

Science Knowledge Organiser



Y7 Energy: Energy costs

Energy costs

In science the unit used for energy is the joule, J.

However, energy suppliers (companies that provide electricity and gas) use a different unit. This is the kilowatt hour, shown as (kW hour) or (kWh).

One kWh is the amount of energy used by a 1 kW appliance for 1 hour:

$$\text{energy in kWh} = \text{power in kW} \times \text{time in hours}$$

Household bills

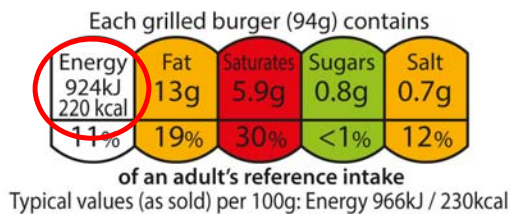
Household or domestic fuel bills include information about the energy used, including:

- the number of kW hours used
- the cost of each kW hour
- the total cost of the energy used

$$\text{cost} = \text{power (kW)} \times \text{time (hours)} \times \text{price (per kWh)}.$$

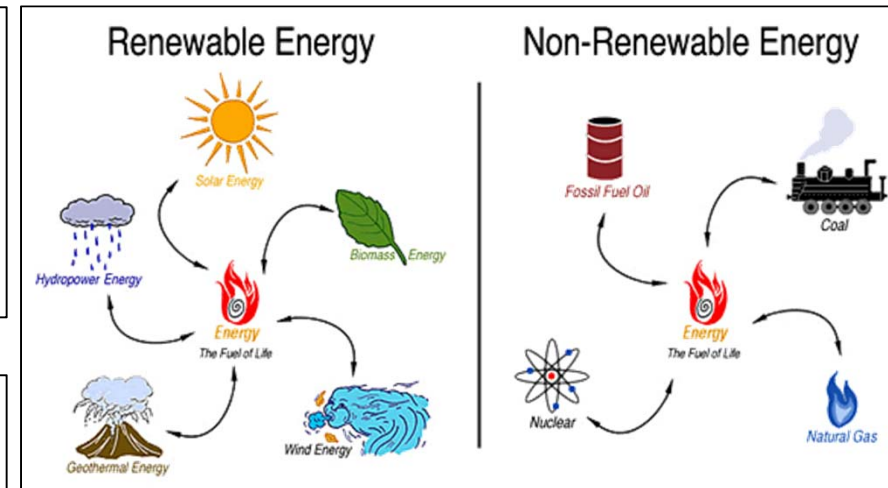
Food labels

Food labels list the energy content of food in kilojoules (kJ).



Key words

Energy resource	Something with stored energy that can be released in a useful way.
Fossil fuels	Non-renewable energy resources formed from the remains of ancient plants or animals. Examples are coal, crude oil and natural gas.
Non-renewable	An energy resource that cannot be replaced and will be used up.
Power	How quickly energy is transferred by a device (watts).
Renewable	An energy resource that can be replaced and will not run out. Examples are solar, wind, waves, geothermal and biomass.



↑ All have pros and cons ↑