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Sustainability of construction works – Assessment of buildings – Part 4: Framework for the assessment of economic performance

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EUROPEAN STANDARD

EN 15643-4

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2012

ICS 91.040.01

English Version

Sustainability of construction works - Assessment of buildings - Part 4: Framework for the assessment of economic performance

Contribution des ouvrages de construction au
développement durable - Evaluation des bâtiments - Partie
4: Cadre pour l'évaluation de la performance économique

Nachhaltigkeit von Bauwerken - Bewertung der
Nachhaltigkeit von Gebäuden - Teil 4:
Rahmenbedingungen für die Bewertung der ökonomischen
Qualität

This European Standard was approved by CEN on 29 November 2011.

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Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN 15643-4:2012) has been prepared by Technical Committee CEN/TC 350 “Sustainability of construction works”, the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by July 2012, and conflicting national standards shall be withdrawn at the latest by July 2012.

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.

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Introduction

This European Standard forms part of a series of European Standards, written by CEN/TC 350, that provide a system for the sustainability assessment of buildings using a life cycle approach. The sustainability assessment quantifies aspects and impacts to assess the environmental, social and economic performance of buildings using quantitative and qualitative indicators, both of which are measured without value judgments. The purpose of this series of standards is to enable comparability of the results of assessments. This series of European Standards does not set benchmarks or levels of performance.

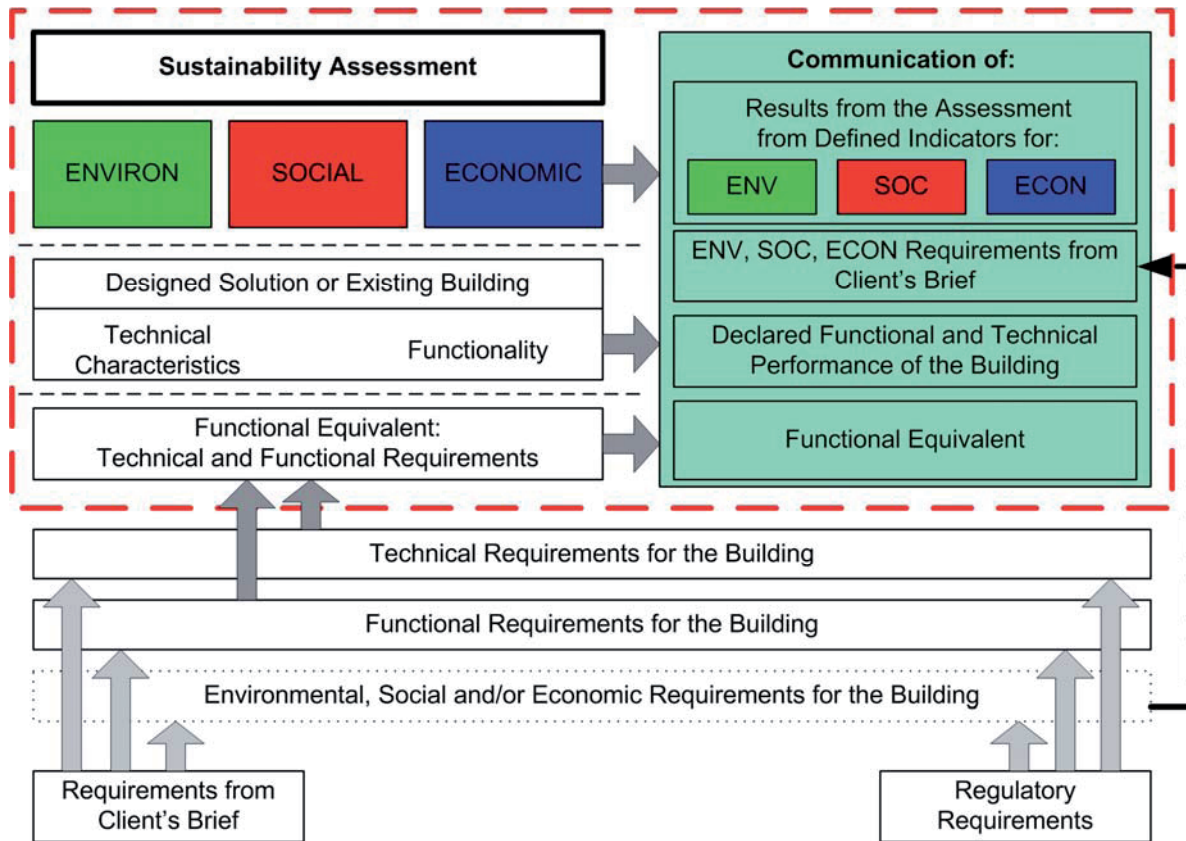
This series of standards will allow the sustainability assessment, i.e. the assessment of environmental, social and economic performance of a building, to be made concurrently and on an equal footing, on the basis of the same technical characteristics and functionality of the object of assessment.

The sustainability assessment of buildings uses different types of information. The results of a sustainability assessment of a building provide values for the different types of indicators, the related building scenarios, and on the lifecycle stages included in the assessment.

In carrying out assessments scenarios and a functional equivalent are determined at the building level. Assessment at the building level means that the descriptive model of the building with the major technical and functional requirements has been defined in the client's brief or in the regulations, as illustrated in Figure 1 below. Assessments can be undertaken for the whole building, for parts of the building which can be used separately, or for elements of the building.

Although the evaluation of technical and functional performance is beyond the scope of this series of standards, the technical and functional characteristics are considered within this framework by reference to the functional equivalent. The functional equivalent takes into account the technical and functional requirements and forms the basis for comparisons of the results of the assessment.

Any particular demands for, or related to, the environmental, social and economic performance defined in the client's brief, or in regulations, may be declared and communicated. Figure 1 below shows how the functional equivalent, and the technical and functional characteristics that differ from those required, either by the client's brief or through regulations, are to be declared and communicated with the results of the assessment.



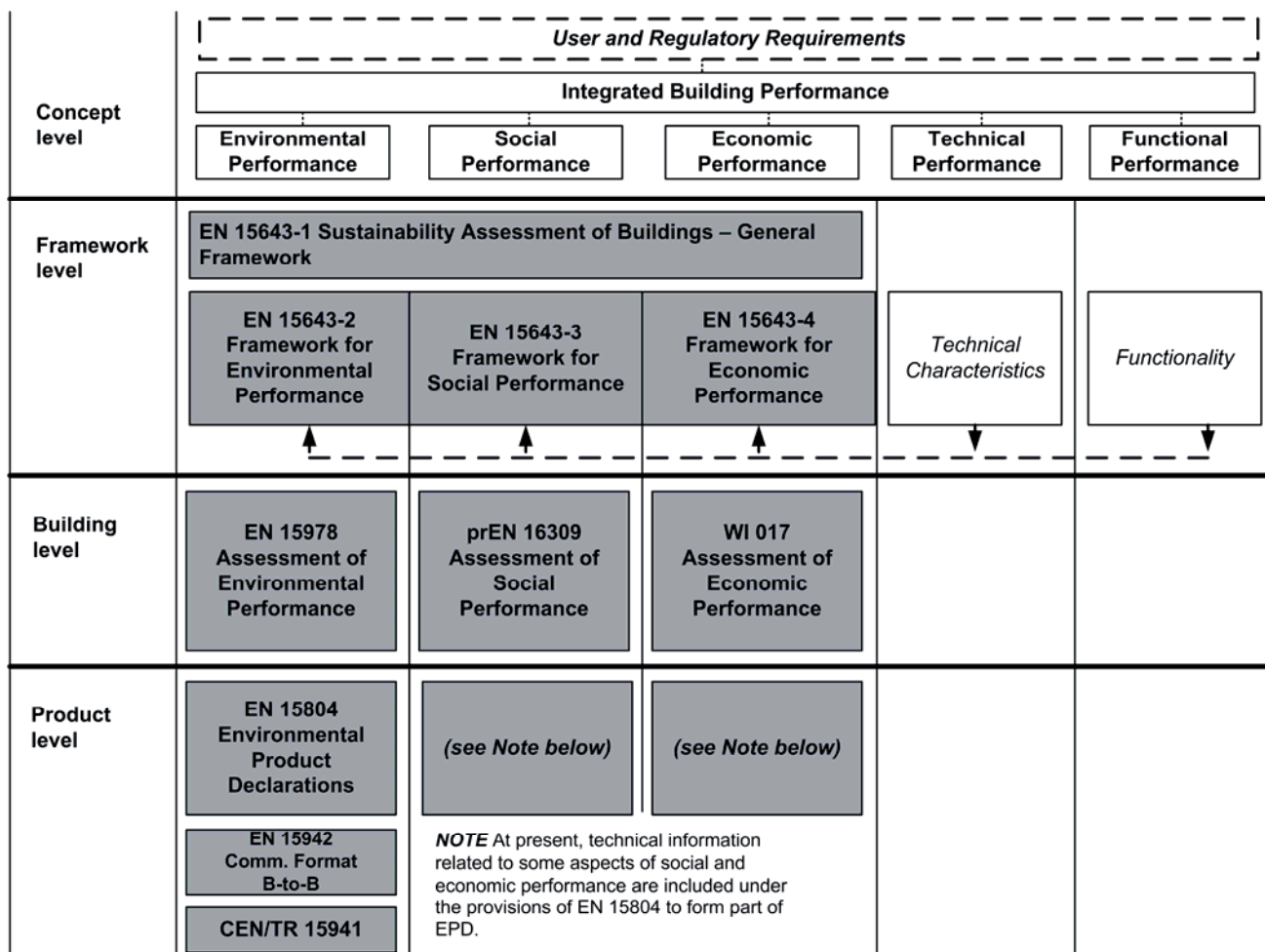
NOTE The outer box with the dotted line represents the area to be standardised by CEN/TC 350.

Figure 1 — Concept of sustainability assessment of buildings

In concept, the integrated building performance incorporates environmental, social and economic performance as well the technical and functional performance, and these are intrinsically related to each other, as illustrated in Figure 2 below. Although the assessment of technical and functional performance does not form part of this series of standards, their interrelationship with environmental, social and economic performance is a prerequisite for an assessment of sustainability performance of buildings and, therefore, is taken into account.

It is advisable to carry out an assessment at the earliest opportunity during the conceptual stages of a construction or refurbishment project such as in the sketch plan stage in order to provide a broad estimate of the environmental performance, social performance and economic performance. As the project evolves, the assessment may be periodically reviewed and updated to support decision-making. A final assessment (as built) should be carried out. The results of this final assessment can be used to inform all parties concerned.

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NOTE The darkened boxes represent the current work programme of CEN/TC 350.

Figure 2 – Work programme of CEN/TC 350

This framework is Part 4 of the framework standards for sustainability assessment of buildings. The purpose of this EN 15643-4 is to provide a framework with principles, requirements and guidelines for the assessment of the economic performance of a building, as described at the "framework level" in above Figure 2.

The first revision of the general framework standard, EN 15643-1, is intended to combine all four parts of the standard into one framework standard. This will ensure simultaneous revision of the interlinked parts of the standard.

In the future, the assessment methodologies within this framework standard may be part of an overall assessment of integrated building performance. The assessment methodologies may also be extended to an assessment of the neighbourhoods and wider built environment.

1 Scope

This European Standard forms one part of a series of European Standards for the assessment of buildings and provides specific principles and requirements for the assessment of economic performance of buildings taking into account technical characteristics and functionality of a building. Assessment of economical performance is one aspect of sustainability assessment of buildings under the general framework of EN 15643-1.

The framework applies to all types of buildings and it is relevant for the assessment of the economic performance of new buildings over their life cycle, and of existing buildings over their remaining service life and end of life stage.

The economic performance assessment of a building addresses the life cycle costs and other economic aspects, all expressed through quantitative indicators. It excludes the economic risk assessment of a building and return on investment calculations

It includes economic aspects of a building relating to the built environment within the area of the building site, it does not include economic aspects beyond the area of the building site, e.g. such as economic impacts of construction of local infrastructure or economic impacts resulting from transportation of the users of the building or economic impacts of a construction project on local community.

The standards developed under this framework do not set the rules for how the different assessment methodologies may provide valuation methods nor do they prescribe levels, classes or benchmarks for measuring performance.

NOTE Valuation methods, levels, classes or benchmarks may be prescribed in the requirements for economic performance in the client's brief, building regulations, national standards, national codes of practice, building assessment and certification schemes, etc.

The rules for assessment of economic aspects of organizations, such as management systems, are not included within this framework. However, the consequences of decisions or actions that influence the economic performance of the object of assessment are taken into account.

2 Normative references

The following referenced documents are indispensable for the application 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.

ISO 15392:2008, *Sustainability in building construction – General principles*

ISO 15686-1:2011, *Buildings and constructed assets – Service life planning – Part 1: General principles and framework*

ISO 15686-7, *Buildings and constructed assets – Service life planning – Part 7: Performance evaluation for feedback of service life data from practice*

ISO 15686-8:2008, *Buildings and constructed assets – Service-life planning – Part 8: Reference service life and service-life estimation*

ISO/TS 15686-9, *Buildings and constructed assets – Service-life planning – Part 9: Guidance on assessment of service-life data*