

A long-exposure photograph of a waterfall and a stream in a dense, green forest. The waterfall is on the left, with water cascading down rocks. The stream flows from the waterfall towards the right, with water appearing as a smooth, white ribbon. The forest is thick with green foliage, and the overall scene is serene and natural.

Environmental pollution

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CHE 110: Environmental Studies

Unit - 4

Environmental pollution

U4_L2_CHE110_VK



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Causes of air pollution

➤ Natural causes

- ☐ Dust storms
- ☐ Volcanoes
- ☐ Forest fires

➤ Man-made causes

- ☐ Industrial Emissions
- ☐ Automobiles
- ☐ Nuclear explosions
- ☐ Nuclear power plants
- ☐ Agricultural activities
- ☐ Disposal of garbage activities
- ☐ Thermal power stations (15 tons of CO₂ every minute)

- ☐ Air pollution from an average coal plant kills 25 people per year.)

<https://www.youtube.com/watch?v=tmhiglxga-4>
<https://www.youtube.com/watch?v=sAKyhfxr7s>
<https://www.youtube.com/watch?v=jtiANpcpJJY>
<https://www.youtube.com/watch?v=e6rglsLy1Ys>



Effects of Air Pollution

❑ Effects on Human Health

- Carboxyhaemoglobin
- Inflammation of lungs
- Damage to respiratory system, and blood vascular system
- Different types of cancers

❑ Effects on Plants

- Bleaching of the leaf pigment
- Development of necrotic spots
- Premature falling of leaves

❑ Effects on Climate

- Greenhouse effect and global warming
- Acid rain
- Ozone (O₃) layer depletion

Reducing and controlling air pollution

❑ Air pollution can be reduced by:

- Adopting cleaner technologies
- Reducing pollution at the source
- Implementing laws and regulations to make people pollute less
- Introducing appropriate transportation policies
- Making cleaner and fuel-efficient vehicles
- The air quality can be improved and maintained by growing and developing green belts and forests.

❑ Particulate matter in the air can be reduced by:

- Fitting smokestacks with electrostatic precipitators, fabric filters, scrubbers,
- Sprinkling water on soil that is being evacuated during road construction

Air Quality Index

- The AQI is an index for reporting daily air quality.
- It tells you how clean or polluted your air is, and what associated health effects might be a concern for you.
- The AQI focuses on health effects you may experience within a few hours or days after breathing polluted air.
- EPA calculates the AQI for five major air pollutants regulated by the Clean Air Act: **ground-level ozone, particle pollution (also known as particulate matter), carbon monoxide, sulfur dioxide, and nitrogen dioxide.**
- For each of these pollutants, EPA has established national air quality standards to protect public health.
- AQI less than 100 is considered as satisfactory quality of air.