SLOVENSKI STANDARD
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Energijske presoje - 1. del: Splošne zahteve

Energy audits - Part 1: General requirements

Energieaudits - Teil 1: Allgemeine Anforderungen

Audits énergétiques - Partie 1: Exigences générales

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Energy audits - Part 1: General requirements

Audits énergétiques - Partie 1: Exigences générales

Energieaudits - Teil 1: Allgemeine Anforderungen

This European Standard was approved by CEN on 16 June 2012.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN and CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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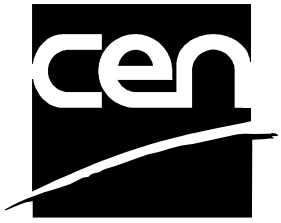

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Foreword

This document (EN 16247-1:2012) 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of an identical text or by endorsement, at the latest by January 2013, and conflicting national standards shall be withdrawn at the latest by January 2013.

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 covers the general requirements common to all energy audits. There are three further parts of EN 16247, currently under development, which will provide additional material to Part 1 for three specific sectors.

The other parts of EN 16247 will be:

— *Energy audits — Part 2: Buildings*;

— *Energy audits — Part 3: Processes*;

— *Energy audits — Part 4: Transport*.

According to the CEN/CENELEC Internal Regulations, the national standards organisations 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.

Introduction

An energy audit is an important step for an organisation, whatever its size or type, wanting to improve its energy efficiency, reduce energy consumption and bring related environmental benefits.

This European Standard defines the attributes of a good quality energy audit. It states the requirements for energy audits and corresponding obligations within the energy auditing process. It recognises that there are differences in approach to energy auditing in terms of scope, aims and thoroughness, but seeks to harmonise common aspects of energy auditing in order to bring more clarity and transparency to the market for energy auditing services. The energy audit process is presented as a simple chronological sequence; this does not preclude however repeated iterations of certain steps.

This standard applies to commercial, industrial, residential and public-sector organisations, excluding individual private dwellings.

This standard does not deal with the energy audit programme/scheme properties (such as programme administration, training of energy auditors, quality control issues, energy auditors' tools, etc.).

1 Scope

This European standard specifies the requirements, common methodology and deliverables for energy audits. It applies to all forms of establishments and organisations, all forms of energy and uses of energy, excluding individual private dwellings.

This European standard covers the general requirements common to all energy audits. Specific energy audit requirements will complete the general requirements in separate parts dedicated to energy audits for buildings, industrial processes and transportation.

2 Normative references

Not applicable.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
energy audit
systematic inspection and analysis of energy use and energy consumption of a site, building, system or organisation with the objective of identifying energy flows and the potential for energy efficiency improvements and reporting them

3.2
energy auditor
individual, group of people or body carrying out an energy audit

Note 1 to entry: A group or body can include subcontractors.

3.3
adjustment factor
quantifiable parameter affecting energy consumption

EXAMPLE Weather conditions, behaviour related parameters (indoor temperature, light level) working hours, production throughput, etc.

3.4
audited object
building, equipment, system, process, vehicle or service which is the subject of the energy audit

3.5
organisation
person or body who owns, operates, uses or manages the audited object(s)

3.6
energy consumption
quantity of energy applied

[SOURCE: EN ISO 50001:2011, 3.7]

3.7
energy efficiency
ratio or other quantitative relationship between an output of performance, service, goods or energy, and an input of energy

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: EN ISO 50001:2011, 3.8]

3.8
energy performance
measurable results related to **energy efficiency** (3.7), **energy use** (3.11) and **energy consumption** (3.6)

Note 1 to entry: In the context of energy management systems, results can be measured against the organisation's energy policy, objectives, targets and other energy performance requirements.

Note 2 to entry: Energy performance is one component of the performance of the energy management system.

[SOURCE: EN ISO 50001:2011, 3.12]

3.9
energy performance indicator
quantitative value or measure of energy performance, as defined by the organisation

Note 1 to entry: Could be expressed as a simple metric, ratio or a more complex model.

[SOURCE: EN ISO 50001:2011, 3.13]

3.10
energy efficiency improvement measure
amount of saved energy determined by measuring and/or estimating consumption before and after implementation of one or more energy efficiency improvement measures, whilst ensuring normalisation for factors that affect energy consumption

3.11
energy use
manner or kind of application of energy

EXAMPLE Ventilation; lighting; heating; cooling; transportation; processes; production lines.

[SOURCE: EN ISO 50001:2011, 3.18]

4 Quality requirements

4.1 Energy auditor

4.1.1 Competency

The energy auditor shall be suitably qualified (according to local guidelines and recommendations) and experienced for the type of work being undertaken and for the agreed scope, aim and thoroughness.

4.1.2 Confidentiality

The energy auditor shall treat as confidential all information provided by the organisation or disclosed during the energy audit.

4.1.3 Objectivity

The energy auditor shall treat the organisation’s interests as paramount and act in an objective manner.

The energy auditor shall ensure that the competency, confidentiality and objectivity requirements apply to its subcontractors, if any.

4.1.4 Transparency

If the energy auditor has business goals, product and process or marketing involvement that might be in conflict with the energy audit, the energy auditor shall disclose any conflict of interests in a transparent way.

4.2 Energy audit process

The energy audit process shall be:

a) appropriate: suitable to the agreed scope, aims and thoroughness;

b) complete: in order to define the audited object and the organisation;

c) representative: in order to collect reliable and relevant data;

d) traceable: in order to trace the origin and processing of data;

e) useful: in order to include a cost effectiveness analysis of the energy saving opportunities identified;

f) verifiable: in order to allow the organisation to monitor the achievement of the targets of implemented energy efficiency improvement opportunities.

5 Elements of the energy audit process

5.1 Preliminary contact

a) The energy auditor shall agree with the organisation on:

1) aims, needs and expectations concerning the energy audit;

2) scope and boundaries;

EXAMPLE The whole site and all energy using systems or the boiler plant or the vehicle fleet.

3) degrees of thoroughness required;

EXAMPLE Proportion of apartments in a block to be visited; whether accuracy sufficient for investment decisions is required.

4) timescale to complete the energy audit;

5) criteria for evaluating energy efficiency improvement measures (e.g. pay back period);

6) time commitments and other resources from the organisation;

7) requirement for data to be collected prior to the energy audit commencing and the availability, validity and format of the energy and activity data;

8) foreseeable measurement and/or inspection to be made during the energy audit.

b) The energy auditor shall request information about: