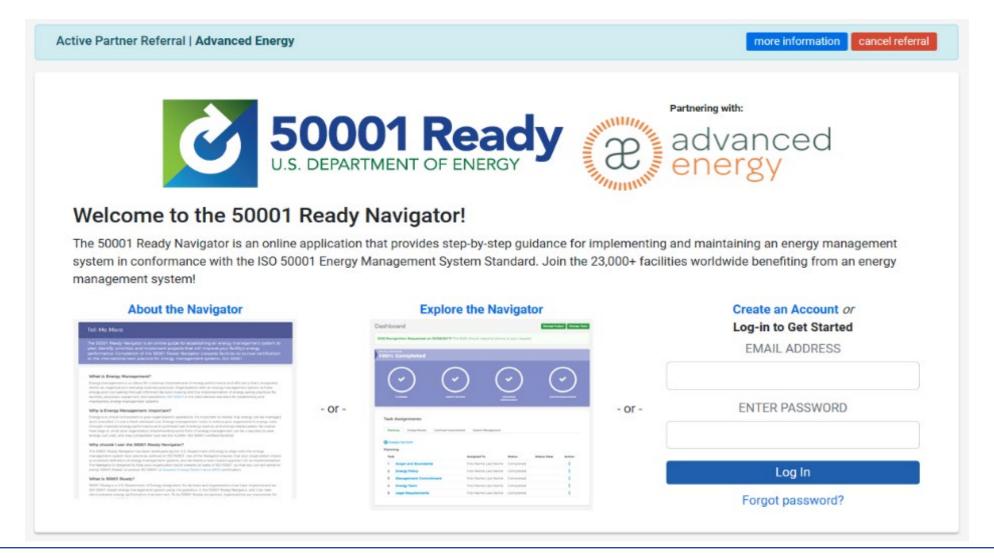
- Worth the effort
- An alternative
- Help for the weary
- A heavy lift needs leverage
- The right tools
- Step-by-step
- Proven improvement
- Dashboard tracking
- Great resources
- Self attesting
- Lots of FREE support







### The 50001 Ready Navigator







### Overview of 50001 Ready - The Tool

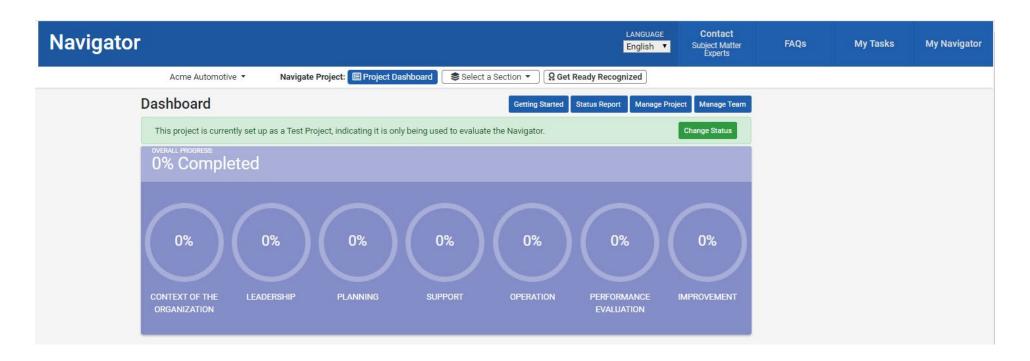
- 1. Recognition for self-attesting to implementation of an EnMS based on the structure of ISO 50001
- 2. No certification required from third-parties
- 3. Open-source software tools, designed to be adopted by implementers
- 4. Suite of resources to support continual improvement in institutional, commercial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

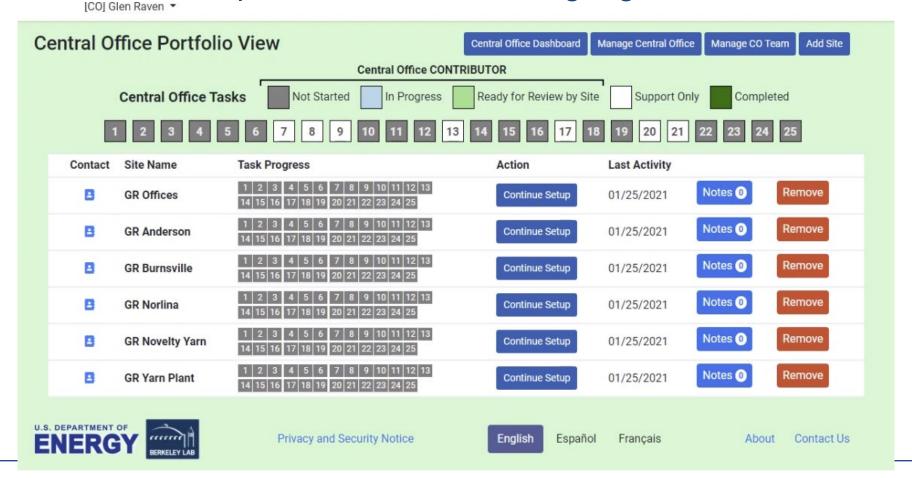






### Overview of 50001 Ready - Multisite

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







### 50001 Ready Navigator Tasks

Context of the Organization

Leadership

**Planning** 

Support Operation Performance **Evaluation** 

**Improvement** 

24. Corrective

**Improvement** 

Action

1. An EnMS and 4. Management 7. Risks to EnMS14. Competence 17. Operational your Organization

Commitment

Success 8. Energy Data

**Analysis** 

5. Energy Policy Collection and

and Training 15. Awareness

the EnMS

and

**Controls** 18. Energy

Considerations

Communication in Design

16. Documenting 19. Energy

Considerations

Energy in Procurement

Performance

22. Internal Audit

Review

2. People and Legal

3. Scope and

**Boundaries** 

Requirements

6. Energy Team 9. Significant and Resources

**Energy Uses** 10. Improvement **Opportunities** 11. Energy Performance

Indicators (EnPIs)

and Baselines

(EnBs)

12. Objectives and

**Targets** 

13. Action Plans for Continual

**Improvement** 

20. Monitoring and

Measurement of 25. Continual the EnMS

21. Monitoring

and

Measurement of

**Improvement** 

23. Management







# 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



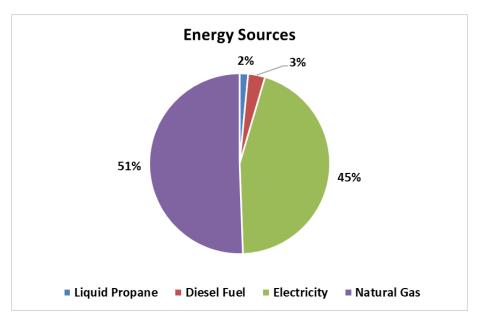
Is there strong top management commitment to the EnMS? Is there a clear and well-communicated energy policy? Are there adequate resources for the energy team to carry out the implementation of the EnMS?





### Planning (7) – Two Key Pies

### Understanding your energy performance

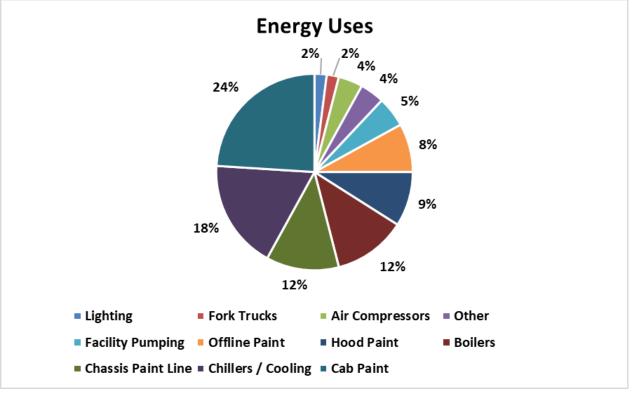


What energy comes into my site?

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?

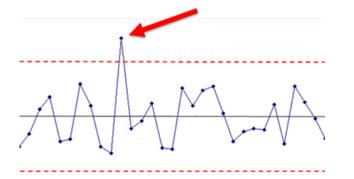




### Operation (3)

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

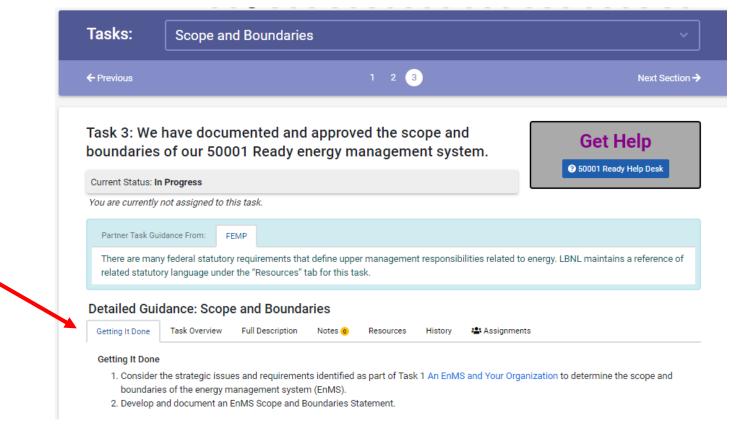






# Overview of 50001 Ready - Guidance

### Use the task completion guidance: Start with the "Getting It Done" Tab

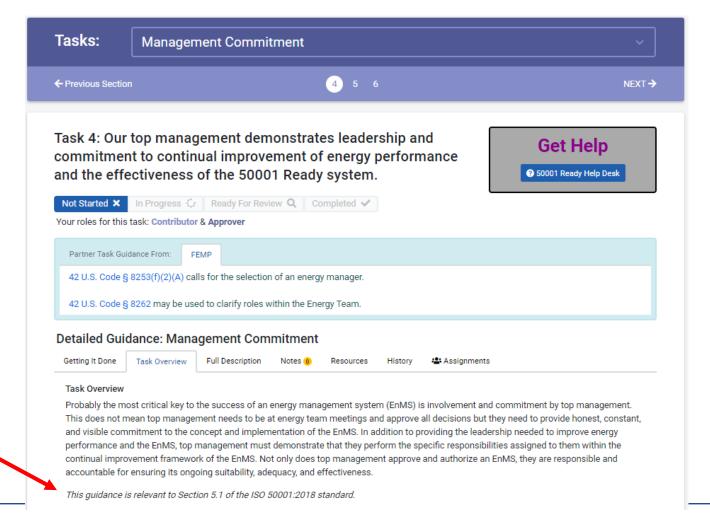






### Overview of 50001 Ready – Cross Reference

#### Use the cross-reference to ISO 50001

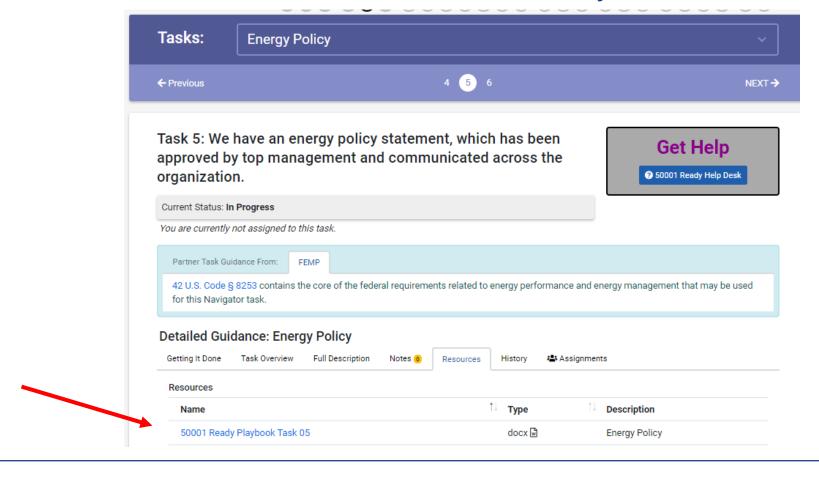






### Overview of 50001 Ready - Playbooks

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







### Task 9: Playbook - EXAMPLE

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





#### **50001 Ready Navigator Playbook**

#### Task 9: Significant Energy Uses (SEUs)

Date last modified/updated: Who last modified/updated:

Internal audit: Click here to enter a date

Management review: Click here to enter a date

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

- 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.
- Identify the energy uses that consume the most energy within your boundaries.
- 2. Identify factors and persons that affect the energy consumption of identified energy uses.





### 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

STEP 1

Complete the 25 tasks in the 50001 Ready tool

STEP 2

Prepare your signed self-attestation form

STEP 3

Determine your energy performance improvement

STEP 4

File for 50001 Ready recognition



DOE Recognizes
50001 Ready
Completion





# 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.





50001 Ready
U.S. DEPARTMENT OF ENERGY

Review and Wrap Up

Webinar Training Schedule & Preparations Kahoot Quiz Game Q&A



### 50001 Ready Navigator Tasks: Webinar #2

Context of the Performance Leadership Operation Planning Support **Improvement** Organization **Evaluation** 14. Competence 17. Operational 20. Monitoring 24. Corrective 1. An EnMS and 4. Management 7. Risks to EnMS and Training and Commitment Controls Action vour Success 15. Awareness Measurement of 25. Continual 18. Energy Organization 8. Energy Data and the EnMS 5. Energy Policy Considerations **Improvement** Collection and Communication in Design 21. Monitoring 2. People and Analysis 16. Documenting 19. Energy and 6. Energy Team Legal 9. Significant the EnMS Measurement of Requirements and Resources Considerations **Energy Uses** in Procurement Energy 10. Improvement Performance 3. Scope and **Opportunities Improvement** Boundaries 11. Energy 22. Internal Audit Performance 23. Management Indicators (EnPIs) Review and Baselines (EnBs) Plan 12. Objectives and **Targets** 13. Action Plans Act for Continual **50001 Ready** Check Improvement





# Training Schedule: By Session

- 1. An Overview TODAY March 28
- 2. Laying the Foundation of 50001 Next-April 4
  - a) All sessions: 10:00 a.m. to 12:30 p.m.
- 3. Where does all the Energy Go? April 11
- 4. Sorting out the Energy Data April 18
- 5. Engaging Other Functions April 25
- 6. Evaluating Performance May 2
- 7. Ensuring Continual Performance May 9
- 8. Wrap Up and Next Steps May 16

ALL on Thursdays





### Preparation for Session TWO

- We recommend that you purchase the ISO 50001: 2018 standard
- Set up your 50001 Ready account. This is very important
- Prepare for <u>Session TWO</u>:
  - 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)?
  - O Do you have an energy team (6)?







- 3) After listening to today's webinar session, how do you feel about 50001 Ready as a resource to help you with your energy management plans:
  - A. Overwhelmed
  - B. Cautiously optimistic
  - C. Very encouraged
  - D. Ready to get Ready





### 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





### And now, our Kahoot Quiz Review Game







### **Question and Answer Time**







# Thank you!



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