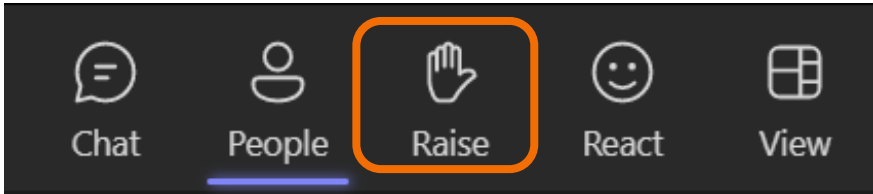
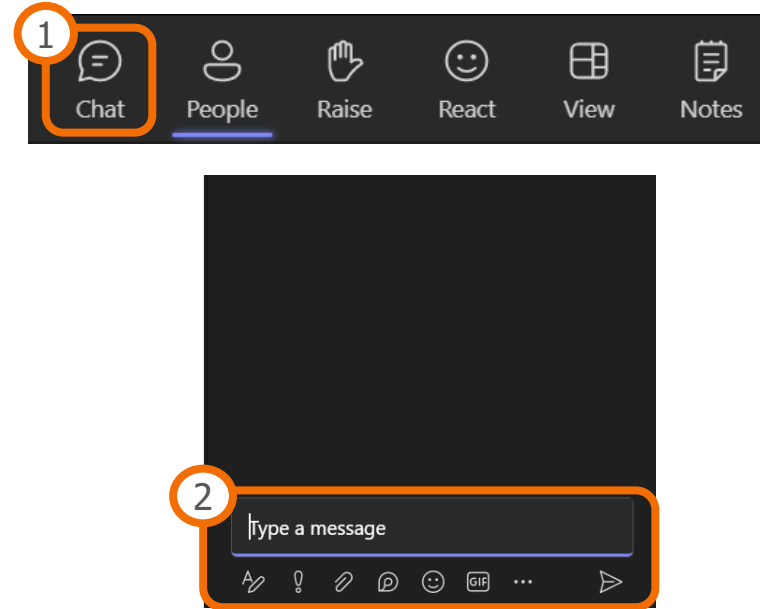


Participate in the discussion!

Raise hand or use the chat to comment or ask questions.



To lower your hand, press the “Raise” button again.



NOVEMBER 21, 2023

The Road to ISO 50001

Andrew Knox

Senior Manager, Consulting Services
Goldfin Consulting



What ISO 50001 Can Look Like for You

1

Benefits of the ISO 50001 Standard

2

Support Tools for Building Energy Management Systems

3

Paths to ISO 50001 Certification

Follow along in your workbook

Have the workbook open or printed out

We will be using the Participant Workbook to summarize and reinforce key points and record your key take-aways.

Where to find the workbook

- Workshop reminder email from earlier this week
- In the chat



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SAVE ENERGY DELIVER PARTNER

THE ROAD TO ISO 50001

PARTICIPANT HANDOUT

ISO 50001 is the international standard for good energy management practices. The North Star. It leads to greater and longer-lasting energy savings and improves the resilience and persistence of your efforts. But achieving ISO 50001 certification can appear quite onerous and costly.

Understand what is involved in achieving ISO 50001 certification, if it is right for you, and how you can work towards 50001 to take advantage of the benefits without becoming overwhelmed.

IN THIS WORKSHOP, PARTICIPANTS WILL:

- ▶ Learn what is involved in ISO 50001 including best practices and what commitments are required.
- ▶ Evaluate whether ISO 50001 certification is right for their organization.
- ▶ Develop a plan to work towards ISO 50001 in a way that makes sense for them.

This workshop will be hosted over Microsoft Teams. For instructions or troubleshooting, please see the last page of this handout.

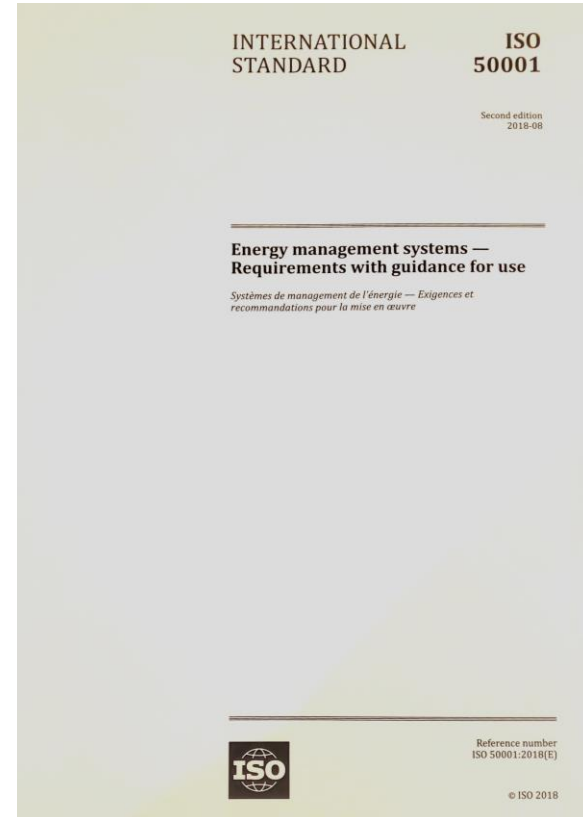


What is ISO 50001?

ISO 50001 is a standard that establishes requirements for an ISO-certifiable energy management system (EnMS)

What is an EnMS?

A system that includes targets, action plans and processes in pursuit of goals established in a formal energy policy.



What ISO 50001 Includes



Energy Management
Good Practices



PDCA
Plan-Do-Check-Act



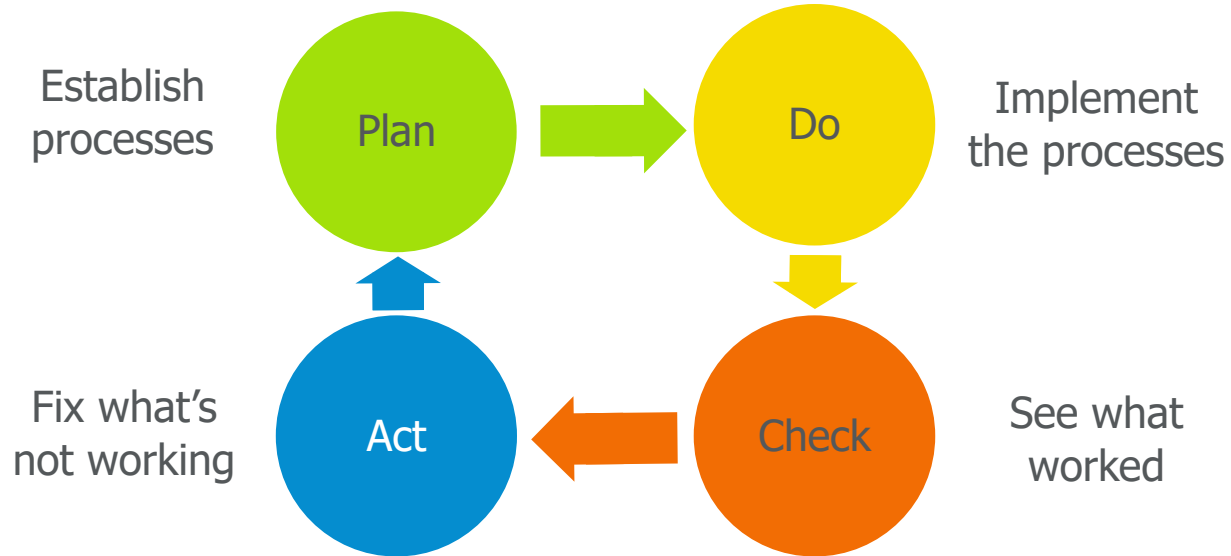
Third-party
Recognition

Energy Management Practices

Energy management good practices support the achievement and persistence of energy performance improvements.



ISO 50001 is Based on the Plan-Do-Check-Act Cycle








Energy Management System Drivers

Good Practices	PDCA	Third-Party Recognition
<ul style="list-style-type: none">• Reduce energy costs• Improve energy reporting• Reduce GHG emissions• Establish a plan to achieve targets	<ul style="list-style-type: none">• Improve adherence to energy management practices• Enhance persistence of energy savings• More actively pursue continuous improvement• Increase internal awareness of energy management	<ul style="list-style-type: none">• Comply with regulatory requirements• Meet customer requirements• Enhance brand• Access funding programs

Your Drivers and 50001 Components

	 Good Practice	 PDCA	 Recognition
Energy savings	✓	✓	✓
Deeper, persistent savings		✓	✓
Third-party recognition			✓

Breakout Group Instructions



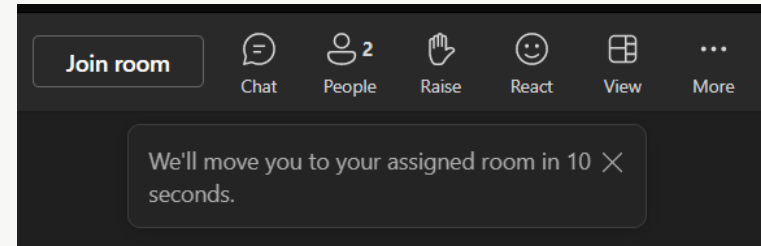
Pg. 2

In your breakout groups share:

What is motivating you to consider ISO 50001 or a similar energy management system?

To join to breakout session

Click Join room to join breakout room. Alternatively, you'll be moved to your assigned room automatically 10 seconds after rooms are opened.





Breakout Group Debrief

What did you discuss as motivations for adoption of an energy management system?

There are Degrees of Formality in Energy Management



Good Practices



ISO 50001
Compliance



50001 Ready™
Self-attested



Certified



Which End Goal is Right For You?

	End Goals			
	Energy Management Good Practices	ISO 50001 Compliant	50001 Ready	ISO 50001 Certified
Energy savings	✓	✓	✓	✓
Deeper, persistent savings		✓	✓	✓
Third-party recognition			✓	✓
Resource Intensity	★	★★★	★★★	★★★★

The 50001 Ready Recognition Process



Add project
to *Ready*
Tool



Complete
the 25 tasks



Submit
Application

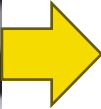


Yearly
Recognition
Renewal

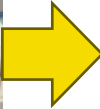
What Does Certification Involve?



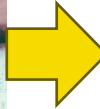
Establish
50001 System



Engage
Registrar*



Stage 1
Audit



Stage 2
Audit



Certification

***If you use a third-party consultant for implementation of your energy management system, that consultant cannot act as your registrar.**

Re-registration is Required Every Three Years



Negotiate frequency of surveillance audits with your registrar during the hiring process.

There are Many Roads to ISO 50001

No two journeys to 50001 certification are the same. The following case studies vary in terms of their intended endpoints, methods and timelines.



Maple Leaf: Early Steps Towards Possible Certification

Taking Next Big Step Toward Formalization of Systems

- Publicly declared strong commitments to sustainability
- Engaged in energy management for years, with many projects
- Built a large energy team
- Has now engaged consultant to begin a 50001 gap analysis process



City of Mississauga's ISO 50001 Self-Certification

A Slow Build to a Record Certification

- Spent many years increasing commitment to energy management
- Established senior management trust
- Built a large energy team
- Certified without support from an external implementation consultant
- Earned first ISO 50001 certification for a municipal building in Canada



General Dynamics Land Systems' 50001 Journey

Implementing a Clear Rapid-Certification Mandate



- Leadership provided direction for rapid certification
- GDLS participated in London Hydro SEM program
- Third-party implementer was engaged
- The London facility was 50001 certified in December 2020 (10-month process)



What Does Your Road to ISO 50001 look like?



What is your end point?



What is your timeline?



What support will you use?



Internal vs. External Resources



Internal



External



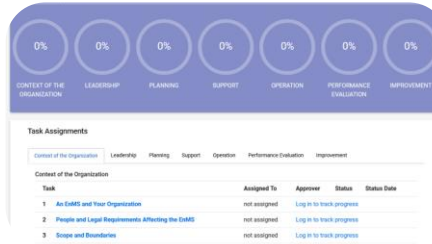
Support Resources Available



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ISO 50001 Training Courses



50001 Ready Navigator



Strategic Energy Management Program

50001 Ready Navigator



Task Assignments

Task	Assigned To	Approver	Status	Status Date
7	Risks to EnMS Success			
8	Energy Data Collection and Analysis			
9	Significant Energy Uses (SEUs)			
10	Improvement Opportunities			
11	Energy Performance Indicators and Energy Baselines			
12	Objectives and Targets			
13	Action Plans for Continual Improvement			

Strategic Energy Management (SEM)



Pg. 5





A Gap Analysis is Good Place to Start



Gap Analysis Resources

- Third-party facilitation
- Strategic Energy Management EMA or 50001 Assessment
- 50001 Checklist
- 50001-Ready EMA tool
- SEM Hub EMA tool

Q&A with Paul Mellecke



50001 Ready Playbooks

50001 Ready Navigator Playbook

Task 10: Improvement Opportunities

Date last modified/updated: [2023-03-27](#) Internal audit: [2023-03-27](#)
Who last modified/updated: [2023-03-27](#) Management review: [2023-03-27](#)

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

- Developed and documented a methodology and criteria for how your organization will identify, prioritize, and update energy performance improvement opportunities.
- Applied the methodology and criteria you developed to identify, prioritize, and update energy performance improvement opportunities.
- Updated the list of prioritized improvement opportunities at specific intervals and when major changes in facilities, equipment, systems or energy-using processes take place.

- Develop and document a methodology and criteria for how your organization will identify, prioritize, and update energy performance improvement opportunities.

We have developed a prioritization method that is both systematic and continual, and have detailed below:

[Click here to enter text.](#)

The following have been considered in our criteria selection process:

- The energy objectives and targets that have been established
- The estimated energy savings associated with Improvement Opportunities
- Organizational constraints
- Applicable capital justification or other criteria required for project approval by organization

- Apply the methodology and criteria you developed to identify, prioritize, and update energy performance improvement opportunities.

We have used a 50001 Ready Improvement Opportunities Register (or other document) to identify, prioritize, and update energy performance improvement opportunities.

- Update the list of prioritized improvement opportunities at specific intervals and when major changes in facilities, equipment, systems or energy-using processes take place.

We update the 50001 Ready Improvement Opportunities Register (or other document) to identify, prioritize, and update energy performance improvement opportunities when major changes in facilities, equipment, systems or energy-using processes take place.

1

50001 Ready Navigator Playbook

Task 10: Improvement Opportunities

Checklist of Other Methods to Identify Energy Saving Opportunities

Purpose: Provide a listing of methods (other than assessments) for identifying energy saving opportunities, with a checklist feature for recording the methods used by the organization

METHOD	CONTACT	EXPECTED OUTCOMES FROM APPLYING THE METHOD	WAS THIS METHOD USED? (y/n)	WHEN WAS IT USED? (date)	NEXT PROPOSED USAGE (date)
Employee Suggestions	Contact employees through the suggestion system, survey form or annual performance reviews.	Improvements in process energy efficiency, energy waste reduction opportunities, and proposed operating efficiency improvements	Click here to enter text.	Click here to enter text.	Click here to enter text.
Utility Account Representative	Contact utility to locate the assigned representative.	Information on available utility rates and incentives, new technologies promoted by the utility, and fuel switching opportunities	Click here to enter text.	Click here to enter text.	Click here to enter text.
Process and Energy Equipment Service Technicians	Technician contact information is available from contracted service provider or equipment vendor service department.	Operating and maintenance recommendations from service provider	Click here to enter text.	Click here to enter text.	Click here to enter text.
Equipment Vendors Technical Support	Contact the equipment manufacturer to access their technical support.	Recommendations on most efficient operating conditions and maintenance practices to maximize and sustain operating efficiency	Click here to enter text.	Click here to enter text.	Click here to enter text.
Trade association and/or operating standards for industrial sector	Trade association	ENPI, general plant operating conditions	Click here to enter text.	Click here to enter text.	Click here to enter text.
Equipment Standards	Equipment vendor trade association, user group records	Efficient equipment operating conditions and maintenance practices	Click here to enter text.	Click here to enter text.	Click here to enter text.
Value Stream Mapping	Lean training seminars, corporate lean manufacturing specialists	Add energy to value stream mapping and identify approaches to reduce energy waste and/or improve operating efficiency	Click here to enter text.	Click here to enter text.	Click here to enter text.
Six Sigma	Six sigma websites and blogs, Six sigma training courses	Project comparison and selection.	Click here to enter text.	Click here to enter text.	Click here to enter text.

2

50001 Ready Navigator Playbook

Task 10: Improvement Opportunities

Purpose: Provide a listing of methods (other than assessments) for identifying energy saving opportunities, with a checklist feature for recording the methods used by the organization

METHOD	CONTACT	EXPECTED OUTCOMES FROM APPLYING THE METHOD	WAS THIS METHOD USED? (y/n)	WHEN WAS IT USED? (date)	NEXT PROPOSED USAGE (date)
			Click here to enter text.	Click here to enter text.	Click here to enter text.
Benchmarking	Industrial Energy Analysis http://industrial-energy.nl.gov/node/100	Spreadsheet tools for use by industries to benchmark a plant's energy intensity to "best practice" and to identify energy-efficiency options that can be implemented.	Click here to enter text.	Click here to enter text.	Click here to enter text.
Examine Energy Saving Assessments (ESA) results for like industries	U.S. DOE-Industrial Assistance and Projects Database http://www.energy.gov/esa/industrial-assistance-and-projects-database	Listing of ESA recommendations developed during system assessments	Click here to enter text.	Click here to enter text.	Click here to enter text.

PREPARED BY:

[Click here to enter text.](#)

DATE:

[Click here to enter text.](#)

UPDATED:

[Click here to enter text.](#)

3