

Activity 2.4 Carbon footprint

Your carbon footprint is an estimate of the carbon emissions for which you are directly responsible. Once you have calculated or estimated your footprint you can consider how you might be able to reduce it.

Activity

It is possible to estimate the carbon footprint of your family by considering the major energy usages which are heating your home, using electricity, car usage and any trips by aeroplane. This requires looking up various bills and determining what distance your car covers each year using the conversion table below.

	Energy source	units	Annual consumption/usage	Conversion factor into CO2 emissions	CO2 emissions (kg)
Space and water heating	Gas	kWh		0.2 kg/kWh	
Electricity	Grid average	kWh		0.3 kg/kWh	
Car usage	petrol	km		5 litres/100 km 2.6 kg/litre	
aeroplane	Fuel	Flying time (hours)		100 kg/hour	
total					

If you divide the CO2 total by the number of people in your family, you will get an estimate of the carbon footprint for which you are responsible.

As the available evidence suggests that our indirect footprint is similar in size to our direct footprint then you will to determine your carbon footprint and compare with the national average. For the UK the average direct carbon footprint is 5300 kg/CO2/year.

Notes

If this is undertaken as a group activity then it will be possible to compare carbon footprints and discuss why some footprints are larger than others.

Almost all electricity grids are decarbonising by encouraging the installation of renewable electricity sources rather than fossil fuels. For the UK, the carbon emissions of grid generated electricity have halved from 0.54 kg/kWh (e) to 0.27 kg/kWh (e) over the past 15 years.

Age range 10 – 16

Subject Science, citizenship