



LOCAL AGENDA 21 FACTSHEET

AIR POLLUTION

NUMBER 3

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1) Introduction – What causes air pollution?



The quality of air affects all of us. The majority of air pollution is a result of human activity. The burning of fossil fuels (coal and oil), through industrial activity, transport and domestic energy use, is the biggest single contributor to air pollution, releasing sulphur dioxide, nitrogen oxide and carbon monoxide into the atmosphere. The manufacture and disposal of fridges, foam packages and aerosols release halocarbons. Methane is released as a by-product of waste buried in landfill.

Image taken from www.ashfield-dc.gov.uk/air_quality/env_air_po...

Not all air pollution is caused by people. Both sulphur dioxide and nitrogen oxides occur naturally due to volcanic activity, decomposition of dead animals and vegetation.

Main air pollutants:

- Sulphur Dioxide = An acidic gas which when combined with atmospheric water vapour produces acid rain. Principal source – burning of fossil fuels.
- Particle (PM₁₀) = Small airbourne particulate matter which can penetrate deep into the lungs. Principal sources – combustion, road traffic, friction of road surface by motor vehicles, vehicle exhaust and smoking.
- Carbon Monoxide = Toxic gas emitted into atmosphere, arises as a result of combustion processes. Principal source – road traffic emissions.
- Nitrogen Oxides = Formed during high temperature combustion processes. Principal source – road traffic emissions.

2) Effects

Air pollution causes a variety of problems, namely acid rain, the greenhouse effect, depleting ozone, damaging buildings, wildlife and habitat and can have a negative effect on human health and thus quality of life. Air pollution levels vary from area to area and on a daily basis. Possible effects to health include: -



- Fall in lung function in asthmatics.
- PM₁₀ – Fine particles carried deep into lungs can cause inflammation.
- Carbon monoxide – Prevents normal transportation of oxygen by the blood, which can lead to reduction in supply of oxygen to the heart.
- Nitrogen Dioxide– Irritates airways of the lungs, increasing symptoms of asthma and lung diseases.
- Ozone – Irritates airways of the lungs, increasing symptoms of asthma and lung diseases.

Image taken from www.beechamsfightback.co.uk/html/enemy_natura

3) What is being done ?

The Government launched the National Air Quality Strategy in 1997. Resulting in a framework for local authorities to improve air quality in their area via a statutory process of review and assessment. This may lead to the declaration of Air Quality Management Areas. The strategy set objectives for 8 main air pollutants in order to protect health and meet people's right to clean air. If a local authority finds areas where objectives are not likely to be met, it must declare an Air Quality Management area there.

In the Tendring area, initial review and assessment was conducted in May 2000 with the second review and assessment completed December 2003, with no problem areas identified. However, Tendring has developed an air-monitoring network: -

- Automated monitoring station – continuously samples for nitrogen oxides and particulates
- Passive sampling network measuring monthly averages of benzene, sulphur dioxide and nitrogen dioxide.

4) How can you help

There is considerable opportunity for us all to take simple measure to reduce air pollution: -

- As road vehicles are a major source of air pollutants try using the car less, avoid using car for short journeys, drive smoothly, maintain your car, use public transport or walk or cycle instead.
- Stop smoking – giving up smoking will make you less susceptible to the effects of air pollution and lower risk of lung and heart disease.
- Think about the use of petrol driven lawnmowers.
- Use water based and low-solvent paints.



Image taken from [www.transport2000.org.uk/.../ GreenCommuting.htm](http://www.transport2000.org.uk/.../GreenCommuting.htm)



Image taken from www.uttlesford.gov.uk/.../ bonfires.htm

- Use energy efficient appliances.
- Improve home insulation.
- Limit bonfires, instead compost or recycle. Never light a bonfire while pollution levels are high and never burn plastic, rubber or household waste.

5) Useful Links

www.airquality.co.uk – UK National Air Quality Archive

www.environment-agency.gov.uk – Environment Agency

www.essexair.org – Essex Air Quality Consortium

www.defra.gov.uk/environment/airquality/index/html – Department for Environment, Food & Rural Affairs

For further information on any of the subjects mentioned please contact Helen Speight, Local Agenda 21 Officer on x 6185 or alternatively write to Environmental Services, Council Offices, Weeley, Clacton-on-Sea, Essex CO16 9AJ.