

How does electricity get to your home?

Did you know the electricity you use has been on a huge journey before it reaches your front door? Follow its path all the way from the power station to the circuits inside your home.

1

When electricity leaves the power station, it needs to be given a big boost to make the long journey to your home. This is done at a grid substation using a 'step up transformer', which ramps up the voltage from 25,000 volts to 400,000 volts.

2

Increasing the voltage prevents too much energy from being lost as heat, which can happen as the electricity makes its journey to your home along overhead cables. In towns and cities these are often buried underground, but in the countryside you'll usually see the cables hanging from giant pylons.

3

As the electricity nears its final destination, the voltage needs to be lowered to a safer level for us to use. In homes, this is 230 volts. The voltage is lowered inside a substation using a 'step down transformer' – the opposite of a step up transformer used at the beginning of its journey.

6

Finally, the electricity travels along wires to all your power points and light fittings around the home... giving you power to switch on lights, watch TV, play on the computer or charge your mobile phone!

5

Now it's just a short trip from the cable on the street to a box by your electricity meter. This contains the circuits for all the electrical points in your home.

4

Once it leaves the substation, the electricity travels its last leg along pylons or underground cables towards your home.

Wastebuster CIC, Registered no 5883640. Registered address: The Botly, Albury Park, Albury, Guildford, Surrey GU5 9BH



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