



A Glossary of Common Sustainability Terms

Carbon footprint: usually stands for a certain amount of gaseous emissions that are relevant to climate change and associated with human production or consumption activities.

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 Neutral: Over its life cycle, a product or process that does not add more carbon dioxide to the atmosphere.

Climate Change - The term 'climate change' is sometimes used to refer to all forms of climatic inconsistency. The term more often used to imply a significant change from one climatic condition to another. In some cases 'climate change' has been used synonymously with the term 'global warming'.

Cradle-to-Cradle: A design protocol that advocates the elimination of waste by recycling a material or product into a new or similar product at the end of its intended life, rather than disposing of it.

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.

Dematerialization: Reducing the total material that goes toward providing benefits to customers. This may be accomplished through greater efficiency, the use of better or more appropriate materials, or by creating a service that produces the same benefit as a product.

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

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.

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.

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

Global Warming - A process that raises the air temperature in the lower atmosphere due to heat trapped by greenhouse gases, such as carbon dioxide, methane, nitrous oxide, CFCs and ozone. Applied to the warming predicted to occur as a result of human activities. (i.e. emissions of greenhouse gases)

Greenhouse Effect - The warming of the earth's surface and lower atmosphere as a result of carbon dioxide and water vapor in the atmosphere, which results in an increase in temperature.

Greenhouse Gases - The most important greenhouse gases are carbon dioxide, methane, nitrous oxide, chlorofluorocarbons and ozone.

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

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

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.

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

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 dematerialization*)

Sustainability and/or Sustainable Development: Now a widely accepted definition, the World Commission on Environment and Development in 1987 said sustainability means, "Meeting the needs of the present without compromising the ability of future generations to meet their own needs."

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

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.

Waste-to-Energy: The practice of processing waste products to generate steam, heat, or electricity. (*Also see energy recovery*)

For more information about Sustainability in packaging and to view the DuPont Flexo Life Cycle Assessment, September 2008, please visit www.cyrel.eu