
**Energy management and energy
savings — Building energy data
management for energy performance
— Guidance for a systemic data
exchange approach**



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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 of 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 www.iso.org/iso/foreword.html.

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

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The successful implementation of an energy management system (EnMS), particularly ISO 50001, requires information to complete almost every action. In some situations, the data required to provide this information will be readily available or easy to access; whereas in other situations the required data can be difficult to obtain. The availability of data may affect which energy performance goals or indicators can be used by the organization. Establishing regular information transfers for an EnMS, whether based on ISO 50001 or another similar approach, is often one of the most challenging implementation tasks. This document provides a process for the energy management team (EnMT) to use in situations where the required data are difficult to obtain. It also provides high-level guidance useful for planning and maintaining information access. This document is about the management process and not the technology of data measurement or transfer.

Establishing regular information collection or data transfers for an EnMS, for example to determine, calculate or evaluate the values of energy performance indicators (EnPIs), may require the EnMT to work with other parts of the organization to obtain the necessary data. Regular information or data transfers can be facilitated by implementing a formal data interface or transfer capabilities as part of the organization's standard business practices. These capabilities can be described in a data management plan (DMP). In the best case, data transfers can be automated. Formal data transfer capabilities, whether automated or not, can increase uniformity and consistency, and can reduce the risks, costs and errors associated with the implementation of an EnMS.

In presenting guidance on management processes, this document emphasizes that when the decision is made to incorporate specific data into the EnMS, particular attention should be paid to:

- a) management need for that data (e.g. objectives, targets) as used in the organization's EnMS;
- b) data definition, attributes and formats.

The aim of this document is to facilitate the work of the EnMT. Since data often comes from outside their activities, the providers of these data can also be interested in the requirements of the EnMT. Accordingly, users of this document can include:

- EnMTs, including those implementing ISO 50001 or calculating EnPIs;
- building energy managers;
- equipment manufacturers and instrumentation engineers;
- building information system (BIS) managers;
- organizations that operate buildings.

This document provides guidance on documenting data and the associated processes.

[Figure 1](#) shows the relationship of this document to ISO 50001, which uses the Plan-Do-Check-Act (PDCA) cycle and concept of an EnPI. The straight arrows in the figure indicate where data may be needed in the PDCA process.

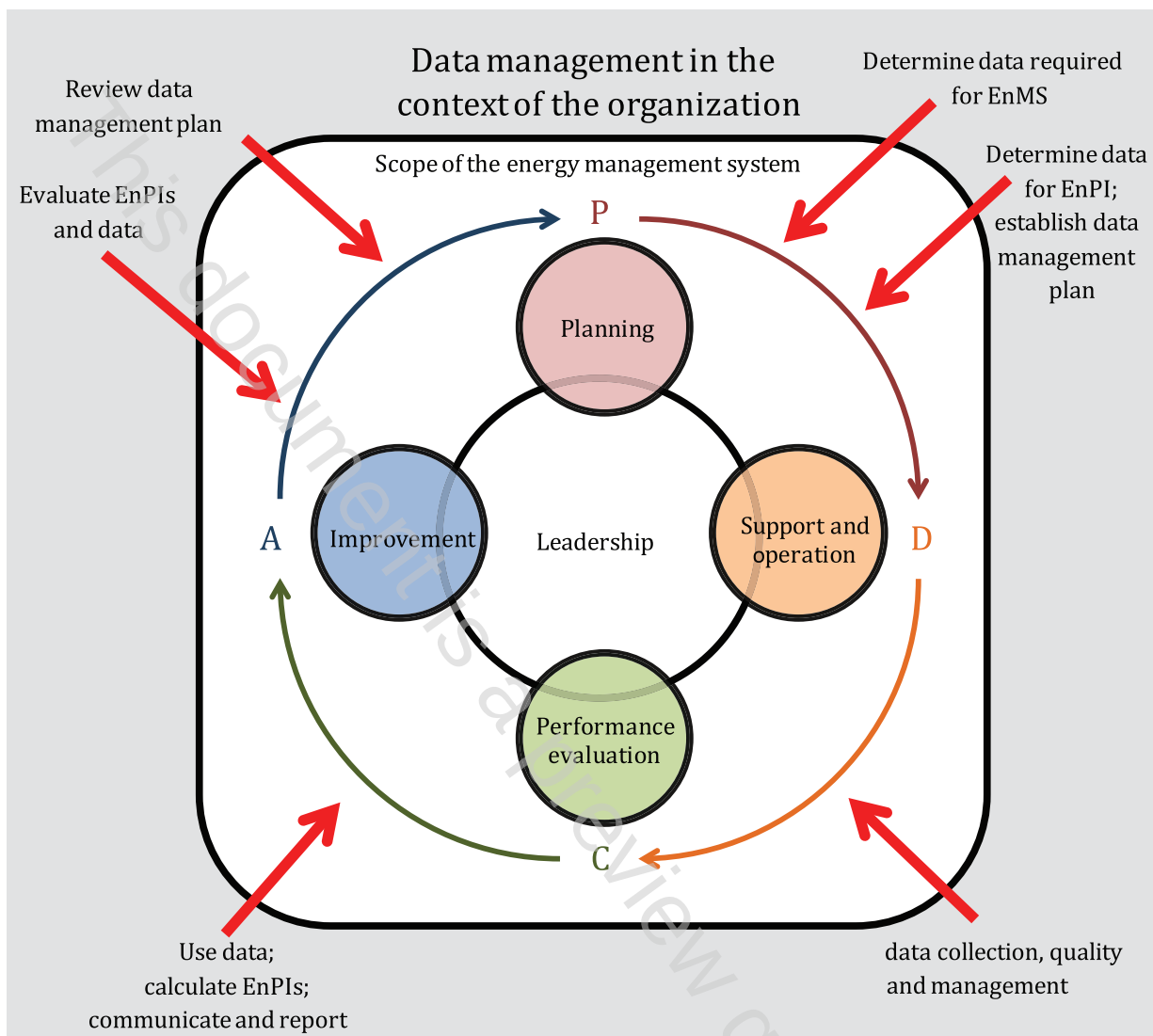


Figure 1 — Relationship to ISO 50001

Energy management and energy savings — Building energy data management for energy performance — Guidance for a systemic data exchange approach

1 Scope

This document gives guidelines for how the energy management team (EnMT) in an organization can define, request and regularly access the data and information needed to implement an energy management system (EnMS) designed to continually improve energy performance in buildings.

It is applicable to data provided by human processes or by building automation, control, information technology, or even accounting systems. If the building information system (BIS) is accessible by the EnMT, the BIS can facilitate the provision of data and information. This could include data used in determining significant energy uses (SEUs), managing to improve energy performance (including energy consumption, energy use and energy efficiency) through to the use of energy performance indicators (EnPIs).

This document does not apply to:

- residential or industrial buildings;
- buildings containing an industrial process where the industrial processes cannot be separated from other uses.

However, many of the principles in this document can be applied to these or other types of buildings.

NOTE Industrial processes can include manufacturing, packaging, transportation, assembly, etc.

It does not apply to building automation data communication protocols themselves.

It does not consider the selection of energy management software, hardware and control algorithms for automatically managing buildings.

2 Normative reference

There are no normative references in this document.

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:

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

3.1

building information system

BIS

systems, processes and sources of data about a building or its pattern of use

Note 1 to entry: This may include data output from a building management system (BMS), lighting management system, or other automated systems, as well as from security, control, information technology or even accounting systems.