

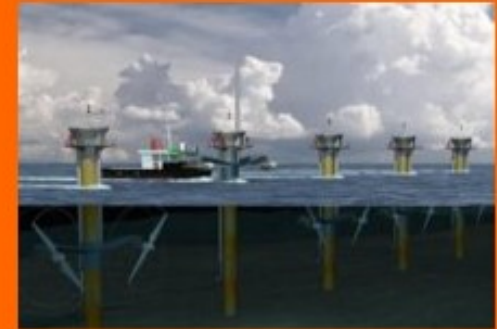
Making Electricity using renewable energy sources!!!



Wind Power



Solar Power



Tidal Power



Geothermal Power



Hydroelectric Power



Biomass Power

Renewable Energy **Biomass**



How it works:

Decaying animal and plant waste is burned to produce electricity. Fast growing plants can be grown specifically for this purpose, and chicken faeces can be burnt.

Advantages:

- Cheap and readily available
- Renewable form of energy

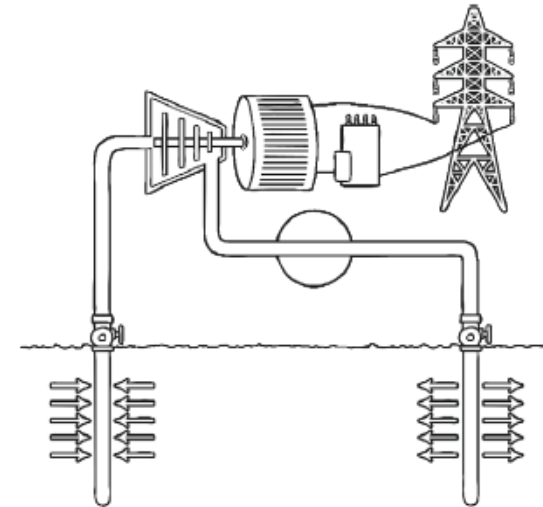
Disadvantages:

- A very smelly process which releases greenhouse gases
- Plants need to continually be replanted and land must be available
- Requires good crops every year

Points to consider:

- Would you want to live close to one of these sites? The smell is horrendous and, depending on the direction of the wind, can be widespread.

Renewable Energy **Geothermal Power**



How it works:

Water is heated by the natural heat of the earth. Cold water is pumped into the earth via pipes and returns as steam. The steam can be used to turn turbines and generate electricity.

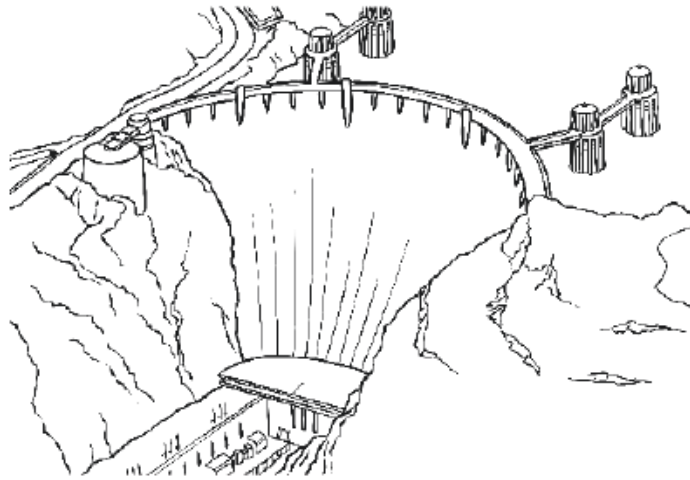
Advantages:

- Excellent for countries like New Zealand and Iceland
- Provides renewable energy
- No pollution

Disadvantages:

- Only suitable to be used in a few locations, nowhere in Great Britain is suitable
- Cost of drilling

Renewable Energy **Hydroelectric Power**



How it works:

Water is stored in a reservoir using a dam. When electricity needs to be generated, the dam gates are opened and the water flows down pipes; this turns turbines and generates electricity. The water is later pumped back up to the reservoir, so the process can be repeated.

Advantages:

- Renewable form of energy
- Can generate electricity quickly at times of high demand
- No pollution

Disadvantages:

- Uses some of the electricity generated to pump water back up to the reservoir
- Requires a large area of land

Renewable Energy **Solar Power**



How it works:

Mirrors and panels are used to capture energy from the sun and convert it into electricity.

Advantages:

- Suitable for individual houses to generate their own electricity
- Renewable
- No pollution
- Can be used in remote locations

Disadvantages:

- Can be expensive to initially set up
- Works most effectively if your roof is facing a southerly direction

Points to consider:

- Cost for average house to have solar panels = £6500
- Average payback time = 14 years (however this is likely to decrease as fossil fuel prices continue to rise)
- People feel they are helping to save the planet because it does not generate greenhouse gases

Renewable Energy **Tidal Power**



How it works:

A dam is built across an estuary; this results in a lake building up at high tide, and then emptying at low tide. The fast flow of the water, as the lake empties, turns turbines and generates electricity.

Advantages:

- Extremely suitable if you live on an island like Great Britain
- Has the potential to generate a lot of electricity
- Renewable

Disadvantages:

- Initial set-up costs very high
- In reality only a few estuaries are suitable
- May have an impact on wildlife

Points to consider:

- Although the set-up costs are high, they are arguably not that much more than maintaining existing power stations, or building new nuclear power stations.

Renewable Energy **Wind Power**



How it works:

Giant windmills are used to turn electrical generators.

Advantages:

- A renewable form of energy
- After initial outlay, there are very few costs except for occasional maintenance

Disadvantages:

- Requires windy days, therefore only suitable in certain parts of the country
- Noisy if you live close by
- Spoils the countryside

Points to consider:

- Very expensive initial installation costs
- Usually set up as wind farms rather than as individual windmills, so has a big impact on the local area
- Not very efficient (would need lots of wind turbines to provide a small village with electricity)