

A comparison between ISO 14001 and ISO 50001

Given its widespread adoption since the 1990s by organizations wishing to manage their environmental impact you may already be familiar with ISO 14001 the international standard for environmental management systems. This summary seeks to compare the latest, more specific ISO standard on energy management with its more established cousin, in order to help you understand how it might be able to help your organization further.

ISO 50001 represents the latest international best practice in energy management, building upon existing national and regional standards and initiatives. The standard has been in development for a number of years with energy management experts, representing over 60 countries from across the world, coming together to establish the framework.

ISO 50001 is based on the common elements of ISO management system standards, ensuring a high level of compatibility with other standards, such as ISO 9001 and ISO 14001. Specifically, ISO 50001 will help you implement the processes necessary to understand your baseline energy usage, put in place action plans, targets and energy performance indicators for reducing consumption and identify, prioritize, and record opportunities for improving energy performance. It is suitable for any organization – whatever your size, sector or geographical location. It is particularly relevant if you operate in an energy intensive industry or one facing greenhouse gas emissions caps or regulation.

Whilst ISO 50001 is closely aligned to ISO 14001 the new International Standard places more emphasis on the continual improvement of energy performance, including energy efficiency, energy use and consumption.

The remainder of this document aims to make a comparison between ISO 14001 and ISO 50001 and highlight the differences between them clause by clause. Please read this summary in conjunction with the new standard which you can obtain from your local BSI office or by visiting: <http://shop.bsigroup.com/bsiso50001>

ISO 50001 focuses on the continual improvement of energy performance, efficiency, use and consumption.

Summary of the key differences

ISO 50001 specifies energy management system (EnMS) requirements. The organization then needs to develop and implement an energy policy, and establish objectives, targets and action plans related to its significant energy use. This is intended to lead to reductions in greenhouse gas emissions and other related environmental impacts and energy cost through the systematic management of energy.

Which standard should I use?

ISO 50001 can either be used in conjunction with ISO 14001, to help you identify further opportunities for energy savings, or as a stand-alone management system standard for those organizations concerned about energy costs or their environmental impact.

Thinking of implementing either ISO 14001 or ISO 50001?

BSI provide a series of training courses ranging from one day introductory courses to five day lead auditor courses in both ISO 14001 and ISO 50001 to help you and your colleagues develop and maintain the right skills and knowledge. For more information on courses please visit:

<http://www.bsigroup.com/Training>

ISO 14001 helps you to systematically identify and manage all your environmental impacts in the broadest sense.

ISO 14001	ISO 50001	Comments
1 Scope	1 Scope	ISO 50001 focuses on energy performance, including energy efficiency, energy use and energy consumption.
2 Normative references	2 Normative references	Not cited in ISO 50001.
3 Terms and definitions	3 Terms and definitions	Definitions in ISO 50001 focus on energy and introduce some new ones including: boundaries, correction, energy baseline, energy consumption, energy management team, energy performance indicators (EnPI), energy review, energy services, energy use.
4.1 General requirements	4.1 General requirements	ISO 50001 focuses on energy management systems.
	4.2 Management responsibility	See ISO 14001 4.4.1 below.
4.2 Environmental policy	4.3 Energy policy	ISO 50001 focuses on the need for a specific policy in relation to energy which is clearly resourced, documented and reviewed, aiming to achieving energy performance improvement rather than environmental performance and prevention of pollution. It reflects the relationship between the company activities and relevant energy consumption.
4.3 Planning	4.4 Energy planning 4.4.1 General	ISO 50001 emphasizes that an energy planning process shall be consistent with the energy policy and shall involve a review of the organization's activities that can affect energy performance.
4.3.1 Environmental aspects	4.4.3 Energy review 4.4.4 Energy baseline 4.4.5 Energy performance indicators	ISO 50001 gives a greater level of details of what shall be included in an energy review including a review of past, present and expected energy consumption, concluding an energy baseline and identification of energy performance indicators (EnPIs). The purpose of the review is to understand the areas of significant energy consumption which account for the greatest energy use or which offer the most potential for energy saving.
4.3.2 Legal and other requirements	4.4.2 Legal requirements and other requirements	ISO 50001 refers to the applicable legal and other requirements related to energy perspectives only.
4.3.3 Objectives, targets and program(s)	4.4.6 Energy objectives, energy targets and energy management action plans	Objectives, targets and management plans must be consistent with the energy policy and the significant energy uses and opportunities rather than related to all environmental aspects.
4.4 Implementation and operation	4.5 Implementation and operation	Title only.
4.4.1 Resources, roles, responsibility and authority	4.2 Management responsibility 4.2.1 Top management 4.2.2 Management representative	ISO 50001 defines clearly the corresponding responsibilities of the top management and the management representative(s). This goes beyond ISO 14001 in that ISO 50001 explicitly specifies the formation of an energy team, appropriate EnPIs and other control elements all of which imply management commitment.
4.4.2 Competence, training and awareness	4.5.2 Competence, training and awareness	No significant differences.
4.4.3 Communication	4.5.3 Communication	On top of its EnMS and energy performance, ISO 50001 allows the organization to make its own decision whether to communicate externally about its energy policy, requires it to document this decision and if so it also requires it to establish and implement a method for this communication.

ISO 14001	ISO 50001	Comments
4.4.4 Documentation	4.5.4 Documentation 4.5.4.1 Documentation requirements	ISO 50001 emphasizes that the degree of documentation can vary based on the unique condition of different organizations, e.g. scale, types of activities, process complexity, etc.
4.4.5 Control of documents	4.5.4.2 Control of documents	No significant differences.
4.4.6 Operational control	4.5.5 Operational control 4.5.6 Design 4.5.7 Procurement of energy services, products, equipment and energy	ISO 50001 introduces new requirements around design and procurement of energy. It also requires the establishment of criteria to examine the lifetime costs when procuring energy using services, products and equipment which are expected to have a significant impact on the organization's energy performance.
4.5 Checking	4.6 Checking	Title only.
4.5.1 Monitoring and measurement	4.6.1 Monitoring, measurement and analysis	ISO 50001 is more specific in this clause stipulating a minimum requirement to be monitored, measured and analyzed, which includes significant energy uses and its relevant variables and other outputs of energy review; EnPIs; effectiveness of the action plans in achieving energy objectives and targets; and evaluation of rate of actual versus expected energy consumption.
4.5.2 Evaluation of compliance	4.6.2 Evaluation of compliance with legal requirements and other requirements	No significant differences.
4.5.3 Nonconformity, corrective action and preventive action	4.6.4 Nonconformities, correction, corrective action and preventive action	No significant differences.
4.5.4 Control of records	4.6.5 Control of records	No significant differences.
4.5.5 Internal audit	4.6.3 Internal audit of the EnMS	ISO 50001 strengthens the requirement for the verification of actions taken (i.e. the established energy objectives and targets; and the improved energy performance); and reporting of the verification results.
4.6 Management review	4.7 Management review 4.7.1 General 4.7.2 Input to management review 4.7.3 Output from management review	ISO 50001 focuses on the EnMS and prescribes more detailed outputs including energy performance and related EnPIs.

Using ISO 50001 will help you:

Identify opportunities to reduce energy use and associated costs

Put appropriate operating controls in place

Baseline your current energy use and predict future use

Effectively monitor actual energy use and spot deviations

Identify energy performance improvement within the design phase of facilities, equipment, systems and processes

Ensure staff (from top management down) are aware of their roles and responsibilities in relation to energy management

Improve compliance with regulations such as the UK's Carbon Reduction Commitment Energy Efficiency Scheme CRC

Report with confidence on your energy use

Embed energy management into the culture of your organization

Ensure energy performance is considered at the procurement stage of energy services

Reduce the greenhouse gas emissions of your organization

Protect and enhance your organization's reputation

Using ISO 14001 will help you:

Identify and establish the significance of all your environmental impacts

Identify what legislation applies to your activities and how they are relevant

Implement effective operational controls to reduce the risk of breaches of legislation

Improve the efficient use of natural materials

Improve waste management

Reduce operational costs

Improve environmental performance

Protect and enhance your organization's reputation

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