ILNAS

Institut luxembourgeois de la normalisation
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des produits et services

ILNAS-EN 16247-4:2022

Energy audits - Part 4: Transport

Audits énergétiques - Partie 4 : Transport

Energieaudits - Teil 4: Transport

08/2022

National Foreword

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EUROPEAN STANDARD EN 16247-4

NORME EUROPÉENNE

EUROPÄISCHE NORM

August 2022

ICS 03.120.10; 27.015; 55.020

Supersedes EN 16247-4:2014

English version

Energy audits - Part 4: Transport

Audits énergétiques - Partie 4 : Transport

Energieaudits - Teil 4: Transport

This European Standard was approved by CEN on 3 July 2022.

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Contents

Page

European foreword

This document (EN 16247-4:2022) has been prepared by the Joint Technical Committee CEN-CENELEC/JTC 14 “Energy management and energy efficiency in the framework of energy transition”, the secretariat of which is held by UNI.

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of an identical text or by endorsement, at the latest by February 2023, and conflicting national standards shall be withdrawn at the latest by February 2023.

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

This document supersedes EN 16247-4:2014.

Significant changes compared to the previous edition are:

a) terms and definition updated;

b) structure aligned with EN 16247-1.

This document is part of 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.*

This Part provides additional material to Part 1 for the Transport sector and is intended to be used in conjunction with Part 1.

This document has been prepared under a mandate given to CEN and CENELEC by the European Commission and the European Free Trade Association.

Any feedback and questions on this document should be directed to the users’ national standards body/national committee. A complete listing of these bodies can be found on the CEN and CENELEC websites.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Introduction

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

This document is intended for the energy auditing of mobile assets e.g. vehicles, railways, marine vessels, aircraft, as well as mobile plant.

Due to the mobility of the assets in transport, energy auditing in this area is especially challenging. For example, the meetings are harder to organize, the activities involved are harder to inspect.

The first part of this document harmonizes the procedures for energy auditing in transport systems. On the other hand, there are certain aspects which are particular to every transport mode. For example, whereas the mobile assets in road transport are numerous, similar and replaced frequently, the assets for marine and air transport are large and long-lived.

In order to state the energy auditing features of every transport mode, there is a specific section for each of them at the end of this document.

Finally, the possibility of planning and selecting the mode of transport (and, sometimes, using different modes for a unique transport service) is also a specific aspect of the transport activity. Therefore, this standard will place special attention to this topic.

NOTE An energy audit is not a fiscal method, the term and the nature of an energy audit are defined in EN 16247-1 Energy Audits.

1 Scope

This document is used 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 is applied simultaneously.

The procedures described here apply to the different modes of transport (road, rail, marine and aviation), as well as the different ranges (local- to long-distance) and what is transported (i.e. goods and people).

This document specifies the requirements, methodology and deliverables specific to energy audits in the transport sector, every situation in which a displacement is made, no matter who the operator is (a public or private company or whether the operator is exclusively dedicated to transport or not), is also addressed in this document.

This document advises on both the optimization of energy within each mode of transport, as well as selecting the best mode of transport in each situation; the conclusions drawn by the energy audit can influence decisions on infrastructure and investment e.g. in teleconferencing or web meetings.

Energy audits of buildings and processes associated with transport can be conducted respectively with the EN 16247-2 *Buildings* and EN 16247-3 *Processes*, e.g. pipelines, depots and escalators/travelators. This part of the standard does not include the infrastructure which supplies energy e.g. the electricity generation of energy for railways.

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.

EN 16247-1:2022, *Energy audits — Part 1: General requirements*

EN 50591:2019, *Railway Applications — Rolling Stock — Specification and verification of energy consumption*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 16247-1:2022 and the following apply.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
transport
activity that implies the movement of people, livestock or goods from one place to another

3.2
vehicle
object used to perform the transport, may include the container, trailer or carriage where energy is consumed

Note 1 to entry: This document will use this term, instead of the more general one (audited object), from part 1 of this standard.

3.3
energy
includes fuels, inclusive of biofuels, electricity inclusive of regenerated/recovered energy from braking, etc.

Note 1 to entry: Excludes feedstock energy sources such as Aqueous Urea Solution (for example AdBlue®[1] ISO 22241-1).

3.4
fleet
group of vehicles

3.5
train set
consist
railway terminology used to describe a "train" which varies between countries, very often a single scheduled service

Note 1 to entry: In the UK, the interchangeable terms "set" and "unit" are used to refer to a group of permanently or semi-permanently coupled vehicles, such as those of a diesel multiple unit. The United Kingdom Section 83(1) of the Railways Act 1993 defines "train" as follows:

a) two or more items of rolling stock coupled together, at least one of which is a locomotive;

b) a locomotive not coupled to any other rolling stock.

Note 2 to entry: In the United States, the term "consist" is used to describe the group of rail vehicles which make up a train.

3.6
operator
person that governs the vehicle operation with his/her own hands, e.g. driver, pilot, helmsman, etc. (not the organization being audited)

3.7
organization
owner or operator of the fleet of vehicles subject to the audit

3.8
transport service
service provided to a beneficiary for the transport of goods, livestock or of a person from a departure point to a destination point

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