

Introduction

The International Standard ISO 50001 — *Energy management systems — Requirements with guidance for use* enables organizations to establish the systems and processes necessary to improve energy performance, including energy efficiency, use and consumption. ISO 50001 provides a framework of requirements for organizations to:

- develop a policy for a 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
- continuously improve energy performance and management.

ISO 50001 is based on the management system model of continual improvement also used for other well-known standards such as ISO 9001 or ISO 14001. It is therefore easier for organizations to integrate energy management into their overall efforts to improve quality and environmental management.

This handbook, in the form of a checklist, aims to provide practical guidance to SMEs on developing and implementing an energy management system based on ISO 50001. Using this handbook to implement an energy management system will help your organization to improve its energy performance, helping to reduce energy consumption and costs.

The handbook is presented in 23 chapters organized in four parts, each covering a particular aspect of ISO 50001, with a brief explanation of the relevant requirement and guidance on how to incorporate the requirement into an energy management system geared to the needs of SMEs.

The handbook does not need to be read in one go. Each question is formulated to be answered as 'Yes' or 'No'. By answering 'Yes', you confirm that you understand that issue and have included it in your energy management system. Answering 'No' means that you are not sure about that aspect and the handbook will provide you with additional information and guidance to address the issue.

Commitment

Chapter 1 — *Energy management* describes how your organization can develop a systematic continuous improvement method rather than have an ad hoc approach to energy management.

Chapter 2 — *Scope and boundaries* helps you to define which energy sources and uses are included, and which parts of the organization are included.

Chapter 3 — *Energy policy* helps you to develop and periodically review the

energy policy document, stating your organization's commitment to achieving energy performance improvement as defined and signed off by top management.

Chapter 4 — *Resources* helps you to ensure that relevant personnel understand their roles, responsibility and authority, and are resourced and supported in their roles in the implementation of the energy management system. It also considers other resources such as financial and data requirements.

Planning

Chapter 5 — *Planning* helps you to develop plans to reduce energy consumption.

Chapter 6 — *Legal and other requirements* helps you to identify and document all the legal and other requirements affecting your organization's energy use, consumption and efficiency.

Chapter 7 — *Energy review* takes you through all the steps that are necessary when carrying out an energy review.

Chapter 8 — *Performance measurement* covers energy consumption, relevant variables, energy performance indicators and baselines.

Chapter 9 — *Target setting and action plans*, based on available energy-saving opportunities, helps you to develop targets and action plans.

Implementation

Chapter 10 — *Awareness, training and competence* enables you to help people that affect the energy consumption of the organization to understand their roles and to be competent in their use of energy.

Chapter 11 — *Communication* helps you to ensure that relevant people are aware of the Energy Management system activities and have an opportunity to contribute to the improvement of energy performance.

Chapter 12 — *Documentation* helps you to ensure that critical documents and records pertaining to energy performance and the energy management system are maintained and available to those requiring them.

Chapter 13 — *Operational control* helps you to ensure that all significant energy-using equipment and systems are maintained and are operated efficiently.

Chapter 14 — *Energy-efficient design* helps you to ensure that new projects or changes with a potentially significant energy impact are evaluated from an energy perspective.

Chapter 15 — *Procurement* helps you to ensure that the procurement of energy, equipment and services is managed to reduce costs and improve performance.

Checking

Chapters 16 — *Monitoring, measurement and analysis* helps you check energy performance indicators, operating parameters and other performance-related data and information.

Chapter 17 — *Evaluation of compliance with legal requirements and other requirements* helps you appraise your fulfilment of the legal requirements you identified in Chapter 6.

Chapter 18 — *Internal audit* helps you check if the system you have set in place is working

Chapter 19 — *Nonconformities* provides different approaches to manage nonconformities.

Chapter 20 — *Management review and continual improvement* helps you monitor, audit, and check the people are using the system as intended.

Chapter 21 — *Demonstrating conformity* focuses primarily on the third-party certification process carried out by an independent and competent body and provides guidance on the steps involved.

Chapter 22 — *Integration with other management systems* looks at the benefits and factors to take into account when using more than one management system.

This handbook does not include the text of ISO 50001:2011, therefore, it is recommended that users obtain a copy from their national standards body or from ISO