

Glossary of Terms

Acid rain: industrial processes and fuel combustion (in vehicles, etc.) produce large quantities of CO₂, SO₂ and NO₂. In the air these chemicals dissolve in water droplets to form acids. Acid rain is harmful to the environment.

Airshed: a designated district for the monitoring, analysis, reporting and making recommendations for action.

Air quality: determined by measuring the number and concentration of potentially harmful substances in the air.

Air Quality Health Index: a way of describing our outdoor air quality. Each hour, Alberta Environment calculates the Air Quality Health Index in a number of locations by converting the local concentrations of carbon monoxide, fine particulate matter, nitrogen dioxide, ground-level ozone and sulphur dioxide to an Air Quality Health Index number.

Ambient air: the condition of the air in the surrounding environment.

Catalytic converter: a reaction chamber into which exhaust gases from an automotive engine are passed together with excess air so that carbon monoxide and hydrocarbon pollutants are oxidized to form carbon dioxide and water.

Carbon monoxide (CO): a colourless, odourless gas produced by incomplete combustion of chemicals containing carbon (e.g., hydrocarbons). A major source is motor vehicles.

CFCs: ChloroFluoroCarbons - used in refrigerators, aerosol cans and fire extinguishers. These chemicals move slowly from the lower atmosphere into the upper atmosphere where they destroy the ozone.

Diffusion: a process in which molecules move from an area of higher concentration to one of lower concentration.

Dispersion: the scattering of a substance away from its source.

Emissions: pollution released from sources such as industrial plants and fireplaces in homes.

Enhanced greenhouse effect: greenhouse effect made greater by human activities, such as burning fossil fuels and clearing land, that add greenhouse gases to the atmosphere.

Fossil fuel: a fuel formed from dead plants and animals; coal, oil, natural gas

Global warming: increased average temperatures worldwide caused by the enhanced greenhouse effect.

Greenhouse gases: gases in earth's atmosphere that trap the heat that forms when radiant energy from the sun reaches earth's surface. Water vapour, carbon dioxide, methane, and nitrogen oxide are all greenhouse gases.

Ground level ozone: a colourless, odourless gas. At ground level, it's a pollutant produced as a result of industrial processes and the use of motor vehicles.

Inversion: a meteorological phenomenon where temperature increases with height. A warm air mass moving over a colder one can "shut off" the convection effects, keeping the cooler air trapped below. The effect is a general "stillness" of the air which traps dirty or foggy air at the earth's surface.

Monitoring: keeping track of something for a specific purpose. Certain substances are monitored in the environment to ensure they do not exceed safe levels.

Nitrogen oxides: major air pollutants formed when nitrogen combines with oxygen as a result of fuel combustion. Nitrogen oxides give smog its characteristic brown colour. Major source: motor vehicles.

Stratospheric ozone: a colourless, odourless gas present high in the atmosphere. It forms a layer protecting Earth from the sun's ultraviolet radiation and exists 15 to 50 km above Earth's surface.

Particulates: tiny particles of solid or liquid suspended in the air. The biggest human sources are burning of fossil fuels in vehicles and power plants.

Parts per million: (ppm) is a measurement used to describe very small concentrations of chemicals. A solution having a concentration of 1 ppm has one part of solute per million parts of solution.

pH: a measure of the concentration of hydrogen ions in a solution. Most solutions have a pH in the range of 0 to 14; 0 is very acid, 14 is very basic, and 7 is neutral.

Pollution: any change in the environment that produces a condition that is harmful to living things.

Scrubbers: devices used by industrial and electrical generating plants to reduce sulfur dioxide emissions.

Smog: air pollution that is a mixture of smoke and fog.

Sour gas: a natural gas that contains hydrogen sulfide.

Sulphur dioxide (SO₂): forms when sulphur combines with oxygen in the air. It is a major air pollutant that forms both smog and acid rain. Major source: industrial processes.

Toxic: poisonous.

Toxicity: how poisonous a substance is.

Troposphere: the layer nearest the surface of Earth and where most “weather” occurs. It extends up from 8 to 12 km above the Earth’s surface.