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Energy savings — Determination of energy savings in organizations

*Économies d'énergie — Détermination des économies d'énergie dans
les organismes*



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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 on 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 the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is Technical Committee ISO/TC 301, *Energy management and energy savings*.

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Introduction

This International Standard describes approaches for determining energy savings based on one of the following two approaches:

- a) an organization-based approach, i.e. a change in the amount of energy consumed by the organization, as measured within the organizational boundaries;
- b) an EPIA-based approach, i.e. aggregating energy savings from energy performance improvement actions (EPIAs) measured within the organizational boundaries.

Both approaches compare energy consumption for a defined period of time, the energy consumption in a baseline period and a reporting period of equivalent length. Guidance is given on reconciliation between the two approaches.

This International Standard also considers the following in the context of energy savings:

- the use of primary and delivered energy;
- methods for normalizing energy consumption;
- methods for aggregating energy savings from different types of energy.

The flowchart in [Annex A](#) shows the process for determining energy savings using this International Standard.

This International Standard is designed to be broadly consistent with the overall framework for the determination and reporting of energy savings in projects, organizations and regions set out in ISO 17743, as well as with the principles and guidelines given in ISO 50015 on the measurement and verification of energy performance of organizations.

Energy savings — Determination of energy savings in organizations

1 Scope

This International Standard describes approaches for the determination of energy savings in organizations. It can be used by all organizations, whether or not they have an energy management system, such as ISO 50001.

This International Standard addresses the following topics in the context of energy savings:

- establishing the purpose of determining energy savings;
- determining boundaries;
- energy accounting, including primary and delivered energy and the use of common energy units;
- selecting an approach for the determination of energy savings;
- establishing an energy baseline;
- normalization of energy consumption;
- determination of energy savings;
- reporting and other matters.

Specific methods for the measurement and verification of energy performance and its improvement are outside the scope of this International Standard.

NOTE ISO 50015 establishes general principles and guidelines for the process of measurement and verification of energy performance of an organization or its components.

2 Normative references

There are no normative references.

3 Terms and definitions

3.1

baseline period

defined period of time selected as the reference for the determination of energy savings

3.2

boundary

physical or site limit and/or organizational limit as defined by the *organization* (3.16)

Note 1 to entry: The boundaries of the organization could be different from the boundaries used for the determination of energy savings.

Note 2 to entry: The determination of energy savings can include one or more boundaries, e.g. of one or more *energy performance improvement actions* (3.10), or of parts of the organization.

EXAMPLE Equipment; a system; a process; a group of processes; a room; a building; a site; an entire organization; multiple sites under the control of an organization.