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**Buildings and civil engineering
works — Vocabulary —**

Part 3:
Sustainability terms

**Здания и сооружения — Словарь —
Часть 3:
Термины устойчивого развития**

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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 of 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 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*, in collaboration with Technical Committee ISO/TC 59, *Buildings and civil engineering works*, Subcommittee SC 17, *Sustainability in buildings and civil engineering works*.

This second edition cancels and replaces the first edition (ISO 6707-3:2017), which has been technically revised.

The main changes are as follows:

- some ambiguous concepts have been clarified;
- terms defined in ISO/TC 59/SC17 standards but not included in the previous edition have been added;
- alignment with definitions in ISO/TC 59/SC 17 standards has been improved;
- reference has been made to definitions in the recently published ISO 14050;
- the method of connecting definitions with ISO 6707-1 has been changed;
- the edition is published in English and Russian.

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

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

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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.

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.

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 in the context of sustainability and sustainable development related to buildings and civil engineering works.

This document does not contain a complete list of terms relevant 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.

A related vocabulary on terms under ISO/TC 268, ISO 37100, focuses on concepts that have been standardized and/or applied through publications within ISO/TC 268.

Where terms are used in definitions to designate concepts that are defined elsewhere in this document, the relevant terms are presented in italics and the term number is given after the relevant term.

To facilitate the locating of any term given in the document, irrespective of preference or country of origin, the alphabetical index lists all preferred and admitted terms.

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.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1 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 82:2019, 3.2, modified — Note 1 to entry has been deleted.]

3.1.2

sustainability

state of the global system, including *environmental* (3.10.3), *social* (3.10.4) and *economic aspects* (3.10.5), 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.

[SOURCE: ISO Guide 82:2019, 3.1, modified — Note 2 to entry has been deleted.]

3.1.3

built environment

collection of man-made or induced physical objects

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

3.1.4

technosphere

sphere or realm of human technological activity

Note 1 to entry: Technosphere includes the technologically modified environment.

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Note 2 to entry: Primary resources are acquired or extracted from the natural part of the geosphere (unaffected by humans). These primary resources are used in the technosphere and result in emissions to the environment.

Note 3 to entry: For definition of geosphere and biosphere, please refer to ISO 27914.

3.1.5

impact

result of a change or existing condition that may be adverse, neutral or beneficial

[SOURCE: ISO 15392:2019, 3.17]

3.1.6

combustion

confined and controlled burning process

Note 1 to entry: Combustion can not only decrease the volume of solid *waste* (3.1.22) destined for *landfill* (3.4.7), but can also recover energy from waste.

Note 2 to entry: The key difference between combustion and incineration is that combustion includes the reaction between substances and oxygen, which produces energy, whereas incineration is the destruction of something via burning.

3.1.7

freshwater

water having a low concentration of dissolved solids

Note 1 to entry: Freshwater typically contains less than 1 000 mg/l 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 21930:2017, 3.6.9]

3.1.8

consumption of freshwater

net *freshwater* (3.1.7) entering the *product system* (3.8.17) being studied that is not returned to the same *drainage basin* (3.2.8) from which it originated

[SOURCE: ISO 21930:2017, 3.6.10]

3.1.9

grey water

waste water from household baths and showers, hand basins and kitchen sinks but excluding waste water and excreta from water closets

[SOURCE: ISO 6107:2021, 3.259, modified — The alternative preferred term "sullage" has been deleted.]

3.1.10

black water

waste water and excreta from water closets, excluding water from baths, showers, hand basins and sinks

[SOURCE: ISO 6107:2021, 3.78]

3.1.11

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

3.1.12**indoor air quality**

quality of air inside a building, described in terms of odour, physical parameters, 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.

Note 3 to entry: Adapted from ISO 16813:2006, 3.21. The definition has been 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.

[SOURCE: ISO 16000-40:2019, 3.24]

3.1.13**indoor environmental quality**

measure of a building's internal environment in relation to the health, comfort and well-being of those who use space within it

3.1.14**indoor acoustic comfort**

occupant satisfaction with the indoor acoustic environment, described in terms of sound pressure level, reverberation and noise level

[SOURCE: ISO 21929-1:2011, 3.3, modified — The word "indoor" has been added to the term; "reaction of occupants to" has been replaced by "occupant satisfaction with"; "audibility" has been replaced by "reverberation and noise level".]

3.1.15**indoor thermal comfort**

occupant satisfaction with the indoor thermal environment, described in terms of air temperature, vapour pressure and air velocity

3.1.16**indoor 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, modified — The word "indoor" has been added to the term.]

3.1.17**circular economy**

economy that is restorative and regenerative by design, and which aims to keep products, components and materials at their highest utility and value at all times, distinguishing between technical and biological cycles

[SOURCE: ISO 14009:2020, 3.1.8]

3.1.18**scenario**

collection of assumptions and information relevant to possible future events

[SOURCE: ISO 21930:2017, 3.1.8]

3.1.19**sick building syndrome**

non-specific symptoms of some building occupants associated with time spent in a building that diminish or disappear when they leave the building

3.1.20

solar heat gain

heat provided by solar radiation entering, directly or indirectly (after absorption or building elements), into the building through windows, opaque walls and roofs, or passive solar devices as sunspaces, *transparent* (3.7.21) insulation and solar walls

[SOURCE: ISO 52000-1:2017, 3.6.10, modified — Note 1 to entry has been deleted.]

3.1.21

volatile organic compound

VOC

any organic liquid and/or solid that evaporates spontaneously at the prevailing temperature and pressure of the atmosphere with which it is in contact

Note 1 to entry: The shortened term, VOC, is used as the primary preferred term in this document.

[SOURCE: ISO 21930:2017, 3.8.5]

3.1.22

waste

any material or object which the holder discards, or intends to discard, or is required to discard

[SOURCE: ISO 15270:2008, 3.34]

3.2 Objects

3.2.1

infrastructure

<construction works> structure, such as a dam, bridge, road, railway, runway, utilities, pipeline, or sewerage system, or the result of operations such as dredging, earthwork, but excluding a building and its associated site works

[SOURCE: ISO 15392:2019, 3.6, modified — The alternative terms "civil engineering works" and "civil engineering project, US" have been deleted; the words "construction works, comprising a" and "geotechnical processes" have been deleted; note 1 to entry has been deleted.]

3.2.2

land take

total area of land required for construction works

[SOURCE: ISO/TS 21929-2:2015, 3.23, modified — "the civil engineering works" has been replaced by "construction works".]

3.2.3

solar farm

large-scale photovoltaic installation that uses *solar energy* (3.6.21) to generate electricity and that is connected to the electricity grid

3.2.4

tidal barrage

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

3.2.5

wind turbine

device that converts kinetic energy from the wind into electricity

3.2.6

wind farm

group of *wind turbines* (3.2.5) in the same location used to produce energy

Note 1 to entry: Wind farms can vary in size from a small number to several hundred wind turbines.

3.2.7**water body**

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

EXAMPLE Lakes, rivers, groundwaters, seas, icebergs, glaciers and reservoirs.

3.2.8**drainage basin**

area from which direct surface runoff from precipitation drains by gravity into a stream or other *water body* (3.2.7)

[SOURCE: ISO 14050:2020, 3.10.23]

3.3 Equipment, products, systems**3.3.1****product****construction product**

item manufactured or processed for incorporation into construction works

Note 1 to entry: Construction product is used as the primary preferred term in this document. Where the term "product" refers to a product used in the construction works, the term "construction product" is used. Where the term "product" has a wider connotation in a standard referred to, the term "product" is retained.

3.3.2**co-product**

product (3.3.1) coming from the same *unit process* (3.4.22) or *product system* (3.8.17) as one or more other products

Note 1 to entry: Where one of the co-products is an input to a process, this is normally considered as a product input. *Waste* (3.1.22) from a unit process or product system is not a co-product.

[SOURCE: ISO 14050:2020, 3.5.13, modified — Note 1 to entry has been added.]

3.3.3**by-product**

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

Note 1 to entry: *Waste* (3.1.22) is distinguished as a non-product, so is not a by-product.

[SOURCE: ISO 21930:2017, 3.4.7, modified — Note 1 to entry has been changed from "Wastes are not by-products".]

3.3.4**heat pump**

device that transfers heat energy from a source of heat to another space or for water heating

Note 1 to entry: A heat pump uses external power to accomplish the work of transferring energy from the heat source.

Note 2 to entry: In common understanding heat pump involves four main components: a condenser, an expansion valve, an evaporator and a compressor.

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

photovoltaic array

two or more photovoltaic modules at one location that together provide a photovoltaic *solar energy* (3.6.21) system

3.3.8

solar collector

device in which solar radiation is absorbed and converted to heat

3.3.9

heat exchanger

device built for efficient heat transfer from one medium to another

Note 1 to entry: Heat exchanger can be used in both heating and cooling processes.

3.3.10

biogas digester

air-tight tank in which *biomass* (3.6.7) is transformed into methane

3.3.11

condensing boiler

oil or gas boiler designed to make use of the latent heat released by condensation of water vapour in the flue combustion

3.3.12

biomass boiler

boiler that burns logs, pellets or chips or other types of *biomass* (3.6.7) and is connected to a heating and hot water system

3.3.13

wood-burning stove

heating appliance capable of burning wood fuel and wood-based *biomass* (3.6.7) fuel that consists of a metallic closed fire container connected by ventilating pipes to a chimney or flue

3.3.14

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

3.3.15

light-emitting diode lamp

LED lamp

semiconductor-based light emitting device that produces light using one or more light-emitting diodes

3.3.16

light pipe

light tube

tube lined with reflective material to channel natural or artificial light into buildings or from one space to another

Note 1 to entry: A light pipe or tube that channels only natural light is referred to as a daylight pipe or daylight tube.

3.3.17**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 without excessive heat generation

3.3.18**smart meter**

energy meter that can both send and receive information using an external electronic communications network

3.3.19**smart grid**

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

3.4 Activities, processes, methods, persons**3.4.1****demolition**

removal by destructive means

EXAMPLE Demolition by pushing or pulling, fragmenting by crushing or shearing, implosion or rapid progressive failure of construction works or their component parts.

[SOURCE: ISO 20887:2020, 3.11]

3.4.2**disassembly**

non-destructive taking apart of a construction works into constituent materials or components

[SOURCE: ISO 20887:2020, 3.12, modified — “or construction asset” has been deleted; note 1 to entry has been deleted.]

3.4.3**disposal**

transformation of the state of construction works that is no longer of use or surplus to requirements

Note 1 to entry: Transformation can include, either individually or in some combination, the *disassembly* (3.4.2) or *demolition* (3.4.1) of the object under consideration.

Note 2 to entry: Transformation can be performed for subsequent *reuse* (3.5.6) or *recycling* (3.4.21) or sending to *landfill* (3.4.7) and incineration.

[SOURCE: ISO 21929-1:2011, 3.9, modified — “building or facility” has been replaced with “construction works”; “or surplus to requirement” has been added; in note 1 to entry, “recycling” has been deleted; “decommissioning, deconstruction and” has been replaced with “disassembly or”; note 2 to entry has been added.]

3.4.4**energy retrofit**

installation and/or implementation of energy conservation measure in an existing construction works

3.4.5**land use change**

change in human use or management of land

[SOURCE: ISO 14055-1:2017, 3.2.7]

3.4.6**waste management**

administrative and operational activities involved in the handling, pretreatment, treatment, conditioning, transport, storage and *disposal* (3.4.3) of *waste* (3.1.22)