

The COIN CARBON Calculator



Using this calculator:

1. All you will need is a piece of paper and a pen (though a calculator would be useful)
2. If you don't have exact figures then be approximate or guess- this is a learning tool not a tax form!
3. I recommend counting all children under five as "half people" when sharing emissions.
4. The figures are taken from government carbon accounts and academic publications.
5. The "units" are kilogrammes of carbon dioxide and carbon dioxide equivalent.

A - Home Energy Use

A1 - HOME HEATING

If you have a good estimate of your heating bills or fuel consumption for a whole year: **Multiply your figures by one of the following values and enter your total in Box One.**

Gas- kilowatt hours equivalent	x0.2
Gas- New style units (Cubic metres)	x2.2
Gas- Old style units (100's cubic feet)	x6.2
Gas- pounds on your bill	x6
Oil- Litres	x3
Coal - kilogrammes	x2
Coal- sacks	x100
LPG - kilowatt hours	x0.2
Wood or hydro	Nothing

If you do NOT have exact figures then start with a base figure for your house type. Do you live in:

A flat	2,100
A terrace or semi, or	4,300
A detached house	5,800
You heat with gas	Keep your total
You heat with electricity	Double your total
You heat with oil or coal	Increase your total by half
Now energy efficiency..	
You have condensing boiler	Take a quarter off your total
You have cavity & loft insulation	Take a third off your total
You have solar hot water	Take off 500

Now enter the final total in Box One:

Box ONE
YOUR TOTAL HOUSE HEATING

A2 - ELECTRICITY

If you use 'green' electricity that is guaranteed to come from renewable sources, enter zero in the box below.

Do you have a good estimate of your electricity bills for a whole year? If you do then multiply your kilowatt hours by 0.42, or your total bill by 4.3 and enter the total in Box Two.

If you do not have any idea of your bills, then take an average value for your house type:

A flat	800
A terrace or semi, or	1,600
A detached house	2,500

Box TWO
YOUR TOTAL HOUSE ELECTRICITY

A3 - HOME ENERGY TOTALS

Add together Box one and Box two.

If you work from home, deduct a percentage for the amount of the house given over to work activities (for example one room in a three bedroom house would be 20%)

Now divide the total by the number of people who share the house to give you:

BOX A
HOME ENERGY EMISSIONS PER PERSON

B - CAR USE

If you have a good estimate of your car's fuel consumption for a whole year multiply by one of the following values and enter in the box.

Litres petrol	x2.3
Gallons petrol	x10.4
Litres diesel	x2.7
Gallons diesel	x12.2

If you do not know your fuel consumption but have a good estimate of your annual car mileage here is an alternative method. Firstly divide your mileage by the average "miles per gallon" for your car, giving you fuel consumption for a year, then multiply by the "Gallons Petrol" figure above. If you are uncertain of your car's "miles per gallon" figure it can be found at www.fuel-economy.co.uk/mpg.php

If you do NOT know your car's average "miles per gallon" then multiply your total distance according to the car types below . Enter your total in the box.

Small car - 1.4 litre engine	
Kilometers	x0.17
Miles	x0.28

Medium car - 1.4 to 2.1 litre engine	
Kilometers	x0.22
Miles	x0.36

Large car - Over 2.1 litre engine	
Kilometers	x0.27
Miles	x0.44

If you use the car for work activities, deduct a percentage for the amount of the mileage from work activities.

Now divide the total by the number of people who share the use of the car with you - for example your friends and family to give you:

BOX B

YOUR PERSONAL CAR EMISSIONS

C - PUBLIC TRANSPORT

Don't worry if you don't have details of every little trip- the important figures are for long trips or for regular commuting. If you can estimate the distance that you travel each year multiply by the values below and enter your total in Box C. You can find road distances between UK postcodes at www.postcode.org.uk or door to door distances for all of Europe, including the UK at www.viamichelin.com.

Rail	
Kilometers	x0.06

Underground, or commuter electric railway, or tram	
Kilometers	x 0.1

Urban bus	
Kilometres	x 0.1

Long Distance Bus	
Kilometres	x 0.05

If you cannot find out your distance you can get an adequate approximation from time spent. For every hour you spend in an average week on:

commuter train	add	300
intercity train	add	450
city bus	add	150
inter-city bus	add	200
the underground, tram or electric commuter train	add	160

Entry this total in Box C below:

BOX C

YOUR TOTAL PUBLIC TRANSPORT

EMISSIONS PER PERSON

D - FLIGHTS & BOATS

Add up flights according to the values below and enter the total in Box D. If you want more detailed or unusual distances, there is a good flights calculation on the website www.chooseclimate.org and on www.resurgence.org.

If you have traveled by sea multiply the kilometers traveled by 0.1 for a slow ferries or 0.5 for a fast ferry. For a liner or cruise ship multiply kilometers traveled by 0.7 or multiply the number of days at sea by 230.

Short hall (eg UK, Paris, Amsterdam)	350
Eastern Europe	800
East Africa	3,200
East coast USA	4,000
West Coast USA	5,800
Middle East	3,200
East Asia	6,400
South Africa	6,500
India	5,000
Japan	6,500
Australia	11,000
New Zealand	12,200

Add your flights total to your sea- travel total and enter this total below:

BOX D
YOUR PERSONAL
AIR AND SEA
TRAVEL EMISSIONS

E - FOOD

Start with a base figure according to your diet and follow the questions in the order they appear. Do you have:

- A typical British diet **2000**
(38% of nutrition animal-based)
- A serious meat diet **2250**
(50% animal-based)
- A light meat diet **1750**
(a little meat once a day)
- A vegetarian diet **1500**
(replacing the meat
in a typical diet with dairy)
- No animal products **1000**
(vegan)

Organic

If you only eat organically produced food halve your base figure (or the relevant proportion)

Meat

(assuming a typical British diet)
 If the meat you eat is not organic but is free range deduct 100

If you never eat beef or lamb deduct 200

Distance & Processing

If nearly all your food is processed and / or imported add 200

If you buy air freight fish or vegetables once a month add another 40

If all your food is processed and/or imported add 400

Waste

If you compost all of your food waste deduct 200

Leftovers

If you eat all leftovers & never throw out edible food deduct 10%

Eating out

About 25% of meals in the UK are eaten away from home.

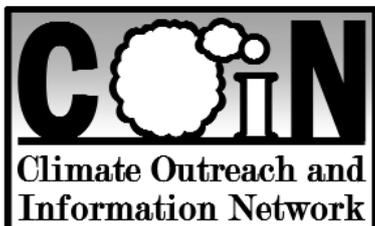
If you hardly ever eat in restaurants or canteens then deduct 100

If you eat half your meals in restaurants or canteens then add 100

If half your meals are takeaways that you take home add 50

Enter this total in Box E below:

BOX E
PERSONAL
FOOD
EMISSIONS



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F - GOODS & SERVICES YOU BUY

The figures in this section are approximate, so don't worry if you don't have precise figures:

Start with your annual income

Then deduct rent, mortgage, income tax, community charge, and your estimate of your spending on the things we have already calculated - food, travel, flights-home energy.

This gives you your disposable spending money:

Deduct from this an estimate of your annual spending on the following low carbon good and services:

- investments in the low carbon economy such as renewables
- personal donations to organisations working to prevent climate change
- payments to offset companies or organisations
- second hand goods, clothes and antiques
- labour intensive products, for example bespoke furniture, arts and crafts, tailor made clothing, musical instruments
- personal labour based services for example child care, cleaners, gardeners, and decorators.

This gives you your disposable spending money on standard goods and services.

Multiply this figure by 0.4, which is average emissions for every pound spent on goods and services in the mainstream economy.

Put the result in Box F below:

BOX F
YOUR TOTAL CONSUMPTION EMISSIONS

Add up your totals

- BOX A -** **HOME ENERGY**
- BOX B -** **CAR**
- BOX C -** **PUBLIC TRANSPORT**
- BOX D -** **FLIGHTS & BOATS**
- BOX E -** **FOOD**
- BOX F -** **GOODS & SERVICES**

+ **Kilogrammes of CO₂ per year**

YOUR TOTAL PERSONAL EMISSIONS

To this we have to add the emissions produced by the government on behalf of all of us. Whatever the taxes you pay or the personal use you make of these services they still count equally for our final total.

BOX G - GOVERNMENT SERVICES:

YOUR TOTAL EMISSIONS:
Kilogrammes of CO₂ per year

This total should be more meaningful to you if compared to these figures:

Average UK Emissions : 12,500 kg of CO₂ per year
per person (including Flights)

Proposed target : 2,500 kg of CO₂ per year
(80% reduction by 2050)

Equal global per capita share : 1,500 kg of CO₂ per year