

## Energy audits - Part 2: Buildings

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## EESTI STANDARDI EESSÕNA

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ICS 03.120.10, 27.010, 91.140.01

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English version

## Energy audits - Part 2: Buildings

Audits énergétiques - Partie 2 : Bâtiments

Energieaudits - Teil 2: Gebäude

This European Standard was approved by CEN on 27 May 2014.

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## Foreword

This document (EN 16247-2:2014) has been prepared by Technical Committee CEN/CLC/JWG 1 “Energy audits”, the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2014 and conflicting national standards shall be withdrawn at the latest by November 2014.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This Part provides additional material to Part 1 for the Buildings sector and should be used in conjunction with Part 1.

This European Standard is part of the series EN 16247 “*Energy audits*” which comprises the following:

- Part 1 General requirements;
- Part 2 Buildings;
- Part 3 Processes;
- Part 4 Transport;
- Part 5 Competence of energy auditors.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## 0 Introduction

An energy audit can help an organization to identify opportunities to improve energy efficiency. It can be part of a site wide energy management system.

The use and operation of buildings requires the provision of services such as heating, cooling, ventilation, lighting, domestic hot water, transportation systems (e.g. elevators, escalators and moving walkways) in buildings and processes. In addition, energy is used by appliances within the building.

The energy consumption depends on:

- local climatic conditions;
- the characteristics of the building envelope;
- the designed indoor environment conditions;
- the characteristics and settings of the technical building systems;
- activities and processes in the building;
- occupant behaviour and operational regime.

Dealing with buildings, the audited objects are sometimes similar, technically simple and numerous (as in the residential sector) but can also be unique, complex and highly technical (such as hospitals, swimming pools and spas, etc.).

Energy audits in buildings may include the whole building or parts of the building or some technical system.

Energy performance indicators (benchmark values, if available) or average statistical specific energy consumption data are usually published nationally for different building types and ages. This information can be used in the analysis to provide comparative energy performance evaluation.

**NOTE** The energy audits covered under this standard might be independent from building energy performance certification and other legislative requirements.

## 1 Scope

This European Standard is applicable to specific energy audit requirements in buildings. It specifies the requirements, methodology and deliverables of an energy audit in a building or group of buildings, excluding individual private dwellings. It shall be applied in conjunction with, and is supplementary to, EN 16247-1, *Energy audits — Part 1: General requirements*. It provides additional requirements to EN 16247-1 and shall be applied simultaneously.

If processes are included in the scope of the energy audit, the energy auditor may choose to apply EN 16247-3, *Energy audits — Part 3: Processes*. If on-site transport on a site is included in the scope of the energy audit, the energy auditor may choose to apply EN 16247-4, *Energy audits — Part 4: Transport*.

NOTE This standard may cover multi-dwelling apartment blocks where communal services are supplied from a landlord. It is not intended for individual dwellings and single family houses.

## 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.

EN 16247-1, *Energy audits - Part 1: General requirements*

EN 15603, *Energy performance of buildings - Overall energy use and definition of energy ratings*

## 3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 16247-1 and the following apply.

### 3.1

#### **building**

construction as a whole, including its envelope and all technical building systems, for which energy may be used to condition the indoor climate, to provide domestic hot water and illumination and other services related to the use of the building and the activities performed within the building

Note 1 to entry: The term can refer to the building as a whole or to parts thereof that have been designed or altered to be used separately.

Note 2 to entry: The building could include its site location and related external environment.

### 3.2

#### **system boundary**

boundary that includes within it all areas associated with the audited object (both inside and outside the audited object) where energy is consumed or produced

Note 1 to entry: Inside the system boundary the system losses are taken into account explicitly, outside the system boundary they are taken into account in a conversion factor.