SLOVENSKI STANDARD
oSIST prEN ISO 50001:2017

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Sistemi upravljanja z energijo - Zahteve z navodili za uporabo (ISO/DIS 50001:2017)

Energy management systems - Requirements with guidance for use (ISO/DIS 50001:2017)

Energiemanagementsysteme - Anforderungen mit Anleitung zur Anwendung (ISO/DIS 50001:2017)

Systèmes de management de l'énergie - Exigences et recommandations de mise en oeuvre (ISO/DIS 50001:2017)

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03.100.70	Sistemi vodenja	Management systems
27.015	Energijska učinkovitost. Ohranjanje energije na splošno	Energy efficiency. Energy conservation in general

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Energy management systems — Requirements with guidance for use

Systèmes de management de l'énergie — Exigences et recommandations de mise en oeuvre

ICS: 27.015; 03.100.70

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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 301 *Energy management and energy savings*.

This second edition cancels and replaces the first edition (ISO 50001:2011), which has been technically revised.

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

- Adoption of the Annex SL Annex 2, High Level Structure (HLS) text to ensure a high level of compatibility with other management system standards;
- Clarify of language and organization;
- Definitions in Section 3 are in context order;
- Energy Review has been clarified;
- Normalization of EnPI(s) and associated EnB(s);
- Clarification on the energy data collection plan and related requirements (previously energy measurement plan);
- EnPI and EnB text has been clarified to provide a better understanding of these concepts.

Introduction

0.1 General

The aim of this document is to enable organizations to establish the systems and processes necessary to continually improve energy performance, including energy use, energy consumption, and energy efficiency. Successful implementation of an energy management system (EnMS) requires a culture of energy performance and in many instances this involves cultural change within an organization. It also depends upon commitment from all levels and functions of the organization, especially top management. This document applies to the activities under the control of the organization. Its application can be tailored to fit the specific requirements of the organization, including the complexity of its systems, degree of documented information and available resources. This document does not apply to product use by end-users outside of the scope and boundaries of the EnMS, nor does it apply to the product design outside of facilities, equipment, systems or energy-using processes. This document does apply to the design and procurement of facilities, equipment, systems or energy-using processes within the scope and boundaries of the EnMS.

This document specifies the EnMS requirements for an organization. These include development and implementation of an energy policy, objectives, energy targets, and action plans related to its energy use, energy consumption, and energy efficiency while meeting applicable legal and other requirements. An EnMS enables an organization to set and achieve objectives and energy targets, take action as needed to improve its energy performance and to demonstrate the conformity of the system to the requirements of this document.

0.2 Energy Performance approach

This document provides requirements for a systematic, data-driven 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 results based on comparable measurements across time. Energy performance is a broad concept which is related to energy consumption, energy use and energy efficiency. Energy performance indicators (EnPIs) and energy baselines (EnBs) are two interrelated elements addressed in this document means to enable organizations to demonstrate energy performance improvement.

0.3 Plan-Do-Check-Act cycle

Energy management described in this document is based on the Plan Do Check Act (PDCA) continual improvement framework and incorporates energy management into existing organizational practices, as illustrated in Figure 1.

In the context of energy management, the PDCA approach can be outlined asfollows:

- **Plan**: understand the context of the organization, establish an energy policy, an energy management team, consider actions to address risks and opportunities, conduct the energy review, establish the 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 organization'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, analyze, 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.

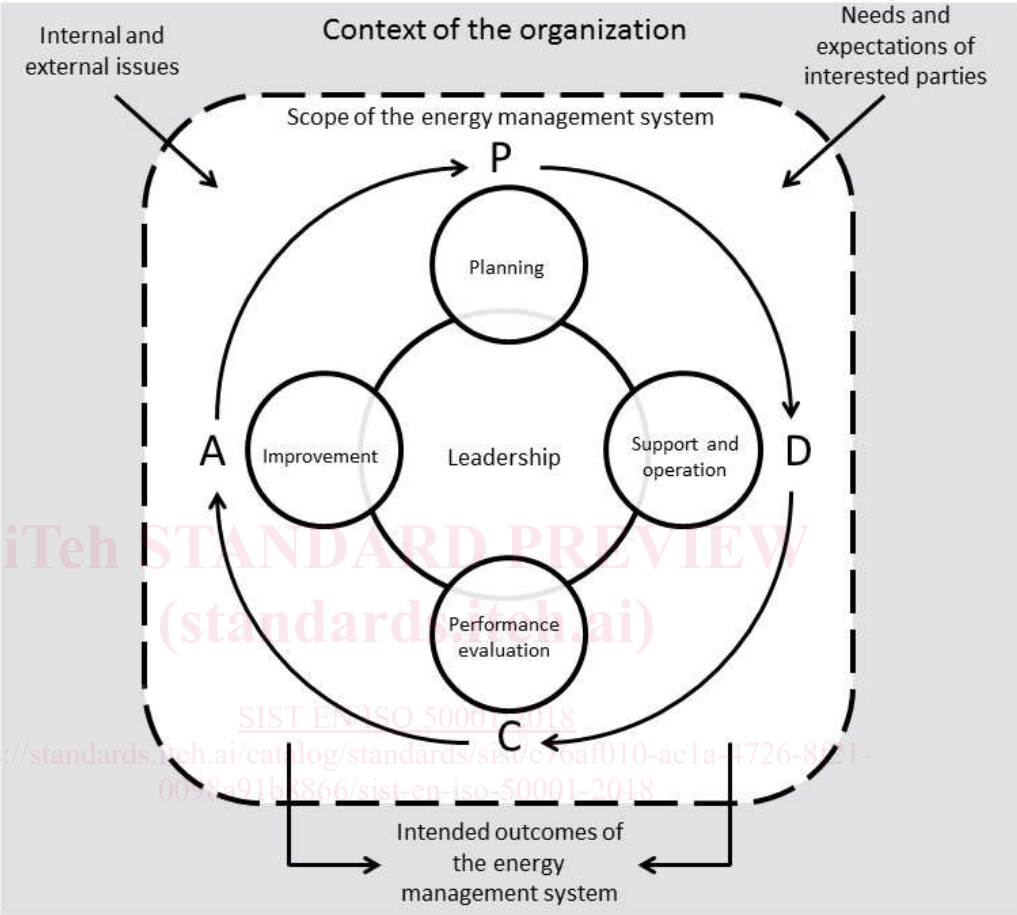

Figure 1 Plan Do Check Act Cycle

0.4 Compatibility with other management system standards

This document incorporates the common elements of ISO Directive 1 Annex SL High Level Structure, thereby ensuring a high level of compatibility with other management system standards. This document can be used independently, but an organization can also choose to combine its EnMS with other management systems, or integrate its EnMS in the achievement of other business, environmental or social objectives. Two organizations carrying out similar operations, but having different energy performance, can both conform to the requirements of ISO 50001. An organization can choose the order in which to implement and maintain the requirements.

This document contains the requirements used to assess conformity. An organization that wishes to demonstrate conformity with this document can do so by:

— making a self-determination and self-declaration, or

— seeking confirmation of its conformance or self-declaration by interested parties, such as customers, or
— seeking certification/registration of its energy management system by an external organization.

In this document, the following verbal forms are used:
— “shall” indicates a requirement;
— “should” indicates a recommendation;
— “may” indicates a permission;
— “can” indicates a possibility or a capability.

Information marked as “NOTE” is intended to assist the understanding or use of the document. “Notes to entry” used in Clause 3 provide additional information that supplements the terminological data and can contain requirements relating to the use of a term.

0.5 Benefits of ISO 50001

Effective implementation of ISO 50001 can transform the way organizations manage energy, offering a systematic approach to improvement of energy performance over time. The standard has value as a best practice model for strategic management of energy and associated costs.

ISO 50001 is:

- Business-friendly: energy and cost savings based on a proven management framework;
- Globally relevant: developed by over 50 countries, many of whom have implemented supporting policies and programs;
- Transformational: embeds energy best practices into any organization, allowing continual improvement in energy performance and therefore overall productivity.

Most importantly, by embedding energy management as an integral business practice, companies ensure that energy performance improvement opportunities are continually realized and energy performance improvements endure and grow over time.

Energy management systems have an important role in accelerating climate change actions in support of United Nations climate change agreements. Standards related to energy management have a critical role in helping meet climate goals by promoting energy performance improvements while providing transparency, reliability and accountability.

Broad implementation of the ISO 50001 standard across the commercial, industrial, and services sectors may achieve significant energy performance improvement for individual organizations while driving progress towards meeting climate actions globally.

BLUE text in this document is high-level structure ISO/IEC Directive 1 Annex SL Annex 2 text or template ISO text and justification is required for changes. The BLACK text is discipline specific text from ISO/TC 301. **Colour text will not be used after the Draft International Standard (DIS) stage, at that time all text will be black.** Items in the high-level structure that are to be deleted are shown in strikeout through the DIS stage. Drafting rules of ISO/IEC Directive 2 will be followed.

Energy management systems — Requirements with guidance for use

1 Scope

This document specifies requirements for establishing, implementing, maintaining and improving an energy management system, and its aim is to enable an organization to follow a systematic approach in achieving continual improvement of energy performance.

This document:

a) is applicable to any organization regardless of its type, size, complexity, geographical location, culture, or the products and services it provides;
b) is applicable to activities affecting energy performance that are managed and controlled by the organization;
c) is applicable irrespective of the types of energy and quantity of energy consumed;
d) does not define specific levels of required energy performance improvement, but requires demonstration of continual improvement by determination of energy performance;
e) can be used independently, or be aligned or integrated with other management systems.

Annex A provides informative guidance on this document. Annex B provides a comparison of this edition to the previous edition, ISO 50001:2011.

2 Normative references

There are no normative references cited for this document. This clause is included in order to retain clause numbering identical with other ISO management system standards.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

NOTE: For alphabetical order of terms see the Alphabetical List of terms.

3.1 Terms related to the organization

3.1.1 ~~3.1~~
organization
person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its *objectives* (3.4.13)

Note 1 to entry: The concept of organization includes, but is not limited to, sole-trader, company, corporation, firm, enterprise, authority, partnership, charity or institution, or part or combination thereof, whether incorporated or not, public or private.

3.1.2 ~~3.5~~
top management
person or group of people who directs and controls an *organization* (3.1.1) at the highest level

Note 1 to entry: Top management controls the *organization* (3.1.1) defined within the *EnMS scope* (3.1.4) and *boundaries* (3.1.3) of the *EnMS* (3.2.2)

Note ~~1~~2 to entry: Top management ~~has the power to~~ delegates authority and provides resources within the organization.

Note ~~2~~ 3 to entry: If the scope of the *management system* (3.2.1) covers only part of an organization, then top management refers to those who direct and control that part of the organization.

3.1.3
boundary
physical or organizational limits

EXAMPLES: A process; a group of processes; a site; an entire *organization* (3.1.1); multiple sites under the control of an organization.

Note 1 to entry: The organization defines its boundary.

3.1.4
EnMS scope
set of activities, which an *organization* (3.1.1) addresses through an *EnMS* (3.2.2)

Note 1 to entry: The EnMS scope can include several *boundaries* (3.1.3) and can include transport operations.

3.1.5 ~~3.2~~
interested party (preferred term)
stakeholder (admitted term)
person or *organization* (3.1.1) that can affect, be affected by, or perceive itself to be affected by a decision or activity related to the *EnMS* (3.2.2) or *energy performance* (3.4.3) of the *organization* (3.1.1)

3.2 Terms related to the management system

3.2.1 ~~3.4~~
management system
set of interrelated or interacting elements of an *organization* (3.1.1) to establish *policies* (3.2.3) and *objectives* (3.4.13) and *processes* (3.3.6) to achieve those objectives

Note 1 to entry: A management system can address a single discipline or several disciplines.

Note 2 to entry: The system elements include the organization's structure, roles and responsibilities, planning and operation.

~~Note 3 to entry: The *scope* (3.3) of a *management system* (3.6) may include the whole of the *organization* (3.1), specific and identified functions of the organization, specific and identified sections of the organization, or some or more functions across a group of organizations.~~