

Unit 11 - Managing Economic Development:

11.1 What global environmental problems are being caused by economic development?

Economic development causes many environmental problems - pollution of various types as well as resource depletion. The use of resources in MEDCs cause many of these problems.

Problem	Leads to...	Caused by...
Global Warming (Greenhouse Effect)	<ul style="list-style-type: none"> rise in global temperatures - by 0.6°C in the 20th Century effects climate patterns rising sea levels - flooding effects habitats 	<ul style="list-style-type: none"> carbon dioxide from burning fossil fuels - power stations, vehicles and industry increased CO₂ traps heat in the atmosphere, leading to higher temperatures deforestation helps to increase CO₂ levels as trees absorb CO₂ from the atmosphere
Acid Rain	<ul style="list-style-type: none"> rain becomes acidic lakes polluted - become acidic so fish die destroys other habitats - forests etc... 	<ul style="list-style-type: none"> sulphur dioxide (SO₂) and nitrous oxide (NO) from burning fossil fuels - coal and oil particularly combine with water in the atmosphere to form weak acid and then falls as rain
Ozone Depletion	<ul style="list-style-type: none"> ozone layer becomes thinner, allowing harmful ultra-violet rays through causes skin cancer and damage to plants and animals 	<ul style="list-style-type: none"> chemicals called CFCs in aerosols, foam packaging and fridges destroy ozone (O₃) in the upper atmosphere

11.2 What are the consequences of acid rain, ozone depletion and global warming?

- climate - GW** could have a huge effect - but it is unpredictable. Some places may get warmer, others colder, some drier, others wetter. This could be good news - e.g. some places may get enough water to farm in or ports could be free of icebergs. Sea levels may rise - although this could happen due to ice caps melting, it's more likely to be because when the oceans get hotter they will expand a little. Because so much of the earth is ocean this could have a big effect. A hotter world could also cause more storms - tropical storms need heat to provide energy; if there's more heat then there's more energy. Ski resorts could suffer in some areas - no snow = no tourists.
- human health - AR** can cause problems for clean water supplies. **OD** could lead to a big rise in skin cancer, particularly in areas like Australia
- ecosystems/agriculture** - changing climate due to **GW** could effect agriculture - e.g. we may be able to grow Mediterranean crops in the UK more easily. Apples are ripening earlier in the year as a result of **GW** - this may effect what and how farmers grow things. **AR** could have a major impact on ecosystems - lakes and rivers can get so acidic that all life dies in them. Forests can also die - the acid rain leaches out nutrients and dissolves harmful heavy metals like lead and mercury. This kills trees and effects the whole ecosystem. It can also effect crops. **OD** can reduce photosynthesis and therefore plant growth, effecting ecosystems and farmers.

11.3 How can economic development be managed in a sustainable way?

Technology and appropriate development	<ul style="list-style-type: none"> reduce use of harmful resources use alternative resources use technology to reduce air pollution - e.g. cleaning up chimney emissions use less energy - conservation
Banning CFCs	<ul style="list-style-type: none"> a ban would reduce Ozone Depletion in the future, although CFCs stay in the atmosphere for at least 30 years so a ban would not have an immediate effect
International Agreement	<ul style="list-style-type: none"> these are global problems so they need global solutions - the chemicals spread all over the world agreements like the Kyoto Protocol to reduce CO₂ emissions are needed but these are hard to agree and the US (4% of the world's population, producing 24% of the world's CO₂) won't agree to it banning rainforest imports might help reduce deforestation

Environmental Pressure Groups such as Greenpeace and Friends of the Earth have an important role to play in educating people about the problem and making sure that governments (who have the power to do something) and big businesses are reminded of the problems regularly.