Education and Culture

Leonardo da Vinci

TRUST IN - European Training Partnership on Sustainable Innovation

Glossary of eco–efficiency related terms

Cleaner Production (CP) is the international term for reducing environmental impacts from processes, products and services by using better management strategies, methods and tools. In doing so, the consumption of natural resources, pollution and waste are reduced, bringing both financial and environmental benefits.
www.cleanerproduction.com

Design for the Environment (DfE); Program works with individual industry sectors to compare and improve the performance and human health and environmental risks and costs of existing and alternative products, processes, and practices. Also known as "ecodesign", this approach examines a product's entire life-cycle and proposes changes in how the product is designed to minimize its environmental impact during its lifetime, integrating cleaner, cheaper, and smarter solutions into everyday business practices. *www.epa.gov/dfe*

Eco-capacity; Refers to the economic carrying capacity of the Earth. Difficult to calculate but it is
clear that limits are being reached. *DeSimone, L. and Popoff, F., Eco-efficiency – The Business Link to Sustainable Development, MIT Press, 1997*

Eco-efficiency; The delivery of competitively priced goods and services that satisfy human needs and bring quality of life, while progressively reducing ecological impacts and resource intensity throughout the life-cycle, to a level at least in line with the Earth's estimated carrying capacity. *www.wbcsd.org*

Eco-efficiency indicators; At the company level, eco-efficiency indicators can be used to provide a measure of a business's resource efficiency, i.e. how efficiently such resources as energy, water and key materials are being transformed into saleable products. The WBCSD suggests that eco-efficiency be expressed as a ratio of product or service value per environmental influence.

Eco-innovation; Eco-innovation refers to the integration of environmental sustainability into key business activities by ensuring that environmental factors are accounted for in product design. Eco-innovation is any form of innovation aiming at significant and demonstrable progress towards the goal of sustainable development, through reducing impacts on the environment or achieving a more efficient and responsible use of natural resources, including energy. *Competitiveness and Innovation Framework (2007 to 2013).*

Energy Conservation; Although energy conservation is often confused with energy efficiency, it is quite different. Both involve a reduction in overall energy use, but achieve that goal in different ways. Conservation involves cutting waste of energy whereas energy efficiency does not. For example, we can replace old air conditioner with an energy efficient one, but can still waste energy by running it while we are not home. We may have been able to save more energy by changing our behaviour or programming our thermostat as opposed to replacing our air conditioner.
http://www.energydsm.com/2010/03/energy-efficiency-vs-energy-conservation/

Energy Efficiency; Using advanced and state-of-the-art technologies to provide better quality energy services with less energy. Getting the most productivity from every unit of energy. Energy efficiency is a technological approach to using less energy – requiring less energy to perform the same function. In this case, less energy is used and it lasts longer. An example is a compact fluorescent light bulb that will use less energy to illuminate a room.
http://eeglobalforum.org/07/pdf/Energy-Efficiency-vs-Conservation-fact-sheet.pdf

Environmental accounting/full cost accounting; Environmental accounting is the process of assessing the full spectrum of costs and benefits associated with the implementation of pollution prevention measures and other environmentally friendly procedures. *www.epa.gov/ebtpages/econenvironmentalaccounting.html*

Environmental indicators; Environmental indicators are used as an information tool allowing the measurement of environmental trends. Indicators can provide both a snapshot of a current situation and the means to observe changes over time. Environmental indicators are being developed at many different levels – from the individual company to sectoral and national indicators. *http://www.fivewinds.com/*

Environmental Management System (EMS), An environmental management system is a tool for managing the impacts of an organization's activities on the environment. It provides a structured approach to planning and implementing environment protection measures. An EMS integrates environmental management into a company's daily operations, long-term planning and other quality management systems. *http://www.fivewinds.com/*

Life-cycle analysis (LCA); A systems-oriented approach to product design that aims to calculate the total environmental impact of a good, process or service throughout all stages of its lifecycle, "from cradle to grave". This is achieved through the compilation of an "inventory" of energy and resource usage, waste generation, emissions and discharges. LCA can be used to compare the relative environmental merits of particular product categories (e.g. washing machines), such as under the EU eco label., *www.life-cycle.org*

Pollution prevention; The use of processes, practices, materials, products, or energy that avoid or minimize the creation of pollutants and waste, and reduce the overall risk to human health or the environment. *http://www.ic.gc.ca/eic/site/ic1.nsf/eng/home*

Resource-efficiency is optimising the environmental and financial benefits from using a material or product that requires the least energy and materials over its life cycle. *http://www.emcbe.com/Environment-and-Sustainability/Resource-Efficiency/resource-efficiency.html*

Sustainable consumption; "The use of goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardize the needs of future generations." *Norwegian Ministry of Environment, 1994*

Sustainable development; "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (*Our Common Future*, 1987.) More specifically, if development is to be sustainable, then it needs to protect the following three elements of human life: the environment and natural resources, social equity and the economy. *www.wbcsd.org*

Sustainable innovation; *Sustainable innovation is a process where sustainability considerations (environmental, social, financial) are integrated into company systems from idea generation through to research and development (R&D) and commercialisation. This applies to products, services and technologies, as well as new business and organisation models* (Charter, 2007).

Sustainable production; If sustainable development is to be achieved, production processes, products and services have to be oriented towards new patterns, in order both to alleviate environmental stress and to achieve more efficient industrial productivity. This will require the development and use of new policy and management tools in both government and industry, as well as the development and use of environmentally sound technologies, with a focus on cleaner and safer technologies that prevent pollution and use raw materials efficiently. *www.unep.org/unep/sub21.htm*