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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.

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)

3.4.7

landfill

waste ([3.1.22](#)) disposal ([3.4.3](#)) site for the deposit of waste onto or into land under controlled or regulated conditions

[SOURCE: ISO 21930:2017, 3.8.2]

3.4.8

waste recovery

retrieval or treatment of waste ([3.1.22](#)) for reuse ([3.5.6](#)) or recycling ([3.4.21](#)) as another product

3.4.9

rainwater harvesting

accumulation and deposition of rainwater for reuse ([3.5.6](#)) before it reaches the aquifer

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

3.4.10

reclamation

return of damaged, degraded or derelict land to beneficial use

[SOURCE: ISO 11074:2015, 2.2.11, modified — The alternative preferred term "rehabilitation" and note 1 to entry have been deleted.]

3.4.11

water resource management

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

3.4.12

water withdrawal

anthropogenic removal of water from any water body ([3.2.7](#)) or drainage basin ([3.2.8](#)), either permanently or temporarily

[SOURCE: ISO 14050:2020, 3.10.14]

3.4.13

environmental assessment

process to identify objectively the environmental aspects ([3.10.3](#)) and to determine the consequences of past, current and expected future activities on the environment

3.4.14

environmental management

part of the management system used to manage environmental aspects ([3.10.3](#)), fulfil compliance with environmental obligations and address environmental risks and opportunities

[SOURCE: ISO 14050:2020, 3.3.1, modified — The term has been changed from "environmental management system"; the abbreviated term "EMS" has been removed; "compliance obligations, and address risks and opportunities" has been changed to "compliance with environmental obligations and address environmental risk and opportunities".]

3.4.15

carbonation

carbon dioxide reaction with cementitious products to form calcium carbonate

[SOURCE: ISO 21930:2017, 3.8.1]

3.4.16

downstream process

process that is carried out after the designated process in the stream of relevant processes

Note 1 to entry: Downstream in supply chain includes produced materials, wastes ([3.1.22](#)), emissions and sewage.

3.4.17**upstream process**

process that is carried out before the designated process in the stream of relevant processes

Note 1 to entry: Upstream in supply chain includes sources that are used for production like energy, raw materials, services and transport.

3.4.18**joint co-production process**

process of producing a product and one or more *co-products* (3.3.2) or *by-products* (3.3.3) where the proportion of outputs is not commonly changed or cannot be varied

[SOURCE: ISO 21930:2017, 3.4.8]

3.4.19**life cycle assessment**

compilation and assessment of the inputs, outputs and the potential *environmental impacts* (3.9.14) of a *product system* (3.8.17) throughout its life cycle

[SOURCE: ISO 14050:2020, 3.6.2, modified — The abbreviated term "LCA" has been deleted.]

3.4.20**PCR review**

process whereby a *third-party* (3.4.32) panel verifies the *product category rules* (3.7.14)

[SOURCE: ISO 14050:2020, 3.7.13, modified — The alternative term "product category rules review" has been removed.]

3.4.21**recycling**

recovery operation by which *waste* (3.1.22) 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 and the reprocessing into materials that are used as fuels or for backfilling operations.

3.4.22**unit process**

smallest element considered in the *life cycle inventory analysis* (3.4.26) for which input and output data are quantified

[SOURCE: ISO 14050:2020, 3.6.9]

3.4.23**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 deleted.]

3.4.24**life-cycle costing**

methodology for systematic economic evaluation of life-cycle costs over a period of analysis

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

[SOURCE: ISO 15686-5:2017, 3.1.8, modified — "as defined in the agreed scope" has been deleted.]

3.4.25

life cycle impact assessment

phase of *life cycle assessment* ([3.4.19](#)) aimed at understanding and evaluating the magnitude and significance of the potential *environmental impacts* ([3.9.14](#)) for a *product system* ([3.8.17](#)) throughout the life cycle of the product

[SOURCE: ISO 14040:2006, 3.4, modified — The abbreviated term "LCIA" has been deleted.]

3.4.26

life cycle inventory analysis

phase of *life cycle assessment* ([3.4.19](#)) involving the compilation and quantification of inputs and outputs for a *product* ([3.3.1](#)) throughout its life cycle

[SOURCE: ISO 14050:2020, 3.6.3]

3.4.27

responsible sourcing

responsible sourcing of materials

sustainable approach to managing a product from the point at which its raw materials and energy are extracted or harvested in their raw state through manufacturing and processing

Note 1 to entry: Responsible sourcing manages *social* ([3.10.4](#)), *environmental* ([3.10.3](#)) and/or *economic aspects* ([3.10.5](#)).

Note 2 to entry: Responsible sourcing manages the supply chain.

3.4.28

zero waste

philosophy that encourages the design of resource life cycles so that *waste* ([3.1.22](#)) is eliminated and all products are reused or recycled

3.4.29

lean construction

designing and constructing with the aim of using materials efficiently and decreasing time, effort, costs and wastage in the construction works

3.4.30

verifier

competent person(s) or organization independent of sponsor or practitioner carrying out a sustainability assessment, with responsibility for performing and reporting on a verification process

[SOURCE: ISO 14050:2020, 3.4.5, modified – “competent and independent persons or persons” has been replaced with “competent person(s) or organization independent of sponsor or practitioner carrying out a sustainability assessment.”]

3.4.31

programme operator

body or bodies that conduct a *sustainability* ([3.1.2](#)) assessment programme

Note 1 to entry: Responsibilities, obligations and liability of operators differ depending on the programmes being operated.

Note 2 to entry: The responsibilities of *EPD* ([3.7.23](#)) programme operators are summarized in ISO 14025:2006, 6.3.

3.4.32

third party

person or body not involved in scoping or conducting a sustainability study

3.4.33**footprint**

metric(s) used to report *life cycle assessment* (3.4.19) results addressing an *area of protection* (3.9.6)

[SOURCE: ISO 14050:2020, 3.7.17, modified — “area of concern” has been changed to “area of protection”.]

3.5 Resources for construction works**3.5.1****materials recovery**

recovery from previous use or from *waste* (3.1.22) derived from one *product system* (3.8.17) and used as input to another product system

3.5.2**recovered material**

material that has already been processed or used, then separated, diverted from previous use or removed from a *waste* (3.1.22) stream in order to be recycled for usage as a product performing another function, reused for the same purpose or used to substitute *primary materials* (3.5.5)

3.5.3**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* (3.4.21) are not considered natural replenishment or cleansing.

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

[SOURCE: ISO 21930:2017, 3.6.2, modified — In note 3 to entry, “a measurement based on” has been added.]

3.5.4**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* (3.4.21) are not considered natural replenishment or cleansing.

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

[SOURCE: ISO 21930:2017, 3.6.3, modified — In note 2 to entry, “measurement based on” has been added; note 3 to entry has been deleted.]

3.5.5**primary material****virgin raw material**

material which has never been processed into any form of end-use product

[SOURCE: ISO 21067-2:2015, 2.4.4, modified — The term has been changed from “primary raw material”.]

3.5.6

reuse

operation by which *products* or components are used again

Note 1 to entry: The definition is a modification of that in Directive 2008/98/EC.

3.6 Energy and renewable energy resources

3.6.1

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 fields, coal mines, sun, wind, the ground [*geothermal energy* (3.6.14)], the ocean [*tidal energy* (3.6.17), ocean thermal energy], forests etc.

[SOURCE: ISO 52000-1:2017, 3.4.15]

3.6.2

exported energy

energy supplied by the technical building systems through the *system boundary* (3.8.11)

Note 1 to entry: Exported energy can also come from manufacturing processes or from *waste* (3.1.22) treatment processes, such as electricity from municipal waste treatment plants or *landfill* (3.4.7) gases.

[SOURCE: ISO 52000-1:2017, 3.4.20, modified — In the definition, “assessment boundary” has been replaced by “system boundary”; “expressed per energy carrier” has been deleted; note 1 to entry and note 2 to entry have been deleted; a new note 1 to entry has been added.]

3.6.3

secondary fuel

fuel recovered from previous use or from *waste* (3.1.22), derived from a previous *product system* (3.8.17) and used as an input in another product system

Note 1 to entry: Processes providing a secondary fuel are considered from the point 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, “(i.e., system boundary)” has been deleted.]

3.6.4

low-carbon energy source

source of power which produces fewer greenhouse gases than other means of power generation

3.6.5

fossil fuel

carbonaceous material derived from geological deposits, including coal, peat, natural gas and liquid fuel

3.6.6

carbon-based fuel

fuel whose energy derives principally from the oxidation or burning of carbon

Note 1 to entry: Carbon-based fuels include *fossil fuels* (3.6.5) that are extracted and *biofuels* (3.6.10) that are harvested or waste plastics, waste textiles, meat and bone meal etc.

3.6.7**biomass**

material of biological origin excluding material embedded in geological formations, peat and material transformed to fossilized material

[SOURCE: ISO 14050:2020, 3.8.25]

3.6.8**biobased**

derived from *biomass* ([3.6.7](#))

[SOURCE: ISO 21930:2017, 3.7.4]

3.6.9**biodiesel**

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

3.6.10**biofuel**

fuel derived from *biomass* ([3.6.7](#))

3.6.11**biogenic**

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

[SOURCE: ISO 21930:2017, 3.7.1]

3.6.12**embodied energy**

total of all the energy used in the processes associated with the extraction, production, transportation, installation, use, refurbishment, replacement and disposal at the end of life of *products* ([3.3.1](#)) and services, but excluding the energy used for operation

3.6.13**energy-from-waste**

thermal *waste* ([3.1.22](#)) treatment process in which energy is produced in the form of steam, electricity and hot water

3.6.13.1**waste to energy**

conversion of *waste* ([3.1.22](#)) materials for which no *recycling* ([3.4.21](#)) demand exists diverted from a *landfill* ([3.4.7](#)) into usable heat, electricity, or fuel through a variety of processes, including *combustion* ([3.1.6](#)), gasification, pyrolyzation, anaerobic digestion, and *landfill gas* ([3.9.34](#)) recovery

Note 1 to entry: If the product initially sent to waste is recycled, then *energy-from-waste* ([3.6.13](#)) can be a secondary product.

3.6.14**geothermal energy**

energy emitted from within the Earth's crust, usually obtained from hot water or steam

3.6.15**hydro energy**

electrical energy derived from turbines being spun by flowing water

3.6.16**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]

3.6.17

tidal energy

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

3.6.18

wave energy

useable energy from the kinetic energy of waves

3.6.19

wind power

use of wind to provide mechanical power through *wind turbines* ([3.2.5](#)) to turn electric generators

Note 1 to entry: Traditionally wind power does other work, like milling or pumping.

3.6.20

nuclear energy

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

[SOURCE: US Energy Information Administration. Glossary]

3.6.21

solar energy

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

3.6.22

primary energy

energy that has not been subjected to any conversion or transformation process

[SOURCE: ISO 16818:2008, 3.177, modified — Notes 1 and 2 to entry have been deleted.]

3.6.23

delivered energy

amount of energy arriving at a location or an installation

Note 1 to entry: Delivered energy can be calculated for defined energy uses.

3.6.24

recovered energy

energy recovered from a process, including *waste* ([3.1.22](#)) 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.

3.6.25

renewable energy

energy from a *renewable resource* ([3.5.3](#))

3.6.26

energy carrier

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

[SOURCE: ISO 16745-1:2017, 3.7, modified — Notes to entry have been deleted.]

3.6.27

coefficient of performance

ratio of the rate of heat delivered or removed to the rate of energy input, in consistent units, for a technical building system, under designated operating conditions

[SOURCE: ISO 16818:2008, 3.36, modified — The abbreviated term "COP" has been deleted; "or removed" has been added; "complete heat pump" has been replaced with "technical building"; note 1 to entry has been deleted.]

3.6.28**thermal mass**

capacity of a material to store heat

3.6.29**combined heat and power****CHP**

simultaneous generation of one process of thermal energy and electrical and/or mechanical energy

[SOURCE: ISO 52000-1:2017, 3.3.5, modified — The alternative preferred term "cogeneration" has been deleted.]

3.6.30**cogeneration**

energy conversion from the same source into two or more utilized forms of energy within one common controlled process

Note 1 to entry: *combined heat and power* ([3.6.29](#)) is a specific implementation of cogeneration used for the simultaneous production of heat and electricity.

[SOURCE: ISO/IEC 13273-1:2015, 3.1.8]

3.6.31**post-consumer recycled content**

material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product which can no longer be used for its intended purpose, including returns of material from the distribution chain

[SOURCE: ISO 1382:2020, 3.373, modified — The alternative preferred term "post-consumer material" and the abbreviated term "PCR" have been deleted.]

3.6.32**pre-consumer recycled content**

material diverted from the *waste* ([3.1.22](#)) stream during a manufacturing process, excluding reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it

[SOURCE: ISO 1382:2020, 3.375, modified — The term has been changed from "post-industrial recycled content"; the alternative preferred term "pre-consumer material" and the abbreviated term "PIR" have been deleted.]

3.6.33**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-carbon energy source* ([3.6.4](#))

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

3.6.34**green energy tariff**

charge for the supply of energy that comes directly from renewable sources or guarantees through a contractual instrument that make a contribution to environmental schemes

3.7 Data, information, documents**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 that are not product, service, site or enterprise specific

3.7.3

primary data

quantified value of a *unit process* ([3.4.22](#)) or an activity obtained from a direct measurement or a calculation based on direct measurements at the original source

[SOURCE: ISO 14050:2020, 3.6.34]

3.7.4

secondary data

data that do not fulfil the requirements for *primary data* ([3.7.3](#))

[SOURCE: ISO 14050:2020, 3.6.35]

3.7.5

proxy data

approximate data used if no system *specific data* ([3.7.8](#)) 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.

[SOURCE: ISO 21930:2017, 3.5.5]

3.7.6

average data

data based on a fully representative sample for a product or service provided by one or more suppliers, either from their multiple plants or based on multiple similar products of the supplier(s)

Note 1 to entry: The *product category* ([3.7.13](#)) or service can contain similar products or services.

[SOURCE: ISO 21930: 2017, 3.5.6, modified — “construction product” has been replaced by “product”; “construction service” has been replaced by “service”.]

3.7.7

average EPD

EPD ([3.7.23](#)) based on *average data* ([3.7.6](#))

[SOURCE: ISO 21930:2017, 3.1.12]

3.7.8

specific data

data representative of a *product* ([3.3.1](#)) or product group or service, provided by one supplier

[SOURCE: ISO 21930:2017, 3.5.3, modified — “construction product” has been replaced by “product or product group”; “construction service” has been replaced by “service”; “either from multiple plants or based on multiple similar products of the supplier” has been deleted.]

3.7.9

additional technical information

technical information that is additional to the information system to indicate technical details

[SOURCE: ISO 20560-1:2020, 3.2 — “safety” has been deleted; EXAMPLE has been deleted.]

3.7.10**information module**

compilation of data covering a *unit process* ([3.4.22](#)) or a combination of unit processes that are part of the life cycle of a *product* ([3.3.1](#))

[SOURCE: ISO 14050:2020, 3.6.47]

3.7.11**reference service life data****RSL data**

information that includes the *RSL* ([3.8.3](#)), and any qualitative or quantitative data describing the validity of the RSL

Note 1 to entry: Typical data describing the validity of the RSL include the description of the component for which it applies, the reference in-use conditions under which it applies and its quality.

Note 2 to entry: The shortened term, RSL data, is used as the primary preferred term in this document.

[SOURCE: ISO 21930:2017, 3.2.17]

3.7.12**energy flow**

input to or output from a *unit process* ([3.4.22](#)), an *information module* ([3.7.10](#)) or a *product system* ([3.8.17](#)), quantified in energy units

[SOURCE: ISO 14050:2020, 3.6.13]

3.7.13**product category**

group of products that can fulfil equivalent functions

[SOURCE: ISO 14025:2006, 3.12]

3.7.14**product category rules****PCR**

set of specific rules, requirements and guidelines for developing *environmental declarations* ([3.7.22](#)), *EPDs* ([3.7.23](#)) and *footprint communications* ([3.7.24](#)) for one or more *product categories* ([3.7.13](#))

[SOURCE: ISO 14050:2020, 3.7.12, modified — "Type III" has been deleted; "EPDs" has been added.]

3.7.15**declared unit**

quantity of a *product* ([3.3.1](#)) or service for use as a reference unit in an *EPD* ([3.7.23](#)) based on *life cycle assessment* ([3.4.19](#)) or another type of quantified environmental data, for the expression of environmental information needed in *information modules* ([3.7.10](#))

EXAMPLE Mass (kilogram or metric tonne), volume (cubic metre).

Note 1 to entry: The declared unit is used where the function and the reference *scenario* ([3.1.18](#)) for the whole life cycle, on the construction works level, cannot be stated.

[SOURCE: ISO 21930:2017, 3.1.11, modified — "construction product" has been changed to "product"; "or service" and "or another type of quantified environmental data" has been added.]

3.7.16**whole-life costing**

systematic economic consideration of all *whole-life costs* ([3.8.5](#)) and benefits over a period of analysis, as defined in the agreed scope

[SOURCE: ISO 15686-5:2017, 3.1.15, modified — At the beginning of the definition, "methodology for" has been deleted.]

3.7.17

functional unit

quantified performance of a *product system* ([3.8.17](#)) for a product or service for use as a reference unit in an *EPD* ([3.7.23](#)) based on *life cycle assessment* ([3.4.19](#)) that includes all stages of the life cycle

Note 1 to entry: The four stages of the life cycle are production stage, construction stage, use stage and end-of-life stage.

[SOURCE: ISO 21930:2017, 3.4.5, modified — “construction product or construction service” has been replaced by “product or service”.]

3.7.18

energy cost budget

maximum allowable estimated annual energy expenditure for a proposed construction works

3.7.19

traceability

ability to trace the history, application or location of what is under consideration

[SOURCE: ISO 21931-2:2019, 3.32]

3.7.20

transparency

open, comprehensive and understandable presentation of information

[SOURCE: ISO 21930:2017, 3.3.9]

3.7.21

transparent

open, comprehensive and understandable

Note 1 to entry: Derived from the definition of *transparency* ([3.7.20](#)).

[SOURCE: ISO 21930:2017, 3.3.10]

3.7.22

environmental label

environmental declaration

claim which indicates the *environmental aspects* ([3.10.3](#)) of a product 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 14050:2020, 3.7.1, modified — The alternative preferred term “environmental declaration” has been added; “or service” has been added; note 1 to entry has been added.]

3.7.23

environmental product declaration

EPD

environmental declaration ([3.7.22](#)) 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, modified — The alternative preferred term “Type III environmental declaration” has been deleted.]

3.7.24**footprint communication**

result of the preparation, provision and dissemination of a *footprint* ([3.4.33](#)), supporting information and explanatory statement

[SOURCE: ISO 14050:2020, 3.7.18]

3.8 Life cycle planning**3.8.1****level of serviceability**

number indicating the relative serviceability 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.

3.8.2**estimated service life**

service life that a building or parts of a building or other construction works would be expected to have in a set of specific in-use conditions, determined from *reference service life data* ([3.7.11](#)) after taking into account any differences from the *reference in-use conditions* ([3.8.15](#))

[SOURCE: ISO 15686-1:2011, 3.7, modified — The abbreviated term "ESL" has been deleted; "or other construction works" has been added.]

3.8.3**reference service life**

service life 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, modified — The abbreviated term "RSL" has been deleted.]

3.8.4**required service life**

service life required by the client or by regulations

Note 1 to entry: The required service life is considered in the calculation of replacements at both the *product* ([3.3.1](#)) level and construction works level (B4) and refurbishment.

[SOURCE: ISO 21930:2017, 3.2.14, modified — "through regulations" has been changed to "by regulations"; "construction product" has been changed to "product".]

3.8.5**whole-life cost**

all significant and relevant initial and future costs and benefits of a construction works or its parts, throughout its life cycle, while fulfilling the performance requirements

3.8.6**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 15686-5:2017, 3.1.9, modified — "building" has been changed to "construction works"; note 1 to entry has been deleted.]

3.8.7

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]

3.8.8

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.

3.8.9

return on investment

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 24765:2017, 3.3492, modified — The abbreviated term "ROI" has been deleted.]

3.8.10

gate

point at which the product or material leaves the factory or other processing operation, before it becomes an input into a subsequent manufacturing process or before it is transported to a distributor, another factory or a site

[SOURCE: ISO 21930:2017, 3.3.8, modified — "construction product" has been changed to "product"; "or other processing operation" has been added; "construction site" has been changed to "site".]

3.8.11

system boundary

boundary based on a set of criteria specifying which *unit processes* ([3.4.22](#)) are part of the system under study

[SOURCE: ISO 14050:2020, 3.6.8]

3.8.12

service life planning

process of preparing the brief and the design for the building and its parts to perform during building life stages as intended

Note 1 to entry: Service life planning can, for example, reduce the costs of building ownership and facilitate maintenance and refurbishment.

[SOURCE: ISO 20887:2020, 3.37, modified — At the beginning of the definition, "design" has been deleted; "achieve the design life" has been replaced with "perform during building life stages as intended".]

3.8.13

external costs

costs associated with an asset that are not necessarily reflected in the transaction costs between provider and consumer and that, collectively, are referred to as externalities

Note 1 to entry: These costs may include business staffing, indirect or non-product charges and user costs.

Note 2 to entry: These can be taken into account in a *life-cycle costing* ([3.4.24](#)) analysis but should be explicitly identified.

[SOURCE: ISO: 15686-5:2017, 3.1.6, modified — In note 1 to entry, “productivity” has been replaced with “indirect or non-product charges”; the second sentence of note 1 to entry has been transferred to note 2 to entry.]

3.8.14

characterization factor

factor derived from a characterization model, which is applied to convert an assigned *life cycle inventory analysis* ([3.4.26](#)) result to the common unit of the category *indicator* ([3.10.8](#))

[SOURCE: ISO 14050:2020, 3.6.23]

3.8.15

reference in-use condition

in-use condition under which the *RSL data* ([3.7.11](#)) are valid

Note 1 to entry: The reference in-use conditions can be based on upon information gathered through testing or from recorded performance and actual service life data of a component.

[SOURCE: ISO 21930:2017, 3.2.16, modified — Note 1 to entry has been deleted; the original note 2 to entry has become note 1 to entry.]

3.8.16

reference study period

period of time over which the relevant aspects and *impacts* ([3.1.5](#)) of the construction works are analysed

Note 1 to entry: The reference study period is determined by the client.

[SOURCE: ISO 21931-2:2019, 3.23, modified — “civil engineering works” has been replaced with “construction works”.]

3.8.17

product system

collection of *unit processes* ([3.4.22](#)) with elementary flows and product flows, performing one or more defined functions and which models the life cycle of a product

[SOURCE: ISO 14050:2020, 3.5.1]

3.8.18

impact category

class representing an economic, environmental or social issue(s) of concern [*areas of protection* ([3.9.6](#))] to which analysis (assessment) results may be assigned

Note 1 to entry: Issues of concern can involve either *impacts* ([3.1.5](#)) or aspects related to the economy, the environment or society.

Note 2 to entry: For *life cycle assessment* ([3.4.19](#)) impact category is a class representing environmental issues of concern to which *life cycle inventory analysis* ([3.4.26](#)) results can be assigned.

[SOURCE: ISO 21929-1:2011, 3.15, modified — The original note 2 to entry has been replaced with a new one.]

3.8.19

obsolescence

loss of ability of a product to perform satisfactorily due to the end of life cycle of the product or service