

From <https://www.carbonindependent.org/2.html>

**Electricity:** use is measured in kilowatt-hours (abbreviated to kWh).

To make an accurate calculation, you need to find your latest bill and the reading (in kWh) at the end of the last quarter.

Then find the bill 12 months before it and the corresponding reading.

**The CO2 emission factor for electricity is taken to be 0.527 kg / kWh** [[read more](#)]

There is a reduction of 25% in CO2 emissions for the green tariffs listed [[read more](#)]

**Gas:** consumption is generally measured in units of volume, and this is converted on gas bills into units of energy i.e. kilowatt-hours (kWh) - see Sources page.

To make an accurate calculation of the CO2 generated, you can enter the annual kWh used (if you know this), or you can calculate it from your bills.

To calculate from your bills, first select how your gas is measured. If your bills don't say what the units are, you can probably find the units on the meter. Recently installed meters measure gas in cubic metres (m<sup>3</sup>), but older meters measure in hundreds of cubic feet - or you may have the kWh already calculated.

Enter the meter reading at the end of the last quarter from the latest bill and then the reading from 12 months before.

**The CO2 factor for natural gas is 0.203 kg / kWh** ...[\[more\]](#)

**Heating:** The following CO2 factors are used:

**For oil: 2.96 kg / litre**

**For coal: 3.26 kg / kg**

**For wood: 0.10 kg / kg**

**For bottled gas: 3.68 kg / kg**

...[\[more\]](#)

**Food:**

Non-farmed fish counts as organic.

The fertilizer used in growing food that is not organic causes greenhouse gas emissions through nitrous oxide released from the soil, and through CO2 emissions from the manufacture and transport of fertilizer.

Meat and dairy production generates methane from animals and slurry, and CO2 from the energy used in farm operations.

Food transport, packaging and processing all require energy, releasing CO2.

Food decomposition in landfill sites releases methane.

Edible food can be wasted because too much is prepared, or because it has gone past its use-by date and so on.

Some greenhouse gas emissions are currently almost impossible to avoid: methane from tilling and soil management, and CO2 from arable farms and the operation of retail stores.

These amount to around **0.2 tonnes per person/year**.

...[\[more\]](#)

Carbon dioxide is generated by the **health service, schools, social services, the armed forces and so on**.

This amounts to **1.1 tonnes per person per year** for the UK.

You have no direct control over this amount.

**Bus:** You can estimate your mileage by:

- estimate the average journey time
- multiply by average bus speeds (roughly 15mph for urban journeys and 20mph for rural journeys).

If you are a regular bus traveller, enter a typical week and/or month and these will be multiplied up (by 48 and 12 respectively) and added to your other mileage.

The CO<sub>2</sub> emission factor for bus travel is taken to be **100 g/mile** ...[\[more\]](#)

**Train:** You can estimate your mileage by:

- list the train journeys
- add up the total journey time (remembering to double if return)
- multiply by average train speeds (roughly 20mph if suburban 45mph if cross-country 70mph if intercity).

If you are a regular train traveller, enter a typical week and/or month and these will be multiplied up (by 48 and 12 respectively) and added to your other mileage.

The CO<sub>2</sub> emission factor for rail travel is taken to be **100 g/mile** ...[\[more\]](#)

**Air:** assumes emissions of ¼ tonne CO<sub>2</sub> equivalent per hour flying (roughly **500 g per mile**)...[\[more\]](#)

**Misc:** Your miscellaneous spending is all your other spending i.e. on:

- recreation and leisure facilities
- housing
- household appliances
- hygiene
- hotels and other holidays
- furnishings
- clothing & footwear
- alcohol & tobacco
- post and telecommunications
- books, newspapers & magazines

and so on.

Almost all of this spending will be associated with greenhouse gas emissions to some degree. Spending on these tends to follow size of income.

**Above-average (5 tonnes CO<sub>2</sub>)**

**Average (3.4 tonnes CO<sub>2</sub>)**

**Below-average (2.4 tonnes CO<sub>2</sub>)**

**Much below-average (1.4 tonnes CO<sub>2</sub>)**

UK average tCO<sub>2</sub>e is 13.4 (2018)

The 'sustainable' figure of 1.5 tonnes per year is uncertain - an amount that the world's oceans may be able to absorb. In this sense, it is sustainable - but stores of fossil fuels are finite, and so no emission level is sustainable in the very long term.