ISO 50001:2018 from ISO 50001:2011 – EnMS Upgrade Instructions

This combination instruction / checklist is intended for use in upgrading your Management System for the transition from ISO 50001:2011 to ISO 50001:2018 for Energy management systems (EnMS) used in all types of industries. The above management systems are compatible with each other and have common requirements.

In ISO 50001:2018, the requirements are described in:

- Clause 4 Context of the organization
- Clause 5 Leadership
- Clause 6 Planning
- Clause 7 Support
- Clause 8 Operation
- Clause 9 Performance evaluation
- Clause 10 Improvement

Previously in ISO 50001:2011, the requirements were described in:

- Clause 4.1 General requirements
- Clause 4.2 Management responsibility
- Clause 4.3 Energy policy
- Clause 4.4 Energy planning
- Clause 4.5 Implementation and operation
- Clause 4.6 Checking
- Clause 4.7 Management review

You have the ISO 50001:2011 version in place and now have the objective of upgrading the system to the ISO 50001:2018 version. The good news is that since you are familiar with formal management systems, this initiative will be relatively straightforward.

Essentially, the documentation package for the management system will contain:

- One condensed Manual to introduce the documented information required for ISO 50001:2018.
- A group of procedure/system documents for your EnMS with updates to reflect a document numbering system related to the new clause numbers and to incorporate the upgrades for ISO 50001:2018 requirements,
- A group of forms and attachments needed for the documented information and systems.

The documentation will need to be reviewed, upgraded, and implemented. The first step is to assign a person responsible for the management system, such as with an Energy Management Team Leader to become familiar with the changes for the 2018 version of the ISO 50001:2018 standard. Visit https://50001store.com/ for training materials, resources, and information on energy management systems requirements.

The following table with detailed instructions focuses on the areas of the documentation required for the new standard. As you undertake the task of upgrading your energy management system, note that in the left-hand column of the instructions, the ISO 50001:2018 clauses shown in **bold numbers** have key changes from 2011 to 2018. The intent of the main clauses is shown in **blue font** and the text in ***italics*** indicates where requirements were included in previous ISO 50001:2011.

Use a copy of the ISO 50001:2018 standard along with this instruction to pinpoint for your organization the areas that need attention. You may want to make notes and add comments in the space available to the right and the left of the column for reference documentation. Use the upgrade checklist section on the right side of the table to assign the responsibility for the upgrade and to follow up on its completion.

ISO 50001:2018 from ISO 50001:2011 – EnMS Upgrade Instructions

ISO 50001:2018 Clause	Changes to the existing ISO 50001:2011 Energy System	Reference document	Changes in existing documentation	Upgrade Checklist	
				Assigned to:	Date Completed
All	The international standard ISO 50001:2018 is restructured and contains 10 sections or clauses 1 through 10.	ISO 50001:2018	The requirement clauses of the new standard are the Clause 4 through Clause 10. Your company needs to become familiar with the new structure and the changes and subsequently upgrade the Energy Management System (EnMS).		
All	As you initiate the transition from ISO 50001:2011 to ISO 50001:2018, here are a few **Short, Quick, and To-the-Point Productivity Tips**. 50001Store		• An important first tip is to assign a responsible person, such as an Energy Management Team Leader as the representative of the top management, who will be the project manager for the transition project. • You will need to refer to the ISO 50001:2018 standard. Buy the new standard at https://50001store.com/standards • For the transition from the 2011 version to the 2018 version, keep your employees informed by issuing 'Employee Newsletters'. Refer to https://50001store.com/?s=newsletters for a complete set of newsletters. • Make use of the 'Implementation Plan'. Refer to https://50001store.com/?s=step+by+step. • Get your free Quick Start Kit at https://50001store.com/?s=quick+start • As required in clause 9.2 of the standard, your EnMS will need to be audited and your internal auditors properly trained to do this. For a complete auditor training package, refer to https://50001store.com/?s=internal+audit		

ISO 50001:2018 from ISO 50001:2011 – EnMS Upgrade Instructions

All	While the specific requirement for a Manual is not in ISO 50001:2018, the standard requires that documented Information be maintained for the EnMS	Manual	Replace / rework your existing Energy Manual with a condensed version that will introduce the energy management system. You may want to assign the Manual a document number such as EnMS-002.		
---	*In ISO 50001:2011, a Manual was not a requirement.*	Manual	In the EnMS-002 Manual include sections for: • Scope of the Energy Management System • Distribution Control List, • Revision Status, • Energy Policy, Objectives, Energy Targets, Strategic Direction, • Organization Chart, • Company Background, • Process Flow Diagram, • List of Documented Information, • Records Documentation Matrix.		
---	The specific requirement for documented procedures is not in ISO 50001:2018; however documented information is required to plan, establish, implement, and maintain the EnMS processes. *In ISO 50001:2011, the requirement for control of documents was included in clause 4.5.4, and the requirement for control of records was in clause 4.6.5.*	Documented information	The documented information may be presented in any suitable format such as in a method, an instruction, a system, a process, a procedure, etc. You will need to add / replace / rework your procedures to incorporate the ISO 50001:2018 requirements. An early consideration is the development of a process for the control of documented information. Replace / rework the documented procedures for Control of Documents and Control of Records with a procedure, P-750 for Documented Information and include it in section 7.5.		
4	This first clause introduces two sub-clauses relating to the context of the organization, 1st of all is understanding the organization and its context and 2nd is understanding the needs and expectations of interested parties. Together they require that you determine the issues and requirements that can impact on the planning of the Energy Management System. In addition, the scope of the EnMS, and the processes to improve energy performance along with their applicability and interactions need to be determined.				
4	Clause 4, Context of the Organization is a new requirement in ISO 50001:2018. *In ISO 50001:2011,Clause 4 covered the*	Documented information	Your company will have to determine the issues and requirements that can impact on the planning of the EnMS and that can affect the ability to achieve the		

	Energy management system requirements.		intended results of the system and improve energy performance.		
4.1	Documented information for the EnMS sets the stage for an understanding of the requirements and of the international standard as a whole.	Procedure	Document the information (in a document/procedure P-400, Organizational Context) to outline the process to understand and determine the internal and external issues that are relevant to the EnMS.		
4.2	A stakeholder approach provides for an understanding of the requirements of the company personnel and other interested parties.		In P-400, include the process to determine the interested parties relevant to energy performance and to understand and determine their requirements that need to be addressed through the EnMS.		
	In ISO 50001:2011, the requirements for legal and other requirements were in clause 4.4.2.		In P-400, include the process to ensure that legal and other requirements that apply to the EnMS are accessible and determine how they affect energy use and consumption.		
4.3	In ISO 50001:2018, clause 4.3 requires that the scope of the EnMS be determined. *In ISO 50001:2011, the definition and documentation of the scope and boundaries of the EnMS were in clauses 4.1 b and 4.2.1 d.*		In P-400, include the process to determine the scope of the EnMS. Consider the requirements in above clauses 4.1 & 4.2, and the energy-using processes and activities performed. Include in the EnMS your activities and processes that you control or influence and that can impact energy performance.		
4.4	In ISO 50001:2018, the basic requirement for the energy management system and its processes is in clause 4.4. *In ISO 50001:2011, general requirements for the EnMS are in clause 4.1*		Your company will have to establish, implement, maintain, and continually improve the EnMS in accordance with the requirements documented in the ISO 50001:2018 standard. Provide an outline (in a document P-400) of the process to determine the application and interaction of the processes needed for the EnMS.		
5	This clause requires that your top management demonstrates leadership and commitment with respect to the Energy management system. This section also asks top management to establish, implement and maintain an energy policy that is appropriate to your company and to ensure that the organizational roles, responsibilities, and authorities for relevant roles are assigned, communicated, and understood.				
5	In ISO 50001:2018, clause 5, Leadership replaces clause 4.2, Management	Procedure	Review and re-write your existing document P-500 to incorporate the revised energy related requirements		

	responsibility in ISO 50001:2011.		for leadership and commitment.		
5.1	This clause covers overall responsibility and authority, and the formation of an energy management team is included in clause 5.1 f) of ISO 50001:2018. *In ISO 50001:2011, the requirement for a management representative was included in 4.2.2 and the formation of an energy management team was not a specific requirement..*		To demonstrate leadership and commitment, assign responsibilities and authorities to ensure that the EnMS conforms to the requirements of the ISO standard. Include the formation of an energy management team, and you may choose to announce an Energy management team leader as the ISO 50001 implementation project manager. Refer to the requirements in clause 5.1 a) thru m) and include the items ranging from a) ensuring that the scope and boundaries for the EnMS are established to m) ensuring that a system is in place to identify and address changes affecting the EnMS.		
5.2	In ISO 50001:2018, clause 5.2 covers the requirements for the Energy policy. *In ISO 50001:2011, the Energy policy was included in clause 4.3.*		Include the process for developing and communicating the Energy policy. Refer to the requirements in clause 5.2 a) thru g) and include the items ranging from a) policy is appropriate to the purpose of the company to g) policy supports design activities that include improved energy performance. Ensure that the energy policy is available as documented information, is communicated within your company, is available to interested parties, and is reviewed periodically and updated if needed.		
5.3	In ISO 50001:2018, Organizational roles, responsibilities and authorities are outlined in clause 5.3. *In ISO 50001:2011, clause 4.2.1 covered the requirement for top management and the requirements for responsibility and authority were in clause 4.4.2 and through a management representative.*	Organization chart	Include the system for assigning and communicating the responsibilities and authorities. Refer to the requirements for a) thru e) to ensure that a) the EnMS is established, maintained and continually improved to e) establishing criteria and methods needed for the effective operation and control of the EnMS.		
6	This clause talks about the planning for the energy management system, where your company needs to consider the issues referred to in previous clause 4.1, the requirements of clause 4.2, the scope of the EnMS system per clause 4.3, and determine the actions to address the energy risks and opportunities. The planning of actions includes systems for the identification and planning of objectives and energy targets. In addition, energy reviews need to be conducted, energy performance indicators (EnPIs) determined, energy baselines (EnBs) established, and the collection of				

ISO 50001:2018

Energy Management Systems Documentation

Energy Manual / Documented Information

Document No. EnMS-002

Street Address

City, State, Zip

Tel,

Cell Phone:

Email:

Web Site:

Instructions:

This manual is used as a template in developing your ISO 50001:2018 Energy Management Systems.

- Methods and systems used in the development and operation of the EnMS vary widely from company to company.
- The blue text and suggestions displayed in the manual are intended to offer some options and to highlight the areas that need attention / update / replacement.
- Review the text and suggestions and at a minimum replace or update them to reflect the unique / customized information of your energy system requirements.
- Delete the blue text after each task is completed.
- Use replace function – enter "Your Company" in find space, enter your company name in replace space – system should make changes throughout the entire document.
- Additional details and instructions in the use of the EnMS-002 manual template is included in a separate file "EnMS-Template-Instructions".

Additional documentation review.

- Similarly, the blue text and suggestions displayed in the EnMS documentation (that will follow) for the procedures, instructions, attachments, forms, and flow diagrams are intended to offer some options and to highlight the areas that require update or replacement.

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Introduction

Section A a. Scope of the Energy Management System

Section B References

a. Normative reference

b. Terms and Definitions

Energy Management System Requirements

Section C Documented Information

a. Distribution Control List

b. Revision Status

c. Energy Policy, Objective, Energy Targets, Strategic Direction

d. Organization Chart

e. Company Background

f. Process Flow Diagram

Section D List of Documented Information for clauses 4 through 10

Clause 4 Context of the Organization

Clause 5 Leadership

Clause 6 Planning

Clause 7 Support

Clause 8 Operation

Clause 9 Performance Evaluation

Clause 10 Improvement

Section E Records Documentation Matrix

1.0 Purpose/Scope

1.1 The purpose of this procedure is to describe the process of setting the energy objectives and targets at relevant functions and levels in Your Company.

1.2 This procedure provides for the development of the energy programs required to achieve the objectives and targets and outlines the process for developing action plans for the identified energy programs.

2.0 Responsibilities and Authorities

2.1 The Energy management team leader has the prime responsibility and approval authority for this procedure.

2.2 The Energy management team leader in consultation with the Energy management team is responsible to coordinate activities associated with the implementation and the maintenance of this procedure covering the energy objectives, targets and action plans.

2.3 Additional responsibilities for other personnel are detailed in relevant paragraphs of section 5.0 below.

3.0 References and Definitions

3.1 This document addresses clause 6.2 of the ISO 50001:2018 standard, covering objectives and targets.

4.0 Resources

4.1 None

5.0 Instructions

5.1 By setting objectives and targets at the relevant functions, levels, processes and facilities, Your Company can focus its efforts and resources on areas of greatest energy impact and/or greatest concern to internal and/or external stakeholders.

5.2 Objectives and targets are consistent with the energy policy. They are measurable, monitored, communicated and updated as needed.

5.2.1 The objectives and targets become the drivers for the improvement in energy performance and consider legal and other applicable requirements, SEUs-significant energy uses, and energy improvement opportunities identified with the energy review.

5.2.2 The energy objectives planning record, form F-620-001 is used to establish and document the objectives and targets. The form is a multi-section form where:

- **Section 1** is used to restate the company's energy policy (as detailed in attachment A-520-001.
- **Section 2** describes the primary objective(s) consistent with and as outlined in the energy policy.
- **Section 3** describes the general objectives as identified in support of the primary objectives

1.0 Purpose/Scope

1.1 This procedure describes the process for internal and external communication regarding energy management at Your Company

1.2 The procedure applies to personnel whose work affects energy performance and the EnMS.

2.0 Responsibilities and Authorities

2.1 The Energy management team leader has the prime responsibility and approval authority for this procedure.

2.2 Additional responsibilities for the Energy management team leader, the human resources staff, the supervisors, and employees are detailed in relevant paragraphs of section 5.0 below.

3.0 References and Definitions

3.1 This document relates to clause 7.4 of the of the ISO 50001:2018 standard, covering communication.

4.0 Resources

4.1 None

5.0 Instructions

5.1 In support of the procedure P-720 for Competence, awareness, and training the Energy management team determines the method(s) for internal and external communication of energy matters.

5.1.1 The internal communication of dependable information is consistent with that generated with the EnMS and is provided through:

- Publication of the Energy policy, A-520-001,
- Communication of the Organization chart, A-530-001,
- Overview of the P-D-C-A, plan-do-check-act approach to continual improvement with guidelines, A-600-001.
- Overview of the Risk-based-thinking approach to improvement with the Risk and opportunities worksheet, form F-610-001.
- Overview of the process approach and risk-based thinking,
- Issue and access of the EnMS Manual, Procedures and Instructions as controlled documents, with the procedure P-750,
- Overview of the procedures & instructions, and the forms & attachments with Master documentation lists, F-750-003,
- Employee comment / suggestions (per par 5.1.2 below),
- Daily production schedules/sheets,
- Crew meetings,

F-720-004 **Employee Training Summary**

Document #	Document Name:	Rev. Date	Rev ID
Session	ISO 50001:2018 Kickoff Training		
Session	Energy Management System		
Session	New Employee Orientation Training		
EnMS-002	Energy Manual		
A-520-001	Energy Policy		

INSERT YOUR COMPANY LOGO/NAME HERE

F-750-005
Document Change Request

Document Title:	**Document Number:**

Requestor: _____ Date Requested: _____

Change Requested: *Attach copy of document page with changes indicated.*

Reason for Change:

Approver Comments:

Change Approved: ☐ **Yes** ☐ **No**

If yes, is training required? ☐ **Yes** ☐ **No**
Individual Training ☐
Group Training ☐

Training Notes:

Authorized Staff Signature *(Principal signature(s) needed for procedures)*

_____ _____
Date

Energy Management Team Leader

_____ _____
Date

INSERT YOUR COMPANY LOGO/NAME HERE

F-1010-001
Corrective Action Request - CAR

CA ☐ IA ☐

(Check appropriate box to indicate Corrective Action or Improvement Action)

Corrective Action # _____ or Improvement Action # _____ Date: _____

	Date Due	By/Assigned to	Completed Initials & Date
Investigation			
Implementation			
Audit			
CAR closed			

Description of Issue

Investigation Finding / Root Cause

WI-620-002 Example – ACTION PLAN & PROJECT TIMING CHART - DEVELOPMENT OF ENERGY PROGRAM

COMMITMENT and POLICY	PLANNING	PROCESS
Energy Policy Commitment 1	Program Instruction WI-620-002	Conserve Energy Resources
Reduce energy use per unit of production by 20% in 5 years in manufacturing operations.	Objective 1	Achieve increased energy awareness for contractors.
	Target 1	Provide energy awareness training to all contractors – to be completed in 5 months.
	Energy Program	Energy awareness
Date started:	Action	Human resources, Technical services and Purchasing departments to set up relevant training programs.

PROGRAM – ACTION PLAN PROJECT: _____ LEADER:_____

Action Plan is relevant to objectives as defined in the Energy Planning record, F-620-001:

Primary Objectives: _____	General Objectives: X	Energy review Objectives: _____
Legal and Other Requirements: _____	Relevant Functions: _____	Other:

Other Action Plan Considerations:

Are there financial requirements associated with this objective? ___ No, X Yes Training resources are required
Is funding available? ___ No, X Yes Funds allocated in training budget

Are there business and operational conditions relevant to this objective? ___ No, ___ Yes Not applicable

Are the views of interested parties considered? ___ No, ___ Yes _____

Are there feasible technological options available for this objective? ___ No, ___ Yes _____

Are there alternative energy sources available for use for this objective? ___ No, ___ Yes _____

Will operational controls be needed? ___ No, ___ Yes _____, _____, _____

Will an EnPI be used to report on this objective / target(s)? ___ No, ___ Yes, If yes what is the EnPI metrics? _____

GUIDELINES FOR ASSESSING ENERGY SIGNIFICANCE	Date Approved:	DATA Form A-630-001

With reference to **Column 4 of the Energy Assessment Worksheet**, F-630-001 a simplest method of assessing / quantifying the significance of energy use / consumption is to use the letters **H or M or L** to indicate whether the Severity and Occurrence are high or medium or low.

H = High

M = Medium

L = Low

In general:

When both Severity and Occurrence are High, the energy use is significant, and the process step requires improvement action

When one or both the severity and the likelihood are indicated as medium, additional reviews are required to identify existing conditions that reduce or eliminate the energy use.

Below is a method to quantify the energy assessment.

S = Severity of the Outcome

High = 10, 9, 8

Medium = 7, 6, 5, 4

Low = 3, 2, 1

L = Likelihood of the Occurrence

High = 10, 9, 8

Medium = 7, 6, 5, 4

Low = 3, 2, 1

(L x S) = Significance of energy use,

High = 100 to 50 range

Medium = 49 to 16 range

Low = 15 to 1 range

Significance of Use and Consumption

A variation in the method to analyze the Severity and Likelihood and assess the significance or energy performance associated with the process step.

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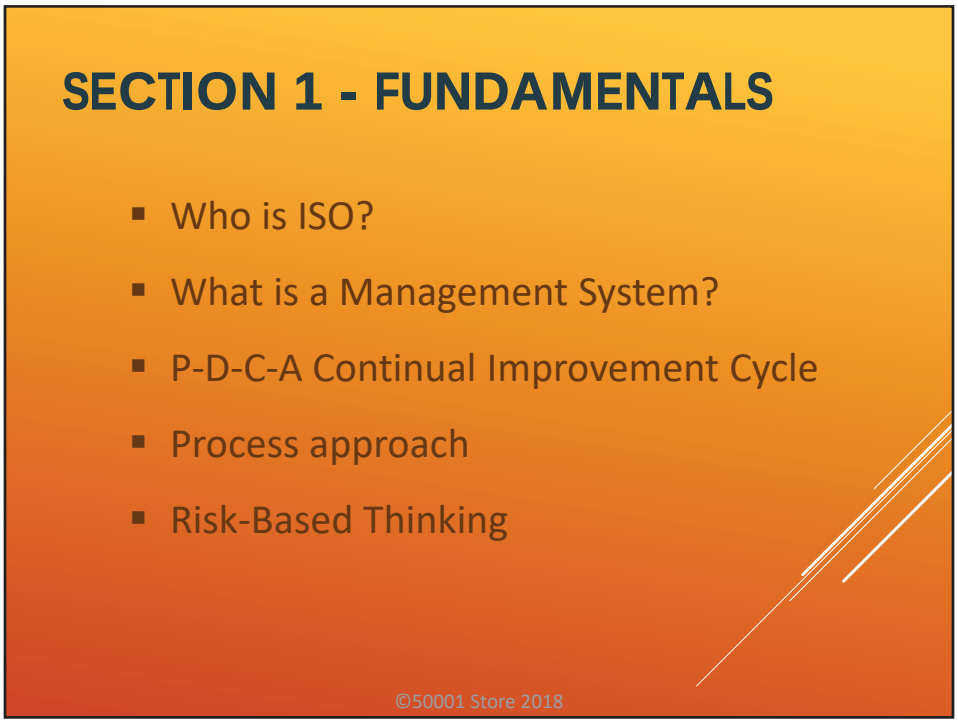
ISO 50001:2018

Employee Training Overview

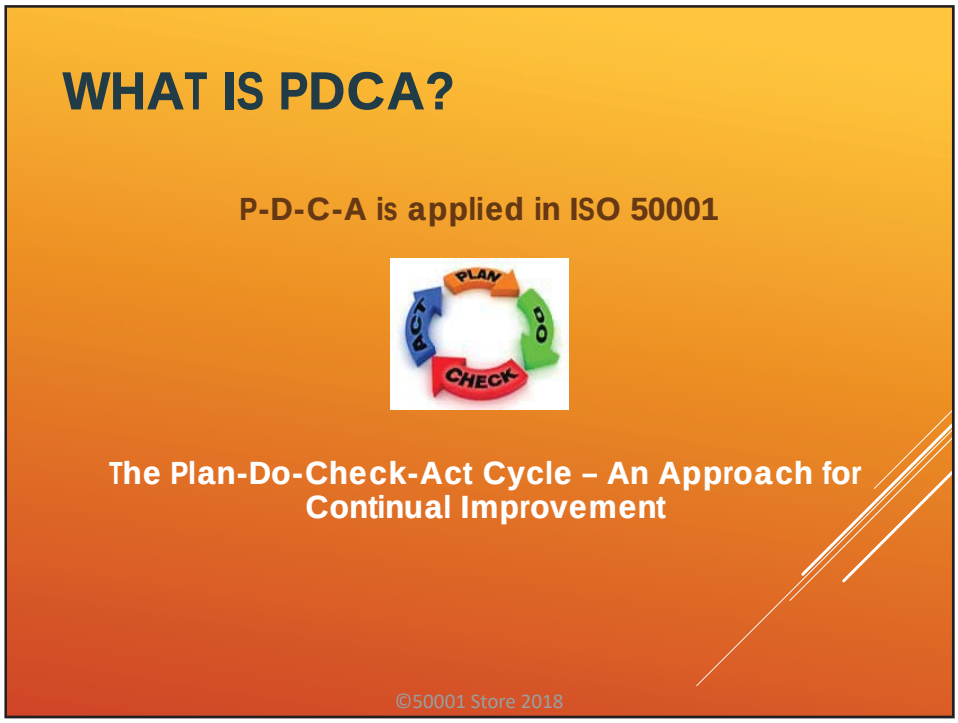
Trainer Guide

Includes Trainer's Guide with speaker's notes

Every employee in your company has an important role to play in the Energy Management System (EnMS).
You are participating in this training to learn the basics of this management system, and what it means to be ISO 50001 registered and how it will affect your job.

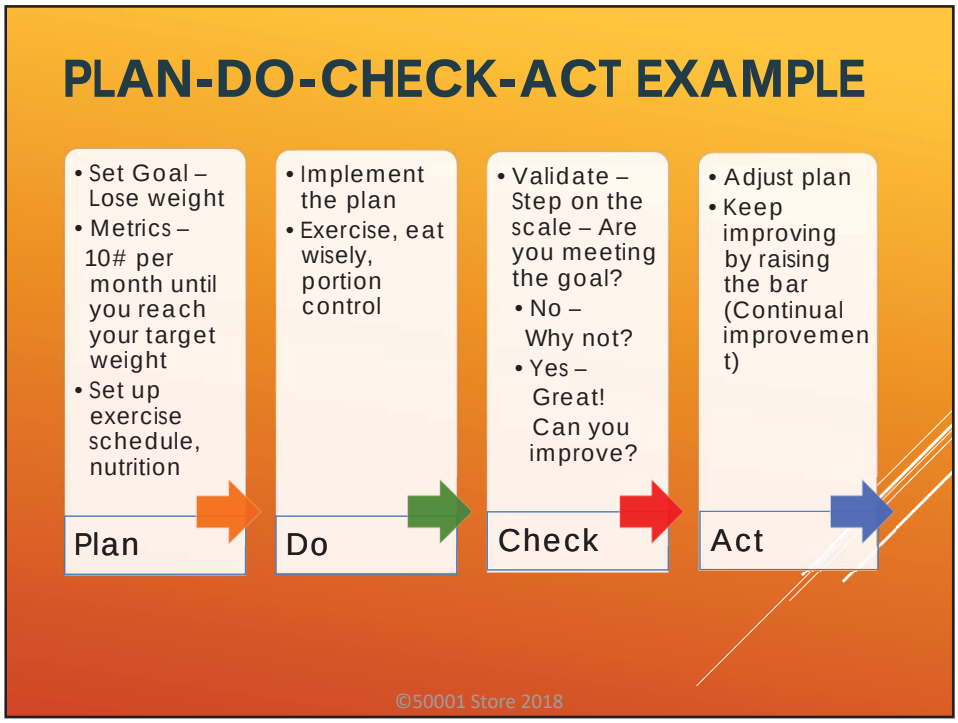


Let’s start with some fundamentals.



ISO management systems use some common formats to keep them simple.

One is the Plan-Do-Check-Act (P-D-C-A), a continual improvement approach.



You could consider a diet an example of a “Nutritional Management System”.

This is basic, common sense, put into practice.

In this example, there are very common ideas for each of the Plan Do Check Act components.

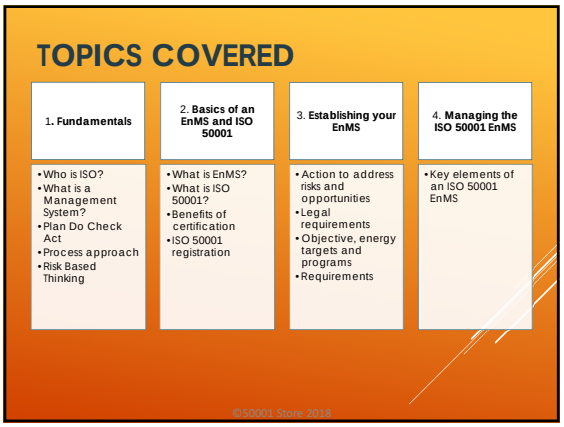
Sometimes the best solutions are not too complicated, and much more likely to be effective if you have a structured plan in place.

Continual improvement keeps your momentum going and helps you improve your goal.

If you don’t improve, you may stop putting in the effort and will ultimately fall backwards.

Student Guide included with space for notes

1



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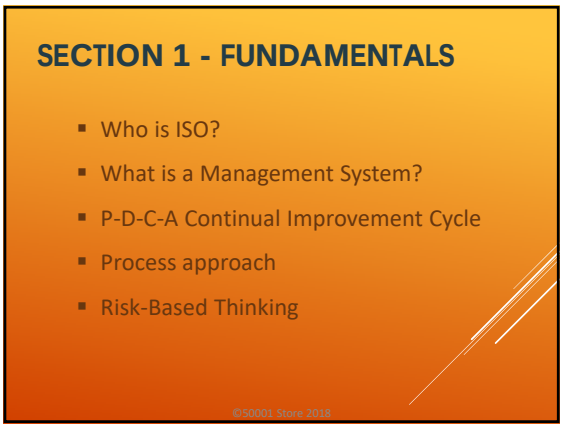

3