

ISO 50001:2018

ENERGY MANAGEMENT SYSTEMS

Overview of ISO 50001:2018 Implementation

WHAT IS ISO 50001:2018?



It is an International Standard on energy management systems (EnMS), published by the International Organization for Standardization (ISO) in the year 2018, replacing the **ISO 50001:2011** standard.

The **ISO 50001:2018** Standard specifies energy management system (EnMS) **requirements**, upon which an organisation can develop and implement an energy policy, and establish objectives, targets, and action plans which take into account legal requirements and information related to **significant energy use**.

ISO 50001:2018 is applicable to all types and sizes of organisations, irrespective of geographical, cultural or social conditions.

The **ISO 50001:2018** standard is applicable irrespective of the types of energy used.

ISO 50001:2018 can be used for certification, registration and self-declaration of an organisation's EnMS.

Worldwide application of **ISO 50001:2018** contributes to more efficient use of available energy sources, to enhanced competitiveness and to reducing greenhouse gas emissions and other related environmental impacts.

ISO 50001:2018 does not establish absolute requirements for energy performance beyond the commitments in the energy policy of the organisation and its obligation to comply with applicable legal requirements and other requirements. Thus, two organisations carrying out similar operations, but having different energy performance, can both conform to its requirements.

The successful implementation of ISO 50001:2018 EnMS depends on commitment from all levels and functions of the organisation, and especially from **top management**.



WHAT ARE THE MAIN CHANGES FROM THE 2011 EDITION?

The main changes compared to the previous edition are as follows:

Adoption of ISO's requirements for management system standards, including a high-level structure, identical core text, and common terms and definitions, to ensure a high level of compatibility with other management system standards

Better integration with strategic management processes

Clarification of language and document structure

Stronger emphasis on the role of top management

Adoption of context order for the terms and their definitions in Clause 3 and update of some definitions

Inclusion of new definitions, including energy performance improvement

Clarification on exclusions of energy types

Clarification of "energy review"

Introduction of the concept of normalization of energy performance indicators [EnPI(s)] and associated energy baselines [EnB(s)]

Addition of details on the energy data collection plan and related requirements (previously energy measurement plan)

Clarification of text related to energy performance indicators [EnPI(s)] and energy baselines [EnB(s)] in order to provide a better understanding of these concepts

STEPS INVOLVED IN ISO 50001:2018 CERTIFICATION

Gap Analysis: Identification of areas of significant energy use, and detailed assessment of existing energy management practices viz-a-viz ISO 50001:2018 requirements.

Initial Review and Planning: Review of the findings of gap analysis by Senior Management, formation of a cross-functional energy management team headed by a senior manager (as management representative), and planning for ISO 50001:2018 implementation.

Documentation: Preparation of manuals, forms, etc.

Implementation: Implementation of the system as per manuals.

Company-wide Training: Training on ISO 50001:2018 requirements, EnMS documentation, good EnMS practices, internal EnMS audit, etc.

Internal Audits: Periodic assessment of system implementation status.

Pre-assessment: Initial assessment by Certification Body, and corrective actions by applicant organization.

Final Assessment: Detailed assessment by the Certification Body and recommendation for certification.



WHO ARE THE **ISO 50001:2018** CERTIFICATION BODIES ?

Most of the ISO 9001 Certification Bodies (CB's) also offer ISO 50001:2018 certification.

Some of the reputed ISO 50001:2018 Certification Bodies are:

BRITISH STANDARDS INSTITUTION



UKAS ACCREDITED

NATIONAL QUALITY ASSURANCE

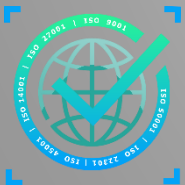


UKAS ACCREDITED

GLOBAL QUALITY ASSURANCE



NON UKAS ACCREDITED



STEPS INVOLVED IN ISO 50001:2018 CERTIFICATION

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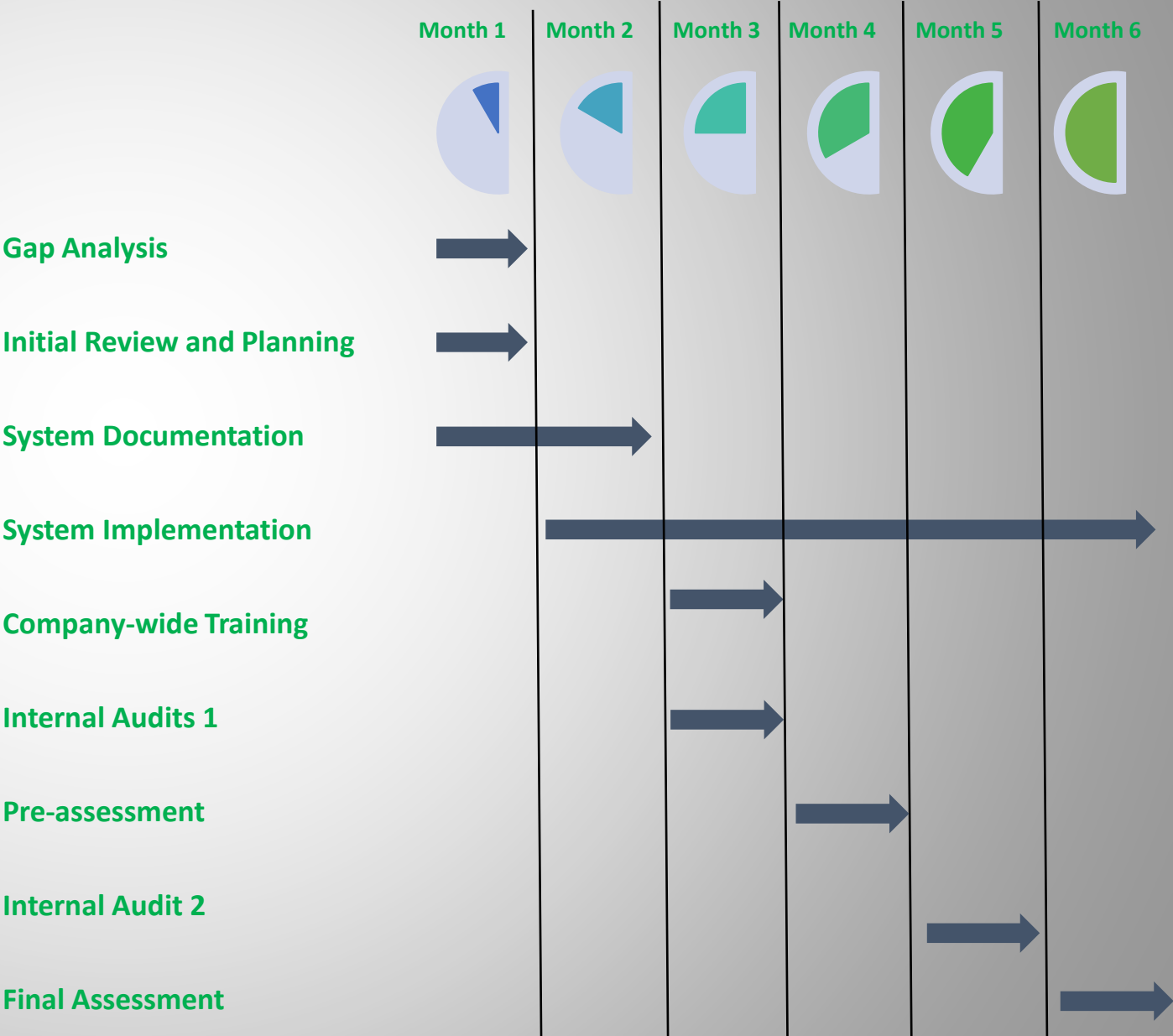
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*Based on a typical UK business | For illustration purposes only



INTRODUCTION TO ISO 50001:2018 STANDARD



0.1 General

The aim of **ISO50001:2018** standard is to enable organisations to establish the systems and processes necessary to continually improve energy performance, including energy efficiency, energy use and energy consumption.

Successful implementation of an EnMS supports a culture of energy performance improvement.

This standard applies to the activities under the control of the organisation.

This standard does not apply to product use by end-users outside of the scope and boundaries of the EnMS, nor does it apply to product design outside of facilities, equipment, systems or energy-using processes.

This standard does apply to the design and procurement of facilities, equipment, systems or energy-using processes within the scope and boundaries of the EnMS.

An EnMS enables an organisation to set and achieve objectives and energy targets, to take actions as needed to improve its energy performance, and to demonstrate its conformity to **ISO50001:2018**.



INTRODUCTION TO ISO 50001:2018 STANDARD



0.2 Energy performance approach

The **ISO 50001:2018** standard provides requirements for a systematic, data-driven and facts-based process, focused on continually improving energy performance.

Energy performance is a key element integrated within the concepts introduced in this document in order to ensure effective and measurable results over time.

Energy performance is a concept which is related to energy efficiency, energy use and energy consumption.

Energy performance indicators (EnPIs) and energy baselines (EnBs) are two interrelated elements addressed in this standard to enable organisations to demonstrate energy performance improvement.



INTRODUCTION TO ISO 50001:2018 STANDARD



0.3 Plan-Do-Check-Act (PDCA) cycle

The EnMS described in the **ISO 50001:2018** standard is based on the Plan - Do - Check - Act (PDCA) continual improvement framework and incorporates energy management into existing organisational practices.

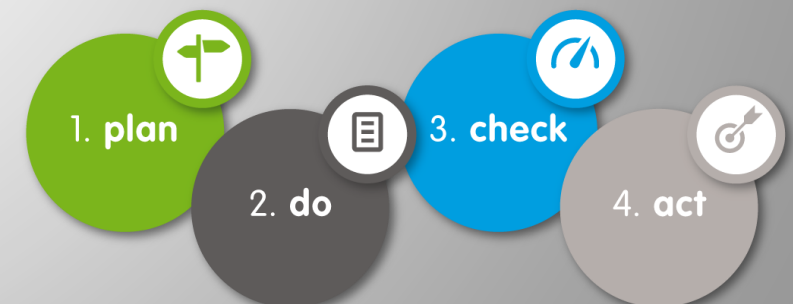
In the context of energy management, the PDCA can be outlined as below:

Plan: Understand the context of the organisation, establish an energy policy and an energy management team, consider actions to address risks and opportunities, conduct an energy review, identify significant energy uses (SEUs) and establish energy performance indicators (EnPIs), energy baseline(s) (EnBs), objectives and energy targets, and action plans necessary to deliver results that will improve energy performance in accordance with the organisation's energy policy.

Do: Implement the action plans, operational and maintenance controls, and communication, ensure competence and consider energy performance in design and procurement.

Check: Monitor, measure, analyse, evaluate, audit and conduct management review(s) of energy performance and the EnMS.

Act: Take actions to address nonconformities and continually improve energy performance and the EnMS.



INTRODUCTION TO ISO 50001:2018 STANDARD



0.4 Compatibility with other management system standards

The **ISO 50001:2018** standard conforms to ISO's requirements for management system standards, including a high-level structure, identical core text, and common terms and definitions, thereby ensuring a high level of compatibility with other management system standards.

This standard can be used independently; however, an organisation can choose to combine its EnMS with other management systems, or integrate its EnMS in the achievement of other business, environmental or social objectives.

Two organisations carrying out similar operations, but having different energy performance, can both conform to the requirements of ISO 50001.

An organisation that wishes to demonstrate conformity with this standard can do so by:

Making an evaluation and self-declaration

Seeking confirmation of its conformance or self-declaration by interested parties, such as customers

Seeking certification/registration of its EnMS by an external organization

In the **ISO 50001:2018** standard, the following verbal forms are used:

“shall” indicates a requirement

“should” indicates a recommendation

“can” indicates a possibility or a capability

“may” indicates a permission

Information marked as “Note” is intended to assist the understanding or use of the standard.

INTRODUCTION TO ISO 50001:2018 STANDARD



0.5 Benefits of ISO 50001:2018 implementation

Effective implementation of **ISO 50001:2018** provides a systematic approach to improvement of energy performance that can transform the way organisations manage energy.

By integrating energy management into business practice, organisations can establish a process for continual improvement of energy performance.

Energy Management System (EnMS) could create awareness among employees about the importance of energy conservation, give clarity in definition of energy management related authorities & responsibilities, and, also ensure better compliance with compliance with energy conservation and environmental laws.

By improving energy performance and associated energy costs, organisations can become more competitive.

EnMS implementation can lead organisations to meet overall climate change mitigation goals by reducing their energy-related greenhouse gas emissions.



