

GUIDE



Preparation of energy efficiency publications and the use of basic energy efficiency publications and group energy efficiency publications
(standards.iteh.ai)

IEC GUIDE 119:2017

<https://standards.iteh.ai/catalog/standards/sist/26975328-72db-4a8e-acc0-b126097c0d98/iec-guide-119-2017>



THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2017 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

IEC Catalogue - webstore.iec.ch/catalogue

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

Electropedia - www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing 20 000 terms and definitions in English and French, with equivalent terms in 16 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC publications search - www.iec.ch/searchpub

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

IEC Glossary - std.iec.ch/glossary

65 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and also once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: csc@iec.ch.

IEC'S STANDARD PREVIEW
(standards.iteh.ai)
IEC GUIDE 19:2017
https://standards.iteh.ai/catalog/standards/iec/guide-19-2017
b126097c0d98/iec-guide-19-2017

GUIDE



Preparation of energy efficiency publications and the use of basic energy efficiency publications and group energy efficiency publications

iTeh STANDARD PREVIEW
(standards.iteh.ai)

IEC GUIDE 119:2017
<https://standards.iteh.ai/catalog/standards/sist/26975328-72db-4a8e-acc0-b126097c0d98/iec-guide-119-2017>

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 27.015

ISBN 978-2-8322-4116-5

Warning! Make sure that you obtained this publication from an authorized distributor.

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	7
4 Systems approach.....	8
4.1 General considerations	8
4.2 Boundary description	9
4.2.1 General	9
4.2.2 Elements of the boundary description	10
4.2.3 Input(s).....	10
4.2.4 Output(s).....	10
4.2.5 Driving parameters	10
4.2.6 Energy efficiency related KPI(s).....	11
4.3 Broader boundary description – systems approach	11
5 Assignment of horizontal energy efficiency functions and of group EE functions	12
6 Energy efficiency publications	13
6.1 Basic EE publications and group EE publications	13
6.1.1 General	13
6.1.2 Basic EE publications	13
6.1.3 Group EE publications	13
6.2 Product publications	14
6.3 References to other publications	14
7 Responsibilities of TCs with horizontal EE functions and group EE functions	14
7.1 Liaison with other TCs	14
7.2 Requests from TCs for new work	14
8 Responsibilities of TCs	15
8.1 General.....	15
8.2 Application of basic EE publications.....	15
8.3 Application of group EE publications	15
8.4 New work requests to TCs with horizontal or group EE functions	16
Annex A (informative) Boundary examples.....	17
Annex B (informative) The extended product approach as a collaborative example (reference IEC 61800-9-1)	19
B.1 Sharing the TC responsibilities	19
B.1.1 General	19
B.1.2 Practical case	19
B.1.3 Example of how different TCs may determine their role in a common collaboration.....	20
B.1.4 Example of how different TCs should share their responsibilities	21
B.2 Practical example – a motor system and pump system collaboration.....	22
Bibliography.....	24
Figure 1 – Boundary description and its elements	10
Figure 2 – Broader boundary description	11
Figure 3 – Structure of IEC EE publications and function assignment	12

Figure A.1 – Boundary setting example: three boundaries for independent solution	17
Figure A.2 – Boundary setting example: a boundary of a group	17
Figure A.3 – A boundary of group with systematic solution	18
Figure B.1 – Relation between different components at different levels	20
Figure B.2 – Link between every box's corresponding TCs	21
Figure B.3 – TC's responsibilities with EE key parameters at the different levels, starting from the plant level and going down to individual components	22
Figure B.4 – Interaction between the two SAMs	22
Figure B.5 – The SAMs of the pump system (the extended product) and the motor system	23

iTeh STANDARD PREVIEW **(standards.iteh.ai)**

[IEC GUIDE 119:2017](https://standards.iteh.ai/catalog/standards/sist/26975328-72db-4a8e-acc0-b126097c0d98/iec-guide-119-2017)

<https://standards.iteh.ai/catalog/standards/sist/26975328-72db-4a8e-acc0-b126097c0d98/iec-guide-119-2017>

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**PREPARATION OF ENERGY EFFICIENCY PUBLICATIONS
AND THE USE OF BASIC ENERGY EFFICIENCY PUBLICATIONS
AND GROUP ENERGY EFFICIENCY PUBLICATIONS**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

This first edition of IEC Guide 119 has been prepared, in accordance with ISO/IEC Directives, Part 1, Annex A, by the IEC Advisory Committee on Energy Efficiency (ACEE). Clauses 5 through 8 of this guide are mandatory, in accordance with SMB Decision 136/8.

The text of this IEC Guide is based on the following documents:

Four months' vote	Report on voting
C/1980A/DV	C/2003/RV

Full information on the voting for the approval of this IEC Guide can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A bilingual version of this publication may be issued at a later date.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[IEC GUIDE 119:2017](https://standards.iteh.ai/catalog/standards/sist/26975328-72db-4a8e-acc0-b126097c0d98/iec-guide-119-2017)

<https://standards.iteh.ai/catalog/standards/sist/26975328-72db-4a8e-acc0-b126097c0d98/iec-guide-119-2017>

INTRODUCTION

Technical committees dealing with subjects relating to energy efficiency for the whole, or for a specific part, of their activities, are invited by SMB Decision 136/8 to follow the provisions of this Guide.

In this Guide, the term “technical committee” (TC) also includes subcommittees and system committees. The term “publication” includes “International Standard”, “Technical Report”, “Technical Specification” and “Guide”. In addition, the term “product” includes “process”, “service” and combinations thereof, commonly known as “systems”.

iTeh STANDARD PREVIEW **(standards.iteh.ai)**

[IEC GUIDE 119:2017](https://standards.iteh.ai/catalog/standards/sist/26975328-72db-4a8e-acc0-b126097c0d98/iec-guide-119-2017)

<https://standards.iteh.ai/catalog/standards/sist/26975328-72db-4a8e-acc0-b126097c0d98/iec-guide-119-2017>

PREPARATION OF ENERGY EFFICIENCY PUBLICATIONS AND THE USE OF BASIC ENERGY EFFICIENCY PUBLICATIONS AND GROUP ENERGY EFFICIENCY PUBLICATIONS

1 Scope

This Guide defines procedures for the preparation of energy efficiency (EE) publications and describes the relationship between technical committees (TCs) with group EE functions.

In the context of this Guide, “EE” refers to energy efficiency of products, systems and organizations.

It uses the boundary concept to address energy efficiency aspects (see IEC Guide 118) in the context of a systems approach.

This Guide is relevant to every TC which would like to publish a document dealing with EE.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC GUIDE 119:2017

IEC Guide 118, *Inclusion of energy efficiency aspects in electrotechnical publications*

<http://standards.iteh.ai/catalog/standards/iec/6075108-7018-181-190-b126097c0d98/iec-guide-119-2017>

ISO/IEC 13273-1:2015, *Energy efficiency and renewable energy sources – Common international terminology – Part 1: Energy efficiency*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 13273-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

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

3.1

basic EE publication

publication covering energy efficiency aspects (EEA), applicable to products within the scope of two or more TCs

3.2

group EE publication

publication covering energy efficiency aspects (EEA), applicable to a specific boundary including products within the scope of two or more TCs

3.3

EE publication

publication covering energy efficiency aspects (EEA)

Note 1 to entry: An EE publication can be a basic EE publication, a group EE publication or a product publication.

[SOURCE: IEC 60050-901:2013, 901-02-12, modified – The term and definition have been modified for the specific context of energy efficiency.]

3.4

energy efficiency

EE

ratio or other quantitative relationship between an output of performance, service, goods or energy and an input of energy taking into account the driving parameters and the boundaries

EXAMPLE Conversion efficiency; energy required/energy used; output/input; theoretical energy used to operate/energy used to operate.

Note 1 to entry: Both input and output need to be clearly specified in quantity and quality, and be measurable.

[SOURCE: ISO/IEC 13273-1:2015, 3.4.1, modified – “taking into account the driving parameters and the boundaries” has been added to the definition.]

3.5

group EE function

task assigned to a TC to prepare group EE publications

3.6

horizontal EE function

task assigned to a TC to prepare basic EE publications

<https://standards.iteh.ai/catalog/standards/sist/26975328-72db-4a8e-acc0-b126097c0d98/iec-guide-119-2017>

4 Systems approach

4.1 General considerations

Energy efficiency should be a requirement for products, systems and organizations.

EE measures shall not compromise safety nor affect the level of services.

Implementation of relevant EE measures should be in balance with economic and market constraints.

It may not be sufficient to improve the energy efficiency of a single product without considering its application.

EE of a product should be in balance to the depletion or voiding of environmental resources that have been used to produce it.

Conversely, it can be necessary to accept the higher losses of one product if they are off-set by an overall improvement of energy efficiency in the entire system, considering its environment, economy and application. Clause 4 explains how technical committees should consider the systems approach in their work where several TCs have to collaborate. This Guide proposes a way of collaboration between TCs on the bases of the boundaries between their respective responsibilities.

The main part of this approach is a standardized description of this boundary which defines the object of energy efficiency evaluation and improvement as well as the interfaces between the TCs.

The description of the boundary (physical or conceptual) should include information about the service(s) that are to be provided. This description will make no assumptions about physical implementation needed to realize the service(s). Examples of services are, for example, providing steam, producing metallic parts, converting heat.

4.2 Boundary description

4.2.1 General

The boundary description should be understood by each TC.

Boundaries should be defined in terms of:

- intended use (relevant applications),
- energy inputs,
- outputs,
- driving parameters other than internal process parameters (relevant variables, static factors),
- key performance indicator (KPI),
KPIs are related to EE.
- interactions between components of the system,
- possible interactions with other systems.

Boundaries can include a device, a product or a system depending on the application considered. Physical product boundaries include:

- the physical limits of the product, [IEC GUIDE 119:2017](#)
- power inputs or outputs, <https://standards.iteh.ai/catalog/standards/sist/26975328-72db-4a8e-acc0-b126097c0d98/iec-guide-119-2017>
- communication interfaces,
- any measurable inputs or outputs.

Functional boundaries (e.g. in the case of a service) include:

- the starting of a specification,
- the conclusion of a specification,
- the defined transfer of information, of material, or of other services,
- status of operation.