



ISO 50001



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Energy management
systems



..... ISO 50001

Energy is critical to organizations but often represents a significant cost – both to them and the environment.



World energy consumption is on the rise. It has more than doubled in the last 40 years and is projected to increase by up to 30 % by 2030. Energy production and use account for roughly two-thirds¹⁾ of the world's greenhouse gas (GHG) emissions, which are the predominant cause of climate change.

Reducing our energy use is one of the surest ways of lowering GHG emissions, thus reducing our impact on the climate while sustaining the growth of the world economy and boosting energy security for all. In addition, it helps save money. According to a recent study commissioned by the ClimateWorks Foundation, a non-governmental organization that leverages the power of collective philanthropy in the fight against climate change, putting energy efficiency to the front of the agenda will decrease the total costs associated with reducing greenhouse gases by USD 2.5 trillion by 2030.

The development and deployment of technologies and policies for new and renewable energy sources will help, but it can take time and changes need to be implemented now. Individual organizations have an important role to play in achieving future sustainability and this can be done by improving their energy management.

ISO 50001 is a strategic tool that helps organizations put in place an energy management system and use their energy more efficiently.

1) International Energy Agency (IEA), *Energy and Climate Change: World Energy Outlook, Special report*, 2015.

What is an **energy** management system?.....

An energy management system helps organizations to better manage their energy use. It involves developing and implementing an energy policy, setting targets for energy use and designing action plans to reach them. This might include implementing new energy-efficient technologies, reducing energy waste or improving current processes to cut energy costs. ISO 50001, *Energy management systems – Requirements with guidance for use*, gives organizations a recognized framework for developing an effective energy management system. Like other ISO management system standards, it follows the “Plan-Do-Check-Act” process for continual improvement.

ISO 50001 provides a set of requirements that enable organizations to :

- Develop a policy for more efficient use of energy
- Fix targets and objectives to meet that policy
- Gather data to better understand and make decisions concerning energy use and consumption
- Measure the results obtained
- Review the effectiveness of the policy
- Continually improve energy management





What **benefits** will ISO 50001 bring to my business?.....

ISO 50001 is designed to help your organization improve its energy performance through making better use of its energy-consuming assets. Improved energy performance can provide rapid benefits for an organization by maximizing its use of energy sources and energy-related assets, reducing both cost and consumption.

ISO 50001 is used by large and small organizations all over the world. Its benefits can take many forms. For some, it is about reducing the environmental impact and enhancing reputation; for others, the aim is to drive down costs.



“ISO 50001 suits our needs perfectly thanks to its versatile and flexible implementation, which is focused on energy savings. The energy system [we have implemented using ISO 50001] has made a real difference to the company’s financial results and to its competitive capacity in the real-estate market.”

Mario Cabezos, Risk Prevention and Environmental Manager at Mutua Madrileña

“We have seen great benefits, both in our economic performance and for society and the environment, by being able to reduce our consumption of resources and reduce emissions.”

Gheorghe Angheluta, Managing Director of Lactis

ISO 50001 in action

Here are a couple of success stories of companies using ISO 50001:

Mutua Madrileña

Mutua Madrileña is one of Spain’s largest insurance groups. It chose to implement ISO 50001 because it considered it to be the best tool for achieving continuous improvement processes and energy savings. Within the first two years, the company had reduced its electricity costs by 8.33 %, gas by 39.28 %, diesel by 24.6 % and water by 4.01 %.

Lactis

Lactis, a small dairy company in the Moldovan town of Rîșcani, demonstrated significant gains when it began implementing ISO 50001. In just one year, it reduced its electricity consumption by nearly 4 % and its natural gas consumption by 22 %, resulting in a threefold financial return on investment.

Who is **ISO 50001** for?.....

Like all ISO management system standards, ISO 50001 is designed to be implemented by any organization in the public or private sector, irrespective of size, activity or geographical location.

ISO 50001 does not fix targets for improving energy performance, which is left up to the user organization or to regulatory authorities. This means that any organization, regardless of its current level of energy performance, can implement the standard to establish a baseline, which it can improve on at its own rate.

What about **certification**?.....

Like all ISO management system standards, ISO 50001 can be implemented solely for the internal and external benefits it provides to the organization, its stakeholders and its customers. Getting certified to the standard by an independent auditor is not a requirement of the standard itself. To certify or not to certify is a decision for the organization, unless it is imposed by regulation.



The **ISO 50001** family

Since ISO 50001 was first published in 2011, a number of other related standards have been developed to complete ISO's energy management and energy savings portfolio.

These include:

- ISO 50002, *Energy audits – Requirements with guidance for use*
- ISO 50003, *Energy management systems – Requirements for bodies providing audit and certification of energy management systems*
- ISO 50004, *Energy management systems – Guidance for the implementation, maintenance and improvement of an energy management system*
- ISO 50006, *Energy management systems – Measuring energy performance using energy baselines (EnB) and energy performance indicators (EnPI) – General principles and guidance*
- ISO 50015, *Energy management systems – Measurement and verification of energy performance of organizations – General principles and guidance*



- ISO 50047, *Energy savings – Determination of energy savings in organizations*
- ISO 17741, *General technical rules for measurement, calculation and verification of energy savings of projects*
- ISO 17742, *Energy efficiency and savings calculation for countries, regions and cities*
- ISO 17743, *Energy savings – Definition of a methodological framework applicable to calculation and reporting on energy savings*
- ISO/IEC 13273-1, *Energy efficiency and renewable energy sources – Common international terminology – Part 1: Energy efficiency*
- ISO/IEC 13273-2, *Energy efficiency and renewable energy sources – Common international terminology – Part 2: Renewable energy sources*



Looking to **the future**

Like all ISO standards, ISO 50001 is reviewed every five years to ensure it remains up to date with market requirements. A revised version of the standard is expected to be published early 2019.

In addition, a number of standards are currently in development by ISO/TC 301:

- ISO 50007, *Activities relating to energy services – Guidelines for the assessment and improvement of the service to users*
- ISO 50008, *Commercial building energy data management for energy performance – Guidance for a systemic data exchange approach*
- ISO 50021, *General guidelines for selecting energy savings evaluators*
- ISO 50044, *Energy savings evaluation – Economics and financial evaluation of energy saving projects*
- ISO 50045, *Technical guidelines for evaluation of energy savings of thermal power plants*
- ISO 50046, *General quantification methods for ex ante or expected energy savings*
- ISO 50049, *Calculation methods for energy efficiency and energy consumption variations at country, region and city levels: relation to energy savings and other factors*



ISO resources

- ISO Website **www.iso.org**
- ISO Website section on ISO 50001 :
www.iso.org/iso/home/standards/management-standards/iso50001
- ISO Website section on energy efficiency:
www.iso.org/iso/energy
- *ISOfocus* magazine **www.iso.org/isofocus**
- ISO videos **www.iso.org/youtube**
- Follow us on Twitter **www.iso.org/twitter**
- Join us on Facebook **www.iso.org/facebook**
- Join us on GooglePlus **www.iso.org/gplus**
- Clean Energy Ministerial ISO 50001 campaign
www.driveto50001.org

About **ISO**

ISO (International Organization for Standardization) is an independent, non-governmental international organization with a membership of 163* national standards bodies. Through its members, it brings together experts to share knowledge and develop voluntary, consensus-based, market-relevant International Standards that support innovation and provide solutions to global challenges.

ISO has published more than 21 300* International Standards and related documents covering almost every industry, from technology to food safety, to agriculture and healthcare.

For more information, please visit www.iso.org.

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