INTERNATIONAL STANDARD

ISO 6707-3

First edition
2017-08

Buildings and civil engineering works — Vocabulary —

Part 3: Sustainability terms

Batiments et ouvrages de genie civil — Vocabulaire —

Partie 3: Termes relatifs a la durabilite

Reference number
ISO 6707-3:2017(E)

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 59, *Buildings and civil engineering works*, Subcommittee SC 2, *Terminology and harmonization of languages*.

A list of all parts in the ISO 6707 series can be found on the ISO website.

Introduction

With the growth in the number of international construction projects and the development of the international market in construction products, there is an increasing need for agreement on a common language.

ISO 6707-1 defines general terms related to buildings and civil engineering works. This document establishes preferred terms and concepts related to sustainability for buildings and other types of construction works. Communication is important to 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.

The preparation of this document was undertaken under the administrative direction of ISO/TC 59/SC 2, but the development work was undertaken by a joint working group of ISO/TC 59/SC 2 and ISO/TC 59/SC 17.

This document 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 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.

This document does not contain a complete list of terms of relevance to the thematic field, but focuses on concepts that have been standardized and/or applied through publication of individual standards within ISO/TC 59/SC 17 and on terms and definitions of concepts frequently encountered in the literature related to sustainability in buildings and other types of construction works.

Attention has been paid to how the terms selected have been used in ISO standards and European standards so as to maintain the original intention.

ISO/TR 21932 was one of the principle sources employed. Although informative in nature, it contains terms and definitions of concepts that have been applied and standardized in the documents developed to date under ISO/TC 59/SC 17, as well as other terms and definitions that constitute work in progress within SC 17 or established within CEN/TC 350 (given in Annexes B and C).

A related vocabulary on terms under ISO/TC 268: ISO 37102 is expected to focus on concepts that have been standardized and/or applied through publications within ISO/TC 268.

This document is intended to be used in conjunction with ISO 6707-1.

Buildings and civil engineering works — Vocabulary —

Part 3:
Sustainability terms

1 Scope

This document establishes preferred terms and definitions for concepts applicable to sustainability and sustainable development related to buildings and civil engineering works.

NOTE It focuses on concepts that have been standardized and/or applied through publication of individual International Standards within ISO/TC 59/SC 17 and on terms and definitions of concepts frequently encountered in the literature of buildings and other types of construction works that relate to sustainable development.

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.

ISO 6707-1, *Buildings and civil engineering works — Vocabulary — Part 1: General terms*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6707-1 and the following apply.

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

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

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

NOTE Where terms in definitions are defined in this document, the relevant terms are in *italics*, and the term number is given after the relevant term. Where terms in definitions are defined in ISO 6707-1, the terms are also in *italics* but no term number is given.

3.1 Base terms

3.1.1
sustainable development
development that meets the environmental, social and economic needs of the present without compromising the ability of future generations to meet their own needs

[SOURCE: ISO Guide 82:2014, 3.2, modified – Note 1 to entry has been removed.]

3.1.2
sustainability
state of the global system, including environmental, social and economic aspects in which the needs of the present are met without compromising the ability of future generations to meet their own needs

Note 1 to entry: The environmental, social and economic aspects interact and are interdependent and are often referred to as the three dimensions of sustainability.

Note 2 to entry: Sustainability is the goal of *sustainable development* (3.1.1).

[SOURCE: ISO Guide 82:2014, 3.1]

3.1.3
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*, *external works* and other *construction works*.

[SOURCE: ISO 15392:2008, 3.5, modified – In Note 1 to entry, after external works "(landscaped areas), infrastructure" and "within the area under consideration" at the end has been deleted. Note 2 to entry has also been deleted.]

3.1.4
technosphere
sphere or realm of human technological activity which results in a technologically modified *environment*

Note 1 to entry: Primary resources are acquired or extracted from the environment/nature (the geosphere or biosphere) into the technosphere and emissions to air, water or land are released from the technosphere into the environment.

[SOURCE: ISO 21930:2017, 3.8.4]

3.1.5
process
set of interrelated or interacting activities that use inputs to deliver an intended result

Note 1 to entry: Inputs to a process are generally the outputs of other processes and outputs of a process are generally the inputs to other processes.

Note 2 to entry: The series of activities are typically performed to achieve a desired outcome.

[SOURCE: ISO 9000:2015, 3.4.1, modified – Notes to entry other than Note 2 have been removed. Note 2 to entry is retained as Note 1 to entry; new Note 2 to entry has been added.]

3.1.6
impact
change that may be adverse or beneficial

[SOURCE: ISO 15392:2008, 3.13]

3.2 Entities

3.2.1
solar farm
large-scale installation that is used to provide *solar energy* (3.5.20) to generate electricity

Note 1 to entry: Solar farms often cover large areas of land and therefore are usually developed in rural locations.

3.2.2
tidal barrage
structure that captures and releases tidal water moving in and out of a bay or river

3.2.3
wind turbine
device that converts kinetic *energy* from the wind into electricity

3.2.4
wind farm
group of *wind turbines* (3.2.3) in the same location used to produce *energy*

3.3 Products, components

3.3.1
product
tangible outcome of a *process* (3.1.5)

3.3.2
co-product
any of one or more *products* (3.3.1) from the same *unit process* (3.4.8), but which is not the object of the assessment

Note 1 to entry: Co-product and product have the same status and are used for identification of several distinguishable flows of products from the same unit process. Where one of two or more co-products is the object of assessment of the *EPD* (3.4.9), this is normally considered the product, and the other output(s) the co-product(s). Where one of the co-products is an input to a *process*, this is normally considered as a product input. From co-product and product, *waste* (3.5.26) is the only output to be distinguished as a non-product.

[SOURCE: ISO 21930:2017, 3.4.6, modified – Note 2 has been deleted.]

3.3.3
by-product
co-product (3.3.2) from a *process* (3.1.5) that is incidental or not intentionally produced and which cannot be avoided

Note 1 to entry: *Wastes* (3.5.26) are not by-products.

[SOURCE: ISO 21930:2017, 3.4.7]

3.3.4
heat pump
device that transfers heat from one space to another

3.3.5
air-source heat pump
heat pump (3.3.4) that extracts heat from the outside air in order to provide space and water heating for a *building*

3.3.6
ground source heat pump
heat pump (3.3.4) that extracts heat from the ground in order to provide space and water heating for a *building*

3.3.7
closed loop ground source heat pump
ground source heat pump (3.3.6) that has a *heat exchanger* (3.3.10) between the refrigerant loop and the water loop, and pumps in both loops

Note 1 to entry: Most ground source heat pumps have two loops on the ground side: the primary refrigerant loop is contained in the appliance cabinet where it exchanges heat with a secondary water loop that is buried underground.

3.3.8
photovoltaic array
two or more photovoltaic modules at one location that together provide a photovoltaic *solar energy* (3.5.20) system

3.3.9
solar collector
device in which solar radiation is absorbed and converted to heat

3.3.10
heat exchanger
device built for efficient heat transfer from one medium to another

[SOURCE: European Economic and Social Committee. *Let's speak sustainable construction — Multilingual glossary* EN/FR/DE/ES, 2014]

3.3.11
biogas digester
air-tight tank in which *biomass* (3.5.9) is transformed into methane

3.3.12
condensing boiler
oil or gas boiler designed to make use of the latent heat released by condensation of water vapour in the combustion *flue products* (3.3.1)

[SOURCE: ISO 13675:2013, 3.1.4, modified – Notes have been removed.]

3.3.13
biomass boiler
boiler that burns logs, pellets or chips and is connected to a central heating and *hot water system*

3.3.14
wood-burning stove
heating appliance capable of burning wood *fuel* and wood-based *biomass* (3.5.9) fuel that consists of a metallic closed fire chamber connected by ventilating *pipes* to a *chimney* or *flue*

3.3.15
compact fluorescent lamp
CFL
energy saving fluorescent lamp with a *tube* that is curved or folded to fit into the space of an incandescent bulb, together with a compact electronic ballast in its base

3.3.16
light-emitting diode lamp
LED lamp
semiconductor-based light emitting source

[SOURCE: ISO 10650:2015, 3.2, modified – "lamps" was changed to "source".]

3.3.17
light pipe
tube lined with reflective material to channel natural light into *buildings*

3.3.18
fuel cell
electrochemical device that generates electricity by the conversion of *fuel* and an oxidant without any physical or chemical consumption of the electrodes or electrolyte

[SOURCE: ISO 23273:2013, 3.5]

3.3.19
smart meter
energy meter that can both send and receive information

[SOURCE: PAS 180:2014, 4.1.4, modified – "using an external electronic communications network" from end of definition has been omitted.]

3.3.20
smart grid
electric grid system, which is characterized by the use of communication networks and the control of grid components and loads

[SOURCE: ISO/IEC/TR 27019:2013, 3.15]

3.4 Activities, processes, methods, persons

3.4.1
environmental assessment
process to identify objectively the *environmental aspects* (3.7.13) and to determine the consequences of past, current and expected future activities

[SOURCE: ISO 14015:2001, 2.7, modified – changed the term from "environmental assessment of sites and organizations"; deleted "to identify the environmental issues", "business", "of sites and organisations" from the definition; deleted Note 1 to entry.]

3.4.2
environmental management system
part of the management system used to manage *environmental aspects* (3.7.13), fulfil compliance obligations and address risks and opportunities

[SOURCE: ISO 14001:2015, 3.1.2]

3.4.3
environmental label
environmental declaration
claim which indicates the *environmental aspects* (3.7.13) of a *product* (3.3.1) or service

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

[SOURCE: ISO 14020:2000, 2.1]

3.4.4
environmental protection plan
plan providing an assessment of the environmental risks, the measures to be taken to minimize risks, the point when corrective action will be taken, the type of action to be taken, and identifying those responsible for monitoring and for taking action

[SOURCE: ISO 11074:2015, 6.1.7, modified — "associated with remediation," has been omitted.]

3.4.5
product system
collection of *unit processes* (3.4.8) with elementary and product flows, performing one or more defined functions, and which models the *life cycle* (3.6.13) of a *product* (3.3.1)

Note 1 to entry: The term product flows is defined in ISO 14040:2016, 3.27.

[SOURCE: ISO 14040:2006, 3.28]

3.4.6
downstream process
process (3.1.5) that is carried out after the designated process in the stream of relevant processes

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

3.4.7
upstream process
process (3.1.5) that is carried out before the designated process in the stream of relevant processes

3.4.8
unit process
smallest element considered in the *life cycle inventory analysis* (3.4.12) for which input and output data are quantified

[SOURCE: ISO 14040:2006, 3.34]

3.4.9
environmental product declaration
EPD
type III environmental declaration
environmental declaration (3.4.3) 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.

Note 3 to entry: The shorter initialism, EPD, is used as the primary preferred term in this document.

[SOURCE: ISO 21930:2017, 3.1.1]

3.4.10
responsible sourcing
responsible materials sourcing
holistic approach to managing a *product* (3.3.1) from the point at which a material is mined or harvested in its raw state through manufacturing and processing

Note 1 to entry: Responsible sourcing may involve a consideration of later stages such as use, *re-use* (3.4.23), *recycling* (3.4.22) and other recovery *processes* (3.1.5).

3.4.11
life cycle assessment
LCA
compilation and evaluation of the inputs, outputs and the potential *environmental impacts* (3.6.24) of a *product system* (3.4.5)

Note 1 to entry: The terms inputs and outputs are defined in ISO 14040:2016, 3.21 and 3.25.

[SOURCE: ISO 14040:2006, 3.2, modified – Omitted "throughout its life cycle" from end of definition.]

3.4.12
life cycle inventory analysis
LCI
phase of *life cycle assessment* (3.4.11) involving the compilation and quantification of inputs and outputs for a *product* (3.3.1) throughout its *life cycle* (3.6.13)

Note 1 to entry: The terms inputs and outputs are defined in ISO 14040:2016, 3.21 and 3.25.

[SOURCE: ISO 14040:2006, 3.3]

3.4.13
life cycle impact assessment
phase of *life cycle assessment* (3.4.11) aimed at understanding and evaluating the magnitude and significance of the potential *environmental impacts* (3.6.24) for a *product system* (3.4.5) throughout the *life cycle* (3.6.13) of the *product* (3.3.1)

[SOURCE: ISO 14040:2006, 3.4]

3.4.14
reclamation
return of damaged, degraded or derelict *land* to beneficial use

[SOURCE: ISO 11074:2015, 2.2.11, modified – Omitted "rehabilitation" as alternative term; omitted Note 1 to entry.]

3.4.15
energy retrofit
building energy saving retrofit
installation and/or implementation of *energy* conservation measure in an existing *building* or *civil engineering works*

3.4.16
life cycle costing
methodology for systematic economic evaluation of *life cycle costs* (3.7.47) over a period of analysis, as defined in the agreed scope

Note 1 to entry: The term period of analysis is defined in ISO 15686-5:2008, 3.3.6.

Note 2 to entry: Life cycle costing can address a period of analysis that covers the entire *life cycle* (3.6.13) or a selected stage(s) or periods of interest thereof.

[SOURCE: ISO 15686-5:2008, 3.1.8]

3.4.17
whole-life costing
methodology for systematic economic consideration of all *whole-life costs* (3.7.47) and benefits over a period of analysis

Note 1 to entry: The term period of analysis is defined in ISO 15686-5:2008, 3.3.6.

Note 2 to entry: The projected costs or benefits may include external costs (including, for example, finance, business costs, income from land, sale, user costs).

Note 3 to entry: Whole-life costing can address a period of analysis that covers the entire *life cycle* (3.6.13) or a selected stage(s) or periods of interest thereof.

Note 4 to entry: This definition should be contrasted with that for *life cycle costing* (3.4.16).

[SOURCE: ISO 15686-5:2008, 3.1.15, modified – Omitted "as defined in the agreed scope" from definition.]

3.4.18
waste management
administrative and operational activities involved in the handling, pretreatment, treatment, conditioning, transport, storage, and disposal of *waste* (3.5.26)

3.4.19
landfill
waste (3.5.26) disposal site for the deposit of waste onto or into *land* under controlled or regulated conditions

[SOURCE: ISO 472:2013, 2.1694]

3.4.20
energy recovery
recovery of *energy* from a *process* (3.1.5), including *waste* (3.5.26) treatment processes

3.4.21
materials recovery
recovery from previous use or from *waste* (3.5.26) derived from one *product system* (3.4.5) and used as an input to another product system

3.4.22
recycling
recovery operation by which *waste* (3.5.26) *materials* are reprocessed into *products* (3.3.1), *materials* or substances whether for the original or other purposes

Note 1 to entry: It includes the reprocessing of organic material but does not include *energy recovery* (3.4.20) and the reprocessing into materials that are used as *fuels* or for backfilling operations.

[SOURCE: European Economic and Social Committee. *Let's speak sustainable construction — Multilingual glossary* EN/FR/DE/ES, 2014]

3.4.23
re-use
operation by which *products* or *components* are used again for the same purpose for which they were conceived

[SOURCE: European Economic and Social Committee. *Let's speak sustainable construction — Multilingual glossary* EN/FR/DE/ES, 2014]

3.4.24
water resource management
activity of planning, developing, distributing and managing the optimum use of water resources

3.4.25
rainwater harvesting
accumulation and deposition of rainwater for *re-use* (3.4.23) before it reaches the aquifer

Note 1 to entry: Uses include water for livestock or for irrigation.

3.4.26
water withdrawal
anthropogenic removal of water from any *water body* (3.5.30) or from any *drainage basin* (3.5.31), either permanently or temporarily

Note 1 to entry: The term "water abstraction" is sometimes used for this concept.

[SOURCE: ISO 14046:2014, 3.2.2]

3.4.27
construction service
activity that supports the construction works or subsequent maintenance

[SOURCE: EN 15804:2012, 3.6, modified – "construction process" has been changed to "construction works".]

3.4.28
programme operator
body or bodies that conduct an EPD programme

Note 1 to entry: A programme operator can be a company or a group of companies, industrial sector or trade association, public authority or agency, or an independent scientific body or other organization.

[SOURCE: ISO 14025:2006, 3.4]

3.4.29
interested party
stakeholder
person or organization that can affect, be affected by, or perceive itself to be affected by a decision or activity

[SOURCE: ISO/IEC Directives Annex SL, Appendix 2, 3.2]

3.4.30
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, modified – "as concerns the issue" has been changed to "with the issues". Omitted "interests" at end of note.]

3.5 Resources

3.5.1
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, wind.

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

Note 2 to entry: Activities that occur in the *technosphere* (3.1.4) such as *recycling* (3.4.22) are not considered natural replenishment or cleansing.

Note 3 to entry: In this context, human time scale refers to the typical life time of a human rather than the time humans have been in existence.

[SOURCE: ISO 21930:2017, 3.6.2]

3.5.2
non-renewable resource
resource that exists in a fixed amount that cannot be naturally replenished or cleansed on a human time scale

Note 1 to entry: Activities that occur in the *technosphere* (3.1.4) such as *recycling* (3.4.22) are not considered natural replenishment or cleansing.

Note 2 to entry: In this context, human time scale refers to the typical life time of a human rather than the time humans have been in existence.

[SOURCE: ISO 21930:2017, 3.6.3, modified — the Note 3 to entry has been deleted.]

3.5.3
energy source
source from which useful *energy* can be extracted or recovered either directly or by means of a conversion or transformation process

EXAMPLE Oil or gas field, coal mine, sun, forest.

[SOURCE: ISO/TR 16344:2012, 2.1.62, modified – Note made into example and put in singular.]

3.5.4
exported energy
energy delivered from a construction works for use outside its boundary

3.5.5
secondary fuel
fuel recovered from previous use or from *waste* (3.5.26), derived from a previous *product system* (3.4.5) and used as an input in another product system

Note 1 to entry: *Processes* (3.1.5) providing a secondary fuel are considered from the point *system boundary* (ISO 21930:2017, 3.4.4) where the secondary fuel enters the product system from a previous product system.

Note 2 to entry: Secondary fuels can be recovered from previous use or from wastes such as solvents, *wood*, tyres, oil, animal fats.

Note 3 to entry: Secondary fuels can be renewable or non-renewable, depending on the status of the *material* before it became waste.

[SOURCE: ISO 21930:2017, 3.6.5, modified — in Note 1 to entry, the reference for system boundary has been changed.]

3.5.6
low-carbon energy source
source of *power* which produces fewer *greenhouse gases* (3.6.15) than traditional means of power generation

[SOURCE: European Economic and Social Committee. *Let's speak sustainable construction — Multilingual glossary* EN/FR/DE/ES, 2014]

3.5.7
carbon-based fuel
fuel whose *energy* derives principally from the oxidation or burning of carbon

Note 1 to entry: Includes *fossil fuels* (3.5.8) that are extracted and *biofuels* (3.5.11) that are harvested.

3.5.8
fossil fuel
organic *material*, other than *biomass* (3.5.9), used as *fuel*

[SOURCE: ISO/TR 16344:2012, 2.1.73]

3.5.9
biomass
biological *material* derived from living, or recently living organisms, such as *wood*, organic *waste* (3.5.26), and crops

[SOURCE: European Economic and Social Committee. *Let's speak sustainable construction — Multilingual glossary* EN/FR/DE/ES, 2014]

3.5.10
biodiesel
fuel comprised of mono-alkyl esters of fatty acids, derived from vegetable oils or animal fats

3.5.11
biofuel
fuel derived from *biomass* (3.5.9) or organic *waste* (3.5.26)

3.5.12
solar heat gain
heat provided by solar radiation entering, directly or indirectly (after absorption in *building elements*), into the *building* through *windows*, opaque *walls* and *roofs*, or passive solar devices such as sunspaces, transparent insulation and solar walls

[SOURCE: ISO/TR 16344:2012, 2.1.133]

3.5.13
energy-from-waste
EfW
energy recovery (3.4.20) of *waste* (3.5.26) – a thermal waste treatment process in which excess *energy* is produced in the form of steam, electricity and hot water

3.5.14
geothermal energy
energy emitted from within the earth's crust, usually in the form of hot water or steam

3.5.15
hydro energy
electrical *energy* derived from turbines being spun by fresh flowing water

3.5.16
ocean energy
energy, usually electrical energy, obtained by harnessing the energy in tides, waves and thermal gradients in the oceans

[SOURCE: US Energy Information Administration. Glossary]

3.5.17
tidal energy
useable *energy* from the kinetic energy of water flowing into and out of tidal areas

3.5.18
wave energy
useable *energy* from the kinetic energy of waves

3.5.19
nuclear energy
electricity generated by the use of the thermal *energy* released from the fission of nuclear fuel in a reactor

[SOURCE: US Energy Information Administration. Glossary]

3.5.20
solar energy
radiant *energy* of the sun converted into other forms of energy, such as heat or electricity

3.5.21
primary energy
energy that has not been subjected to any conversion or transformation *process* (3.1.5)

[SOURCE: ISO 16818:2008, 3.177, modified – Notes removed.]

3.5.22
delivered energy
measure of the amount of *energy* arriving at a location or an installation

3.5.23
renewable energy
energy derived from a *renewable resource* (3.5.1)

[SOURCE: ISO 16745:2015, 3.17, modified – To link directly with renewable resource concept.]

3.5.24
recovered energy
energy recovered from a *process* (3.1.5), including *waste* (3.5.26) treatment processes

Note 1 to entry: Recovered energy can be renewable or non-renewable, depending on the status of the resource originally used to generate the energy.

3.5.25
energy carrier
substance or phenomenon that can be used to produce mechanical work or heat, or to operate chemical or physical processes

[SOURCE: ISO 16818:2008, 3.75]

3.5.26
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 Transboundary Movements of Hazardous Wastes and Their Disposal* (22 March 1989) but is not confined in this document to hazardous waste.

[SOURCE: ISO 21930:2017, 3.3.11]

3.5.27
zero waste
philosophy that encourages the design of resource *life cycles* (3.6.13) so that all *products* (3.3.1) are re-used

3.5.28
grey water
wastewater from household baths and showers, handbasins and kitchen sinks but excluding wastewater and excreta from water closets

[SOURCE: ISO 6107-7:2006, 21]

3.5.29
freshwater
water having a low concentration of dissolved solids

Note 1 to entry: Freshwater typically contains less than 1000 mg per litre of dissolved solids and is generally accepted as suitable for withdrawal and conventional treatment to produce potable water.

Note 2 to entry: The concentration of total dissolved solids can vary considerably over space and/or time.

[SOURCE: ISO 14046:2014, 3.1.1]

3.5.30
water body
entity of water with definite hydrological, hydrogeomorphological, physical, chemical and biological characteristics in a given geographical area

EXAMPLE Lakes, rivers, ground waters, seas, icebergs, glaciers and reservoirs.

[SOURCE: ISO 14046:2014, 3.1.7, modified – Note 1 to entry has been removed.]

3.5.31
drainage basin
area from which direct surface *run-off* from precipitation drains by gravity into a stream or other *water body* (3.5.30)

[SOURCE: ISO 14046:2014, 3.1.8, modified – Notes have been removed.]

3.5.32
consumption of freshwater
net freshwater entering the system being studied that is not returned to the same *drainage basin* (3.5.31) from which it originated

3.6 Conditions, phenomena

3.6.1
climate change
change in the state of the climate that can be identified by changes in the mean and/or the variability of its *properties*, and that persists for an extended period, typically decades or longer

Note 1 to entry: Both natural processes and human activity can cause climate change.

3.6.2
ecosystem
system of interdependent organisms which share the same habitat, in an area functioning together with all of the physical (abiotic) factors of the environment

[SOURCE: European Economic and Social Committee. *Let's speak sustainable construction — Multilingual glossary* EN/FR/DE/ES, 2014]

3.6.3
carbon cycle
biogeochemical cycle by which carbon is exchanged amongst the biosphere, pedosphere, hydrosphere, and atmosphere of the earth

[SOURCE: European Economic and Social Committee. *Let's speak sustainable construction — Multilingual glossary* EN/FR/DE/ES, 2014, modified – "among" changed to "amongst".]

3.6.4
scenario
collection of assumptions and information relevant to possible future events

3.6.5
environmental resistance
resistance presented by environmental conditions to limit a species from growing out of control or to stop them from reproducing at maximum rate

3.6.6
contaminated land
land that is available for development, but that, as a result of previous activities, is contaminated with noxious or poisonous substances that must be removed from the land before re-development can be safely undertaken

[SOURCE: European Economic and Social Committee. *Let's speak sustainable construction — Multilingual glossary* EN/FR/DE/ES, 2014]

3.6.7
acoustic comfort
occupant satisfaction with the indoor acoustical environment, described in terms of sound pressure level and audibility

3.6.8
thermal comfort
occupant satisfaction with the indoor thermal environment

3.6.9
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]

3.6.10
area of protection
protection area
issue of concern
aspect of the economy, the environment or society that can be impacted by *construction works*, *products* (3.3.1) or services

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

[SOURCE: ISO 21929-1:2011, 3.5, modified – Term has been changed from "areas" to area" and in definition, "aspects" has been changed to "aspect" and "goods" has been changed to "products".]

3.6.11
area of influence
area or combination of areas surrounding a *civil engineering works* that can be affected with changes to their economical, environmental or social conditions by the civil engineering works' operations throughout its *life cycle* (3.6.13)

Note 1 to entry: The area of influence is variable and dependent on the *construction works project*, its location and its life cycle stage. As an overall approach, the area of influence will be usually limited to the civil engineering works itself and its immediate surroundings.

[SOURCE: ISO/TS 21929-2:2015, 3.2]

3.6.12
gate
point at which the *construction product* or *material* leaves the factory, before it becomes an input into a subsequent manufacturing *process* (3.1.5) or before it is transported to a distributor, another factory or a *site*

[SOURCE: ISO 21930:2017, 3.3.8, modified – "construction site" has been changed to "site".]

3.6.13
life cycle
consecutive and interlinked stages in the life of the object under consideration

[SOURCE: EN 15643-1:2010, 3.35]

3.6.14
system boundary
interface in sustainability assessments between a *construction works* and the environment or other *product systems* (3.4.9)

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

Note 2 to entry: ISO 21931-1:2010 adapted.

[SOURCE: EN 15643-1:2010, 3.69, modified – "the assessment" has been changed to "sustainability assessments"; "building" has been changed to "construction works".]

3.6.15
greenhouse gas
GHG
gaseous constituent of the atmosphere, both natural and anthropogenic, that absorbs and emits radiation at specific wavelengths within the spectrum of infrared radiation emitted by the earth's surface, the atmosphere and clouds

Note 1 to entry: GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6).

[SOURCE: ISO 14064-1:2006, 2.1]

3.6.16
greenhouse gas emission
total mass of a *GHG* (3.6.15) released to the atmosphere over a specified period of time

[SOURCE: ISO 14064-1:2006, 2.5]

3.6.17
global warming potential
GWP
factor describing the radiative forcing impact of one mass-based unit of a given *GHG* (3.6.15) relative to an equivalent unit of carbon dioxide over a given period of time

[SOURCE: ISO 14064-1:2006, 2.18, modified – Note has been removed.]

3.6.18
greenhouse gas emission coefficient
coefficient that describes the amount of a specific *GHG* (3.6.15) that is released from doing a certain activity, such as burning one tonne of fuel in a furnace

Note 1 to entry: In general, greenhouse gas emission coefficients from specific *energy* consumption are quantified based on GHG emission factors for use of the energy.

Note 2 to entry: Greenhouse gas emission coefficients can differ by year.

[SOURCE: ISO 16745:2015, 3.12]

3.6.19
carbon tax
environmental tax on emissions of carbon dioxide or other *greenhouse gases* (3.6.15)

[SOURCE: FAO. Climate change glossary]

3.6.20
carbon credit
tradable certificate or permit that represents the right to emit a specified amount of *greenhouse gases* (3.6.15)

Note 1 to entry: Allows an organization to benefit financially from an emission reduction.

Note 2 to entry: The unit of one carbon credit is equal to one tonne of carbon dioxide emissions.

[SOURCE: FAO. Climate change glossary]

3.6.21
carbonation
carbon dioxide reaction with cementitious products to form calcium carbonate

3.6.22
biogenic carbon
carbon derived from *biomass* (3.5.9)

[SOURCE: ISO/TR 14069:2013, 3.2.2]

3.6.23
urban heat island effect
heat island effect
tendency of an urban area to be warmer than its surroundings

[SOURCE: European Economic and Social Committee. *Let's speak sustainable construction — Multilingual glossary* EN/FR/DE/ES, 2014, modified – "hotter" has been changed to "warmer"]

3.6.24
environmental impact
impact (3.1.6) to the environment, wholly or partially resulting from *environmental aspects* (3.7.13)

Note 1 to entry: Adapted from ISO 14001.

[SOURCE: ISO 15392:2008, 3.13.2]

3.6.25
social impact
impact (3.1.6) to society or quality of life, wholly or partially resulting from *social aspects* (3.7.14)

[SOURCE: ISO 15392:2008, 3.13.3]

3.6.26
economic impact
impact (3.1.6) to the economy, wholly or partially resulting from *economic aspects* (3.7.15)

[SOURCE: ISO 15392:2008, 3.13.1]

3.6.27
information module
compilation of data to be used as a basis for an *EPD* (3.4.9), covering a *unit process* (3.4.8) or a combination of unit processes that are part of the *life cycle* (3.6.13) of a *product* (3.3.1)

[SOURCE: ISO 14025:2006, 3.13, modified – "Type III environmental declaration" has been changed to "EPD".]

3.6.28
thermal mass
capacity of a material to store heat

[SOURCE: European Economic and Social Committee. *Let's speak sustainable construction – Multilingual glossary* EN/FR/DE/ES, 2014]

3.6.29
green economy
economy or economic development model based on the principles of *sustainable development* (3.1.1) and a recognition of the interdependence and coevolution of human economies and natural *ecosystems* (3.6.2) over time and space

3.6.30
green energy tariff
charge for the supply of *energy* that comes directly from renewable sources or sources that make a contribution to environmental schemes

3.6.31
feed-in tariff
tariff for surplus *energy* exported to the grid, applied by an energy supplier to someone who installs an electricity generating technology from a renewable or low energy carbon source

Note 1 to entry: Typically, the customer is paid a cost-based price for the energy supplied, although the arrangements differ from one country to another.

3.6.32
sick building syndrome
non-specific symptoms of some building occupants linked to time spent while in a *building* that diminish or go when they leave the building

3.7 Properties: Ability, performance, indicators, requirements, measures

3.7.1
data quality
characteristics of data that relate to their ability to satisfy stated requirements

[SOURCE: ISO 14044:2006, 3.19]

3.7.2
generic data
data used if no system *specific data* (3.7.5) are available

Note 1 to entry: Data can be site specific or average.

3.7.3
proxy data
approximate data used if no system *specific data* (3.7.5) or *generic data* (3.7.2) are available

EXAMPLE Data for production of acetic acid used in lieu of data for production of formic acid, or selection of a generic data set of electricity from one region to represent another region.

Note 1 to entry: Data can be site specific or average.

3.7.4
average data
data based on a fully representative sample for a *product* (3.3.1)or *construction service* (3.4.27), provided by more than one *supplier* or by one supplier from multiple plants or multiple similar products

Note 1 to entry: The *product category* (3.7.39) or construction service can contain similar products or construction services.

3.7.5
specific data
data representative of a *construction product* or *construction service* (3.4.27), provided by one *supplier* from multiple plants or multiple similar products

3.7.6
embodied energy
total of all the *energy* consumed in the *processes* (3.1.5) associated with the production of *materials* and *products* (3.3.1)

3.7.7
access to services
availability and *accessibility* (3.7.8) of services outside the *construction works*

Note 1 to entry: Services can include public transportation, parking, entertainment, healthcare, water and *energy* supply, etc.

[SOURCE: ISO 15392:2008, 3.1, modified – “building” has been changed to “construction works”.]

3.7.8
accessibility
ease of reaching and using a service or facility

[SOURCE: ISO 11620:2014, 2.2]

3.7.9
adaptability
ability to be changed or modified to make suitable for a particular use

3.7.10
carbon dioxide level
concentration of carbon dioxide in a gaseous mixture

[SOURCE: ISO 4135:2001, 9.5.2, modified – Note has been removed.]

3.7.11
energy efficiency
measure of *energy* use against a baseline

EXAMPLE An energy efficient lamp which produces the same amount of light as a conventional lamp but uses up to 75 % less energy to do so.

3.7.12
energy flow
input to or output from a *unit process* (3.4.8) or *product system* (3.4.5), quantified in *energy* units

[SOURCE: ISO 14050:2009, 6.13, modified – Note has been removed.]

3.7.13
environmental aspect
aspect of *construction works*, parts of works, *processes* (3.1.5) or services (3.6.13) that interacts with the environment

Note 1 to entry: The interaction can cause a change to the environment.

3.7.14
social aspect
aspect of *construction works*, parts of works, *processes* (3.1.5) or services related to their *life cycle* (3.6.13) that can cause a change to society or quality of life

[SOURCE: ISO 15392:2008, 3.19]

3.7.15
economic aspect
aspect of *construction works*, parts of works, *processes* (3.1.5) or services related to their *life cycle* (3.6.13) that can cause a change to economic conditions

[SOURCE: ISO 15392:2008, 3.9]

3.7.16
functional equivalent
quantified functional requirements-and/or technical requirements for a *building* or other type of *construction works* for use as a reference basis for comparison

Note 1 to entry: The term building is defined in ISO 6707-1:2014, 3.1.3.

[SOURCE: ISO 21931-1:2010, 3.7, modified –Reference to “other type of construction works” has been added.]

3.7.17
functionality
suitability or usefulness for a specific purpose or activity

[SOURCE: ISO 15686-10:2010, 3.13]

3.7.18
level of functionality
number indicating the relative *functionality* (3.7.17) required for a user group or customer for one topic on a predetermined demand scale 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 required to act in combination.

[SOURCE: ISO 15686-10:2010, 3.15]

3.7.19
impact category
class representing *area of protection* (3.6.10) to which *life cycle inventory analysis* (3.4.12) results may be assigned

[SOURCE: ISO 14040:2006, 3.39, modified – "environmental issues of concern" has been changed to "area of protection".]

3.7.20
characterization factor
factor derived from a characterization model which is applied to convert an assigned *life cycle inventory analysis* (3.4.12) result to the common unit of the *impact category* (3.7.19) *indicator* (3.7.21)

[SOURCE: ISO 14044:2006, 3.37, modified – Note has been deleted and "impact" has been inserted before "category".]

3.7.21
indicator
quantitative, qualitative or descriptive *measure*

3.7.22
sustainability indicator
indicator (3.7.21) covering any *sustainability* (3.1.2) related subject

Note 1 to entry: Examples of sustainability related subjects are the preservation of natural resources, *indoor air quality* (3.7.29), noise levels, health and safety, economic competitiveness and employment.

3.7.23
economic indicator
sustainability indicator (3.7.22) related to an *economic impact* (3.6.26)

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

3.7.24
environmental indicator
sustainability indicator (3.7.22) related to an *environmental impact* (3.6.24)

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

3.7.25
social indicator
sustainability indicator (3.7.22) related to a *social impact* (3.6.25)

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

3.7.26
set of indicators
non-structured list of *indicators* (3.7.21)

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

3.7.27
system of indicators
structured list of *indicators* (3.7.21)

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

3.7.28
indoor environmental quality
quality of a *building*'s internal environment in relation to the health, comfort and wellbeing of those who use space within it

3.7.29
indoor air quality
quality of air within and around a *building* or *structure*, related to the health and comfort of building occupants

[SOURCE: European Economic and Social Committee. *Let's speak sustainable construction — Multilingual glossary* EN/FR/DE/ES, 2014]

3.7.30
demountability
ability to be removed from its mounting or setting

3.7.31
disassemblability
ability to be taken apart at the end of its useful life in such a way that *components* and parts can be re-used, recycled, recovered for *energy*

3.7.32
performance
ability to fulfil required functions under intended use conditions

3.7.33
environmental performance
quantification of the *performance* (3.7.32) of a *product* (3.3.1), service or organization in terms of its *environmental impact* (3.6.24)

[SOURCE: European Economic and Social Committee. *Let's speak sustainable construction — Multilingual glossary* EN/FR/DE/ES, 2014]

3.7.34
carbon footprint
net amount of *greenhouse gas emissions* (3.6.16) and *GHG* (3.6.15) removals, expressed as CO_2 equivalents

[SOURCE: ISO 16759:2013, 3.1.1]

3.7.35
carbon dioxide equivalent
unit for comparing the radiative forcing of a *GHG* (3.6.15) to carbon dioxide

[SOURCE: ISO 14064-1:2006, 2.19, modified – Notes have been deleted.]

3.7.36
energy performance of a building
calculated or measured amount of *energy* actually used or estimated to meet the different needs associated with a standard use of a *building*, which may include, *inter alia*, energy use for heating, cooling, ventilation, domestic hot water and lighting

[SOURCE: ISO 16818:2008, 3.84]

3.7.37
energy performance indicator
indicator (3.7.21) of energy performance of a *building* (3.7.36)

3.7.38
coefficient of performance
<heat pump> ratio of the rate of heat delivered to the rate of *energy* input, in consistent units, for a complete *heat pump* (3.3.4) system, under designated operating conditions

[SOURCE: ISO 16818:2008, 3.36, modified – Note has been deleted.]

3.7.39
product category
group of *products* that can fulfil equivalent functions

[SOURCE: ISO 14025:2006, 3.12]

3.7.40
product category rules
PCR
set of specific rules, requirements, and guidelines for developing *EPDs* (3.4.9) for one or more *product categories* (3.7.39)

[SOURCE: ISO 21930:2017, 3.1.4, modified – The Note 1 to entry has been deleted.]

3.7.41
serviceability
capability of a facility, *building* or other constructed asset, or of an *assembly*, *component* or *product*

[SOURCE: ISO 15686-10:2010, 3.29, modified – Omitted end of definition from "thereof…" and note.]

3.7.42
level of serviceability
number indicating the relative *serviceability* (3.7.41) for a user group or customer for one topic on a predetermined supply scale 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 acting in combination.

[SOURCE: ISO 15686-10:2010, 3.17]

3.7.43
service life
period of time after installation during which a facility or its component parts continues to meet the *performance requirements*

[SOURCE: ISO 15686-1:2011, 3.25, modified – "meets or exceeds" has been changed to "continues to meet".]

3.7.44
estimated service life
service life (3.7.43) that a *building* or parts of a building would be expected to have in a set of specific in-use conditions, determined from *reference service life* (3.7.45) data after taking into account any differences from the reference in-use conditions

[SOURCE: ISO 15686-1:2011, 3.7]

3.7.45
reference service life
service life (3.7.43) of a *product, component*, *assembly* or system which is known to be expected under a particular set, i.e. a reference set, of in-use conditions and which can form the basis for estimating the service life under other in-use conditions

[SOURCE: ISO 15686-1:2011, 3.22]

3.7.46
design life
period of time that a *building* must be able to function as envisaged without a need for a major renovation

[SOURCE: European Economic and Social Committee. *Let's speak sustainable construction — Multilingual glossary* EN/FR/DE/ES, 2014]

3.7.47
life cycle cost
LCC
cost of a constructed asset or its parts throughout its *life cycle* (3.6.13), while fulfilling the *performance requirements*

[SOURCE: ISO 15686-5:2008, 3.1.7, modified – "an asset" has been changed to "a constructed asset".]

3.7.48
whole-life cost
WLC
all significant and relevant initial and future costs and benefits of a constructed asset, throughout its *life cycle* (3.6.13), while fulfilling the *performance requirements*

[SOURCE: ISO 15686-5:2008, 3.1.14, modified – "an asset" has been changed to "a constructed asset".]

3.7.49
maintenance cost
total of necessarily incurred *labour*, *material* and other related costs incurred to retain a *construction works* or its parts in a state in which it can perform its required functions

[SOURCE: ISO 15686-5:2008, 3.1.9, modified – "building" has been changed to "construction works".]

3.7.50
payback period
period of time required for returns from an investment to repay the sum of the original investment

[SOURCE: European Economic and Social Committee. *Let's speak sustainable construction — Multilingual glossary* EN/FR/DE/ES, 2014]

3.7.51
benefit cost ratio
ratio of the benefits of a *project* or proposal relative to its costs, expressed in monetary terms

Note 1 to entry: Sometimes costs and benefits cannot be expressed in monetary terms, but where at all possible qualitative factors are translated to quantitative terms so that the results are easily understandable.

Note 2 to entry: The definition can be expressed in the opposite direction i.e. as a cost benefit ratio.

3.7.52
return on investment
ROI
ratio of revenue from output (*product* or service) to development and production costs, which determines whether an organization benefits from an action to produce something

[SOURCE: ISO/IEC IEEE 24765:2010, 3.2550]

3.7.53
energy cost budget
maximum allowable estimated annual *energy* expenditure for a proposed *construction works*

[SOURCE: ISO 16818:2008, 3.77, modified – "building" has been changed to "construction works".]

3.7.54
self sufficiency
living in a way that is not dependent on others

[SOURCE: European Economic and Social Committee. *Let's speak sustainable construction — Multilingual glossary* EN/FR/DE/ES, 2014]

3.7.55
carbon metric
sum of annual *greenhouse gas emissions* (3.6.16) and removals, expressed as CO_2 equivalents, associated with the use stage of a *construction works*

[SOURCE: ISO 16745:2015, 3.4, modified – "building" has been changed to "construction works".]

3.7.56
carbon intensity
carbon metric (3.7.55) expressed in relation to a specific reference unit related to the function of the *construction works*

[SOURCE: ISO 16745:2015, 3.2, modified – "building" has been changed to "construction works" and note deleted.]

3.7.57
environmental quality standard
value, generally described by regulation, which specifies the maximum permissible concentration of a potentially hazardous chemical in an environmental sample, generally of air or water

3.7.58
biogenic
produced in natural processes by living organisms but not fossilized or derived from fossil resources

[SOURCE: ISO 13833:2013, 3.1]

Bibliography

[1] PAS 180:2014, *Smart cities — Vocabulary*

[2] EN 15643-1:2010, *Sustainability of construction works — Sustainability assessment of buildings — General framework*

[3] EN 15804:2012, *Sustainability of construction works — Environmental products declarations — Core rules for the product category of construction products*

[4] European Economic and Social Committee. *Let's speak sustainable construction — Multilingual glossary* EN/FR/DE/ES, 2nd edition, 2014

[5] FAO. Climate change glossary

[6] ISO/IEC Directives Annex SL

[7] ISO Guide 82:2014, *Guidelines for addressing sustainability in standards*

[8] ISO 472:2013, *Plastics — Vocabulary*

[9] ISO 4135:2001, *Anaesthetic and respiratory equipment — Vocabulary*

[10] ISO 6107-7:2006, *Water quality — Vocabulary — Part 7*

[11] ISO 9000:2015, *Quality management systems — Fundamentals and vocabulary*

[12] ISO 6707-1, *Buildings and civil engineering works — Vocabulary — Part 1: General terms*

[13] ISO 10650:2015, *Dentistry — Powered polymerization activators — Part 2: Light emitting diode (LED) lamps*

[14] ISO 11074:2015, *Soil quality — Vocabulary*

[15] ISO 11620:2014, *Information and documentation — Library performance indicators*

[16] ISO 13675:2013, *Heating systems in buildings — Method and design for calculation of the system energy performance — Combustion systems (boilers)*

[17] ISO 13833:2013, *Stationary source emissions — Determination of the ratio of biomass (biogenic) and fossil-derived carbon dioxide — Radiocarbon sampling and determination*

[18] ISO 14001:2015, *Environmental management systems — Requirements with guidance for use*

[19] ISO 14015:2001, *Environmental management — Environmental assessment of sites and organizations (EASO)*

[20] ISO 14020:2000, *Environmental labels and declarations — General principles*

[21] ISO 14024:1999, *Environmental labels and declarations — Type I environmental labelling — Principles and procedures*

[22] ISO 14025:2006, *Environmental labels and declarations — Type III environmental declarations — Principles and procedures*

[23] ISO 14040:2006, *Environmental management — Life cycle assessment — Principles and framework*

[24] ISO 14044:2006, *Environmental management — Life cycle assessment — Requirements and guidelines*

[25] ISO 14046:2014, *Environmental management — Water footprint — Principles, requirements and guidelines*

[26] ISO 14050:2009, *Environmental management — Vocabulary*

[27] ISO 14064-1:2006, *Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals*

[28] ISO/TR 14069:2013, *Greenhouse gases — Quantification and reporting of greenhouse gas emissions for organizations — Guidance for the application of ISO 14064-1*

[29] ISO 15392:2008, *Sustainability in building construction — General principles*

[30] ISO 15686-1:2011, *Buildings and constructed assets — Service life planning — Part 1: General principles and framework*

[31] ISO 15686-5:2008, *Buildings and constructed assets — Service-life planning — Part 5: Life-cycle costing*

[32] ISO 15686-10:2010, *Buildings and constructed assets — Service life planning — Part 10: When to assess functional performance*

[33] ISO/TR 16344:2012, *Energy performance of buildings — Common terms, definitions and symbols for the overall energy performance rating and certification*

[34] ISO 16745:2015, *Environmental performance of buildings — Carbon metric of a building — Use stage*

[35] ISO 16759:2013, *Graphic technology — Quantification and communication for calculating the carbon footprint of print media products*

[36] ISO 16813:2006, *Building environment design — Indoor environment — General principles*

[37] ISO 16818:2008, *Building environment design — Energy efficiency — Terminology*

[38] ISO 21929-1:2011, *Sustainability in building construction — Sustainability indicators — Part 1: Framework for the development of indicators and a core set of indicators for buildings*

[39] ISO/TS 21929-2:2015, *Sustainability in building construction — Sustainability indicators — Part 2: Framework for the development of indicators for civil engineering works*

[40] ISO 21930:2017, *Sustainability in buildings and civil engineering works — Core rules for environmental product declarations of construction products and services*

[41] ISO 21931-1:2010, *Sustainability in building construction — Framework for methods of assessment of the environmental performance of construction works — Part 1: Buildings*

[42] ISO/TR 21932:2013, *Sustainability in buildings and civil engineering works — A review of terminology*

[43] ISO 23273:2013, *Fuel cell road vehicles — Safety specifications — Protection against hydrogen hazards for vehicles fuelled with compressed hydrogen*

[44] ISO/IEC IEEE 24765:2010, *Systems and software engineering – Vocabulary*

[45] ISO/IEC/TR 27019:2013, *Information technology — Security techniques — Information security management guidelines based on ISO/IEC 27002 for process control systems specific to the energy utility industry*

[46] U.S. Energy Information Administration. Glossary

Alphabetical index