



SNS College of Engineering Coimbatore – 641 107



ENVIRONMENTAL POLLUTION



I will be discussing.....

- ✓ Definition.
- ✓ Types Of Pollution.
- ✓ Causes.
- ✓ Effects.
- ✓ Measures.





Definition

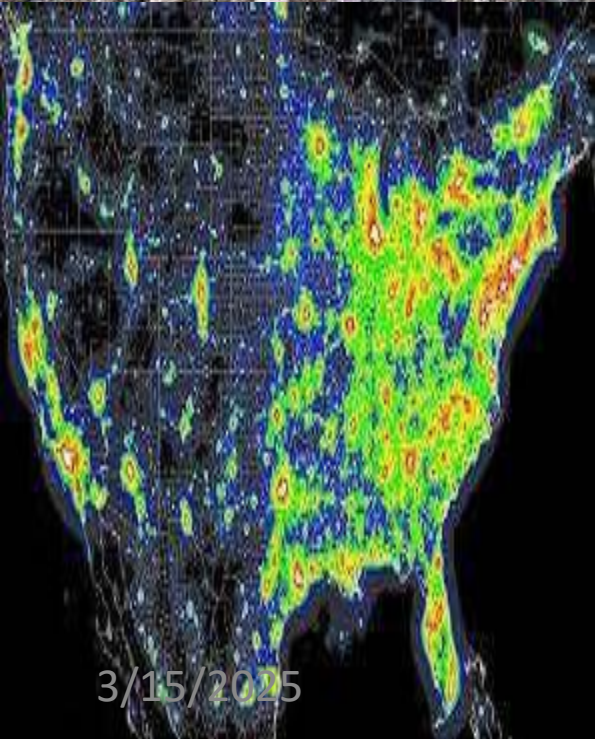
- Pollution is the introduction of contaminants into the natural environment that cause adverse change, in the form of killing of life ,toxicity of environment , damage to ecosystem and aesthetics of our surrounding .





Definition (contd)

- An unwanted change in the environment which involves the physical, biological and chemical changes involving air, water and land which affects the human life in one way or the other”.
- Pollution has become a serious issue after World War II in developing countries due to unchecked rapid industrialization. Pollution is the root cause of many diseases that kill and disable living organisms.



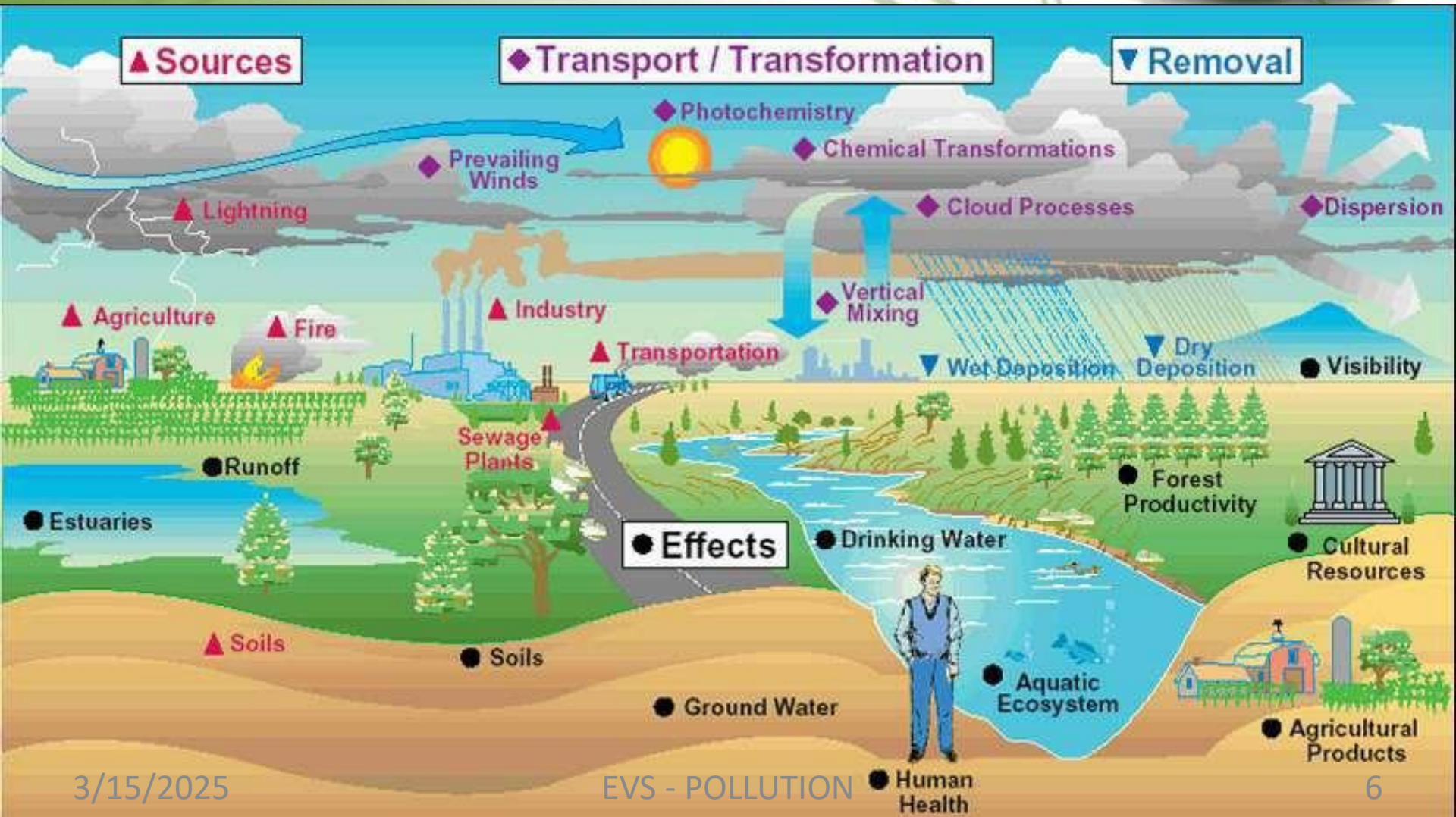
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Figure 2.1 Overview of the aquatic nitrogen cycle and sources of pollution with nitrogen



EVS POLLUTION

A Broader View of Pollution





Contamination by Industries



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Pollution is everywhere.....





Types

- ❖ Air Pollution.
- ❖ Water Pollution.
- ❖ Soil contamination (by lead, heavy metals)
- ❖ Noise Pollution.
- ❖ Nuclear Hazards





AIR POLLUTION



Air Pollution...





Air Pollution

- Air pollution is contamination of the indoor or outdoor environment by any chemical, physical or biological agent that modifies the natural characteristics of the atmosphere.





Sources Of Air Pollution

- Household combustion devices.
- Motor vehicles.
- Industrial facilities.
- Forest fires

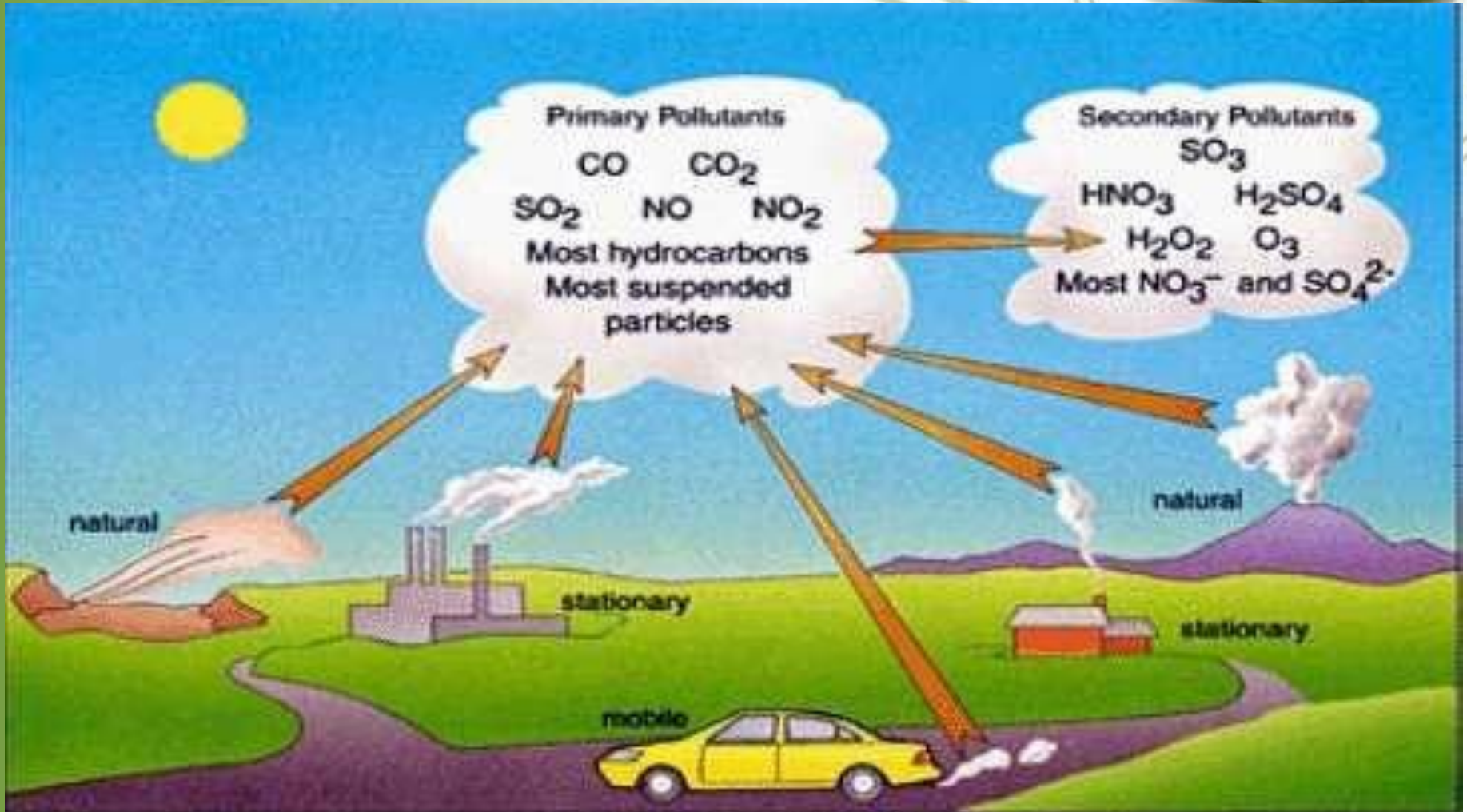


Pollutants causing Air Pollution.....

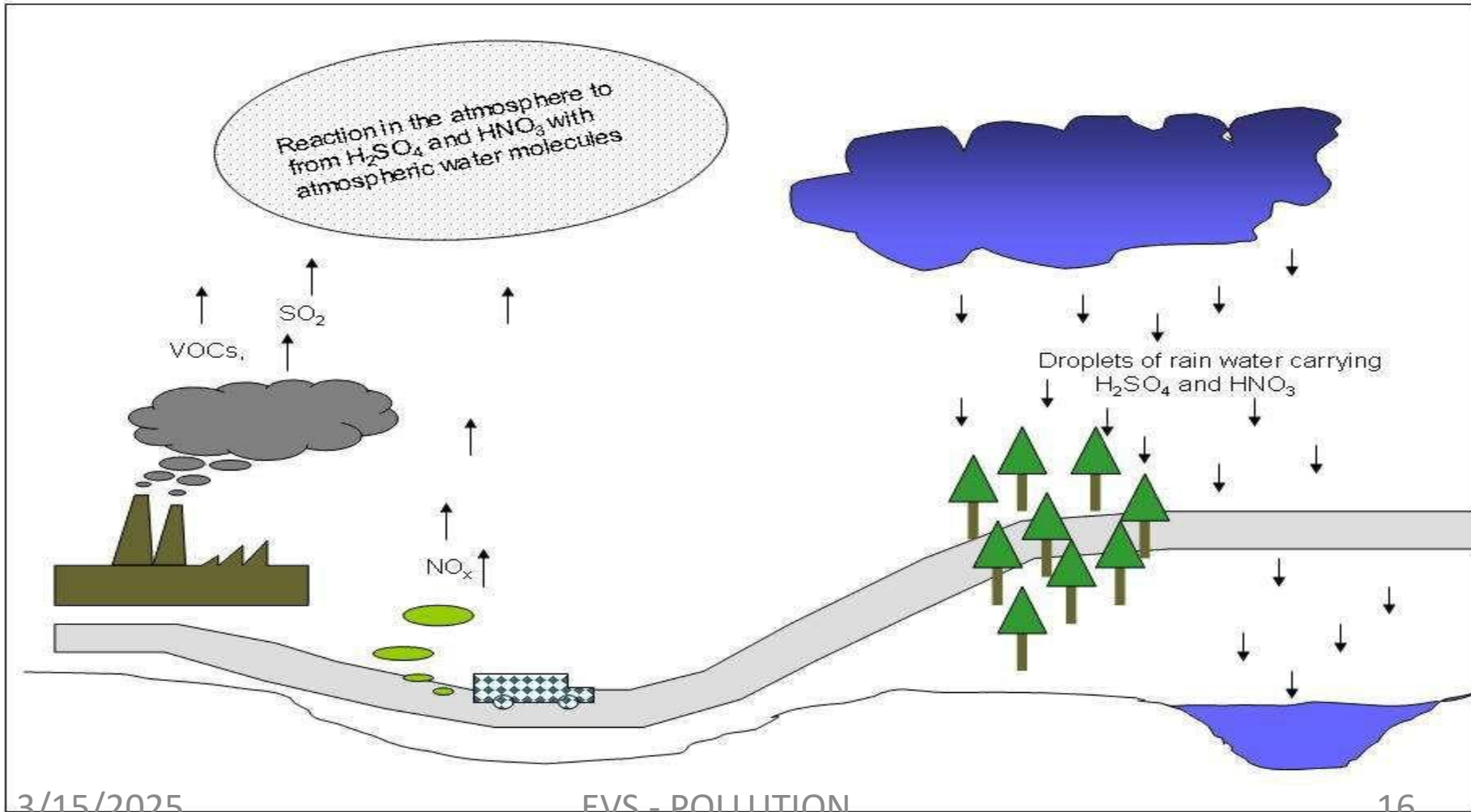


- Include particulate matter.
- Carbon monoxide.
- Ozone.
- Nitrogen dioxide .
- Sulfur dioxide

Sources & Pollutants



Acid Rain





How to control air pollution?





How to control air pollution?

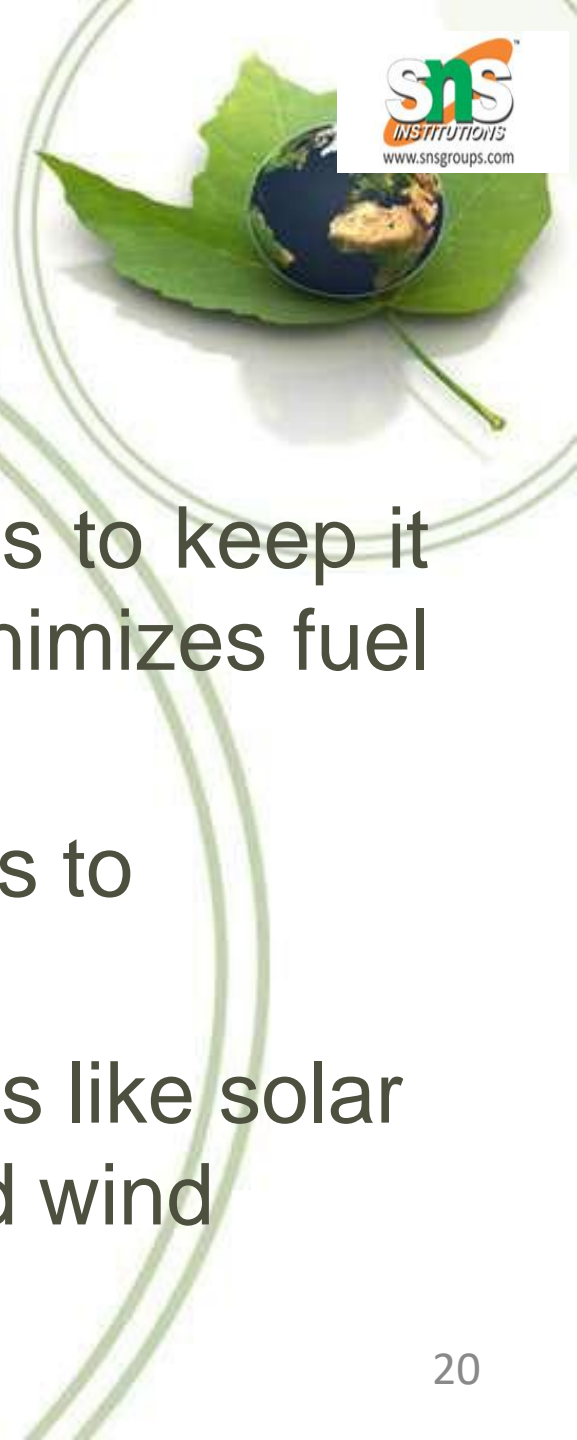


- Maintaining a healthy distance between the industrial and residential areas.
- The chimneys should be constructed tall in size so that the emissions must be released higher up in the environment
- The sulphur must be removed after burning.
- The gasoline must have anti knocking agents..
- The mining area should be planted with trees.



How to control air pollution?

- The coal fuel should be replaced with gas fuel to control the air pollution.
- The automobiles must be designed with emission control system.
- The wastes must be removed and recycled in the industrial plants and refineries.
- Plants like pine and ribes need to be planted to metabolize the nitrogen oxides and other pollutants.



How to control air pollution?

- Timely servicing of the car helps to keep it in a good condition, and also minimizes fuel exhaustion
- Using public transportation helps to prevent the air pollution
- Using alternative energy sources like solar energy, hydroelectric energy, and wind energy



WATER POLLUTION

Water Pollution





Water Pollution...



- Water pollution is the contamination of water bodies (e.g. lakes, rivers, oceans, aquifers and groundwater).
- Water pollution occurs when pollutants are discharged directly or indirectly into water bodies without adequate treatment to remove harmful compounds.



Water Pollution...

- Water pollution affects plants and organisms living in these bodies of water. In almost all cases the effect is damaging not only to individual species and populations, but also to the natural biological communities



Polluted Water...



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Polluted Water...

- Domestic sewage.
- Industrial wastewater.
- Agricultural wastewater.
- Construction site stormwater.
- Urban runoff (stormwater).





Water Pollutants.....

- Petroleum hydrocarbons
- Plastics
- Pesticides
- Heavy metals
- Sewage
- Radioactive waste
- Thermal effluents





Water Pollutants...

- Detergents
- Chloroform
- Food processing waste, (fats and grease)
- Insecticides and herbicides.
- Petroleum hydrocarbons, (gasoline, diesel fuel, jet fuels, and fuel oil).
- Lubricants (motor oil).
- From stormwater runoff.





Preventing Water Pollution...



- Conserve water by turning off the tap.
- Mind what you throw down your sink or toilet.
- Don't throw paints and oils in water channels.
- Use environment friendly household products, such as washing powder, household cleaning agents etc.
- Take great care not to overuse pesticides and fertilizers.
- Don't throw litter into rivers, lakes or oceans. Help clean up any litter you see on beaches or in rivers and lakes, make sure it is safe to collect the litter and put it in a nearby dustbin.



Treating Polluted Water...

- Suspended, solid particles and inorganic material can be removed by the use of filters.
- Use of biological filters and processes can naturally degrade the organic waste material.
- After above two steps chemical additives are supplied to get rid of any left-over impurities.

Treating Polluted water...





NOISE POLLUTION





Noise Pollution



- Noise pollution is displeasing or excessive noise that may disrupt the activity or balance of human or animal life.
- Noise means disgust or discomfort hearing from environment.



Sources of Noise Pollution...



- Machines.
- Transportation systems.
- Motor vehicles.
- Aircrafts.
- Trains.
- Poor urban planning.



Effects of Noise Pollution

- Noise pollution affects both health and behavior.
- Unwanted sound (noise) can damage psychological health.
- Noise pollution can cause
 - Annoyance
 - Aggression .
 - Hypertension .
 - High stress levels .
 - Hearing loss.
 - sleep disturbances, and other harmful effects.

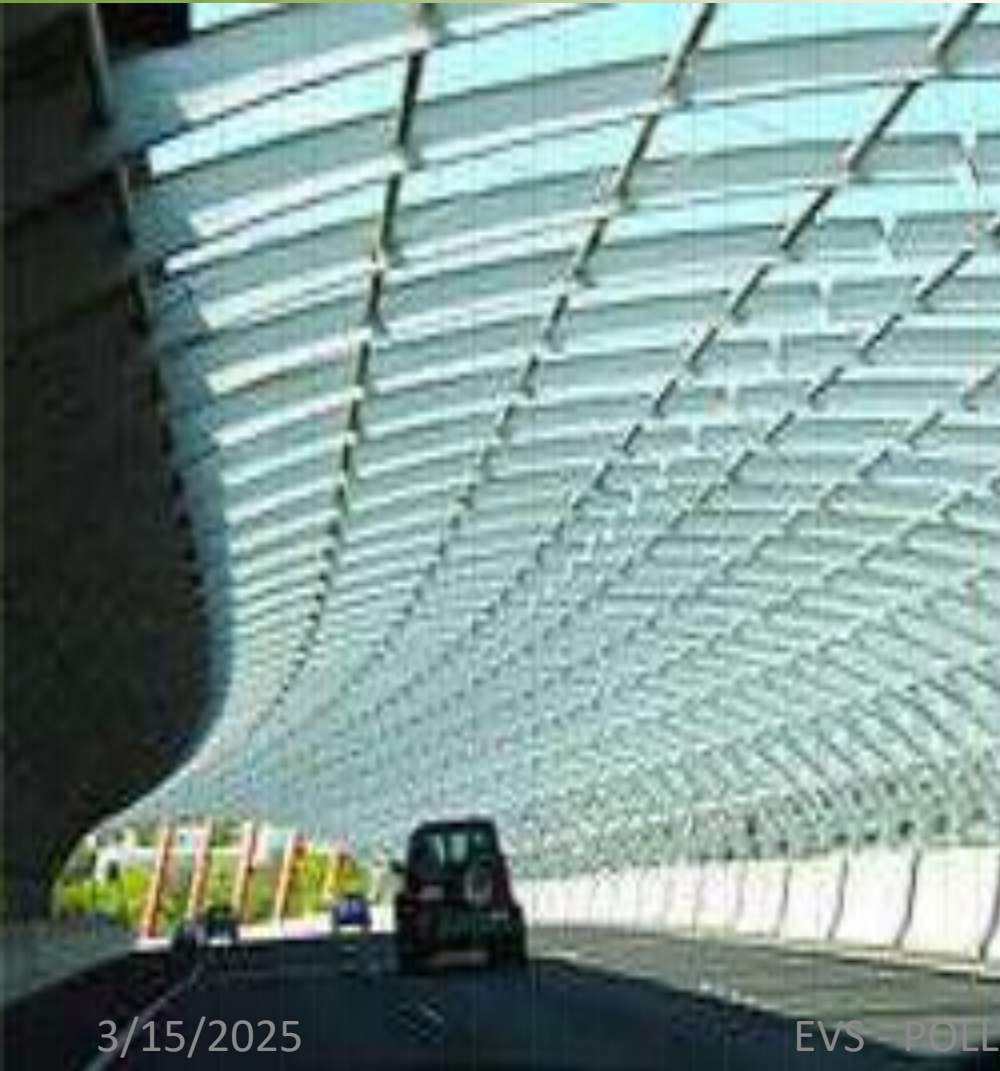


Effects of Noise Pollution



- Chronic exposure to noise may cause noise-induced hearing loss.
- Older males exposed to significant occupational noise demonstrate significantly reduced hearing sensitivity than their non-exposed peers.

Controlling noise..





SOIL POLLUTION

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Soil Pollution..



- Soil contamination or soil pollution is caused by the presence of xenobiotic (human-made) chemicals or other alteration in the natural soil environment.
- It is typically caused by
 - industrial activity.
 - agricultural chemicals.
 - improper disposal of waste.



Soil Contaminating Chemicals.....



- Petroleum hydrocarbons.
- Polynuclear aromatic hydrocarbons.
Pesticides
- Lead and Other heavy metals.

How to control soil pollution?





How to control soil pollution?



- Limit the use of fertilizers and pesticides
- Awareness about biological control methods and their implementation
- The grazing must be controlled and forest management should be done properly
- The afforestation and reforestation must take place
- Proper preventive methods like shields should be used in areas of wind erosion and wind breaks



How to control soil pollution?



- Treating Wastes of industries.
- Treating nuclear waste.
- Proper disposing of plastics and other garbage materials.



THANK YOU !!!