Glossary of Terms

Biomimicry - an innovation method that seeks sustainable solutions by emulating nature's time-tested patterns and strategies, e.g., a solar cell inspired by a leaf. The goal is to create products, processes, and policies---new ways of living---that are well-adapted to life on earth over the long haul.

Carrying capacity - refers to the number of a given species that an area's resources will support without impairing that area's ability to continue supporting that population.

Cradle-to-Cradle - A phrase invented by Walter R. Stahel in the 1970s and popularized by William McDonough and Michael Braungart in their 2002 book of the same name. This framework seeks to create production techniques that are not just efficient but are essentially waste free. In cradle to cradle production all material inputs and outputs are seen either as technical or biological nutrients. Technical nutrients can be recycled or reused with no loss of quality and biological nutrients composted or consumed. By contrast cradle to grave refers to a company taking responsibility for the disposal of goods it has produced, but not necessarily putting products' constiuent components back into service.

Ecological Economics - An interdisciplinary framework that seeks to merge the two historically separate fields of economics and ecology. It assumes that: 1) there is an inherent link between the health of the Earth's ecosystem and the economic system created by human beings; 2) the economy is a subsystem of the earth's ecological system; and 3) by understanding how each system flows into and out of the other, each can thrive and prosper.

Ecological Footprint - The effect of an individual or a population on an ecosystem. Ecological footprint can be used to measure and manage the use of resources throughout an economy. It is also widely used as an indicator of environmental sustainability.

Ecosystem Services - A collection of services provided by the Earth's ecosystem that are usually not a part of economic analyses but that are indispensable for any human endeavors. These include: clean air and water, plant pollination, climate regulation, soil regeneration, ozone protection, and more!

Environmental Literacy - " … environmental literacy is not simply being well versed in the knowledge and methods of related environmental disciplines, but includes having familiarity with the interdisciplinary integration process . . . Learning to ask what outcomes are possible…that is my objective for an environmentally literate society, not the unobtainable goal of teaching detailed knowledge of all environmentally relevant disciplines." -Stephen Schneider, Stanford University, Nobel Laureate

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.

Green Chemistry - The science of designing safer products and processes for a more sustainable future. It is a pro-active, *innovative* science which targets pollution prevention at the source, stopping or reducing waste before it even begins. A resource for curriculum is "Beyond Benign": The curriculum has three focused goals: firstly, to encourage teachers to convert their laboratory classrooms to use green methodologies. Secondly to think differently about the way that they deliver content to students and to

put that content into the context of sustainability and lastly but most importantly to inspire students to get excited about chemistry and the possibilities it holds for solving societies problems in the future.

Greenhouse Gas - Any gas that absorbs infra-red radiation in the atmosphere. Greenhouse gases include water vapor, carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), halogenated fluorocarbons (HCFCs), ozone (O3), perfluorinated carbons (PFCs), and hydrofluorocarbons (HFCs).

Fossil Fuel - Fossil fuels are the remains of plant and animal life that are used to provide energy by combustion; coal, oil, natural gas.

Hectare - 1/100th of a square kilometre, 10,000 square meters, or 2.471 acres. A hectare is approximately the size of a soccer field. See also global hectare and local hectare

Natural Capital - One of at least four forms of capital used by people, organizations, corporations, and governments, to build and maintain their livelihoods. Natural Capital includes all forms of resources from the environment, including minerals, water, air, sunlight, heat, plants, animals, and other organic matter. Sustainable organizations seek to maximize their effectiveness and efficiency in using natural capital as well as practice policies that sustain the quality and quantity of natural capital sources in the future.

Natural Step™ - A trademarked, science-based framework to help organizations and communities understand and become more sustainable. It is also an international organization that provides consulting and education services around this framework. More information: http://www.naturalstep.com

Organic farming - Organic crops are typically grown without the application of synthetic soil enhancements, and use biologically-based pest controls instead of chemical pesticides. However, organic producers may use natural chemicals such as copper and whole organisms such as bacteria, to combat insects. Organically raised livestock are restricted from using growth hormones and unnecessary antibiotics. Some animals are even provided organic feed and their time spent outside, in 'free-range,' is increased. In the U.S., farms must be certified and the companies that handle or process organic food are regulated. Products are then labeled according to the percent of organic ingredients contained within.

Overshoot - Global overshoot occurs when humanity's demand on nature exceeds the biosphere's supply, or regenerative capacity. Such overshoot leads to a depletion of Earth's life supporting natural capital and a build up of waste. At the global level, ecological deficit and overshoot are the same, since there is no net-import of resources to the planet. Local overshoot occurs when a local ecosystem is exploited more rapidly than it can renew itself.

Source - any process or activity through which a greenhouse gas is released into the atmosphere. Both natural processes and human activities release greenhouse gases.

Sink - a reservoir that takes up a chemical element or compound from another part of its natural cycle.

Sustainability - Meeting the needs of the current generation without compromising the needs of future generations. It means using renewable resources within their rates of regeneration, and developing renewable substitutes for non-renewables.

Tragedy of the Commons - A term used to illustrate the conflict between individual interests and the common good, based on the assumption that when individuals use a public good, they do not consider the impact – or externalities – of their use on the good itself; as a result, public resources become overexploited. The term was popularized by Garrett Hardin in his 1968 Science article "The Tragedy of the Commons," which used a hypothetical example of English Commons, shared plots of grassland used by all livestock farmers in a village. In this hypothetical, each farmer keeps adding more livestock to graze on the Commons, because it costs him nothing to do so. In a few years, the soil is depleted by overgrazing, the Commons becomes unusable, and the village perishes.

Triple Bottom Line - An addtion of social and environmental values to the traditional economic measures of a corporation or organization's success. Triple Bottom Line accounting attempts to describe the social and environmental impact of an organization's activities, in a measurable way, to its economic performance in order to show improvement or to make evaluation more in-depth.