

GLOSSARY OF TERMS

Afforestation • This is the process of establishing and growing forests to remove greenhouse gases from the atmosphere on land which has not been forested in recent history.

Biodiesel • Biodiesel is a fuel comprised of mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats and produced using an accepted industry-wide quality assurance program.

Carbon Dioxide Equivalent • CO₂e, is an internationally accepted measure that expresses the amount of global warming of greenhouse gases (GHGs). It is expressed in terms of the amount of carbon dioxide (CO₂) that would have the same global warming potential.

Carbon Sequestration • This is the uptake and storage of carbon through natural processes. Plants, for example, absorb carbon dioxide and transform it into plant sugars that contain carbon.

Climate • The average weather, usually taken over a span of 30 years, for a particular region and time period is called climate. It is not the same as weather, which describes the short-term state of the atmosphere. Climate is the average pattern of weather for a particular region. Climatic elements include precipitation, temperature, humidity, sunshine, wind velocity and phenomena such as fog, frost and hailstorms. (See also weather.)

Climate Change • A change in expected climatic conditions that is in addition to natural climate variability over comparable time periods is a climate change. This change may be attributed directly or indirectly to human activity that alters the composition of the global atmosphere.

Demand-Side Management • The planning, implementation, and monitoring of activities designed to encourage consumers to modify patterns of energy consuming activities including the timing and level of demand. Demand-side management may refer to energy conservation programs (energy demand-side management) or strategies that result in more efficient use of transportation resources (transportation demand-side management).

E10 • A fuel containing a mixture of 10 per cent ethanol and 90 per cent gasoline.

E85 • A fuel containing a mixture of 85 per cent ethanol and 15 per cent gasoline.

Emissions • These are the release of pollutants that can be transformed into greenhouse gases, and/or the direct release of greenhouse gases, into the atmosphere over a specific area and period of time.

Emissions Trading • Article 17 of the Kyoto Protocol establishes a mechanism through which those countries with emissions commitments (industrialized countries) may trade their emission allowances with other industrialized countries that are parties to the protocol. For example, if a company in Canada reduces its greenhouse gas emissions to less than what it was emitting in 1990, it will have an emissions credit. The company could then sell its emission credit to an Australian firm that has not been able to reduce its emissions to 1990 levels in the necessary time frame. The aim of emissions trading is to improve the overall flexibility and economic efficiency of making emissions reductions.

Ethanol • Ethanol is a high-octane, water-free alcohol that is produced from renewable resources such as corn, wheat, straw and other bio-mass. Ethanol can be used as a fuel, as an additive to fuel or fuel extender, and as an industrial chemical. When ethanol is blended with gasoline, the result is a cleaner, higher-octane fuel than regular gas.

Fossil Fuel • This is a general term for combustible carbon deposits of biological origin, including coal, oil, natural gas, oil shales and tar sands. These fuels emit carbon dioxide into the atmosphere when burned, significantly contributing to the greenhouse effect and climate change.

Global Warming • An increase in the near surface temperature of the Earth is called global warming. Global warming has occurred in the distant past as the result of natural influences. However, the term is most often used to refer to the warming occurring as a result of increased emissions of greenhouse gases. Scientists generally agree that the Earth's surface has warmed by about 0.6°C in the past 140 years. The Intergovernmental Panel on Climate Change (IPCC) recently concluded that increased concentrations of greenhouse gases are causing a rise in the Earth's surface temperature.

Greenhouse Effect • This is the effect produced as greenhouse gases allow incoming solar radiation to pass through the earth's atmosphere. At the same time, prevents most of the outgoing infrared radiation from the surface and lower atmosphere from escaping into outer space. It is like a glass greenhouse capturing the sun's warmth and heating the interior space. This process occurs naturally and, historically, has kept the earth's temperature at about 33°C warmer than it would otherwise be. Current life on earth could not be sustained without the natural greenhouse effect. (See also Global Warming.)

Greenhouse Gas • Any gas that absorbs infrared radiation in the atmosphere is called a greenhouse gas. Greenhouse gases include water vapour, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), halogenated fluorocarbons (HCFCs), ozone (O₃), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆) and hydrofluorocarbons (HFCs).

Intergovernmental Panel on Climate Change (IPCC) •

Composed of the world's leading climate scientists, the IPCC was established in 1988 by the World Meteorological Organization and the United Nations Environment Program. Its role is to assess scientific, technical and socio-economic information that helps our understanding of the risks associated with human-induced climate change.

Integrated Watershed Management Plan • A watershed is a defined area that gathers rainfall and other precipitation and directs it to rivers, lakes or streams. A watershed management plan sets out local priorities and actions for the users of the watershed to ensure a healthy watershed can be maintained. Integrated watershed management plans consider the provincial land-use policies, existing development plans and zoning bylaws. They must also specify linkages between water management and land-use planning, and require consultation between the water planning authority and the planning district.

Kyoto Protocol • This international agreement was reached in 1997 in Kyoto, Japan. It extends the commitments of countries that supported the UN Framework Convention on Climate Change. In particular, it sets targets for future emissions in developed countries.

Methane (CH₄) • This is a hydrocarbon that is one of the six greenhouse gases to be controlled under the Kyoto Protocol. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and oil, coal production, and incomplete fossil fuel combustion. The atmospheric concentration of methane has been shown to be increasing at a rate of about 0.6 per cent per year. Its current concentration of about 1.7 parts per million by volume (ppmv) is more than twice its pre-industrial value. However, the rate of increase of methane in the atmosphere may be stabilizing.

Mitigation • Attempts to slow the process of global climate change by lowering the level of greenhouse gases in the atmosphere are referred to as mitigation. One of the principal means of mitigating climate change is reducing the production of greenhouse gases.

No Regrets • Measures that produce benefits equal or exceeding their costs are referred to as "no regrets." These benefits include improved performance or reduced emissions of local/regional pollutants. They exclude the benefits of climate change mitigation (See Mitigation). They are sometimes known as "measures worth doing anyway."

Sequestration • The process of absorbing carbon dioxide out of the air through the process of photosynthesis is called sequestration. It converts carbon dioxide into plant sugars containing carbon

Sink • An ecosystem, such as the oceans, forests or soils, that removes and stores carbon from the air is called a sink. The sink is a means of removing a chemical or gas, such as carbon dioxide or methane, from the atmosphere and placing it in a permanent or semi-permanent repository by transforming it into another substance. Trees, for example, can be carbon sinks because they are able to convert carbon dioxide from the air into plant sugars through the process of photosynthesis.

Sustainable Development • This is a broad concept referring to the need to integrate the satisfaction of near-term economic, social and environmental interests with the protection of the interests of future generations, including their need for a safe and healthy environment. The 1987 UN World Commission on Environment and Development defined sustainable development as meeting "the needs of the present generation without compromising the ability of future generations to meet their needs."

T8 Lighting • T8 fluorescent lights are slim, high-efficiency tubes that provide additional light and improved light quality compared to traditional T12s. T8s are up to 30 per cent more efficient and provide quiet, flicker-free operation, resulting in a more comfortable environment.

Weather • This is the specific condition of the atmosphere at a particular place and time. It is measured in terms such as wind, temperature, humidity, atmospheric pressure, cloudiness, and precipitation. In most places, weather can change from hour to hour, day to day, and season to season. Climate is the average of weather over time and space. A simple way of remembering the difference is that 'climate' is what you expect (ex: cold winters) and 'weather' is what you get (ex: a blizzard).

Zero Till • Zero till or no-till farming is an economically viable, erosion-proof production system in which this year's crop is planted directly into the stubble from the previous year's crop with minimum soil disturbance.