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# Sustainability in buildings and civil engineering works — A review of terminology

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TECHNICAL REPORT

# ISO/TR 21932

First edition
2013-11-15

# Sustainability in buildings and civil engineering works — A review of terminology

*Développement durable dans les bâtiments et les ouvrages de génie civil — Une revue de la terminologie*

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# Contents

Page

**Foreword** ..... **iv**
**Introduction** ..... **v**
**1 Scope** ..... **1**
**2 Vocabulary structure** ..... **1**
**3 Terms relating to sustainability in buildings and civil engineering works** ..... **2**
**Annex A** (informative) **Representative model of the methodology used in the development of the terminology** ..... **16**
**Annex B** (informative) **Additional information on the on-going development of terminology and definitions within ISO/TC 59/SC 17** ..... **18**
**Annex C** (informative) **European Committee for Standardization (CEN)/TC 350 on Sustainability of construction works and its general terminology** ..... **22**
**Annex D** (informative) **Terminology and language regarding products of the building and construction sector** ..... **48**
**Annex E** (informative) **Alphabetical index of terms** ..... **51**
**Bibliography** ..... **63**

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Full document details: PD ISO/TR 21932:2013

# Foreword

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 59, *Buildings and civil engineering works*, Subcommittee SC 17, *Sustainability in buildings and civil engineering works*.


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# Introduction

Communication is important in the implementation and operation of the concept of sustainable development related to building and civil engineering. In the interest of common understanding and standardization, consistent word usage is encouraged to help eliminate the major barrier to effective technical communication.

This Technical Report is the result of the terminography and other terminology work that was undertaken within ISO/TC 59 to establish consistent terminology for concepts related to the subject field of sustainability in buildings and civil engineering works. Such standardization work was primarily undertaken by Subcommittee 17, *Sustainability in buildings and civil engineering works*, and more specifically, SC 17/Working Group 1, *General principles and terminology*.

NOTE 1 ISO 1087-1 defines the concepts of *terminology*, *terminology work*, and *terminography* as follows:

— terminology

  set of designations belonging to one special language.

— terminology work

  work concerned with the systematic collection, description, processing, and presentation of concepts and their designations

— terminography

  part of terminology work concerned with the recording and presentation of terminological data.

NOTE 2 The work items undertaken on different subjects of standardization within ISO/TC 59/SC 17 and its working groups include both buildings and civil engineering works, collectively referred to using the designation *construction works*.

In 2005, in initiating their terminology work, SC 17 members participated in a joint ISO/TC 59 meeting with members of other ISO/TC 59 SCs to discuss the common concerns and issues related to the preparation and use of terminology within a number of ISO/TC 59 subcommittees. This included individuals also involved in the parallel standardization and terminology work going on within the European Committee for Standardization (CEN), under the technical committee CEN/TC 350, *Sustainability of Construction Works* (formerly CEN BT/WG 174, *Integrated Environmental Performance of Buildings*). In addition to the CEN/TC 350 representation, the ISO/TC 59 subcommittees represented at the joint meeting were SC 2, *Terminology and harmonization of languages,* SC 14, *Design life*, SC 15, *Performance description of houses* (formerly *Performance criteria for single family attached and detached dwellings*), and SC 17, *Sustainability in buildings and civil engineering works* (formerly *Sustainability in building construction*).

Standardization in terminology work had already been undertaken by several of these different committees on concept harmonization to clarify, by eliminating minor differences, the various terms and definitions for the concepts related to both service life planning of construction works and the contribution of construction works to sustainability. Concerns were raised about conflicts arising as a result of the significant number of standardization activities underway in the related subject fields of sustainability and service life planning. It was agreed that there were many challenges in implementing and/or adapting the language attributed to the common general concepts related to buildings and civil engineering works into these specialized subject fields, and to do so in a consistent and concise manner.

An ISO/TC 59 Ad hoc Group (AHG) on Terminology was subsequently established and directed to maintain close liaison on terminology work occurring across the participating committees and to work to help resolve different terminology requirements within the different subcommittees of ISO/TC 59 and CEN/TC 350. Also, it was acknowledged and agreed that the main terminology document on general concepts regarding buildings and civil engineering works, ISO 6707-1, which was developed by ISO/TC 59/SC 2, would be used as the primary reference vocabulary for any of the work on terminology undertaken within all the committees, including CEN/TC 350.

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Individual representatives from the ISO/TC 59/Subcommittees SC 2, SC 14, SC 15, SC 17, and the CEN/TC 350 were identified as members of the AHG to provide input and act as liaison on behalf of the various committees. A database of terms and definitions was developed as an initial working document, which was based on information submitted from the four TC 59 SCs involved as well as from the CEN/TC 350. The working list of terms and definitions generally included both a mix of standardized ISO terms and definitions, as well as definitions that were contained in working drafts within the various committees. A number of the AHG experts were involved with more than one of the targeted committees, which proved to be extremely beneficial, as it provided continuity within the discussions from meeting to meeting and committee to committee.

In 2008, a final report from the AHG was presented to ISO/TC 59 that contained a list of recommendations typically targeting one or more of the specific committees and specific definitions for individual concepts.

NOTE 3 Additional information on the outcomes of the work of the ISO/TC 59 AHG on Terminology, including its final report and recommendations, is available from the ISO/TC 59 Secretariat.

Over the same time period (2005 to 2008), and subsequently between 2008 and the present, standardization work had (has) taken place within the various working groups of SC 17 (and CEN/TC 350). Within SC 17, this work resulted in the formal development and standardization of terms and definitions for concepts specific to a number of individual standards, including those related to general principles (ISO 15392), sustainability indicators for buildings (ISO 21929-1), environmental product declarations (ISO 21930), and assessment of the environmental performance of buildings (ISO 21931-1).

This Technical Report does not contain a complete list of terms of relevance to the thematic field, but compiles a complete set of the specific terms and definitions of concepts that have been applied and standardized in the documents developed to date under ISO/TC 59/SC 17 related to sustainability in buildings and other types of construction works.

This Technical Report presents a mix of terms and definitions, some of which are repeated from other ISO publications, while others are those that have been derived from ISO standards on environmental management and environmental life cycle assessment. Derivations have been performed carefully by the different committees in order to maintain the original intention, but to enable interpretation to the context of sustainability and sustainable development related to buildings and civil engineering works.

The compilation of terms and definitions included in Clause 3 of this Technical Report are for concepts that have been standardized and/or applied through publication of individual ISO standards within ISO/TC 59/SC 17. Other terms and definitions described in the informative Annexes include both those considered as still being a work in progress within SC 17 (Annex B), as well as a set of terms and definitions that have been established within CEN/TC 350 (Annex C). The gradual evolution of all of these concepts inevitably means that the "sustainability in buildings and civil engineering works" terminology will continue to develop and that therefore this document may be subject to regular revision and updating. As a resumé of terms and definitions in this domain, this Technical Report provides a resource for any future standardization in a general vocabulary. It is expected that the information contained within this Technical Report may be given further consideration within ISO/TC 59/SC 2, *Terminology and harmonization of languages* for possible inclusion in a part of the ISO 6707 series.


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# Sustainability in buildings and civil engineering works — A review of terminology

## 1 Scope

This Technical Report provides a compilation of terms and definitions of concepts related to both the construction and use of a building or civil engineering works, and the effect of such construction works on sustainability and sustainable development, as applied in the documents of ISO/TC 59/SC 17, *Sustainability in buildings and civil engineering works*.

The terms and definitions of concepts listed in Clause 3 reflect standardized terminology relevant to construction works and the contribution of buildings and civil engineering works to sustainability and sustainable development.

The terms and definitions listed in Clause 3 include those that represent concepts that have been standardized and/or applied within SC 17, which includes a number of concepts that have been originally developed elsewhere within the ISO technical structure. A cross reference is included after each of the definitions to the specific SC 17 document in which the concept is defined, as well as to the International Standard(s) from where the definition originates, where applicable.

NOTE 1 Annex A contains information on a representative model of the methodology used in the development of some of the terminological data.

NOTE 2 Annex B contains a number of examples of term designations and possible wordings of related definitions that have been discussed during the ongoing terminology work within SC 17.

NOTE 3 Annex C contains a listing of terms and definitions for related concepts being applied by the CEN/TC 350 on Sustainability of Construction Works, many of which were specifically considered and elaborated within the work of the ISO/TC 59 Ad hoc Group on Terminology.

NOTE 4 Annex D reproduces information from the informative Annex B of ISO 15392, and provides a discussion around the terminology used by different actors involved to designate various concepts related to products of the building and construction sector.

## 2 Vocabulary structure

The terms are generally presented alphabetically except that, in some cases, they are arranged and numbered within generic relations to allow ready comparison of related concepts. Where a given term designates more than one concept, each concept has been treated in a separate entry.

As recommended in ISO 10241-1, in a definition, example, or note, reference to another listed entry (concept) is highlighted in italics and followed by the entry number in brackets, when it is first mentioned. In the case of those terms and definitions for concepts that originate from other referenced sources and are specifically listed within Clause 3, the entry numbers cross-referenced coincide with the term entries in this document and not the source document. In the case of cross-referencing those terms and definitions for concepts that originate from other referenced sources, but are not specifically listed within Clause 3, both the source document and related entry numbers within that source are cross-referenced.

NOTE 1 With the mixed structure used in Clause 3, the term-entry numbering does not exactly follow the format recommended in the ISO/IEC Directives, Part 2 or ISO 10241-1.

NOTE 2 Cross-references within the terminological data in Clause 3 to terms and definitions contained in other referenced ISO documents is in addition to any references shown in the original SC 17 documents and follows the format recommended in Clause 6.4.7.(b) of ISO 10241-1 regarding references to terms and symbols in definitions.

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Where a different preferred national equivalent designation exists and has been identified, this has been given in bold face following the preferred term and annotated by the country code (i.e. US). A term following the preferred term not given in boldface type is a non-preferred synonym.

For general terms and definitions related to buildings and civil engineering works, reference should also be made to ISO 6707-1.

For general terms and definitions related to design life and service life planning for buildings and civil engineering works, reference should also be made to the ISO 15686 series.

For general terms and definitions related to environmental management systems and life cycle assessment, reference should also be made to ISO 14050.

NOTE 3 Some of the terms and definitions are derived or taken from non-ISO publications, such as the WBCSD (World Business Council for Sustainable Development) Brundtland Report.

NOTE 4 In Clause 3, for a number of the terms and definitions shown as being contained in ISO 21929-1, the terminological data are slightly modified from that shown in the published version. This has been done to correct unintended changes/errors in the text that had occurred in the published document. This specifically affects the data for the concepts of *accessibility* (see 3.2), *areas of protection* (see 3.6), *built environment* (see 3.8), *functional performance requirement* (see 3.16), *impact category* (see 3.22), *indicator* (see 3.23.1.2), *indoor air quality* (see 3.24), *life cycle* (see 3.27.1.2), *maintainability* (see 3.28), *performance* (see 3.29.1), and *serviceability* (see 3.37.1).

NOTE 5 An alphabetical index is provided showing term entries listed in Clause 3, as well as those in Annexes B and C, in both the normal and inverted form.

## 3 Terms relating to sustainability in buildings and civil engineering works

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

**3.1**
**access to services**
availability and accessibility of services outside the *building* (3.7)

Note 1 to entry: Services can include public transportation, parking, entertainment, health-care, water and energy supply, etc.

[SOURCE: ISO 15392:2008, 3.1; ISO 21929-1:2011, 3.1]

**3.2**
**accessibility**
ability of a *space* (ISO 6707-1:2004, 4.1.1) to be entered with ease

Note 1 to entry: Requirements for accessibility depend on the *users'* (ISO 6707-1:2004, 8.1) needs, as well as on activities during the *life cycle* (3.27.1.1) (3.27.1.2) of the *building* (3.7), e.g. *construction work* (3.11), *maintenance* (ISO 6707-1:2004, 7.1.40), and deconstruction.

Note 2 to entry: "Barrier-free use of buildings" would relate to requirements for accessibility related to the needs of users with reduced mobility.

Note 3 to entry: Adapted from ISO 6707-1:2004, 9.3.80, modified — Notes 1 and 2 to entry related to requirements for accessibility have been added.

[SOURCE: ISO 15392:2008, 3.2; ISO 21929-1:2011, 3.2]

**3.3.1**
**acoustic comfort**
reaction of occupants to the indoor acoustical environment, described in terms of sound pressure level and audibility

[SOURCE: ISO 16813:2006, 3.1; ISO 21929-1:2011, 3.3]


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**3.3.2**
**thermal comfort**
condition of mind derived from satisfaction with the thermal environment

Note 1 to entry: Thermal comfort is the combined thermal effect of environmental parameters including air temperature, vapour pressure, air velocity, mean radiant temperature (fixed factors), and clothing and activity level of occupants (variable factors).

[SOURCE: ISO 16813:2006, 3.28; ISO 21929-1:2011, 3.35]

**3.3.3**
**visual comfort**
occupant satisfaction with the indoor visual environment, described in terms of illumination level, glare, visibility, reflection, and psychological and physiological content with natural and artificial illumination

[SOURCE: ISO 16813:2006, 3.29; ISO 21929-1:2011, 3.36]

**3.4**
**adaptability**
ability to be changed or modified to make suitable for a particular use

[SOURCE: ISO 6707-1:2004, 9.3.79; ISO 21929-1:2011, 3.3]

**3.5**
**areas of concern**
areas of protection
protection area, sing
aspect(s) of the economy, the environment, or the society that can be impacted by *construction works* (3.12), goods, or services

EXAMPLE Asset value, cultural heritage, resources, human health and comfort, social infrastructure.

[SOURCE: ISO 15392:2008, 3.3]

**3.6**
**areas of protection**
protection area
issue of concern
aspect(s) of the economy, the environment, or the society that can be impacted by *construction works* (3.12), goods, or services

EXAMPLE Asset value, cultural heritage, resources, human health and comfort, social infrastructure.

[SOURCE: ISO 15392:2008, 3.3, modified — The preferred term specified to designate this concept has been changed to 'areas of protection' and the admitted term, 'issue of concern', is used in place of 'areas of concern'; ISO 21929-1:2011, 3.5]

**3.7**
**building**
*construction works* (3.12) that has the provision of shelter for its occupants or contents as one of its main purposes; usually partially or totally enclosed and designed to stand permanently in one place

[SOURCE: ISO 6707-1:2004, 3.1.3; ISO 15392:2008, 3.4; ISO 21929-1:2011, 3.6]

**3.8**
**built environment**
collection of man-made or induced physical objects located in a particular area or region

Note 1 to entry: When treated as a whole, the built environment typically is taken to include *buildings* (3.7), external works (landscaped areas), *infrastructure* (3.10), and other *construction works* (3.12) within the area under consideration.

Note 2 to entry: Derived from the definition of "environment" in ISO 6707-1.

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[SOURCE: ISO 15392:2008, 3.5; ISO 21929-1:2011, 3.7]

**3.9**
**characterization factor**
factor derived from a characterization model which is applied to convert an assigned *life cycle inventory analysis (LCI) result* (ISO 14040:2006, 3.24) to the common unit of the *category indicator* (ISO 14040:2006, 3.40)

Note 1 to entry: Adapted from ISO 14044.

[SOURCE: ISO 21930:2007, 3.3]

**3.10**
**civil engineering works**
**infrastructure**
**civil engineering project** US
*construction works* (3.12), comprising a *structure* (ISO 6707-1:2004, 3.1.4), such as a *dam* (ISO 6707-1:2004, 3.2.24), *bridge* (ISO 6707-1:2004, 3.3.19), *road* (ISO 6707-1:2004, 3.3.1), *railway* (ISO 6707-1:2004, 3.3.3), runway, utilities, *pipeline* (ISO 6707-1:2004, 3.2.32), or *sewerage system* (ISO 6707-1:2004, 5.4.40), or the result of operations such as dredging, *earthwork* (ISO 6707-1:2004, 7.1.6), geotechnical *processes* (3.31.1), but excluding a *building* (3.7) and its associated *site* (ISO 6707-1:2004, 3.1.6) works

Note 1 to entry: Associated site works are included in US civil engineering projects.

Note 2 to entry: Derived from the definition of *civil engineering works* in ISO 6707-1.

[SOURCE: ISO 15392:2008, 3.6]

**3.11**
**construction work**
**construction** US
activities of forming *construction works* (3.12)

[SOURCE: ISO 6707-1:2004, 7.1.1; ISO 15392:2008, 3.7]

**3.12**
**construction works**
**construction** US
everything that is constructed or results from construction operations

[SOURCE: ISO 6707-1:2004, 3.1.1; ISO 15392:2008, 3.8]

**3.13.1**
**disposal**
<status change> transfer of ownership of, or responsibility for, the object of consideration

[SOURCE: ISO 15686-10:2010, 3.6; ISO 21929-1:2011, 3.8]

**3.13.2**
**disposal**
<end of life> transformation of the state of a *building* (3.7) or *facility* (ISO 15686-10:2010, 3.8) that is no longer of use

Note 1 to entry: Transformation can include, either individually or in some combination, the decommissioning, deconstruction, recycling, and demolition of the object of consideration.

[SOURCE: ISO 15686-10:2010, 3.7; ISO 21929-1:2011, 3.9]


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**3.14.1**
**economic aspect**
aspect of *construction works* (3.12), parts of works, *processes* (3.31.1) or services related to their *life cycle* (3.27.1.1) (3.27.1.2) that can cause a change to economic conditions

[SOURCE: ISO 15392:2008, 3.9]

**3.14.2.1**
**environmental aspect**
aspect of *construction works* (3.12), parts of works, *processes* (3.31.1) or services related to their *life cycle* (3.27.1.1) (3.27.1.2) (ISO 14040:2006, 3.1) that can cause a change to the environment

Note 1 to entry: Adapted from ISO 14001.

[SOURCE: ISO 15392:2008, 3.10]

**3.14.2.2**
**environmental aspect**
aspect of *buildings* (3.7), parts of buildings, *processes* (3.31.1) or services related to their *life cycle* (3.27.1.1) (3.27.1.2) (ISO 14040:2006, 3.1) that can cause a change to the environment

[SOURCE: ISO 21931-1:2010, 3.3]

**3.14.3**
**social aspect**
aspect of *construction works* (3.12), parts of works, *processes* (3.31.1) or services related to their *life cycle* (3.27.1.1) (3.27.1.2) that can cause a change to society or quality of life

[SOURCE: ISO 15392:2008, 3.19]

**3.15.1**
**environmental declaration**
claim which indicates the *environmental aspects* (3.14.2.1) (3.14.2.2) of any good(s) or service(s)

Note 1 to entry: An environmental declaration may take the form of a statement, symbol, or graphic on a *product* (3.32.1.1) (3.32.1.2) or package label, in product literature, in technical bulletins, in advertising or in publicity, amongst other things.

Note 2 to entry: Adapted from the definition of *environmental declaration* in ISO 14025.

[SOURCE: ISO 15392:2008, 3.11]

**3.15.2**
**Type III environmental declaration**
**environmental product declaration**
**EPD**
*environmental declaration* (3.15.1) providing quantified environmental data using predetermined parameters and, where relevant, additional environmental information

Note 1 to entry: The predetermined parameters are based on ISO 14040 and ISO 14044.

Note 2 to entry: The additional environmental information may be quantitative or qualitative.

[SOURCE: ISO 14025:2006, 3.2, modified — Two additional preferred terms are shown to designate this concept; ISO 21930:2007, 3.16]

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**3.16**
**functional performance requirement**
type and *level of functionality* (3.18.2) that is required by *stakeholders* (ISO 15686-10:2010, 3.30) of a *facility* (ISO 15686-10:2010, 3.8), *building* (3.7), or other constructed *asset* (ISO 15686-10:2010, 3.1), or of an *assembly* (ISO 6707-1:2004, 5.5.5), *component* (ISO 6707-1:2006, 6.1.3), or *product* (ISO 6707-1:2006, 6.1.2) thereof, or of a movable asset, for a specific *function* (ISO 15686-10:2010, 3.10)

[SOURCE: ISO 15686-10:2010, 3.12; ISO 21929-1:2011, 3.12]

**3.17.1**
**functional unit**
quantified *performance* (3.29.1) of a *product system* (ISO 14040:2006, 3.27) for a *building product* (3.32.1.1) (3.32.3) for use as reference unit in an *EPD* (3.15.2) based on *life cycle assessment* (ISO 14040:2006, 3.2)

Note 1 to entry: Adapted from ISO 14040.

[SOURCE: ISO 21930:2007, 3.5]

**3.17.2**
**declared unit**
quantity of a *building product* (3.32.1.1) (3.32.3) for use as a reference unit in an *EPD* (3.15.2) based on *LCA* (ISO 14040:2006, 3.2), for the expression of environmental information needed in *information modules* (3.25)

EXAMPLE Mass (kilogram), volume (cubic metre).

Note 1 to entry: The declared unit is used where the *function* (ISO 15686-10:2010, 3.10) and the reference scenario for the whole *life cycle* (3.27.1.1) (3.27.1.2) (ISO 14040:2006, 3.1), on the *building* (3.7) level, cannot be stated.

[SOURCE: ISO 21930:2007, 3.4]

**3.17.3**
**functional equivalent**
quantified functional requirements and/or technical requirements for a *building* (3.7) for use as a reference basis for comparison

[SOURCE: ISO 21931-1:2010, 3.7]

**3.18.1**
**functionality**
suitability or usefulness for a specific purpose or activity

[SOURCE: ISO 15686-10:2010, 3.13; ISO 21931-1:2010, 3.13]

**3.18.2**
**level of functionality**
number indicating the relative *functionality* (3.18.1) required for a *user* (ISO 15686-10:2010, 3.34), group, or customer for one *topic* (ISO 15686-10:2010, 3.33) on a predetermined demand *scale* (ISO 15686-10:2010, 3.26) from the level of the least (functionality) to the level of the most (functionality)

EXAMPLE Scale of integers from 0 to 9.

Note 1 to entry: The level of functionality can be the consequence of several distinct *functions* (ISO 15686-10:2010, 3.10) required to act in combination.

[SOURCE: ISO 15686-10:2010, 3.15; ISO 21929-1:2011, 3.19]


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**3.19**
**gate**
point at which the *building product* (3.32.1.1) (3.32.3) or *material* (ISO 6707-1:2004, 6.1.1) leaves the factory before it becomes an input into another manufacturing *process* (3.31.1) or before it goes to the distributor, a factory, or *building* (3.7)*site* (ISO 6707-1:2004, 3.1.6)

[SOURCE: ISO 21930:2007, 3.6; ISO 21931-1:2010, 3.8]

**3.20**
**heat island effect**
phenomenon of elevated temperatures in urban and suburban areas compared to their outlying rural surroundings

Note 1 to entry: The temperatures can be influenced by various aspects, including the presence of denuded landscaping, impermeable surfaces, massive *buildings* (3.7), heat-generating vehicles and machines, and pollutants.

[SOURCE: ISO 21929-1:2011, 3.14]

**3.21.1**
**impact**
any change that may be adverse or beneficial

[SOURCE: ISO 15392:2008, 3.13]

**3.21.2**
**economic impact**
*impact* (3.21.1) to the economy, wholly or partially resulting from *economic aspects* (3.14.1)

[SOURCE: ISO 15392:2008, 3.13.1]

**3.21.3.1**
**environmental impact**
*impact* (3.21.1) to the environment, wholly or partially resulting from *environmental aspects* (3.14.2.1) (3.14.2.2)

Note 1 to entry: Adapted from ISO 14001.

[SOURCE: ISO 15392:2008, 3.13.2]

**3.21.3.2**
**environmental impact**
change to the environment, whether adverse or beneficial, wholly or partially resulting from *environmental aspects* (3.14.2.1) (3.14.2.2)

Note 1 to entry: Adapted from ISO 15392:2008, definitions 3.13 and 3.13.2.

[SOURCE: ISO 21931-1:2010, 3.4]

**3.21.4**
**social impact**
*impact* (3.21.1) to society or quality of life, wholly or partially resulting from *social aspects* (3.14.3)

[SOURCE: ISO 15392:2008, 3.13.3]

**3.22**
**impact category**
class representing an economic, environmental, or social *issue(s) of concern* (3.6) (*areas of protection* [3.5]) to which analysis (assessment) results may be assigned

Note 1 to entry: Issues of concern can involve either *impacts* (3.21.1) or aspects related to the economy, the environment, or society.

Note 2 to entry: Adapted from ISO 14040:2006, 3.39.

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[SOURCE: ISO 21929-1:2011, 3.15]

**3.23.1.1**
**indicator**
quantitative, qualitative, or descriptive measure

Note 1 to entry: Adapted from ISO 14050, 2002 edition.

[SOURCE: ISO 15392:2008, 3.14]

**3.23.1.2**
**indicator**
quantitative, qualitative, or descriptive measure representative of one or more *impact categories* (3.22)

Note 1 to entry: Periodic evaluation and monitoring using indicators can show direction of any *impact* (3.21.1).

Note 2 to entry: Derived from the definitions of 'impact category indicator' (ISO 14040:2006, 3.40) and 'indicator' (ISO/TR 14061:1998, 2.6.3).

[SOURCE: ISO 21929-1:2011, 3.16]

**3.23.2**
**sustainability indicator**
*indicator* (3.23.1.1) (3.23.1.2) related to *economic* (3.21.2), *environmental* (3.21.3.1) (3.21.3.2), or *social impacts* (3.21.4)

[SOURCE: ISO 21929-1:2011, 3.33]

**3.23.3**
**economic indicator**
*sustainability indicator* (3.23.2) related to an *economic impact* (3.21.2)

[SOURCE: ISO 21929-1:2011, 3.10]

**3.23.4**
**environmental indicator**
*sustainability indicator* (3.23.2) related to an *environmental impact* (3.21.3.1) (3.21.3.2)

[SOURCE: ISO 21929-1:2011, 3.11]

**3.23.5**
**social indicator**
*sustainability indicator* (3.23.2) related to a *social impact* (3.21.4)

[SOURCE: ISO 21929-1:2011, 3.31]

**3.23.6**
**set of indicators**
non-structured list of *indicators* (3.23.1.1) (3.23.1.2)

[SOURCE: ISO 21929-1:2011, 3.30]

**3.23.7**
**system of indicators**
structured list of *indicators* (3.23.1.1) (3.23.1.2)

[SOURCE: ISO 21929-1:2011, 3.34]


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**3.24**
**indoor air quality**
*quality* (ISO 6707-1:2004, 9.1.12) of air inside a *building* (3.7), described in terms of odour and chemical and biological pollutants

Note 1 to entry: Indoor air quality is directly related to the ventilation rate, air distribution patterns, and pollution sources.

Note 2 to entry: Indoor air quality is important in ensuring human health, olfactory comfort, and perceived comfort.

[SOURCE: ISO 16813:2006, 3.21, modified — The definition was simplified to refer to a building in general, versus only non-industrial buildings, and the non-essential but relevant characteristics are now referenced in Notes 1 and 2 to entry; ISO 21929-1:2011, 3.17]

**3.25**
**information module**
compilation of data to be used as a basis for a *Type III environmental declaration* (3.15.2), covering a *unit process* (ISO 14040:2006, 3.34) or a combination of unit processes that are part of the *life cycle* (3.27.1.1) (3.27.1.2) (ISO 14040:2006, 3.1) of a *product* (3.32.1.1) (3.32.1.2)

[SOURCE: ISO 14025:2006, 3.13; ISO 21930:2007, 3.7]

**3.26.1**
**interested party**
person or group concerned with or affected by the *environmental performance* (3.29.2.1) (3.29.2.2) of a *building* (3.7)

[SOURCE: ISO 21931-1:2010, 3.9; ISO 21929-1:2011, 3.18]

**3.26.2**
**third party**
person or body that is recognized as being independent of the parties involved with the issues in question

Note 1 to entry: "Parties involved" are usually supplier ("first party") and purchaser ("second party").

[SOURCE: ISO 14024:1999, 3.7; ISO 21930:2007, 3.15]

**3.26.3**
**stakeholder**
individual or group that has an interest in any decision or activity of an organization

[SOURCE: ISO 26000:2010, 2.20; ISO 21929-1:2011, 3.32]

**3.27.1.1**
**life cycle**
consecutive and interlinked stages of the object of consideration

Note 1 to entry: Adapted from the definition of *life cycle* (3.1) contained in ISO 14040:2006.

Note 2 to entry: For consideration of *environmental impacts* (3.21.3.1) (3.21.3.2) and *environmental aspects* (3.14.2.1) (3.14.2.2), the life cycle comprises all stages, from raw *material* (ISO 6707-1:2004, 6.1.1) acquisition or generation of natural resources to final *disposal* (3.13.2).

Note 3 to entry: For consideration of *economic impacts* (3.21.2) and *economic aspects* (3.14.1), in terms of *costs* (ISO 6707-1:2004, 9.3.86), the life cycle comprises all stages from *construction* (ISO 6707-1:2004, 7.1.1) to decommissioning. A *period of analysis* (3.30) can be chosen to be different from the life cycle. See ISO 15686-5.

[SOURCE: ISO 15392:2008, 3.15]

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**3.27.1.2**
**life cycle**
consecutive and interlinked stages of the object of consideration

Note 1 to entry: For consideration of *environmental impacts* (3.21.3.1) (3.21.3.2) and *environmental aspects* (3.14.2.1) (3.14.2.2), the life cycle comprises all stages, from raw *material* (ISO 6707-1:2004, 6.1.1) acquisition or generation of natural resources to final *disposal* (3.13.2).

Note 2 to entry: For consideration of *economic impacts* (3.21.2) and *economic aspects* (3.14.1), in terms of *costs* (ISO 6707-1:2004, 9.3.86), the life cycle comprises all stages from *construction* (ISO 6707-1:2004, 7.1.1) to decommissioning. A *period of analysis* (3.30) can be chosen to be different from the life cycle. See ISO 15686-5.

Note 3 to entry: Adapted from ISO 14040:2006, 3.1.

[SOURCE: ISO 15392:2008, 3.15; ISO 21929-1:2011, 3.21]

**3.27.2**
**life-cycle cost**
**LCC**
cost of an *asset* (ISO 15686-10:2010, 3.1) or its parts throughout its *life cycle* (3.27.1.1) (3.27.1.2), while fulfilling its *performance requirements* (ISO 6707-1:2004, 9.1.16)

[SOURCE: ISO 15686-1:2011, 3.11; ISO 21929-1:2011, 3.22]

**3.27.3**
**life-cycle costing**
methodology for systematic economic evaluation of *life-cycle costs* (3.27.2) over a *period of analysis* (3.30), as defined in the agreed scope

Note 1 to entry: Life-cycle costing can address a period of analysis that covers the entire *life cycle* (3.27.1.1) (3.27.1.2) or a selected stage(s) or periods of interest thereof.

[SOURCE: ISO 15686-5:2008, 3.1.8; ISO 21929-1:2011, 3.23]

**3.27.4**
**whole-life cost**
**WLC**
all significant and relevant initial and future *costs* (ISO 6707-1:2004, 9.3.86) and benefits of an *asset* (ISO 15686-10:2010, 3.1), throughout its *life cycle* (3.27.1.1) (3.27.1.2), while fulfilling the *performance requirements* (ISO 6707-1:2004, 9.1.16)

[SOURCE: ISO 15686-5:2008, 3.1.14; ISO 21929-1:2011, 3.38]

**3.27.5**
**whole-life costing**
methodology for systematic economic consideration of all *whole-life costs* (3.27.4) and benefits over a *period of analysis* (3.30), as defined in the agreed scope

Note 1 to entry: The projected *costs* (ISO 6707-1:2004, 9.3.86) or benefits may include *external costs* (ISO 15686-5:2008, 3.1.6) (including, for example, finance, business costs, income from *land* (ISO 6707-1:2004, 10.1) sale, *user* (ISO 6707-1:2004, 8.1) costs).

Note 2 to entry: Whole-life costing can address a period of analysis that covers the entire *life cycle* (3.27.1.1) (3.27.1.2) or a selected stage(s) or periods of interest thereof.

Note 3 to entry: This definition should be contrasted with that for *life-cycle costing* (3.27.3).

[SOURCE: ISO 15686-5:2008, 3.1.15; ISO 21929-1:2011, 3.39]


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**3.28**
**maintainability**
ability of a *building* (3.7) to be retained in a state in which it can perform its required *functions* (ISO 15686-10:2010, 3.10) or to be restored to such a state when a *fault* (ISO 6707-1:2004, 9.3.7.8) occurs

[SOURCE: ISO 6707-1:2004, 9.3.89, modified — The definition has been simplified to refer to a building in general, versus specific components or construction; ISO 21929-1:2011, 3.24]

**3.29.1**
**performance**
ability to fulfil required functions under intended use conditions or behaviour when in use

Note 1 to entry: Derived from the definition of *performance* in ISO 6707-1.

Note 2 to entry: The required functions address both the *functionality* (3.18.1) requirements as well as the technical requirements.

[SOURCE: ISO 15392:2008, 3.16; ISO 21929-1:2011, 3.26]

**3.29.2.1**
**environmental performance**
*performance* (3.29.1) related to *environmental impacts* (3.21.3.1) (3.21.3.2) and *environmental aspects* (3.14.2.1) (3.14.2.2)

Note 1 to entry: The environmental performance is influenced by all *processes* (3.31.1) related to the *life cycle* (3.27.1.1) (3.27.1.2) of the object of consideration.

[SOURCE: ISO 15392:2008, 3.12]

**3.29.2.2**
**environmental performance**
*performance* (3.29.1) of a *building* (3.7) related to its *environmental impacts* (3.21.3.1) (3.21.3.2) and *environmental aspects* (3.14.2.1) (3.14.2.2)

Note 1 to entry: The environmental performance is influenced by all *processes* (3.31.1) related to the *life cycle* (3.27.1.1) (3.27.1.2) of the building.

Note 2 to entry: Environmental performance can be expressed either quantitatively or qualitatively with reference to *performance requirements* (ISO 6707-1:2004, 9.1.16), or, possibly relative to a scale of values or a benchmark.

[SOURCE: ISO 21931-1:2010, 3.5]

**3.30**
**period of analysis**
period of time over which *life-cycle costs* (3.27.2) or *whole-life costs* (3.27.4) are analysed

Note 1 to entry: The period of analysis is determined by the *client* (ISO 6707-1:2004, 8.3).

[SOURCE: ISO 15686-5:2008, 3.3.6; ISO 21929-1:2011, 3.27]

**3.31.1**
**process**
series of operations performed to achieve a desired result

[SOURCE: ISO 21931-1:2010, 3.11]

**3.31.2**
**downstream process**
*process* (3.31.1) that is carried out after the designated process in the stream of relevant processes

[SOURCE: ISO 21931-1:2010, 3.2]

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**3.31.3**
**upstream process**
*process* (3.31.1) carried out after the designated process in the stream of relevant processes

[SOURCE: ISO 21931-1:2010, 3.15]

**3.32.1.1**
**product**
construction product
building product
<building and civil engineering> item manufactured or processed for incorporation in *construction works* (3.12)

Note 1 to entry: Derived from the definition of *product* (ISO 6707-1:2004, 6.1.2) in ISO 6707-1.

[SOURCE: ISO 15392:2008, 3.17.1]

**3.32.1.2**
**product**
<environmental management> any goods or service

[SOURCE: ISO 14024:2009, 3.2; ISO 15392:2008, 3.17.2]

**3.32.2**
**ancillary product**
**complementary product**
*building product* (3.32.1.1) (3.32.3) that enables another building product to fulfil its purpose in the intended application

EXAMPLE *Fasteners* (ISO 6707-1:2004, 5.5.72) used to attach structural *panels* (ISO 6707-1:2004, 5.2.49) to framing members.

[SOURCE: ISO 21930:2007, 3.1]

**3.32.3**
**building product**
goods or services used during the *life cycle* (3.27.1.1) (3.27.1.2) of a *building* (3.7) or other *construction works* (3.12)

Note 1 to entry: In ISO 21930, the term "product" used alone relates not only to goods or *product systems* (ISO 14040:2006, 3.28) but can also include service systems. In either case, the *declaration* (3.15.2) is presented in a manner that clearly indicates whether the declaration applies to goods, or to only a part of the goods or packaging, or to an element of service. This is discussed in ISO 14025:2006, 7.2.2.

Note 2 to entry: The manufacturing or processing of goods used as building products can take place at the factory or on the *construction* (ISO 6707-1:2004, 5.5.6) *site* (ISO 6707-1:2004, 3.1.6).

Note 3 to entry: The use of services can occur at any stage of the life cycle of the building or other construction works.

Note 4 to entry: It is possible to have an *EPD* (3.15.2) for a *material* (ISO 6707-1:2004, 6.1.1), a building product, a *component* (ISO 6707-1:2006, 6.1.3), an *assembly* (ISO 6707-1:2004, 5.5.5), and/or a *building element* (ISO 6707-1:2004, 5.5.4). The EPD of a component, assembly, or building element can incorporate the results of the EPD of all the assembled materials and building products. This is described in ISO 14025:2006, 5.4.

Note 5 to entry: Adapted from ISO 6707-1 and ISO 14021.

[SOURCE: ISO 21930:2007, 3.2]

**3.34.1**
**product category**
group of *building products* (3.32.1.1) (3.32.3) that can fulfil equivalent functions

Note 1 to entry: Adapted from ISO 14025


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[SOURCE: ISO 21930:2007, 3.10]

**3.34.2**
**product category rules**
**PCR**
set of specific rules, requirements, and guidelines for developing *Type III environmental declarations* (3.15.2) for one or more *product categories* (3.34.1)

[SOURCE: ISO 14025:2006, 3.5; ISO 21930:2007, 3.11]

**3.34.3**
**PCR review**
*process* (3.31.1) whereby a *third party* (3.26.2) verifies the *product category rules* (3.34.1)

[SOURCE: ISO 14025:2006, 3.6; ISO 21930:2007, 3.9]

**3.35.1**
**renewable resource**
resource that is grown, naturally replenished, or cleansed on a human time scale

EXAMPLE Trees in forests, grasses in grasslands, and fertile soil.

Note 1 to entry: A renewable resource is capable of being exhausted but can last indefinitely with proper stewardship.

[SOURCE: ISO 21930:2007, 3.13; ISO 21929-1:2011, 3.28; ISO 21931-1:2010, 3.12]

**3.35.2**
**non-renewable resource**
resource that exists in a fixed amount that cannot be replenished on a human time scale

[SOURCE: ISO 21930:2007, 3.8; ISO 21929-1:2011, 3.25; ISO 21931-1:2010, 3.10]

**3.36**
**secondary fuels**
fuels or fuel *products* (3.32.1.2) that are derived from primary fuels

EXAMPLE Gasoline, gas field coal, and lubricants.

[SOURCE: ISO 21930:2007, 3.14]

**3.37.1**
**serviceability**
capability of a *facility* (ISO 15686-10:2010, 3.8), *building* (3.7), or other *constructed asset* (ISO 15686-1:2011, 3.2), or of an *assembly* (ISO 6707-1:2004, 5.5.5), *component* (ISO 6707-1:2006, 6.1.3), or *product* (ISO 6707-1:2004, 6.1.2) thereof, or of a movable *asset* (ISO 15686-10:2010, 3.1), to support the *function*(s) (ISO 15686-10:2010, 3.10) for which it is designed, used, or required to be used

Note 1 to entry: Adapted from ISO 6707-1:2004, definitions 9.1.11 (capability) and 9.3.85 (serviceability).

[SOURCE: ISO 15686-10:2010, 3.29; ISO 21929-1:2011, 3.29]

**3.37.2**
**level of serviceability**
number indicating the relative *serviceability* (3.37.1) [capability of a *facility* (ISO 15686-10:2010, 3.8)] for a *user* (ISO 15686-10:2010, 3.34), group, or customer for one *topic* (ISO 15686-10:2010, 3.33) on a predetermined supply *scale* (ISO 15686-10:2010, 3.27) from the level of the least (serviceability) to the level of the most (serviceability)

EXAMPLE Scale of integers from 0 to 9.

Note 1 to entry: The level of serviceability may be the consequence of several distinct *features* (ISO 15686-10:2010, 3.9) acting in combination.

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[SOURCE: ISO 15686-10:2010, 3.17; ISO 21929-1:2011, 3.20]

**3.38.1**
**service life**
period of time after installation during which a *construction works* (3.12) or its parts meets or exceeds the *performance requirements* (ISO 6707-1:2004, 9.1.16)

Note 1 to entry: Derived from the definition of *service life* in ISO 6707-1.

[SOURCE: ISO 15392:2008, 3.18]

**3.38.2**
**estimated service life**
*service life* (3.38.1) that a *building* (3.7) or parts of a building would be expected to have in a set of specific *in-use conditions* (ISO 15686-1:2011, 3.10), determined from *reference service life data* (ISO 15686-1:2011, 3.23) after taking into account any differences from the *reference in-use conditions* (ISO 15686-1:2011, 3.21)

[SOURCE: ISO 15686-1:2011, 3.7; ISO 21931-1:2010, 3.6]

**3.38.3**
**reference service life**
*service life* (3.38.1) of a *building product* (3.32.1.1) (3.32.3) that is known or expected under a particular set, i.e. a reference set, of *in-use conditions* (ISO 15686-1:2011, 3.10) that may form the basis of estimating the service life under other in-use conditions

Note 1 to entry: The reference service life is applied in the *functional unit* (3.17.1)/*declared unit* (3.17.2).

Note 2 to entry: Adapted from ISO 15686-1

[SOURCE: ISO 21930:2007, 3.12]

**3.38.4**
**design life**
required *service life* (3.38.1)

[SOURCE: ISO 21931-1:2010, 3.1]

**3.39**
**sustainability**
state in which components of the ecosystem and their functions are maintained for the present and future generations

Note 1 to entry: Sustainability is the goal of *sustainable development* (3.40) and can result from the application of the concept of sustainable development.

Note 2 to entry: In building construction, it relates to how the attributes of the activities, *products* (3.32.1.1) (3.32.1.2), or services used in the *construction work* (3.11), or the use of the *construction works* (3.12), contribute to the maintenance of ecosystem components and functions for future generations.

Note 3 to entry: While the challenge of sustainability is global, the strategies for sustainability in building construction are local and differ in context and content from region to region.

Note 4 to entry: "Components of the ecosystem" includes plants and animals, as well as humans and their physical environment. For humans, this includes a balancing of key elements of human needs: the economic, environmental, social, and cultural conditions for societies' existence.

[SOURCE: ISO 15392:2008, 3.20]


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**3.40**
**sustainable development**
development that meets the needs of the present without compromising the ability of future generations to meet their own needs

Note 1 to entry: According to the Report of the World Commission on Environment and Development, sustainable development contains two key concepts: 1) the concept of "needs", in particular the essential needs of the world's poor, to which overriding priority should be given; and 2) the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.

Note 2 to entry: Sustainable development concerns all resources providing a better quality of life, equally for present and future generations. Sustainable development also aims to eradicate poverty and gives priority to the needs of the poor.

[SOURCE: ISO 15392:2008, 3.21]

**3.41**
**system boundary**
interface between a *building* (3.7) and the environment or other *product systems* (ISO 14040:2006, 3.27)

Note 1 to entry: System boundary defines what is included and what is not included in an assessment.

Note 2 to entry: Adapted from ISO 14040:2006, definition 3.32.

[SOURCE: ISO 21931-1:2010, 3.13]

**3.42**
**transparency**
open, comprehensive, and understandable presentation of information

[SOURCE: ISO 14040:2006, 3.7; ISO 21931-1:2010, 3.14]

**3.43.1**
**waste**
substances or objects which the holder intends or is required to dispose of

Note 1 to entry: The definition is taken from the *Basel Convention on the Control of Trans boundary Movements of Hazardous Wastes and Their Disposal* (22 March 1989) but is not confined in ISO 21930 to *hazardous waste* (ISO 6707-1:2004, 10.18).

[SOURCE: ISO 14040:2006, 3.35; ISO 21930:2007, 3.17]

**3.43.2**
**waste**
substances or objects that the original holder has disposed of or intends to or is required to dispose of

Note 1 to entry: In ISO 21929-1, this concept is not confined to *hazardous waste* (ISO 6707-1:2004, 10.18).

[SOURCE: The *Basel Convention on the Control of Trans boundary Movements of Hazardous Wastes and Their Disposal* (22 March 1989), Article 2 Definitions, Item 1, modified — The wording has been simplified and the reference to national law as the basis for any requirements has been removed; ISO 21929-1:2011, 3.37]

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