

Glossary

A

acid rain

It's not only the carbon in fossil fuels that is burned to form an oxide. Sulphur dioxide and nitrogen dioxide are also products that can create problems. Dissolved in water, the solution forms an acid, which can dissolve materials such as limestone, harm plants and alter the pH of soils and water supplies.

air pollution

Chemical, biological or particulate matter that changes the characteristics of the atmosphere. Two examples of harmful air pollution are car exhausts emitting carbon monoxide and coal burning producing sulphur dioxide.

atmosphere

The mixture of gases surrounding the Earth, any star or planet.

abatement

Any action to reduce the emissions of greenhouse gases from human activities. Abatement acts on a global level over long time scales, slowing the rate of climate change and delaying or deferring the date of impact and its magnitude. While we may individually contribute only a small amount to global emissions, as good global citizens we must take responsibility for our own emissions and work to reduce them.

adaptation

Any action to respond to the anticipated or actual conditions related to climate change. Such strategies can reduce our vulnerability to a change in climate at the local and regional level and over short time scales. They allow communities to develop a capacity to avoid or minimize the negative effect of climate change.

B

BOM

Bureau of Meteorology (Australian Government)

carbon dioxide

A colourless odourless gas formed by the burning of carbon compounds or breathed out by animals in respiration. The burning of fossil fuels (oil, coal and natural gas) to create electricity and produce fuel for transport is increasing the amount of CO₂ in the atmosphere.

C

carbon neutral

Being carbon neutral means that you produce no net emissions of carbon such as carbon dioxide or methane either directly or indirectly.

carbon trading

The buying and selling of permits allowing people to emit set amounts of carbon in the atmosphere

chlorofluoro-carbons(CFCs)

These chemical compounds have no natural source: they are produced entirely by human activity. Even though CFC production has been vastly reduced (previously used in aerosol cans and refrigerators), they will remain in the atmosphere for a long time.

climate

The long-term average weather pattern of a region.

climate change

Changes to the climate systems such as the current global warming.

D**direct impact**

Something that has a direct and instant impact on the earth e.g. bushfires, major volcanic activity.

E**energy**

The power which lets people and machines move, or provides light and heat.

emissions

Sending gases out into the atmosphere.

emission target

Limitations to reduce the release of air-borne substances.

emission trading

Under an emissions trading scheme, limits (or caps) are set on the amount of a pollutant (greenhouse gas) that can be emitted. Companies or groups are given credits that represent the right to emit a specific amount. (Linked to carbon trading)

enhanced greenhouse effect

The increase in the concentration of greenhouse gases in the atmosphere due to human activity leading to climate change.

F

fugitive emissions

Emissions resulting from transporting energy from generators to customers (e.g. through powerlines).

G**gases**

A gas is one of the states of matter, consisting of particles well spaced and moving randomly and rapidly in all directions.

greenhouse gases

Gases that absorb heat in the Earth's atmosphere. There are around 30 greenhouse gases, of which CO₂, methane and water are currently considered to be the most important.

Greenhouse effect

The Greenhouse Effect refers to the change in temperature an atmosphere displays as certain gases trap heat. This extra heat changes the rate of movement of air and ocean currents, makes their masses expand and increases the rate of ice melting and evaporation.

global warming

The warming of Earth's surface through an increase of greenhouse gases in the atmosphere.

H**hydro fluorocarbons (HFCs)**

Gases that are used in aerosol cans, air conditioners, production of aluminium and magnesium and in semi conductor manufacture.

indirect impact

Something that has secondary impact on lifestyles, ecosystems, societies and cultures.

K**Kyoto Protocol**

The Kyoto Protocol is a global agreement that aims to limit greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic (human-caused) interference with the climate system. It was developed under the United Nations Framework Convention on Climate Change.

M**methane (CH₄)**

A naturally occurring gas generated by (Greenhouse gas) bacteria that break down organic matter. The main sources of methane production are the digestive processes of livestock, the cultivation of rice, escaping natural gas



and decomposing waste in garbage dumps or landfills, and volcanic and geothermal activity.

N

nitrous oxide N₂O (Greenhouse gas)

A gas that forms when fossil fuels are burnt under certain conditions.

O

ozone (O₃)

A colourless gaseous substance obtained (as by the silent discharge of electricity in oxygen). It is an allotropic form of oxygen, containing three atoms in the molecule instead of the more abundant form, O₂.

P

pollution

Dirt or harmful substances in the air, water or soil.

S

smog

Is a mixture of smoke and fog produced by industry, motor vehicles, incinerators and open burning. Smog hangs around over densely populated cities.

stationary energy

Energy used to heat, cool and light our houses, offices and other buildings.

sulphur hexafluoride (SF₆), hydro fluorocarbons (HFCs) and Per fluorocarbons (PFCs)

Gases created by processes such as aerosol use, air conditioners, production of aluminium and magnesium and used in semi conductor manufacture.

W

weather

The state of the air or atmosphere with respect to heat or cold, wetness or dryness, calm or storm, clearness or cloudiness, or any other meteorological phenomena; meteorological condition of the atmosphere; as, warm weather; cold weather; wet weather; dry weather, etc

Source: CSIRO CarbonKids Understanding Climate Change Curriculum Unit