



Green Industry Definitions

2030 Challenge

A program created by Architecture 2030 and adopted by AIA, the U.S. Green Building Council, the Clinton Climate Initiative and others. It calls for all new buildings, developments, and major renovations to be designed to meet a fossil fuel, greenhouse-gas-emitting, energy-consumption performance standard of 50 percent of the regional (or country) average for that building type. The ultimate goal is for all new buildings and major renovations to be carbon neutral by the year 2030.

Adaptive Reuse

The process of rehabilitating existing structures.

Athena Sustainable Materials Institute

A non-profit organization that furthers the use and science of life-cycle assessment through software, databases, and customized consulting service. The institute also works with the international research community, and created EcoCalculator and Impact Estimator software.

BEES

Building for **E**nvironmental and **E**conomic **S**ustainability. This software tool developed by the National Institute of Standards and Technology (which is an agency of the U.S. Department of Commerce) measures the environmental performance of building products by using the life-cycle assessment approach specified in the ISO 14040 series of standards.

Bioswale

A landscape element designed to remove silt and pollution from surface runoff water. It is also known as rain gardens or constructed wetlands.

BIM

Building Information Modeling is an open-standards-based repository of information for facility owners and operators to use and maintain throughout the life cycle of a facility.

Biobased Products

Commercial or industrial products (other than food or feed) composed in whole or in significant part from biological products or renewable domestic agricultural materials (such as plant, animal, and marine life) or forestry materials. (<http://www.ofee.gov/gp/bioprod.asp>)

Biodegradable

A product capable of decomposing under natural conditions into elements found in nature.

Biomass

Any material that is or was a living organism, or that was excreted from a microorganism.

Biomimicry

This is the science of studying nature and its models, systems, processes, and elements, and taking creative inspiration from them to design materials or processes.

Black Body

A black body emits radiation at the maximum possible rate at any given temperature, and has an emissivity of 1.0.

Black Water

This is nonindustrial wastewater from a house's sanitation equipment, including septic tanks, water from toilets, and sewage. It also includes wastewater containing significant food residues or high concentrations of toxic chemicals from household cleaners. Black Water may also be considered "dark grey."

Building Envelope

An exterior assembly that encloses the interior space of a building. It serves as the outer shell to protect the indoor environment and facilitate its climate control. Building envelope design draws from all areas of building engineering, especially building science and indoor climate control. It includes four major performance objectives: structural integrity, moisture control, temperature control, and control of air-pressure boundaries (including air movement into and out of the interior space and through the components of the building envelope interstitial). The physical components of the envelope include the foundation, doors, and windows, roof and walls, and the insulation encompassed in these components.

Building Information Modeling (BIM)

The open standards-based repository of information for the facility owner or operator to use and maintain throughout the life cycle of a facility.

Building Integrated Photovoltaics (BIPV)

Solar cells integrated into the design of a building's roofs or walls.

Building Performance

The behavior in service of construction as a whole or of a building's components.

Cap and Trade

A market-based policy tool for protecting human health and the environment. Sources covered by the program receive authorizations to emit in the form of emissions allowances with the total amount of allowances limited by a cap. Each source can design its own compliance strategy to meet the overall reduction requirements, including sale or purchase of allowances, installation of pollution controls, implementation of efficiency measures, among other options. Each emission source must surrender allowances equal to its actual emissions to comply. Sources also must completely and accurately measure and report all emissions in a timely manner to guarantee the overall cap is achieved.

Carbon Emissions

Measure of the total amount of harmful greenhouse-gas-equivalent emissions produced directly or indirectly.

Carbon Footprint

The total amount of greenhouse gases emitted directly and indirectly to support human activities, usually expressed in equivalent tons of carbon or carbon dioxide. Carbon footprint is calculated by countries as part of their reporting requirements under the Kyoto Protocol, and by companies, regions, or individuals.

Carbon Offsets

This is an emission-reduction credit from another organization's project that results in less carbon dioxide or other greenhouse gases in the atmosphere. Measured in metric tons of carbon-dioxide equivalent, one carbon offset represents the reduction of one metric ton of carbon dioxide or its equivalent in other greenhouse gases.

Carbon Neutral

The achievement of net-zero carbon emissions by balancing a measured amount of carbon released with an equivalent amount sequestered or offset. The best practice for organizations and individuals seeking carbon-neutral status entails reducing or avoiding carbon emissions so that only unavoidable emissions are offset. Carbon neutral can also refer to the practice of balancing carbon dioxide released into the atmosphere with renewable energy to create a similar amount of useful energy so the carbon emissions are compensated. Carbon-neutral buildings are those that require no greenhouse-gas-emitting energy to operate.

Climate Change

Refers to all forms of climatic inconsistency and implies a significant change from one climatic condition to another. While it is often used synonymously with global warming, the term is used by scientists in a wider sense to include natural changes to climate in specific regions of the planet.

Climate Neutral

The process of offsetting carbon-producing activities with those that reduce or capture carbon. It refers to products, services, and enterprises that have little or no effect on Earth's climate.

Commissioning

Providing documented confirmation that building systems function according to criteria set forth in the project documents to satisfy the owner's operational needs.

Constructed Wetlands

Landscape elements designed to remove silt and pollution from surface runoff water. Also called bioswales and rain gardens.

Construction Waste Recycling

The separation and recycling of recoverable waste materials generated during construction and remodeling. Packaging, new material scraps, and old materials and debris constitute potentially recoverable materials.

Continuing Education Unit/Construction Education Network (CEU/CEN)

Earn credits for taking classes or attending seminars or workshops.

Cool Metal Roofing Coalition

A non-profit organization comprised of trade associations in the metal roofing industry whose purpose is to educate architects, building owners, specifiers, codes and standards officials, and other stakeholders about the sustainable and energy-related benefits of metal roofing.

Cool Roof Rating Council (CRRC)

An independent, non-profit organization that maintains a third-party rating system for radiative properties of roof-surfacing materials.

Cool Roofing

A roof that reflects and emits a large percentage of the sun's energy heat back to the sky instead of transferring it to the structure below.

Cradle to Cradle

Modeling human industry on nature's process in which materials are viewed as nutrients circulating in healthy, safe metabolisms.

Cradle to Cradle Certification

A program of MBDC that certifies products that are made from environmentally safe and healthy materials; designed for material reutilization, such as recycling or composting; use renewable energy and energy efficiency; efficiently use water and maximum water quality associated with production; and institute strategies for social responsibility.

Cradle to Grave

From generation to disposal.

Daylighting

The practice of placing windows or other openings and reflective surfaces so that natural day light provides effective internal illumination. Particular attention is given to daylighting when the aim is to maximize visual comfort or reduce energy use while designing a building.

Deconstruction

The disassembly of buildings for the purpose of recovering materials.

Down cycle

The process of recycling a material into a lesser-quality material.

DSIRE (www.dsireusa.org)

Database of State Incentives for Renewables & Efficiency. A source of information about state, local, utility, and federal incentives that promote renewable energy and energy efficiency.

EcoCalculator

A tool from the Athena Sustainable Materials Institute that provides life-cycle assessment of building-envelope assemblies.

Ecological Impact

The effect that an activity has on living organisms, their non-living environment and the ecosystem.

Embodied Energy

The energy used through the life cycle of a material or product to extract, refine, process, fabricate, transport, install, commission, utilize, maintain, remove, and ultimately recycle or dispose of the substances comprising the material.

Emissions

The release of gases or liquids into the environment.

Emissivity

A measure of a material's ability to radiate thermal energy. It is expressed as a ratio (decimal) of the radiating ability of a given material to that of a black body.

Energy Audit

A thorough assessment of a building's thermal efficiency.

Energy Code

A local requirement that outlines the minimum level of energy-efficiency measures for new construction. Energy codes are updated on an ongoing basis and minimum levels of efficiency are set by considering the cost of energy and what level provides a reasonable payback.

Energy Efficiency

Ratio of energy output of a system's conversion process to its energy input. It refers to products or systems designed to use less energy for the same or higher performance than typical products or systems.

EnergySmart Home Scale (E-Scale)

A tool that helps homebuyers and building owners make smart energy decisions when purchasing, renting, or updating a home. It is part of the DOE's Builders Challenge and scores the building's energy rating relative to a typical existing home.

Energy Star

A joint program of the U.S. Environmental Protection Agency and U.S. Department of Energy designed to help consumers save money and protect the environment through energy-efficient products and practices. The program also certifies homes and commercial buildings with a rating based on proven energy management and efficiencies.

Environmental Indicator

This is a measurement, statistic, or value that provides a proximate gauge or evidence of the effects or state of environmental management programs. An environmental indicator assesses natural resources and environmental quality.

Environmentally Preferred Product (EPP)

Also known as Environmentally Preferred Purchasing, it refers to helping the federal government buy ecologically sustainable materials.

Environmental Product Declaration (EPD)

A system used to provide relevant, verified, and comparable information to meet various customer and market needs. The international EPD system helps organizations to communicate the environmental performance of their products (goods and services) in a credible and understandable manner.

Garden or Green Roof

A building's roof that is partially or completely covered with vegetation and soil or a growing medium, planted over a waterproofing membrane. Categorized as extensive (6 inches or shallower and designed to satisfy specific engineering and performance goals) or intensive (quite deep and creating on-structure plaza landscapes with promenades, lawns, large perennial plants and trees). A garden roof is also known as a green, vegetated, or landscape roof.

Greywater

Also known as sullage, greywater is non-industrial wastewater generated from domestic processes, such as dishwashing, laundry, and bathing. Greywater gets its name from its cloudy appearance and from its status as being neither fresh (white water from groundwater or potable water), nor heavily polluted (black water).

Green Building

A building that provides the specified building-performance requirements while minimizing disturbance to and improving the function of local, regional and global ecosystems during and after its construction and specified service life.

Green Building Initiative (GBI)

A non-profit organization whose mission is to accelerate the adoption of building practices that result in energy-efficient, healthier, and environmentally sustainable buildings by promoting credible and practical green-building approaches for residential and commercial construction. Green Globes is the certification program for commercial buildings. The NAHB Model Green Homebuilding Guidelines are what GBI promotes for residential buildings.

GreenFormat (www.greenformat.com)

A database from the Construction Specifications Institute for reporting sustainable product attributes.

Green Globes

Building environmental design and management tool that delivers an online assessment protocol, rating system, and guidance for green-building design, operation, and management. It is interactive and provides market recognition of a building's environmental attributes through third-party certification. Green Globes is a program of the GBI.

Greenhouse Gas

Any gas that is naturally or unnaturally occurring and absorbs infrared radiation in the atmosphere, including water vapor, carbon dioxide, methane, nitrous oxide and hydro fluorocarbons, and then re-emits. The gases act to contain heat from escaping the Earth's atmosphere.

Greenwash

A false claim or misrepresentation by products or organizations about environmental practices, benefits, and impacts.

Heat Flow

The rate at which heat moves from an area of higher temperature to an area of lower temperature. Btu/hour (W/hour). Heat flow is generally used to quantify the rate of total heat gain or heat loss of a system.

High-Performance Building

A building with energy, economic and environmental performance that is substantially better than standard practices.

Historic Preservation

Maintaining the ability of older (historic) buildings to communicate an intended meaning rooted in cultural and social mores. Historic preservation often is connected to healthy living, sustainability, and green building to justify the retention of the older built environment.

Indoor Air Quality (IAQ)

The composition and characteristics of air in an enclosed space that affects the occupants of that space.

Indoor Environmental Quality (IEQ)

The condition or state of the indoor environment.

IECC

International Energy Conservation Code

IGCC

International Green Construction Code

Integrated Design

The process of bringing all stakeholders into the design of a building project, allowing for collaboration, and considering many areas of expertise and insights.

Kyoto Protocol

The internationally binding agreement under the UN Framework Convention on Climate Change that sets greenhouse-gas targets to abide by. Created in 1997, it came into effect in 2005 and requires developed countries to reduce emissions by 5 percent compared with 1990 levels by 2012. It is administered by the Secretariat of the UN Framework Convention on Climate Change.

Life Cycle

The length of time during which an investment is analyzed. Consecutive and interlinked stages of a product system from raw material acquisition or generation of natural resources to the final disposal.

Life Cycle Assessment (LCA)

A method of evaluating a product by reviewing the ecological impact during the life of the product.

Life-Cycle Cost Method (LCC)

A technique of economic evaluation that summarizes during a given period the costs of initial investment (less resale value), replacements, operations (including energy use), and maintenance and repair of an investment decision (expressed in present or annual value terms).

Life-Cycle Inventory (LCI)

A database that provides a cradle-to-grave accounting of the energy and material flows into and out of the environment that are associated with producing a material, component or assembly. It helps LCA experts answer questions about environmental impacts.

Leadership in Energy and Environmental Design (LEED)

Created by the U.S. Green Building Council to define green building through establishing a common standard of measurement and promote integrated, whole building design practices.

LEED-Accredited Professional (LEED AP)

A person who has demonstrated knowledge of the LEED Rating System and its application in practice.

McDonough Braungart Design Chemistry (MBDC)

A product and process design firm dedicated to transforming the design of products, processes and services worldwide. It was founded in 1995 by William McDonough and Michael Braungart.

NAHB Model Green Homebuilding Guidelines

A green-building certification program for single-family homes, managed by the National Association of Home Builders and the NAHB Research Center. It is promoted by the Green Building Initiative.

National Green Building Standard

A green-building certification program for single-family and multi-unit homes, lot and site development, and residential remodeling projects managed by the National Association of Home Builders and the NAHB Research Center.

National Institute of Standards and Technology

An agency of the U.S. Department of Commerce whose mission is to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve quality of life.

Net-Zero-Annual Site Energy

A building that offsets any imported energy by exporting an equal amount of site-derived energy.

Net-Zero-Annual Source Energy

Based on energy used offsite to generate and transport the energy used at the building.

Net-Zero-Annual Energy Cost

The amount of money the utility pays a building owner for the energy that building exports to the grid. It equals the amount the utility charges the building owner for the energy imports from the grid.

Net-Zero-Annual Emissions

A zero-emissions building offsets emissions equivalent to the amount emitted through the source energy that powers the building.

Net-Zero Energy

Greatly reduced need for energy through efficiency gains (60 to 70 percent less than conventional practice) with the balance of energy needs supplied by renewable technologies.

Net-Zero Energy Ready

A building set up to integrate practices that will greatly reduce the need for energy through energy-efficiency gains. It involves the use of technology to create a "living" building that has a net-zero annual impact on the environment from an operational standpoint.

Non-Renewable Resource

A resource that exists in a fixed amount and which cannot be replenished on a human time scale.

Passive Solar

Strategies that use sunlight for useful energy without use of active mechanical systems. Such strategies convert sunlight into usable heat (water, air, thermal mass) and provide air movement for ventilating with minimal use of other energy sources.

Performance Metrics

Standardized measurements and procedures for measuring building performance.

Photovoltaic's (PV)

The application of solar cells for energy by converting sunlight directly into electricity.

Post Consumer

Refers to materials that are reclaimed from products that already have served their intended end use as consumer items. It is sometimes referred to as “pre-industrial.”

Preconsumer

Refers to materials that are reclaimed from manufacturing and other industrial processes and products that have not served their intended end-use as a consumer item. Sometimes referred to as “postindustrial.”

Photovoltaics (PV)

The application of solar cells for energy by converting sunlight directly into electricity.

Radiation

The transfer of heat energy by direct rays traveling through space to a solid substance, but without heating the air (similar to light rays). An example is the sun warming the Earth. Radiant heat energy also can be reflected (via a mirror) or absorbed (through dark clothing).

Rain Garden

Landscape element designed to remove silt and pollution from surface runoff water. Also known as bioswales and constructed wetlands.

Rainwater Catchment

Also known as rainwater harvesting, it refers to the collection and storage of rainwater. Collection is usually from rooftops, with storage is in tanks. Stored water can be used for nonpotable purposes such as irrigating lawns, washing cars, or flushing toilets.

Rainwater Harvesting

The collection and storage of rain (usually from rooftops) and stored in tanks. Stored water can be used for non-potable purposes, such as irrigating lawns, washing cars, or flushing toilets. It is also known as rainwater harvesting.

Renewable Resource

A resource grown, naturally replenished or cleansed at a rate that exceeds depletion of the usable supply of that resource.

Raw Materials

Primary or secondary unprocessed materials.

Recovered Materials

Waste material and byproducts that have been recovered or diverted from the waste stream. This does not include materials and byproducts generated from and commonly used within an original manufacturer process.

Recycled Content

Proportion, by mass, of recycled material in a product or packaging. Only pre-consumer and post-consumer materials are considered recycled content.

Renewable Energy

Energy obtained from renewable sources such as wind, solar, geothermal, tidal, and forestry and agricultural products and byproducts.

Reuse

Using a material, product, or component from the waste stream in its original form more than one time.

Solar Heating

Harnessing the power of the sun to heat water, indoor living spaces, and pools. A solar heating system saves energy, reduces utility costs, and produces clean energy. It is also known as solar thermal energy.

Solar Reflectance Index

A measure of a material's surface temperature as calculated using its solar reflectance, thermal emissions and convective cooling from wind. ASTM E1980 is the common method for calculating the index (SRI).

Solar Shading

Materials that allow daylight into a building while blocking heat, such as overhangs, sunshades, exterior sunscreens, awnings, canopies, and louver blades.

Solar Thermal Energy

The process of harnessing the power of the sun to provide heat for hot water, space heating and pool heaters. A solar heating system saves energy, reduces utility costs, and produces clean energy. It is also known as solar heating.

Source Energy

The energy used in delivering energy to a site, including power generation, transmission, and distribution losses to perform a specific function.

Storm-water Management

The act of maintaining rainfall on a site to keep pollutants, pesticides, chemicals and soil out of a municipality's storm or sewer system and ultimately out of the area's waterways.

Sustainability

The ability to meet the needs of present generations without compromising the ability of future generations to do the same. This is accomplished through considering social, environmental, and economic impacts of ones actions.

Sustainable Design

A design that reduces negative impacts on the environment and the health and comfort of building occupants, thereby improving the performance of both.

U.S. Green Building Council

Non-profit organization dedicated to sustainable building design and construction. The council developed the LEED building rating system.

Urban Heat Island Effect

A phenomenon where urban areas experience a higher ambient temperature compared to surrounding suburban areas. Dark solar absorbing surfaces such as pavement, parking lots, and low-slope roofs—combined with less vegetation and thermal mass from a high density of buildings—contribute to warmer air temperatures.

Volatile Organic Compound (VOC)

Organic chemical compounds that have high enough vapor pressures under normal conditions to significantly vaporize and enter the atmosphere. To meet green-building requirements, manufacturers now are producing low- and no-VOC products.

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Volatile Organic Compound. Organic chemical compounds that have high enough vapor pressures under normal conditions to significantly vaporize and enter the atmosphere. To meet green-building requirements, manufacturers now are producing low- and no-VOC products.

Wind Power

Using wind turbines to convert wind energy into useful forms, such as electricity.

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