

Energy Resources

Coal

Advantages:

- Reserves are likely to last 300 years.
- Improved technology has made conversion to electricity more efficient.

Disadvantages:

- Most easily accessible coal has been used up so production costs have risen.
- Burning coal causes air pollution and the release of greenhouse gases.
- Mining causes lots of visual pollution.

Gas

Advantages:

- Cheaper and cleaner than oil and coal.
- Easy to transport.
- Safer than Nuclear energy.

Disadvantages:

- Only going to last 50-70 years.
- Greenhouse gases.
- Terminals are unattractive and take up a lot of space.

Oil

Advantages:

- Efficient to burn.
- Easy to transport.
- Used for petrochemical industry.

Disadvantages:

- Reserves may only last another 50-70 years.
- Greenhouse gases.
- Huge environmental problem of oil spills.
- Vulnerable to political and military pressure.

Nuclear

Advantages:

- Uses very little raw material.
- Produce very small amount of greenhouse gases.
- Long life span - not going to run out.

Disadvantages:

- The consequences of an accident e.g. Chernobyl.
- The production of nuclear waste.
- Potential health risks.

Biomass / Biogas

Advantages:

- Renewable and / or sustainable.
- Getting rid of waste products.

Disadvantages:

- Burning still produces greenhouse gases.
- Large area of agricultural land needed for growing a sustainable burning crop.
- Specialist equipment (incinerators) needed.

Wind

Advantages:

- Low running costs.
- When the wind is strongest - demand is highest.
- Off-shore wind farms solve some of the problems of the on-shore projects.

Disadvantages:

- Expensive to build and maintain.
- Very large numbers needed - unsightly.
- Noisy.
- NIMBY.

Tidal

Advantages:

- Unlimited supply.
- No pollution.
- Constant supply - there are always tides.
- The UK will be world leaders in sea turbine technology.

Disadvantages:

- Expensive to build.
- Floods estuaries - can destroy wildlife habitats.

Wave

Advantages:

- Masses of free energy.

Disadvantages:

- Expensive to develop.
- Equipment to survive severe weather still being developed.

Solar

Advantages:

- Very good for small scale uses.
- Alternative and appropriate technology for LEDCs.
- No pollution.

Disadvantages:

- Expensive to set up.
- For UK - when need is the greatest - the weather is the worst.
- Large scale (power station) projects still in development.

HEP

Advantages:

- Little pollution when running.
- Cheap once set up.
- Lakes can be used for recreation and to stop flooding.
- Pump storage schemes use spare energy.

Disadvantages:

- Dams are expensive to build and large projects can get LEDCs in debt.
- Floods lots of land - disrupts peoples lives.
- Can create methane (greenhouse gas) from rotting vegetation.

Geothermal

Advantages:

- Renewable.
- Reliable.
- Non-polluting.
- Hot water can also be used for heating the local city.

Disadvantages:

- Limited locations with the possibility of earthquakes, eruptions and sulphur.
- Expensive to build and maintain.

Fuelwood

Advantages:

- The wood is free.

Disadvantages:

- The trees are important for shelter, food, fuel and shade.
- Collecting wood is a time consuming job for women and children.
- Environmental deprivation.