

What is a kilowatt hour?

1 kWh

ONE KILOWATT HOUR

Like a metre is a measurement of length,
a **kilowatt hour** is a measurement of **energy**

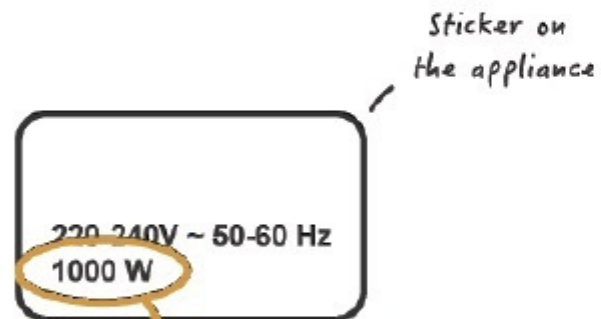


It measures or describes the amount of
power used in a certain amount of time

Power ratings



All appliances carry a power rating that indicates the amount of power they use



This appliance has a power rating of **1 000 W**

1 000 W is the same as **1kW** (one kilowatt)

Energy usage



If I run a
1 kWh appliance*

for 1 hour

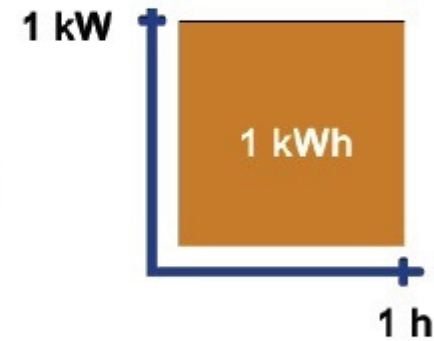
it uses a total
of 1 kWh of
energy



x



=



1 kW

x

1 h

=

1 kWh

Energy usage



If I run a
2 kWh appliance*



2 kW

x

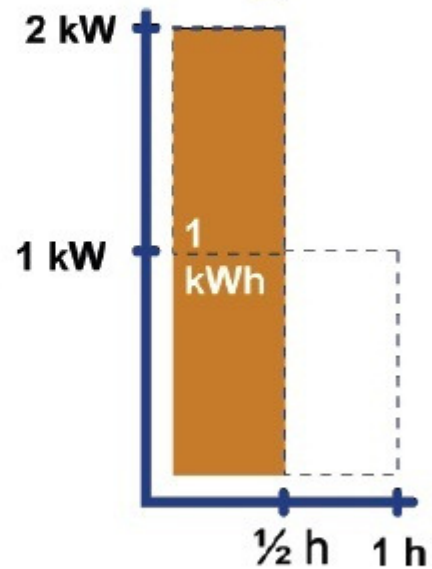
for half
an hour



½ h

=

it also uses a
total of 1 kWh of
energy



=

1 kWh

How much do you get for 1 kilowatt hour?



1 kWh

ONE KILOWATT HOUR
WILL GET YOU ABOUT



16 meals
microwaved



24 slices
toasted



8 rooms
vacuumed



5 shirts
ironed



4 hours* of
refrigeration



1½ laundry loads
washed



1 cake
baked

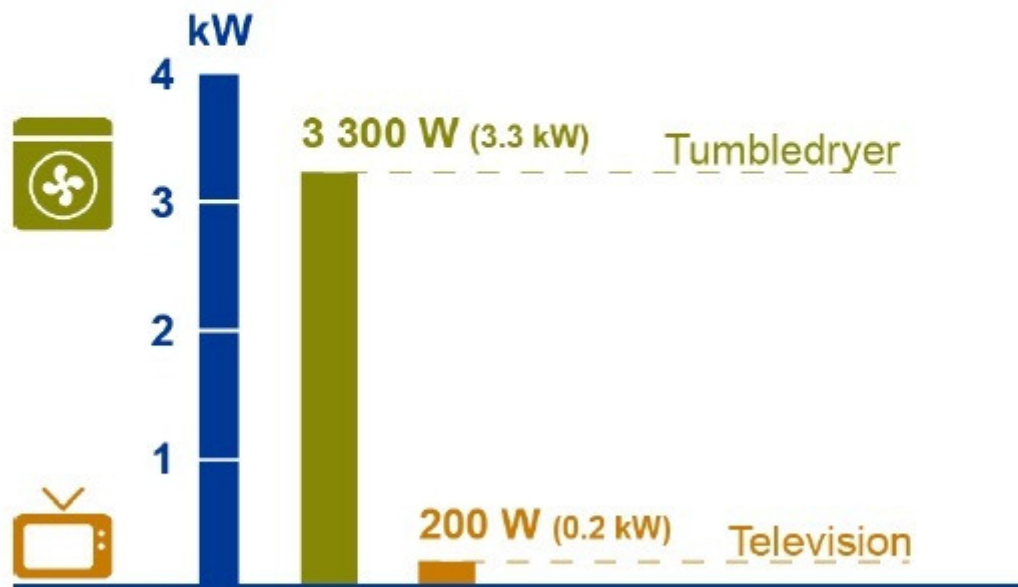


*That's equivalent to
running the fridge
for about 15 hours

Appliance power ratings



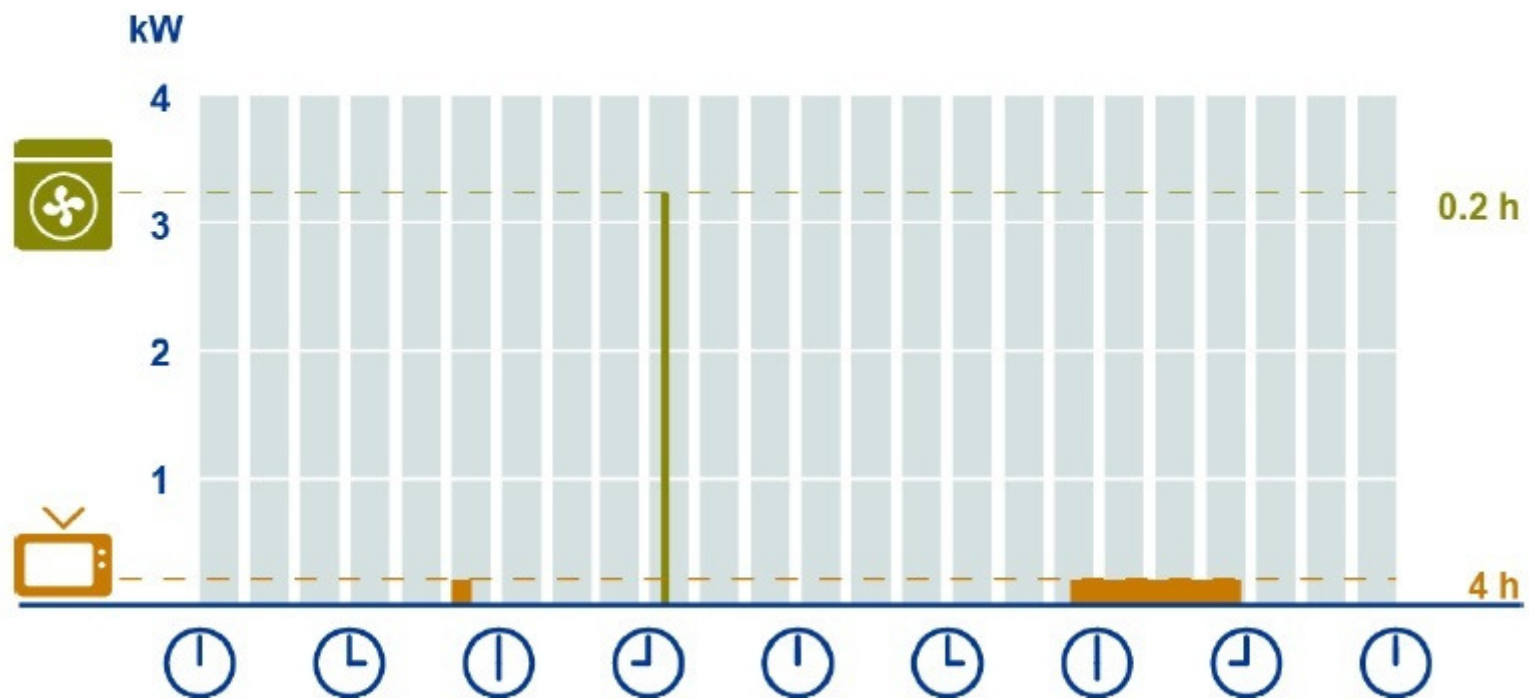
A tumbledryer uses much more power than a television



Average daily usage patterns



But, on average, a tumbledryer is used for less time during the day than a television



Appliance power rating

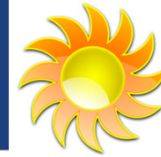


So, on average, a tumbledryer and a television's average total energy use per day is about the same

$$\text{3.3 kW} \times 0.2 \text{ h} = 0.66 \text{ kWh}$$

$$0.2 \text{ kW} \times 4 \text{ h} = 0.60 \text{ kWh}$$

Household Appliances



Fridge



Freezer



Dishwasher



Tumble
dryer



Television

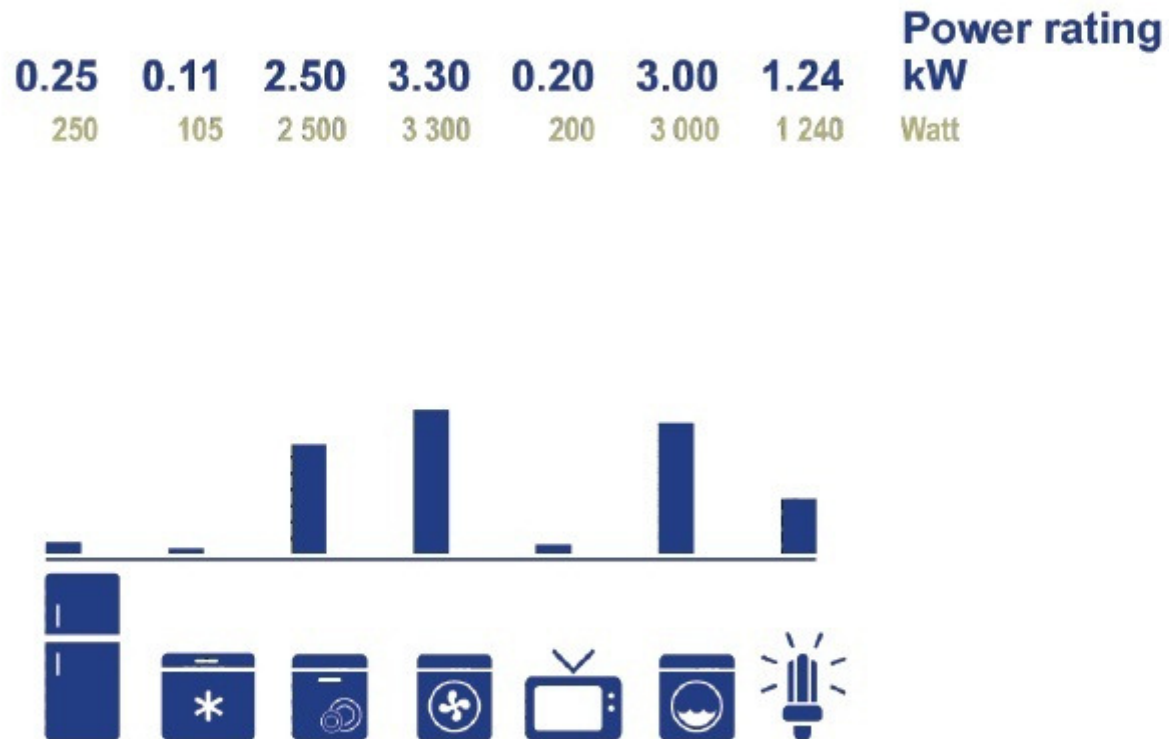


Washing
machine



Household
lighting

Average appliance power consumption ratings



*All values rounded off

Average daily household use

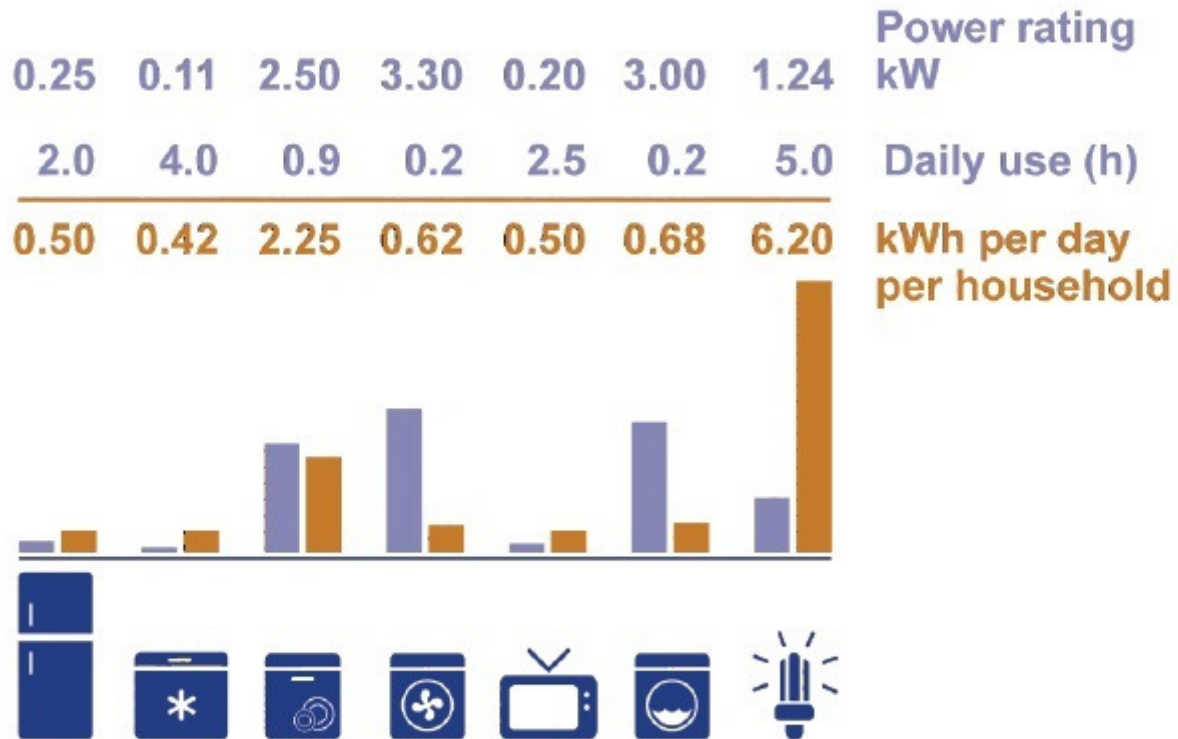


							Power rating kW
0.25	0.11	2.50	3.30	0.20	3.00	1.24	
2.0	4.0	0.9	0.2	2.5	0.2	5.0	Daily use (h)



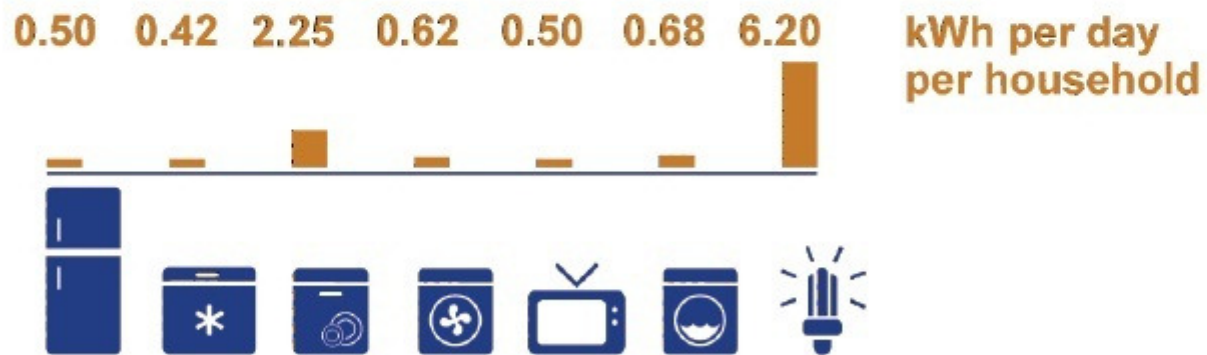
*All values rounded off

Average daily household power consumption



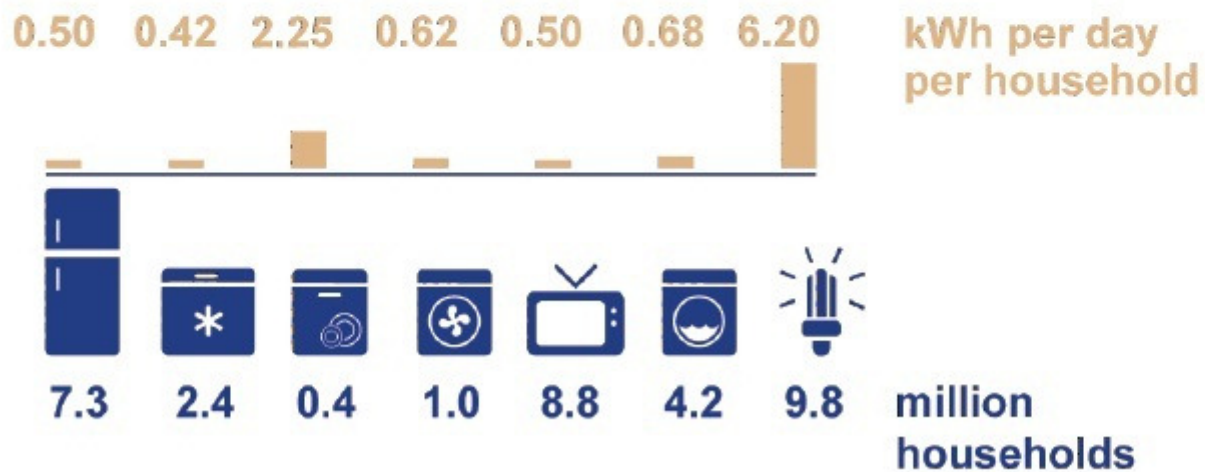
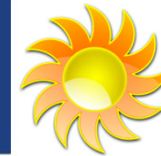
*All values rounded off

Average daily household power consumption



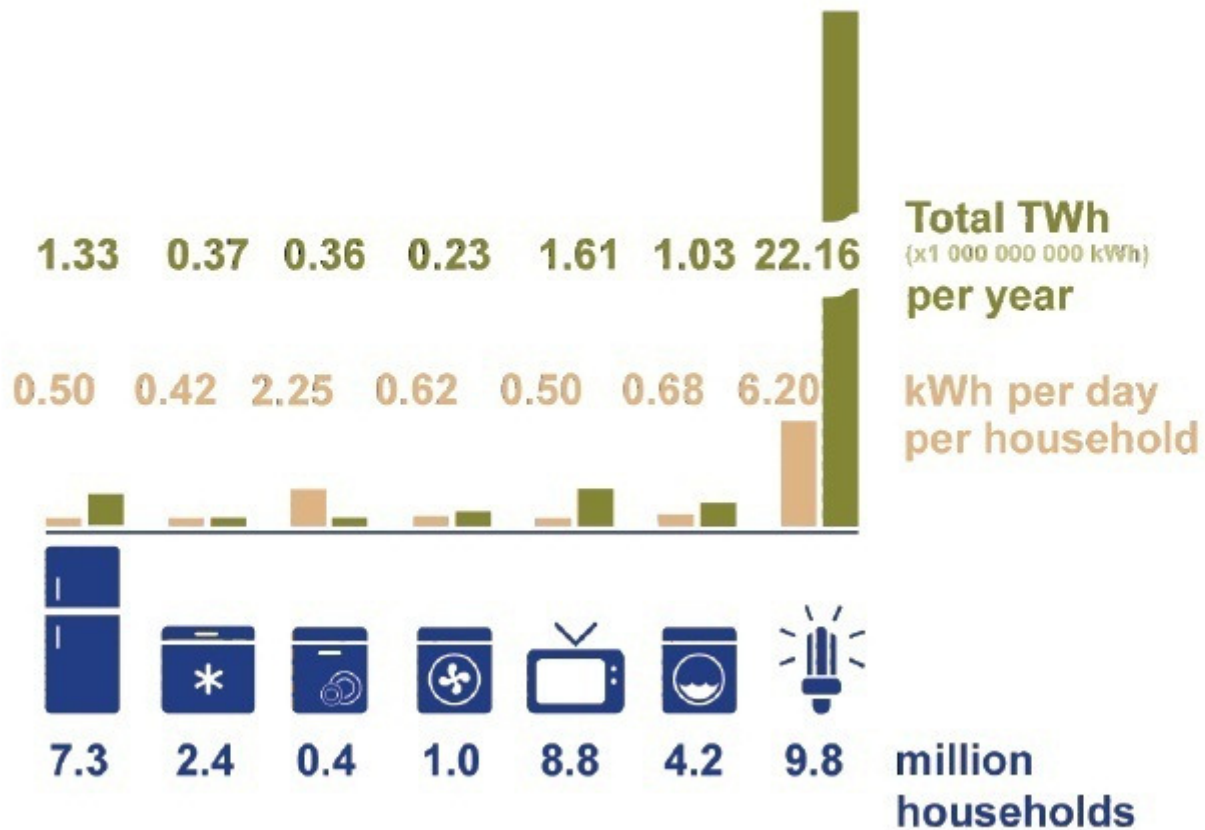
*All values rounded off

How many households in SA have them?



*All values rounded off

Total national annual power consumption



*All values rounded off