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GUIDE TO ISO 50001

# ABB Ability™ Energy Management System

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## **Introduction to ISO 50001**

Like all ISO management system standards, <u>ISO 50001 has been designed for implementation</u> <u>by any organization</u>, whatever its size or activities, whether in public or private sectors, regardless of its geographical location. ISO 50001 does not fix targets for improving energy performance. This is up to the user organization, or to regulatory authorities.

This means that any organization, regardless of its current mastery of energy management, can implement ISO 50001 to establish a baseline and then improve on this at a rhythm appropriate to its context and capacities.

For many organizations, <u>ISO 50001 has been a path</u> to establish structures to implement strategies that significantly cut energy costs and greenhouse gas emissions and sustain those savings over time. The adoption and certification based on the ISO 50001 energy management system is on a voluntary basis.

The aim of the EN ISO 50001:2018 is to enable organizations to establish the system and processes necessary to continually improve energy performance, including energy efficiency, energy use and energy consumption.

The document specifies the energy management system (EnMS)<sup>3</sup> requirements for an organization. Successful implementation of an EnMS supports a culture of energy performance improvement that depends upon commitment from all levels of the organization, especially top management. In many instances, this involves cultural changes within the organization. The application of the process specified in the document can be tailored to fit the specific requirements of the organization, including the complexity of its systems, degree of documented information and available resources. Development and implementation of an EnMS includes an energy policy, objectives, energy targets and action plans related to its energy efficiency, energy use, and energy consumption while meeting applicable legal requirements and other requirements.

The EnMS utilizes interrelated elements such as energy performance indicators (EnPIs)<sup>1</sup> and energy baselines (EnBs)<sup>2</sup> as a means to demonstrate measurable improvements in energy efficiency or energy consumption, related to energy use.

An EnMS enables an organization to set and achieve objectives and energy targets, to take actions as needed to improve its energy performance and to demonstrate the conformity of its system to the ISO 50001 requirements.

The EnMS described in the ISO 50001 is based on the Plan-Do-Check-Act (PDCA) continual improvement framework and incorporates energy management into existing organizational practices, as illustrated in the figure below. In the context of energy management, the PDCA approach can be outlined as follows.

### 4

### **1. PLAN**

- Responsibility of top management
- Energy policy
- Management representative
- Energy review

**4. ACT** 

• New strategic goals

Optimization

• Objective and action plans

### 2. DO

- Implementation and realization
- Communication
- Training
- Awarness
- Operational Control



- Monitoring
  - Analysis
  - Corrective action
  - Preventive action
  - Internal audit

### 1. PLAN

Understand the context of the organization, 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 organization's energy policy.

### 2. DO

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

### 3. CHECK

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

### 4. ACT

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

Effective implementation of the ISO 50001 standard provides a systematic approach to improvement of energy performance that can transform the way organizations manage energy. By integrating energy management into business practice, organizations can establish a process for continual improvement of energy performance.

By improving energy performance and associated energy costs, organizations can be more competitive. In addition, implementation can lead organizations to meet overall climate change mitigation goals by reducing their energy–related greenhouse gas emissions.

ISO 50001 is a path to establish structures to implement strategies that significantly cut energy costs and greenhouse gas emissions and sustain those savings over time.

### <sup>1</sup> EnPl Energy Performance Indicator: Measure or unit of energy performance, as defined by the organization EnPl(s) can be expressed by using a simple metric, ratio, or a model, depending on the nature of the activities being measured.

### <sup>2</sup> EnB energy baseline:

Quantitative reference(s) providing a basis for comparison of energy performance. An energy baseline is based on data from a specified period of time and/or conditions, as defined by the organization.

### <sup>3</sup> EnMS energy management system:

Management system to establish an energy policy, objectives, energy targets, action plans, and process(es) to achieve the objectives and energy targets

# Benefits of an ISO 50001 certified system

An ISO 50001 certified Energy Management System not only provides benefits internal to your organization, but it can also help you show your progress to third parties, which can allow you to achieve regulatory compliance, fulfill responsible supply chain requirements, and more. Consider if ISO 50001 is right for your organization.



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**Creating structured methods for identifying energy indicators to reduce the overall cost.** Energy usage reporting is deemed more reliable.

# How ABB helps you gain and maintain ISO 50001 certification

Shown below is a schematic of the ISO 50001 process requirements that the ABB Ability™ Energy Management System can enable.

The ABB Ability Energy Management System (EMS) has been certified to be in compliance with ISO 50001. This means the ABB Ability EMS provides a framework of requirements for organizations to:

- Develop a policy for more efficient use of energy
- Fix targets and objectives to meet the policy
- Use data to better understand and make decisions about energy use
- Measure the results
- Review how well the policy works, and
- Continually improve energy management.





**ABB Ltd.** 2024/03/11

