

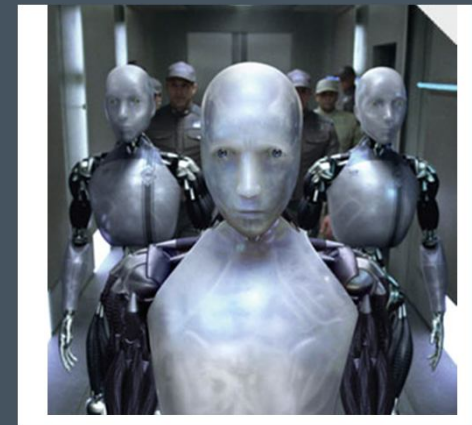


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How could suppliers and customers dramatically reduce future electricity bill?



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Our Electricity Bills



*Our electricity bill is made up from two components:
the units of electricity use and the unit price.*



$$3000\text{kWh/yr} \times 17\text{pence/kWh} = \text{£}500/\text{yr}$$

For a typical home, we consume 3,000 units of electricity per year. The basic unit for electricity is kilowatt-hour (kWh), equivalent to 1000 watt of work over 1 hour, or 3.6 megajoules of energy.

1 watt = 1joule of energy per second

1000 watt = 1000 joules of energy per second

1 hour = 3600 seconds

1kWh = 1000 joules/s x 3600 = 3.6 megajoules



kW represents power, how hard is the work.

kWh represents energy, how long the work has to be done, the strength and the duration

Which appliance is more energy intensive?



2000 watt



60 watt

How many kWh of electricity does boiling a 2000 watt kettle use?

Typically, a 2,000 watt kettle takes 3 minutes to boil

Power: 2000 watt = 2kW

Duration: 3 minutes = 3/60 hour = 0.05 hour

Energy = Power x Duration = 2 kW x 0.05 hour = 0.1 kW

How many kWh of electricity does it take to light a 60 watt light bulb between 7pm to 11pm?

Power: 60 watt = 0.06 kW

Duration: 4 hours

Energy = Power x Duration = 0.06x4 hours = 0.24 kWh

If our annual 3,000 units of household electricity consumption all used for boiling water, this is equivalent to 30,000 boiled kettles, or 5.7 years of equivalent lighting for the 60 watt light bulb.