

Sustainability 101 Glossary of Terms

Appreciative Inquiry - A philosophy of organizational assessment and change that seeks examples of success to emulate and organizational or personal strengths to build upon, rather than focusing upon fixing negative or ineffective organizational processes.

Bio-based Product - A product (other than food or feed) that is produced from renewable, agricultural (plant, animal and marine), or forestry materials.

Biodegradable - A product or material capable of decomposing in nature within a reasonably short period of time.

Biodiversity - the variability among organisms on Earth and within an ecosystem. Maintaining biodiversity is necessary to preserve the health and survival of an ecosystem.

Biomass - Living or recently-dead organic material that can be used as an energy source, excludes organic material that has been transformed by geological processes (such as coal or petroleum).

Biomimicry - A design discipline that studies nature's elements, processes and designs and uses these ideas to imitate or design new solutions to human problems sustainably.

Carbon Footprint - The total amount of greenhouse gases emitted directly or indirectly through an activity, or from a product, company or person, typically expressed in equivalent tons of either carbon or carbon dioxide.

Carbon Neutral - This term effectively means net zero carbon emissions to the atmosphere. Achieving carbon neutrality means measuring the carbon emissions for an identified product, service or company, then balancing those emissions with carbon reductions or carbon offsets to reach net zero carbon emissions.

Carbon Sequestration - the uptake and storage of carbon. Trees can be used for carbon sequestration because they absorb carbon dioxide, release the oxygen and store the carbon

Carbon Offset: An organization's carbon footprint is the amount of carbon emitted from energy usage. This can be used to gauge the level of responsibility an organization must accept for its impact on the environment, and is an indication of how much carbon offsetting must take place to become carbon neutral.

Carbon Offset Credits - The act of mitigating, or offsetting, greenhouse gas emissions.

Condensate Meter – A more accurate method of measuring steam in buildings by measuring the condensate that forms after the steam condenses before it is pumped back to the boiler.

Climate Change - Refers to a statistically significant variation in either the mean state of the climate or in its variability, persisting for an extended period. Climate change is a change in the “average weather” that a given region experiences. When we speak of climate change on a global scale, we are referring to changes in the climate of the Earth as a whole, including temperature increases (global warming) or decreases, and shifts in wind.

Closed-Loop Recycling - The process of utilizing a recycled product in the manufacturing of a similar product or the remanufacturing of the same product.

Cradle-to-Cradle - A design philosophy put forth by architect William McDonough that considers the life-cycle of a material or product. Cradle-to-Cradle design models human industry on nature's processes, in which materials are viewed as nutrients circulating in healthy metabolisms.

Cradle-to-Gate: Cradle-to-gate is an assessment of a partial product life cycle from manufacture ('cradle') to the factory gate, i.e. before it is transported to the user or consumer. The use phase and disposal phase of the product are usually omitted. Cradle-to-gate assessments are sometimes the basis for environmental product declarations.

Cradle-to-Grave: A manufacturing model, dating to the onset of the Industrial Revolution, which describes the process of disposing of a material or product via landfill, incineration, etc., at the end of its presumed useful life.

Deforestation - the conversion of forested land to other non-forested uses by the removal and destruction of trees and habitat. Deforestation is cited as one of the major contributors to global warming.

Dematerialization - The reduction of mass in a product that does not diminish quality or intended service for the consumer.

Design for the Environment (DfE) - A philosophy applied to the design process that advocates the reduction of environmental and human health impacts through materials selection and design strategies.

Ecological Footprint: a measure of human demand on the Earth's ecosystems. The carbon footprint is an element of the ecological footprint.

EcoMetrics - Interface's quantification of the company's environmental performance over time. Ecometrics measures materials and energy inputs and outputs for use in benchmarking and monitoring environmental progress.

Ecosystem - A place having unique physical features, encompassing air, water, and land, and habitats supporting plant and animal life, including humans.

Electric Meter – An electric meter measures kWh. A kWh is 1000 watts of electricity used for one hour. One 100 watt bulb burning for 10 hours equals one kWh.

Electronic Ballast - A device intended to control the amount of current flowing in an electric circuit.

Environmentally Preferable Product - A product that has a reduced negative effect or an increased positive effect on human health and the environment when compared with competing products that serve the same purpose. This comparison may consider raw materials acquisition, production, fabrication, manufacturing, packaging, distribution, reuse, operation, maintenance and disposal of the product.

Emission: The release of any gas, particle, or vapor into the environment from a commercial, industrial, or residential source including smokestacks, chimneys, and motor vehicles.

Emission Reduction Credit (ERC) / Carbon Offset - An emission reduction credit represents avoided or reduced emissions often measured in tons. ERCs are generated from projects or activities that reduce or avoid emissions. A carbon offset refers to a specific type of ERC that represents an activity that avoids or reduces greenhouse gas (GHG) emissions or sequesters carbon from the atmosphere.

Energy Efficiency - Using less energy to fulfill the same function or purpose; usually attributed to a technological fix rather than a change in behavior, examples include better insulation to reduce heating / cooling demand, compact fluorescent bulbs to replace incandescent, or proper tire inflation to improve gas mileage.

Energy Intensity: The entire amount of energy required to produce a product as a ratio of that product.

Energy Recovery: Simply put, obtaining energy from waste. This is accomplished through a variety of processes, and is also known as “waste-to-energy.” Traditionally, this meant burning waste products, but now gasification and anaerobic digestion are also playing a role. Also see waste-to-energy.

Environmental Footprint: The environmental impact any company or entity makes as it performs any activity. A footprint is determined by how well raw materials or by-products are (or aren't) absorbed by the surrounding environment.

Environmental Impact: Any change to the environment, good or bad, that wholly or partially results from industrial/manufacturing activities, products or services.

Environmental Impact Areas: energy consumption, greenhouse gas (CO₂-eq) production, toxicity and natural resources depletion are some of the key environmental impact areas.

Environmentally Preferable Products (EPP) - Products or services that “have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose.” This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance or disposal of the product or service.

EPP Certification - Process by which products or services are certified as Environmentally Preferred Products (EPPs). The certification addresses all stages of the product’s/service’s life-cycle, incorporates key environmental and human health issues relevant to the category, and undergoes outside stakeholder review.

Fossil Fuel - Any petroleum-based fuel source such as gasoline, natural gas, fuel oil, etc.

Gate to Gate: a partial LCA looking at only one value-added process in the entire production chain

Geothermal Heat Pump - Used for space heating and cooling, as well as water heating. Its great advantage is that it works by concentrating naturally existing heat, rather than by producing heat through combustion of fossil fuels.

Global Warming - This refers to a specific type of climate change, an increased warming of the Earth’s atmosphere caused by the buildup of man-made gases that trap the sun’s heat, causing changes in weather patterns and other effects on a global scale. These effects include global sea level rise, changes in rainfall patterns and frequency, habitat loss and droughts.

Greenhouse Gases (GHG) - These gases are so named because they contribute to the greenhouse effect due to high concentrations of these gases remaining in the atmosphere. The GHGs of most concern include carbon dioxide (CO₂), methane (CH₄), nitrous oxides (N₂O).

Greenhouse Effect - The greenhouse effect is the rise in temperature that the Earth experiences because certain gases in the atmosphere (water vapor, carbon dioxide, nitrous oxide, and methane, for example) trap energy from the sun. Without these gases, heat would escape back into space and Earth’s average temperature would be about 60°F colder. Because of how they warm our world, these gases are referred to as greenhouse gases.

Greenwashing - The process by which a company publicly and misleadingly exaggerates or embellishes the environmental attributes of itself or its products, while participating in environmentally- or socially-irresponsible practices.

Green Building - A comprehensive process of design and construction that employs techniques to minimize adverse environmental impacts and reduce the energy consumption of a building, while contributing to the health and productivity of its occupants; common metrics for evaluating green buildings include the LEED (Leadership in Energy and Environmental Design) certification and Australia's Green Star program.

Grey Water - Any water that has been used in the home, except water from toilets, is called grey water. Dish, shower, sink, and laundry water comprise 50-80% of residential "waste" water. This may be reused for other purposes, especially landscape irrigation.

Heat Island Effect - This phenomenon describes urban and suburban temperatures that are 2 to 10F (1 to 6C) hotter than nearby rural areas. Elevated temperatures can impact communities by increasing peak energy demand, air conditioning costs, air pollution levels, and heat-related illness and mortality.

Heating/Ventilation/Air Conditioning (HVAC) - Help to control the climate and keep occupants comfortable by regulating the temperature and air flow.

Hybrid Car - Any vehicle that combines two or more sources of power that can directly or indirectly provide propulsion power is a hybrid.

Indoor Air Quality (IAQ) - refers to the contents of interior air that could affect the health and comfort of occupants. Acceptable IAQ is air in which there are no known concentrations of harmful contaminants

Industrial Ecology - An interdisciplinary field that focuses on the sustainable combination of environment, economy, and technology.

LEED - Leadership in Energy and Environmental Design Green Building Rating System™ is the nationally accepted benchmark for the design, construction, and operation of high performance green buildings. 5 key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

LEED Certification - Encourages and accelerates global adoption of sustainable green building and development practices through the creation and implementation of universally understood and accepted tools and performance criteria.

Life Cycle Analysis (LCA) - The assessment of a products full environmental costs, from raw materials to final disposal, in terms of consumption of resources, energy and waste - 'from the cradle to the grave'

Life cycle Assessment - A "composite measure of sustainability." It analyzes the environmental performance of products and services through all phases of their life cycle: extracting and processing raw materials; manufacturing; transportation and distribution; use, re-use, maintenance; recycling and final disposal.

Life Cycle of a Product - All stages of a product's development, from extraction of fuel for power to production, marketing, use and disposal.

Light Emitting Diode (LED) - Tiny light bulbs that fit easily into an electrical circuit. Unlike ordinary incandescent bulbs, they don't have a filament that will burn out, and they don't get especially hot. They are illuminated solely by the movement of electrons in a semiconductor material, and they last just as long as a standard transistor.

Low-Flow Aerator - Installing Low-Flow shower heads and faucet aerators is the single most effective water conservation savings you can do for your home. Inexpensive and simple to install, low-flow shower heads and faucet aerators can reduce your home water consumption as much as 50%, and reduce your energy cost of heating the water also by as much as 50%.

Material Intensity: The total amount of material needed to produce a product as a ratio of that product.

Metal Halide Lights - Generate 65-115 lumens per watt, more than incandescent, fluorescent or mercury vapor lamps.

Metasys building automation system - Incorporates open systems technologies of both the building automation and the information technologies industries. The result is a system that integrates all your building equipment, organizes the information in the most logical way imaginable and delivers it where and when you need it.

Natural Capital - The flow of ecosystem goods and services that interact with the human economic system. The idea of natural capital expands economic models to include natural resources that have value to humanity but no inherent price.

Non-renewable Energy: Energy derived from sources that cannot be replenished in a short period of time relative to a human life span. Non-renewable sources of energy are typically divided into two types: fossil fuels and nuclear fuels. Fossil fuels include oil, natural gas, and coal. Nuclear involves uranium.

Organic - Grown without the use of pesticides, synthetic fertilizers, sewage sludge, genetically modified organisms, or ionizing radiation. Animals that produce meat, poultry, eggs, and dairy products do not take antibiotics or growth hormones.

Permaculture- A design system that encompasses both "permanent agriculture" and "permanent culture." It recognizes, first, that all living systems are organized around energy flows. It teaches people to analyze existing energy flows (sun, rain, money, human energy) through such a system (a garden, a household, a business). Then it teaches them to position and interconnect all the elements in the system (whether existing or desired) in beneficial relationship to each other and to those energy flows. When correctly designed such a system will, like a natural ecosystem, become increasingly diverse and self-sustaining.

Pervious Concrete - By capturing stormwater and allowing it to seep into the ground, porous concrete is instrumental in recharging groundwater, reducing stormwater runoff, and meeting U.S. Environmental Protection Agency (EPA) stormwater regulations.

Photovoltaic energy - Sunlight is converted to electricity using photovoltaic or solar cells. Photovoltaic (PV) cells are semiconductor devices, usually made of silicon, which contain no liquids, corrosive chemicals or moving parts. They produce electricity as long as light shines on them, they require little maintenance, do not pollute and they operate silently, making photovoltaic energy the cleanest and safest method of power generation.

Photovoltaic Cells (PV Cells) - Also called Solar Cells, they convert sunlight directly into electricity. PV cells are made of semiconducting materials similar to those used in computer chips. When sunlight is absorbed by these materials, the solar energy knocks electrons loose from their atoms, allowing the electrons to flow through the material to produce electricity.

Post-Consumer Material - A material or finished product that has served its intended use and has been diverted or recovered from waste destined for disposal, having completed its life as a consumer item.

Post-Consumer Recycled Content - Material that is recovered after its intended use as a consumer product, then reused as a component of another product. Examples of post-consumer waste that are recycled include carpet tiles (for new yarn and tile backing), aluminum cans, PET soda bottles, and office paper.

Post-Industrial Recycled Content - Also known as Pre-Consumer Recycled Content, it is waste material from manufacturing processes that is reused as a component of another product. Post-industrial recycled content comes from material that would have otherwise been waste, and has undergone some physical recycling process. Examples of post-industrial waste that are recycled include yarn extrusion waste, metal scrap, and fiber in paper manufacturing.

PLA: Polylactic Acid - PLA is polylactic acid, a biopolymer made from renewable resources. It is thermoplastic and can be used to make fibers, packaging and other products as an alternative to petroleum based plastics. It is derived from bacterial fermentation of agricultural by-products such as corn, sugar, or wheat. PLA is not only made from renewable resources, but is also biodegradable. PLA is currently manufactured by Cargill, PURAC, Hycail, and several other companies.

Pre-Consumer Material - Material diverted from the waste stream during a manufacturing process. Excluded is the 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.

Rain Garden - A garden which takes advantage of rainfall and stormwater runoff in its design and plant selection. Usually, it is a small garden which is designed to withstand

the extremes of moisture and concentrations of nutrients, particularly Nitrogen and Phosphorus, that are found in stormwater runoff.

Rainwater Harvesting - The collection and storage of rain. Collection is usually from rooftops, and storage in catchment tanks. Stored water can be used for non-potable purposes such as irrigating lawns, washing cars, or flushing toilets.

Recycled Content Product - A product containing a minimum of 25% recycled materials, except in those cases where the U.S. EPA has adopted procurement guidelines under the Resource Conservation Act of 1976.

Recycling - The series of activities, including collection, separation, and processing, by which materials are recovered from the waste stream for use as raw materials in the manufacture of new products.

Recyclable - A designation for products or materials that are capable of being recovered from, or otherwise diverted from waste streams into an established recycling program.

ReEntry Program - Interface's reclamation program through which carpet is taken back at the end of its useful life.

Renewable Energy: Energy derived from generally renewable resources including hydro, solar, wind and geothermal.

Renewable Energy Credits (RECs), Green Tags, green energy certificates, or tradable renewable certificates - These commodities represent the technology and environmental attributes of electricity generated from renewable resources

Renewable Resources - A resource that can be replenished at a rate equal to or greater than its rate of depletion. Examples of renewable resources include corn, trees, and soy-based products.

Repurposing - Cleaning or refurbishing that allows a product to be reused again in its current form, thereby extending its useful life.

Solar Panel - Array of photovoltaic cells that make use of renewable energy from the sun, and are a clean and environmentally sound means of collecting solar energy.

Source Reduction: refers to any change in the design, manufacture, purchase, or use of materials or products (including packaging) to reduce their amount or toxicity before they become municipal solid waste. Source reduction also refers to the reuse of products or materials. (Also see dematerializations)

Stakeholder - An individual or group potentially affected by the activities of a company or organization; in sustainable business models the term includes financial shareholders

as well as those affected by environmental or social factors such as suppliers, consumers, employees, the local community, and the natural environment.

Standards - Governmental or privately-created lists of criteria used to regulate or evaluate the products or behavior of corporations. Standards can play a critical role in stimulating the market and giving companies information to create better products or change corporate behavior. An example is the LEED green building rating system for buildings..

Sustainability - The aspiration to ensure that meeting the needs of the present does not compromise the ability of future generations to meet their own needs, the most widely accepted definition comes from "Our Common Future," Report of World Commission on Environment and Development, commonly called the The Brundtland Report).

Sustainable Footprint: is defined as injuries, illnesses, incidents, waste, emissions, use of water and deplete-able forms of raw materials and energy.

T-8 Florescent Light Bulb - Save even more energy and produce a higher level of light output than original fluorescent bulbs, which are known as T12 bulbs. The T8 are far more energy efficient and operate on an electronic ballast usually configured to run several variances of T8 lamps.

Thermal Mass - A property that enables building materials to absorb, store, and later release significant amounts of heat.

Triple Bottom Line - People, Planet and Profit - the idea being that environmental quality and social equity are just as important as black ink at the bottom of the ledger.

Variable Frequency Drive (VFD) – The most efficient method of part load control, resulting in minimal wasted energy. VFDs accomplish part load control by varying electric motor speed.

Vermicomposting - Known also as worm compost, vermicast, worm castings, worm humus or worm manure, vermicompost is similar to plain compost, except that it uses worms in addition to microbes and bacteria to turn organic waste into a nutrient-rich fertilizer.

Volatile Organic Compounds (VOC) - Compounds that evaporate from many housekeeping, maintenance and building products made with organic chemicals. In sufficient quantities, VOCs can cause irritation and some are suspected of causing or exacerbating acute and chronic diseases.

Waste-to-Energy - The burning of waste in a controlled-environment incinerator to generate steam, heat, or electricity.

Water Meter - A water meter is a device that records the amount of water being used in your home for billing purposes, similar to your gas and electricity metering.

Wind Power – Capturing and converting the wind’s kinetic energy to other forms of energy, such as electricity or mechanical power.

Zone Damper - A valve or plate that stops or regulates the flow of air inside a duct, chimney, VAV box, air handler, or other air handling equipment.