Glossary

A

AASHTO M240
A standard for blended cement specified by the American Association of State Highway and Transportation Officials.

Agitator truck
A truck that transports ready-mixed concrete in a rotating cylindrical container which agitates the concrete during transportation. It is also sometimes called a cement truck or concrete mixer truck.

ASTM C595
ASTM are American industrial standards, and C595 is a standard for blended cement.

Autoclaved lightweight concrete
Concrete which contains many air bubbles that is made from silica, cement, quicklime, and aluminum, and cured under high temperature and pressure conditions.

B

Bag filter
Equipment that uses cloth to filter dust that is contained in an air stream. When applied to a cement kiln, the amount of dust in the exhaust gas can be reduced to extremely low levels.

Blast furnace slag
A by-product of the iron and steel making process to remove impurities from steel products, and sometimes referred to simply as slag.

Bulk materials
A generic term for materials such as fly ash and crushed blast furnace slag that are sold in powder form as-is, without being packed in bags.

C

C2SP Kiln
A clinker firing furnace capable of directly capturing a high concentration of CO_2 by separating the combustion gas system from the oxygen-fired calciner. It inherits the features of the NSP kiln.

CARBOCATCH
A CO_2 mineralization technology that uses carbonation. CO_2 can be efficiently mineralized in concrete by mixing cement slurry that has absorbed CO_2 with water.

CARBOFIX cement
A special cement that cures by absorbing CO_2. CO_2 emissions are reduced by 60% compared to ordinary Portland cement.

Carbon pricing
A policy approach that seeks to change the behavior of emitters by putting a price on CO_2 emissions. Carbon taxes and emissions trading schemes are typical examples.

Career Day
An activity in which companies gather at a school to explain their companies to students and share information about the education and skills needed for work and career advancement.

Cathode material
Material used for the positive electrode of a battery.

CCS
Carbon Capture and Storage - A series of systems in which CO_2 is captured from the exhaust gases of industrial processes such as power and cement plants, and is permanently stored in depleted oil fields and submarine formations.

CCU
Carbon Capture and Utilization - A series of systems in which CO_2 captured from the exhaust gases of industrial processes such as power and cement plants, and is reused in industrial processes or for plant cultivation.

CCUS technology
A generic term for a series of technologies that captures CO_2 for utilization or permanent storage.

Cement based soil stabilizer
A cement-based ground improvement material that is used to provide long-term, stable strength enhancement to a wide range of soil types.

Cement calcination
Synonymous with clinker calcination.

Clinker
An intermediate, nodular cement product produced when the raw materials of cement such as limestone and clay are fired in a kiln.

Clinker calcination
A process in which the raw materials of cement such as limestone and clay are heated at 1450°C to obtain clinker.

Clinker cooler
Equipment that rapidly cools high-temperature clinker that has been fired in a cement kiln, using air supplied from a cooling fan.

CO_2-cured
The process of absorbing CO_2 whilst hardening (curing). CO_2-cured cement absorbs CO_2 during hardening.

Concrete slump
An index that indicates the fluidity of fresh ready-mixed concrete, where the higher the number, the higher the fluidity. One of the control items during concrete production.

D

Distribution terminal
An intermediate cement distribution center that connects cement plants and users. It is also called service station or SS in Japan.

F

Fly ash
Ash derived from coal which is generated from a coal-fired thermal power plant and is collected from the exhaust gas airstream by an electrostatic precipitator.

Fly ash blended cement
A blended cement that uses fly ash as a blending material.

Fresh concrete
Concrete that has not yet cured (hardened), which includes ready-mixed concrete.

Functional hollow particles
Minute, lightweight ceramic spheres which provide weight reduction and thermal insulation/shielding properties for use in coating materials for home appliances, electronic components, resin products etc.

G

GCCA
The Global Cement and Concrete Association is an industry association of approximately 40 cement manufacturing companies worldwide, covering about 40% of global production capacity.

Glass cullet
Glass products that have been crushed for the purpose of recycling. In addition to being used as a raw material for glass, it is also used as material for roadbeds and road paving.

H

Heavy metal immobilizer
A material for mixing into soil that enables the safer treatment of construction soil by inhibiting the leaching of heavy metals that are specified in the Soil Contamination Countermeasures Act.

I

Innovandi
A worldwide research network operated by the GCCA. It conducts research and studies on materials such as sustainable concrete.

K

Kiln
A combustion furnace used for clinker firing. Usually a cylindrical rotary furnace with a diameter of 5-6 m and a length of 60-100 m is used.

Kiln brick
Refractory bricks that are laid inside a kiln used for clinker firing in order to protect the steel outer casing, as the temperature inside the kiln can reach 1,450°C.

Kiln operation
The series of operations in which the kiln is operated and the cement material is fired.

L

Low-temperature embrittlement
Technology that improves the shreddability of waste material that is difficult to process due to plastic and metal being entwined, such as automobile shredder residue, and separates the constituents.

M

Methanation
The synthesis of methane from CO_2 and hydrogen. This technology is attracting attention as it is carbon neutral through the use of green hydrogen.

N

Nanolitia
Lithium-ion battery cathode material that features high thermal stability and does not use cobalt.

Nature positive
Being aimed toward halting the loss of biodiversity and moving towards rehabilitation.

New type of blended cement
A type of blended cement that is not included in the product specifications for blended cement, and is predicted to be made from multiple types of diverse blended materials.

NSP kiln
A clinker firing kiln which boasts excellent thermal efficiency and is equipped with a preheater consisting of four to five stages of cyclones and a combustion furnace called a calciner.

O

OSHMS
A framework for reducing potential dangers of occupational accidents at workplaces and promoting comfortable work sites by autonomously practicing continuous, uninterrupted health and safety management.

P

Portland cement
A generic term for commonly used cement, and primarily refers to ordinary cement.

Power semiconductors
Semiconductors that control motors and lighting or convert power, and are characterized by the high voltages and currents they handle.

Premix products
Commercial products that contain cement, sand, and other materials in a predetermined ratio and can be mixed with water to make materials such as mortar.

R

Return roller return powder cleanup work
The lower rollers of a conveyor belt are cleaned periodically because the material which adheres to a conveyor belt tends to accumulate there like a snowball.

Rotary kiln
A rotating cylindrical firing furnace for clinker firing. It is sometimes simply called a kiln.

S

SBT
Science Based Target for CO_2 emissions reduction. CO_2 emission reduction targets based on scientific evidence and consistent with the Paris Agreement. Primarily, emission reductions of at least 4.2% per year are required.

Shake Out drill
An earthquake response drill in which all participants simultaneously take actions for their own safety, such as hiding under a desk, which provides an opportunity to confirm the everyday disaster prevention measures.

Slag
Blast furnace slag.

Sludge
A mixture of dirt and liquid. In particular, concrete sludge is generated during the production and laying of ready-mixed concrete.

SP Kiln
A clinker firing kiln with a preheater consisting of four to five stages of cyclones. Thermal efficiency is improved by dry blending the raw materials.

T

Total basin risk score
An assessment indicator of water risk; the WWF's Water Risk Filter and the WRI's Aqueduct are standardly used.

U

Ultra-pure silicon carbide
A compound of silicon and carbon with extremely high purity such as 3N (99.9% or higher). It is used as a raw material for semiconductors that handle high electric power.

V

Volume reduction technology
A generic term for technologies that reduce the volume of an object. For example, incineration of solid municipal waste reduces the load on landfills.

W

Wet long kiln
A clinker firing kiln in which the raw materials are prepared in a wet consistency and directly fed into the kiln. As the water is removed through evaporation, the thermal efficiency is low and not suitable for increased production.