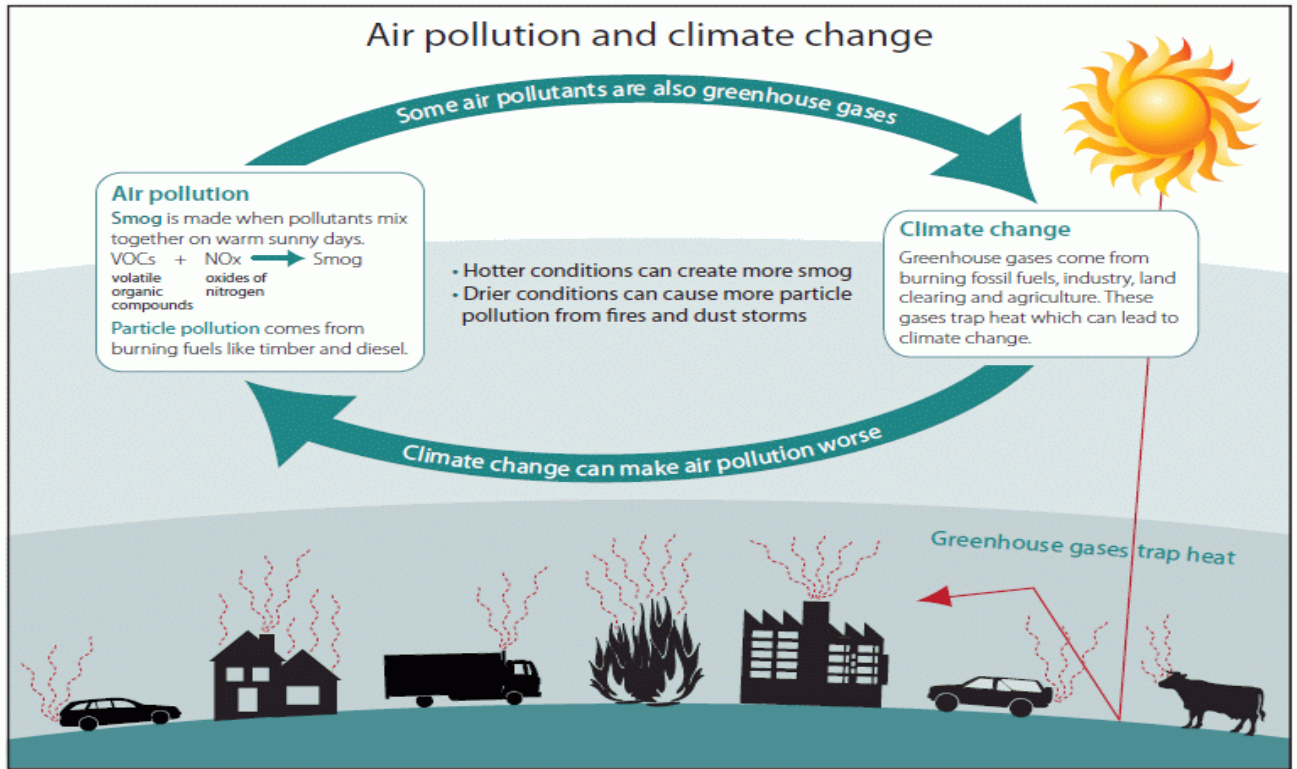


Ecology

Ecology is the study of interaction of living organisms with their environment. The word *ecology* means “the study of homes“.

Air pollution



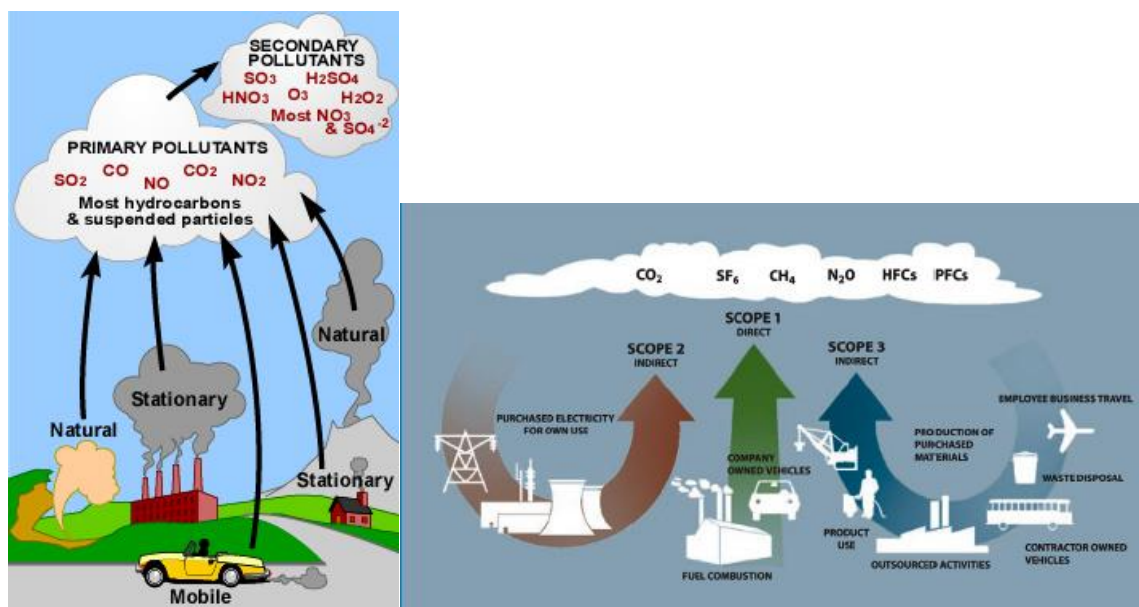
All of us are exposed to some air pollution; however, the highest concentrations generally occur in urban areas where the six most common air pollutants - carbon monoxide, sulfur dioxide, lead, nitrogen dioxide, ozone and particles - are found.

| Pollutants | Sources |
|--------------------------------------|---|
| Carbon dioxide (CO ₂) | Fossil fuel, deforestation |
| Sulfur dioxide (SO ₂) | Volcanic, fossil fuels that contain impurities (e.g. low grade coal normally has high sulfur as impurities) |
| Nitrogen oxides (NO _x) | Automobiles |
| Carbon monoxide (CO) | Automobiles, incomplete burning of biomass fuels |
| Ground-level ozone (O ₃) | Industries, vehicles |
| Volatile organic compounds (VOCs) | Vehicle emissions, solvents used for industrial and Household usages. |

Carbon monoxide, sulfur dioxide and lead are *'primary pollutants'*. This means they are emitted directly from sources, such as motor vehicles exhausts and factories. Ozone is a secondary pollutant, formed by the reactions of other pollutants. It is not directly emitted from a particular source. Particles and nitrogen dioxide can be either *primary* or *secondary pollutants*.

Technological advances such as lead-free fuel have reduced the levels of most of these pollutants. The most widespread continue to be ozone and particles.

Another category of pollutants, *'air toxics'*, help to form ground-level ozone pollution. This category includes polycyclic aromatic hydrocarbons (PAHs), heavy metals and aldehydes and volatile and semi-volatile organic compounds (VOCs) like benzene.



Where does air pollution come from?

In cities, human-made sources include:

- emissions from cars and trucks
- emissions by major industry, such as power stations
- the use of solvents in homes and businesses
- fuel combustion in homes and businesses
- commercial activities such as in motor vehicle smash repair shops and service stations
- Household activities like lawn mowing and wood heating.

In rural areas, agricultural burning, coal heaters and solid-fuel heaters are the most significant sources.