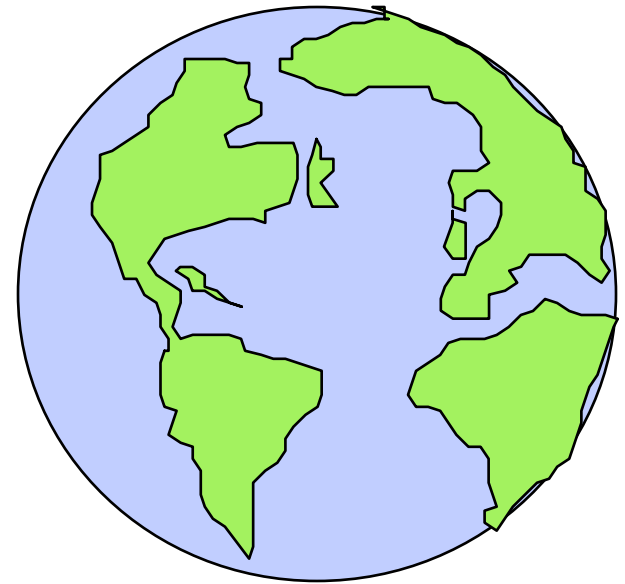


# General Environmental Awareness

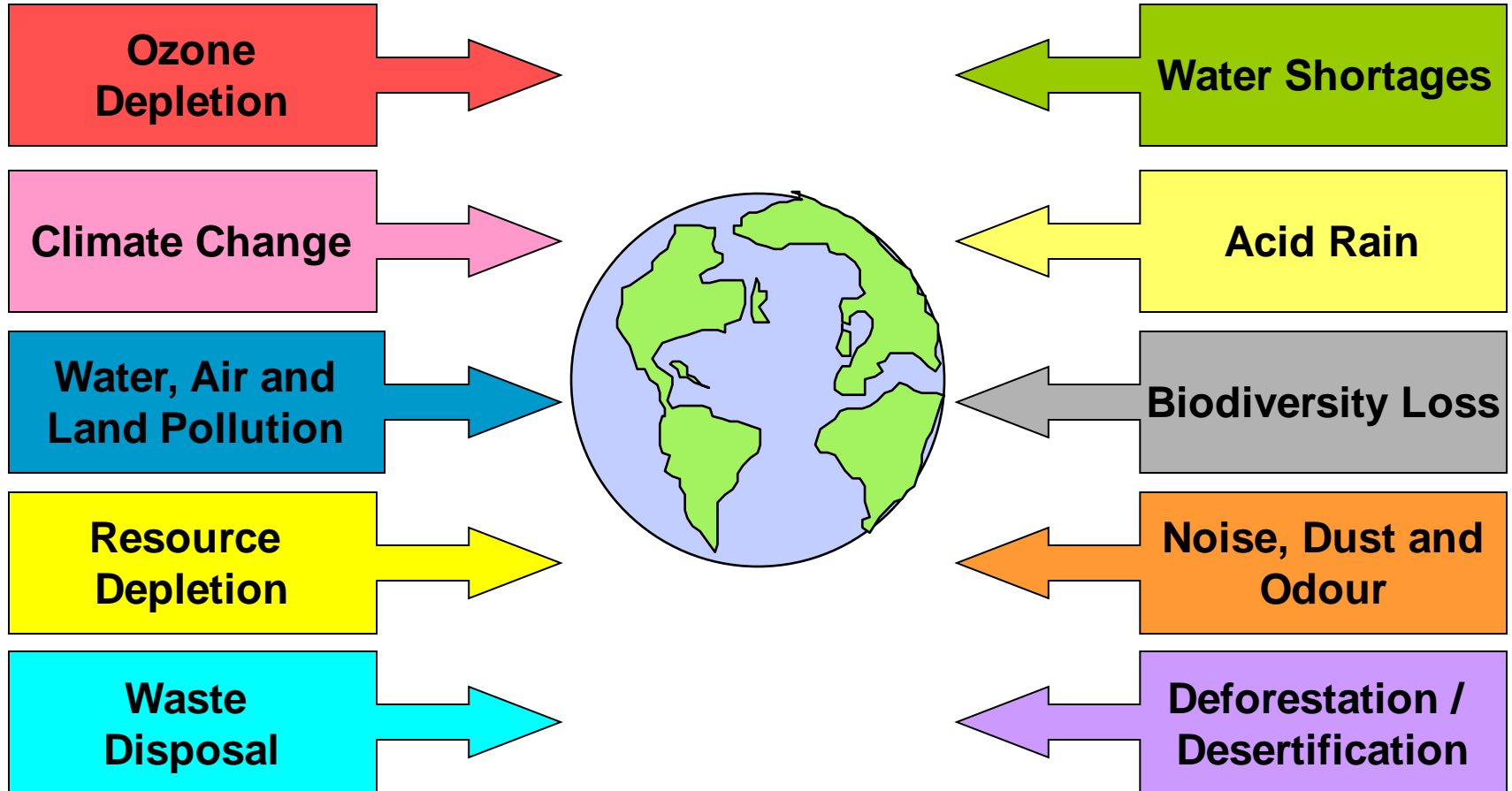
# What is the 'Environment'?

The Environment is made up of:

- ❖ Air
- ❖ Water
- ❖ Land
- ❖ Plants
- ❖ Animals
- ❖ Humans



# Environmental Issues



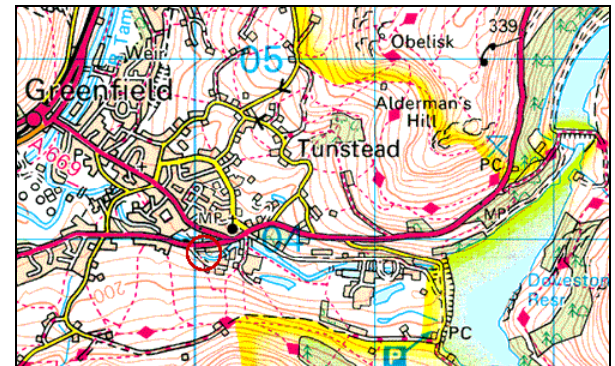
# Scale of Environmental Impacts



Global



Regional



Local

# Climate Change

- ❖ Natural “greenhouse effect” mainly due to carbon dioxide (CO<sub>2</sub>) keeps Earth warm and habitable
- ❖ Industry, transport and power generation release CO<sub>2</sub> and other “greenhouse” gases which retain excess heat in the atmosphere
- ❖ Worst culprits are methane, CFCs, HCFCs, HFCs
- ❖ Predicted 6°C increase in global temperature and 88cm rise in sea level by 2100
- ❖ Energy and transport efficiency reduce emissions and save costs



Thorpe Road Mill: Consumption of electricity, natural gas and diesel

# Non-Renewable Resource Depletion

- ❖ We all use energy and consume products, often using non-renewable natural resources, e.g. coal, oil and gas
- ❖ Energy costs are rising and are set to continue to do so
- ❖ Resources (coal, oil etc..) take millions of years to replace
- ❖ One US Citizen uses as many resources as 500 Africans
- ❖ Resource efficiency and use of renewable resources (plants, wind, wave, solar) slows effects and save costs



Thorpe Road Mill : Consumption of electricity, natural gas and diesel

# Non-Renewable Resource Depletion

- ❖ I'Anson Bros Annual Consumptions
  - ELECTRICITY:
    - 13371 MWh primary electricity
    - Natural Gas
      - 15062 MWh gas

# Air Pollution

- ❖ Main culprits - Volatile Organic Compounds (VOCs) from solvents and NO<sub>x</sub>, particulates, etc from exhaust fumes/fossil fuel burning
- ❖ Gases form ground-level ozone and smog in right conditions (sunlight)
- ❖ Smog may cause respiratory problems and vegetation damage
- ❖ Energy, transport and solvent efficiency reduce impact and save costs

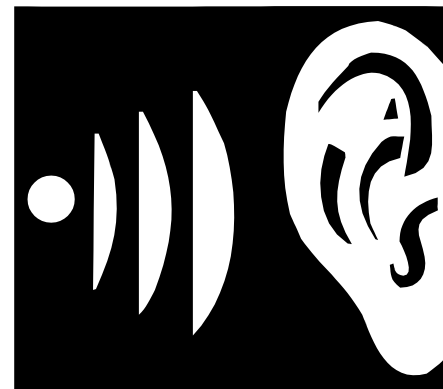


I'Anson Bros Ltd Contribution via energy use and transport



# Noise, Dust and Odour

- ❖ Can be a source of nuisance to local residents
- ❖ Legislation exists to control statutory nuisance
- ❖ If local residents are upset then they may object to future site development
- ❖ An effective complaints procedure can help address local residents' concerns



I'Anson Bros Ltd : Dust, noise and odour emissions

# Water Pollution

- ❖ Water can be polluted from sources, such as domestic sewerage or through an accidental oil spillage to a drain
- ❖ Cleaning up wastewater and making water safe to drink uses energy, chemicals and costs £millions a year
- ❖ Pollution kills plants and animals in streams, ponds and rivers
- ❖ Engine oil from one car could pollute the drinking water supply of an entire city the size of Birmingham
- ❖ Need good containment and spill prevention measures to prevent water pollution



**I'Anson Bros Ltd : Effluent discharge and potential fuel spills**

# Solid Waste Disposal

Includes packaging, old machinery, waste oil, waste chemicals or just plain old waste paper.

There are currently 3 options for disposing of waste:

- Landfilling (uses up land, releases gases and leachate)
  - Burning in an incinerator (releases gases but can recover energy)
  - Reuse/Recycling (reduces raw materials consumed)
- ❖ Focus on waste prevention, reuse and recovery reduces costs and waste volumes



**I'Anson Bros Ltd : General waste, waste packaging, waste oils**

# Other Issues (1)

- ❖ **Ozone Layer Depletion** - Releases of CFCs and other gases destroying ozone layer, allowing harmful UV rays to reach the earth. Increases in skin cancer, cataracts and causes damage to crops
- ❖ **Contaminated Land** - Past industrial activity can result in land becoming contaminated, this can pollute watercourses and be very expensive to clean up
- ❖ **Water Shortages** – 400% increase in water consumption in the last 50 years
- ❖ **Deforestation** – Estimated that forests the size of England and Wales lost every year.

# Other Issues (2)

- ❖ **Biodiversity Loss** – Ecosystems are vital to us as they provide food, medicine, clothes and help to maintain a clean atmosphere and water supplies. Predicting a loss of 20% of all species in the next 70 years.
- ❖ **Acid Rain** - Burning of fossil fuels releases acid gases which dissolve in atmosphere. Acid rainfall damages forests, lakes and buildings.
- ❖ **Desertification and Soil Erosion** - Soil takes approximately 200 years to lay down, whereas it can be swept away in a matter of months.

# Regulatory Requirements - IPPC

- ❖ Integrated Pollution Prevention and Control
- ❖ Regulated by the Environment Agency
- ❖ Requires a permit to operate (IPPC Permit)
- ❖ Focuses on pollution prevention and ongoing control measures to ensure:
  - No significant pollution is caused
  - Waste production is avoided
  - Energy is used efficiently
  - The necessary measures are taken to prevent accidents and limit their consequences

# IPPC - Implications for Animal Feeds

- ❖ Dependent upon production throughput (300 tonnes/day)
- ❖ Monitoring and Control of emissions
  - Particulate (dust) emissions
  - Odour emissions
  - Noise
  - Water
  - Waste
- ❖ EMS was compulsory by August 2007
- ❖ Energy efficiency – CCLA commitments
- ❖ Systems to minimise environmental risks and accidents
- ❖ Waste management
- ❖ Closure and de-commissioning

# Other Environmental Legislation

- ❖ UK and European Legislation relating to:
  - Air pollution
  - Water pollution
  - Storage of oils and chemicals and hazardous materials
  - Waste

Contents page of your Register of Legislation



# Environmental System (ES)

- ❖ So we have looked at the issues, what are we going to do?
- ❖ We are developing a simple system to;
  - Ensure we are operating legally
  - Reduce the environmental impact of our operations
  - Help save costs
- ❖ There will be some new procedures we have to implement but these are simple and easy to follow
- ❖ We are providing training and guidance to all staff

# Our Environmental Policy

## MISSION STATEMENT

I'Anson Bros Ltd cares about the environment and is committed to protecting it. Our corporate strategy is for all our employees to do all that is practicable to achieve this.

## OUR PRINCIPLES ARE TO:

- Design, operate and maintain all of our operations in an environmentally responsible manner, complying with all relevant legislation.
- Continually improve our environmental performance with the aim to optimise energy consumption in relation to production levels and product quality, prevent pollution, minimise waste and consumption of natural resources.

# Our Environmental Policy

- Maintain an Environmental Management System including procedures for environmental monitoring and control of our operations.
- Produce environmental objectives with realistic and achievable targets.
- Produce adequate training and information to our employees to ensure the relevant knowledge and experience is acquired and maintained for successful implementation of this policy.
- The Company's Environmental Policy and its implementation is the direct responsibility of the Directors of I'Anson Bros Ltd and it will be reviewed and revised as necessary at regular intervals to ensure its continuing relevance.

**This Environmental Policy can only be effective with the support and efforts of every member of staff, our suppliers and contractors.**

## Company Objectives

Environmental Aspect	Description	Obj. Ref	Objective
		CO1	Communicate Environmental Policy and where relevant Environmental Procedures.
UTIL 1 – 3	Energy Consumption	CO2	Reduce manufacturing energy consumption to meet or exceed CCL targets
MAN2*	Legal compliance (Including 'Duty of Care', Planning conditions, PPC)	CO3	Ensure Legislative Compliance ref abatement failures.
			Ensure Legislative Compliance ref bulk liquid storage.
WASTE 1- 17	Waste Disposal	CO4	Review waste stream segregation to maximise recycling opportunities
WATER 6 - 9	Accidental Water Pollution.	CO5	Review Accident Prevention Procedures.
		CO6	Establish an environmental performance monitoring system.
AIR 7		CO7	Monitor discharges to ensure compliance
WATER 1		CO8	Establish discharge system to ensure compliance

# Dalton Mill Significant Issues

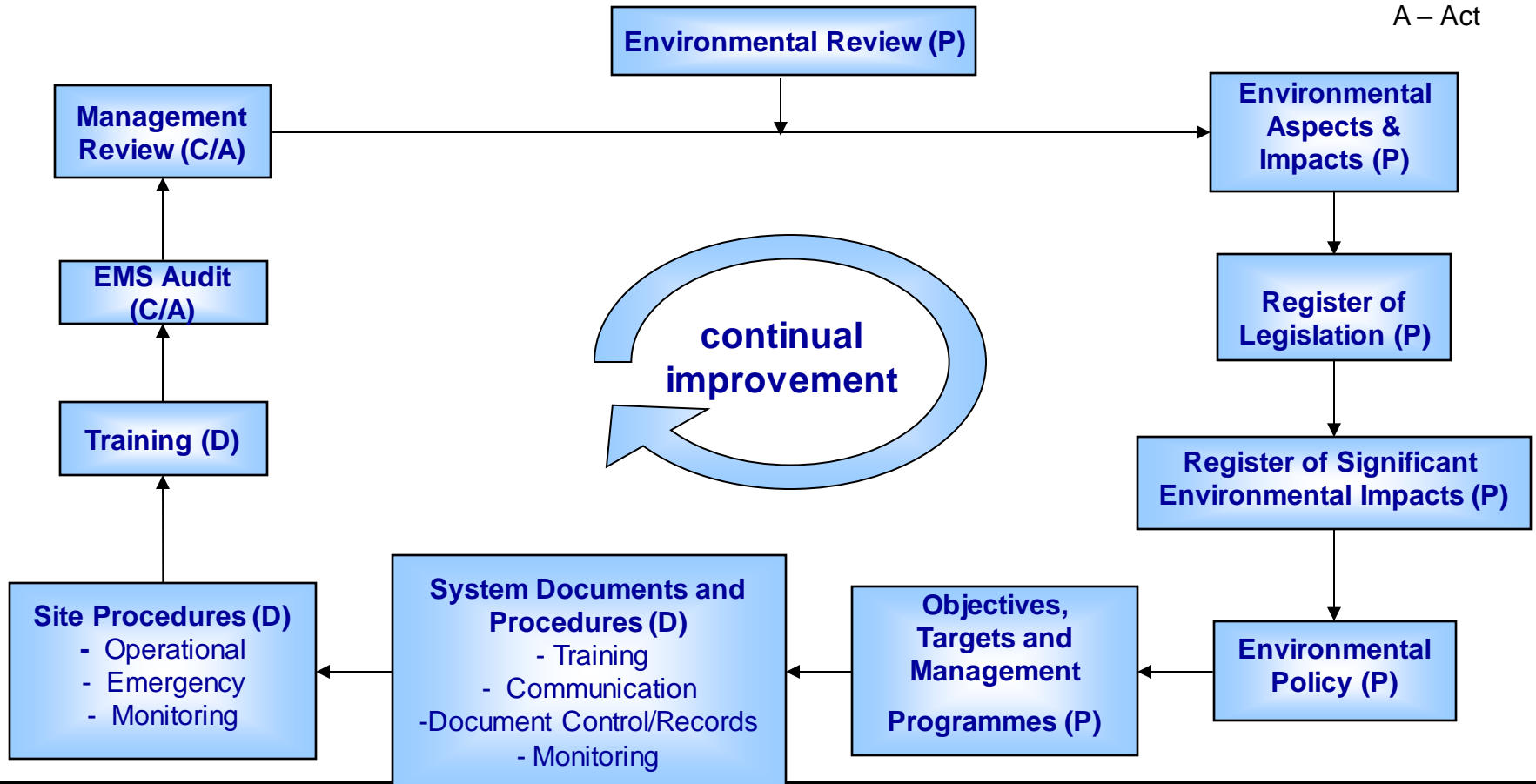
- ❖ Oil spills into drains
- ❖ Dust & Odour Emission from Coolers
- ❖ Energy Use – Mill & Vehicles
- ❖ Gas Boiler (Gas firing causes high levels of pollution)
- ❖ Waste – reduce waste by avoidance & recycling

# How is the EMS going to work?

- ❖ <<Sites need to summarise how the EMS is going to work, for example;
  - Who is in charge and who is doing what?
  - What new work instructions have been written?
  - Where can EMS work instructions be found?
  - What to do in an the event of environmental accident (e.g. spillage)?
  - The impact varies depending upon your job and your responsibilities (what impact a problem could have on the environment)

# Environmental Management System - Elements

P – Plan  
 D – Do  
 C - Check  
 A – Act



# ENERGY

- ❖ We all have a part to play in minimising energy use.
- ❖ Don't forget CCL
- ❖ Avoid waste and leaks
- ❖ Fuel efficient driving
- ❖ Share car journeys wherever appropriate/possible
- ❖ SWITCH OFF !!!!!!!