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Energy management systems – Assessing energy management using ISO 50001:2018

*Système de management de l'énergie – Évaluation du management
de l'énergie au moyen de l'ISO 50001:2018*



Reference number
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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).

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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.

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Introduction

0.1 Overview

This guidance document provides a method for determining the status of an organization's energy management using an energy management performance score (EMPS). Measuring energy management and energy performance is expected to guide organizations to more effective energy management.

This document can be used by organizations which have implemented or are implementing an energy management system (EnMS) based on ISO 50001:2018, or any other system of energy management. Organizations which have not implemented an EnMS may use this document for determining their scoring status of structure, operation and/or energy performance. The EMPS can be used by:

- an organization to compare the status of its EnMS at two different points in time to determine progress;
- a multi-site implementation of ISO 50001:2018, to compare the status of the EnMS of two different sites;
- two different organizations for benchmarking purposes.

This document defines evaluation items and does not specify the order in which each evaluated item is implemented. This document does not provide guidance on the implementation of ISO 50001:2018. For information on implementing ISO 50001:2018, see ISO 50004 or ISO 50005.

The EMPS is the result of three evaluated elements, as shown in [Figure 1](#):

- structure management score (SMS);
- operation management score (OMS);
- target achievement score (TAS).

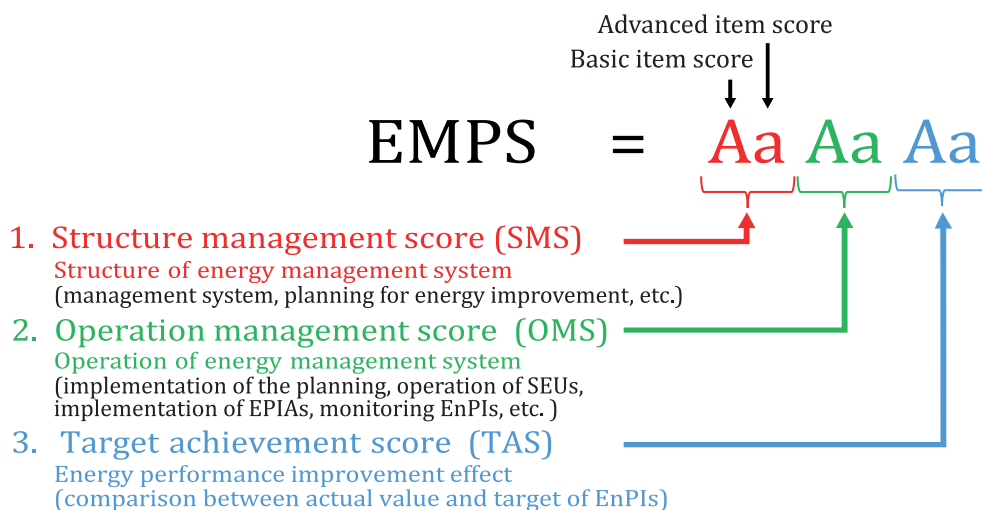


Figure 1 — Outline of the calculation method of the EMPS

The requirements of ISO 50001:2018 are represented by the basic items shown in [Tables 1, 3](#) and [5](#). An overview of the three components in the EMPS are shown in [Figure 2](#).

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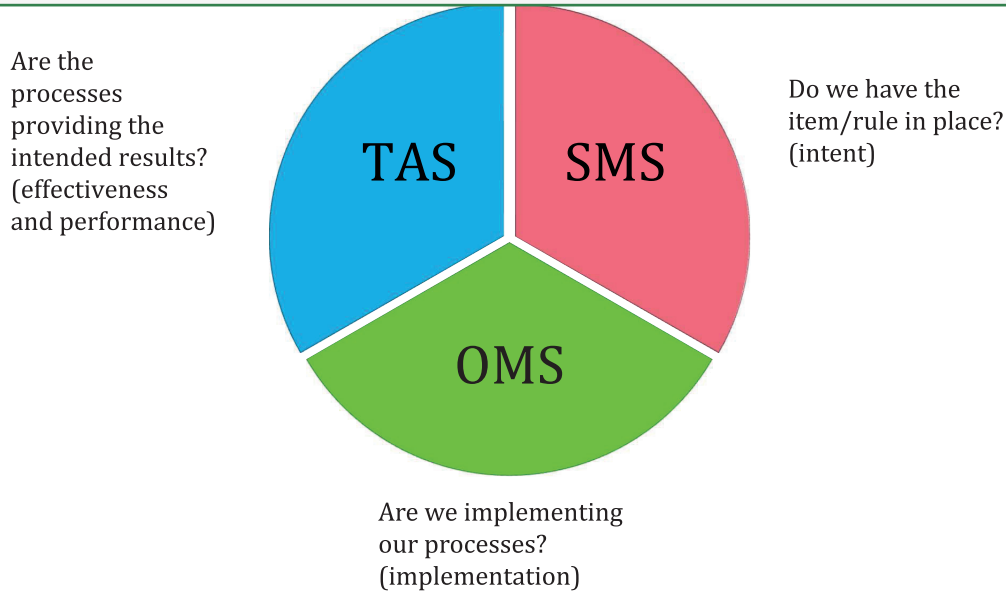


Figure 2 — Overview of SMS, OMS and TAS criteria

The results for the SMS, OMS and TAS are determined at four levels of score A, B, C and D. The highest score is A and the lowest score is D. In each element, basic items (see [Tables 1, 3 and 5](#)) and advanced items (see [Tables A.1, B.1 and C.1](#)) are addressed. The basic items and advanced items are scored separately. Although the advanced items are not included in the requirements of ISO 50001:2018, they provide additional opportunities for improving the organization’s energy management structure and operations.

To assist organizations with applying this document, it is strongly recommended that capital letters (A, B, C, D) are used for the basic categories of structure (SMS), operation (OMS) and performance (TAS). The capital letters are compared across time for internal use but can be compared with other interested parties. To facilitate the comparison, the items in [Tables 1, 3 and 5](#) cannot be modified. The use of colours also can help represent the status of the EnMS.

It is strongly recommended that the advanced items are represented by lower case letters (a, b, c, d). The same colour is used for the components (i.e. for both basic and advanced in each category the same colour is used) to assist with the visual representation. Since each organization applying this document can have different needs and objectives, the advanced items can be modified by the organization. The organization retains documented information on the advanced items to ensure transparency and allow for comparisons within the organization over time. That means that [Tables A.1, B.1 and C.1](#) are a starting part for use by the organization. The organization can add or remove items.

The structural elements of an EnMS conforming to ISO 50001:2018 are used as the criteria for SMS scoring. These criteria include, for example, context of the organization, energy policy, leadership commitment, internal audit and management review.

The operational elements of an EnMS conforming to ISO 50001:2018 are used as the criteria for OMS scoring. These criteria include, for example, measurement and management of energy performance, operation of facilities/equipment associated with significant energy uses (SEUs), design and procurement related to SEUs and energy supply, and management of actions to improve energy performance.

The TAS is evaluated based on achievement of energy target(s) established by the organization. Energy target(s) can be related to energy performance improvement including energy savings. Energy savings can be determined by the methods described in ISO 50047:2016, ISO 17741:2016 or ISO 17743:2016.

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Energy performance improvement can be evaluated by the methods described in ISO 50006. An energy target can also be established based on benchmarks defined by the government or industry groups.

NOTE 2 The requirements for energy benchmarks defined by the government or industry groups are often based on absolute or specific energy consumption, without normalization or consideration of relevant variables. These do not always meet the requirements for evaluating energy performance improvement described in ISO 50001:2018.

0.2 Benefits

The benefits associated with use of this document are:

- for organizations:
 - a clear indication of areas for improvement in energy management;
 - a robust and holistic indicator(s) of energy performance;
 - alignment with ISO 50001:2018;
- for external authorities or organizations:
 - a robust and holistic indicator(s) of energy performance;
 - identification of best practices in different types of organizations;
 - promotion of ISO 50001:2018 in existing and new organizations.