Singapore Standards Council

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SINGAPORE STANDARD

Energy management systems – Measuring energy performance using energy baselines (EnB) and energy performance indicators (EnPI) – General principles and guidance

[Identical adoption of ISO 50006 : 2014]

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Institution of Engineers, Singapore
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National Environment Agency
Rockwell Automation
Soitec Singapore Pte Ltd

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National Foreword

This Singapore Standard was prepared by a Working Group formed under the purview of the Energy Standards Committee.

This standard is identical with ISO 50006 : 2014 published by the International Organization for Standardization.

Where appropriate, the words "International Standard" shall be read as "Singapore Standard". The reference to International Standards shall be replaced by the following Singapore Standards:

International Standard	Corresponding Singapore Standard
ISO 50001	SS ISO 50001
ISO 50015	SS ISO 50015

Attention is drawn to the possibility that some of the elements of this Singapore Standard may be the subject of patent rights. Enterprise Singapore shall not be held responsible for identifying any or all of such patent rights.

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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).

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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 WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is Technical Committee ISO/TC 242, *Energy management*.

Introduction

This International Standard provides organizations with practical guidance on how to meet the requirements of ISO 50001 related to the establishment, use and maintenance of energy performance indicators (EnPIs) and energy baselines (EnBs) in measuring energy performance and energy performance changes. EnPIs and EnBs are two key interrelated elements of ISO 50001 that enable the measurement, and therefore management of energy performance in an organization. Energy performance is a broad concept which is related to energy consumption, energy use and energy efficiency.

In order to effectively manage the energy performance of their facilities, systems, processes and equipment, organizations need to know how energy is used and how much is consumed over time. An EnPI is a value or measure that quantifies results related to energy efficiency, use and consumption in facilities, systems, processes and equipment. Organizations use EnPIs as a measure of their energy performance.

The EnB is a reference that characterizes and quantifies an organization's energy performance during a specified time period. The EnB enables an organization to assess changes in energy performance between selected periods. The EnB is also used for calculation of energy savings, as a reference before and after implementation of energy performance improvement actions.

Organizations define targets for energy performance as part of the energy planning process in their energy management systems (EnMS). The organization needs to consider the specific energy performance targets while identifying and designing EnPIs and EnBs. The relationship between energy performance, EnPIs, EnBs and energy targets is illustrated in Figure 1.

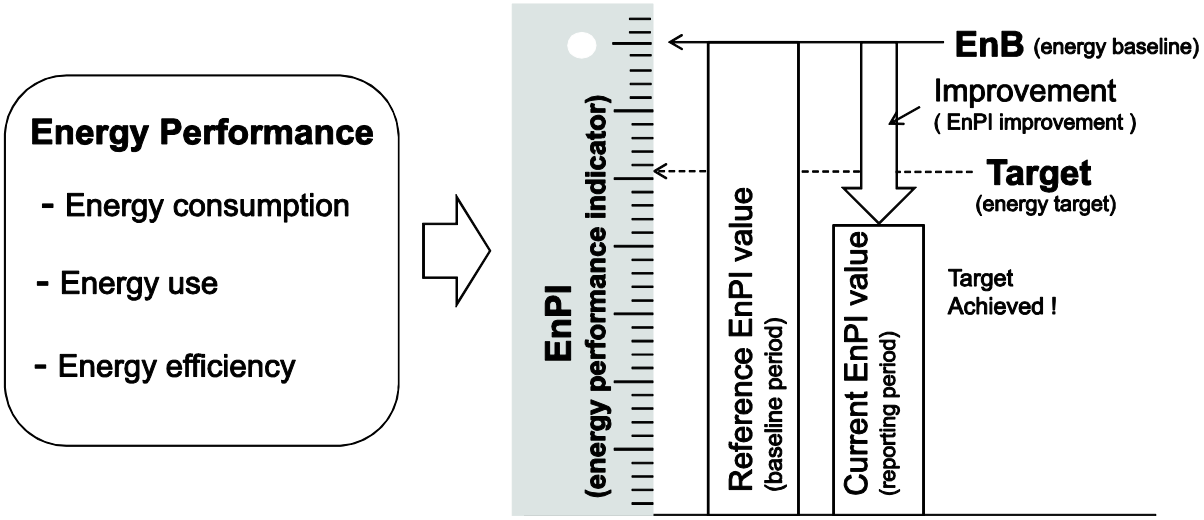

Figure 1—Relationship between energy performance, EnPIs, EnBs and energy targets

This International Standard includes practical help boxes designed to provide the user with ideas, examples and strategies for measuring energy performance using EnPIs and EnBs.

The concepts and methods in this International Standard can also be used by organizations that do not have an existing EnMS. For example, EnPIs and EnBs can also be used at the facility, system, process or equipment level, or for the evaluation of individual energy performance improvement actions.

Ongoing commitment and engagement by top management is essential to the effective implementation, maintenance and improvement of the EnMS in order to achieve the benefits in energy performance improvement. Top management demonstrates its commitment through leadership actions and active involvement in the EnMS, ensuring ongoing allocation of resources including people to implement and sustain the EnMS over time.

Energy management systems — Measuring energy performance using energy baselines (EnB) and energy performance indicators (EnPI) — General principles and guidance

1 Scope

This International Standard provides guidance to organizations on how to establish, use and maintain energy performance indicators (EnPIs) and energy baselines (EnBs) as part of the process of measuring energy performance.

The guidance in this International Standard is applicable to any organization, regardless of its size, type, location or level of maturity in the field of energy management.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 50001:2011, *Energy management systems — Requirements with guidance for use*