

## 1. ALTERNATIVE ENERGY PRODUCTION

- Reduce the use / combustion of fossil fuels / less CO2 emissions
- Transport - more hybrid / electric cars
- Homes - move from gas fired central heating to electric. Conservation and energy saving appliances
- Energy - move from non renewable carbon producing fossil fuels to renewable energy

### A. WIND

- Onshore and offshore wind farms / turbines
- Offshore is best as winds are stronger and environmental damage is less
- No CO2 produced
- BUT - amount of energy produced changes with wind speed
- wind farms damage ecosystems and habitats and kill birds and bats
- noise and visual pollution

### B. SOLAR

- Can be PV, Photovoltaic cells directly producing electricity from sunlight
- or for heating water in homes
- or for heating water to produce electricity
- No CO2 produced
- sunlight does not run out
- BUT - costly to build
- sunlight variable and only in daylight hours
- micro-generation is best, since large installations cover and damage ecosystems and habitats

### C. HYDRO ELECTRIC POWER (HEP)

- Dams and reservoirs are built in areas of high rainfall
- Cheap to run and produce electricity as required
- BUT - expensive to build
- dams can be made of concrete which produces CO2 when made
- reservoirs and dams have a negative impact on ecosystems and habitats

### D. NUCLEAR POWER

- Uses uranium and nuclear fission to produce heat to turn turbines and make electricity
- A steady and reliable source of electricity
- Uses very small amounts of fuel (uranium)
- Very little CO2 produced
- BUT - expensive build
- expensive to de-commission
- nuclear waste is radioactive and along with leaks may cause health problems
- meltdown and explosions eg Chernobyl can cause long term environmental and health problems

CLIMATE CHANGE / GLOBAL  
WARMING  
MITIGATION

## 2. CARBON CAPTURE

- Trapping CO2 before it is released
- Turning it into a liquid and storing it in permeable rocks capped by impermeable rocks
- Old oil and gas wells in the North Sea are a useful capture store for the UK
- It may help the UK become carbon neutral
- BUT - It may lead to continued use of fossil fuels

## 3. PLANTING TREES

- Afforestation, forests as a carbon sink / store
- Photosynthesis uses sunlight and carbon dioxide to make glucose which stores carbon in the plant biomass
- BUT - as trees get older they start to release more CO2 during the process of decomposition of leaf organic matter, which cancels out the store
- therefore young trees are better
- sustainable logging and replanting is the best method

## 4. INTERNATIONAL AGREEMENTS

- Climate change needs international agreements
- 1992 Earth Summit in Rio saw the problems caused by glass emissions
- 1997 Kyoto protocol agreed cuts
- 2015 Paris Accord, countries signed up for specific cuts in carbon emissions. China and USA are the worst offenders

