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Essential Guide: Carbon footprint

What it is and why it's so important

Version 1.0 • 2021

Home Club

Easy changes to shrink your carbon footprint

Simple steps that cut carbon and save money

Carbon footprint is a measure of the amount of greenhouse gases released into the atmosphere as a result of our actions as countries, organisations and individuals.

This is usually measured and assessed in tonnes of carbon dioxide equivalent (CO_2e) and the whole idea the carbon footprint have developed out of the concept of the ecological footprint developed by academics in the 1990s.

Carbon dioxide, methane and other greenhouse gases (GHGs), are released in a number of ways, including burning fossil fuels, by manufacturing, land clearance and food production, from buildings and transportation.

It seems like the term "carbon footprint" has been around forever, but it was actually made popular through an unlikely source in 2005, when oil company BP ran a multi-million dollar ad campaign,

"Remember, energy is needed to filter, heat, and pump water at home. So finding ways to reduce your water usage also helps reduce your carbon footprint."

> "Just by eating less beef you could cut your carbon fooprint."

aiming to shift attention from the industry's. The focus was to put the responsibility for combatting climate change squarely on the shoulders of individuals, rather than fossil-fuel businesses.

How to calculate your carbon footprint

It's actually a complex operation to work out what your individual carbon footprint might be but the good news is that there are online tools to do this – a good one is from the WWF and you can find it here. There's also an app you can download. The calculator is confidential and asks general questions about your diet, transport, type of home, shopping, electricity use, heating, and appliances like refrigerators and tumble dryers. It then shows you your carbon footprint in relation to the world average and also the target size.

Why should we be concerned about our carbon footprints?

We are all carbon in some form but it's a particular combination that is the focus of global reduction strategies.

Carbon-based molecules are the basic building blocks of organic life as well as GHGs like carbon dioxide (CO_2), and fossil fuels are largely composed of hydrocarbons.

We often say "carbon" when discussing climate change as shorthand for carbon dioxide, one of the key greenhouse gases. Reducing the levels of CO_2 being released is a crucial element in the battle to prevent the Earth from effectively overheating – and we often refer to this as reducing carbon footprint.

Climate change

CO_2 is one of a range of GHGs, including nitrous oxide and methane that block heat from escaping the planet and so help to accelerate climate change. These are so named because they cause a "greenhouse effect", trapping heat from the sun and while this is a natural phenomenon that helps to keep the Earth habitable, these emissions are causing it to warm up at an unnatural rate.

Scientists have identified a pattern of long-term change in the temperature and weather across the globe, and while these shifts happen naturally, man-made climate change is rapidly accelerating the pace of changes.

From this the research points to the inevitability of continued and accelerating global heating - the increase in average surface temperatures – if nothing is done to reduce emissions. And an important part of that is to take action to reduce and quickly stop using fossils fuels that

1 **Did you know?** A single tonne of carbon dioxide would fill 5 double-decker buses!

2 **The average** UK carbon footprint is around 13 tonnes per person per year.

3 **That's enough** to fill as many as 65 double decker buses!

produce GHGs.

There's no doubt that average global temperatures are increasing, extreme weather events are becoming more severe, ocean levels continue to rise, with increased and life-threatening acidification. All of these ecological threats are a result of human activity.

Average carbon footprint in the UK

Around 40% of UK emissions come from households and the target for this year is to keep individual carbon footprint to 10.5 tonnes of CO_2e. The goal is to reduce the size of carbon footprint year after year until by 2050 the UK will be down to "net zero", effectively no harmful carbon emissions that are not balanced out by other measures.

The UK average carbon footprint, Including all greenhouse gases, ranges between 13 tonnes CO_2e per person per year and 10 tonnes CO_2e per person per year, and the lower figures is about double the world average. There has been only a small decline since 1990.

The UK government actually quotes a much smaller figure of about 6 tonnes CO_2 per person per year, but this does not include imports/exports, aviation and shipping, and is generally not regarded as giving a true picture.

To give you an idea of the amount of GHGs we are responsible for, a single tonne of carbon dioxide would fill 5 double-decker buses so each of us on average would generate enough CO_2e to easily fill as much as 65 buses.

The Department for Business, Energy and Industrial Strategy says that transport is responsible for the largest carbon emissions:

- Transport 27%
- Energy supply 21%
- Business 17%
- Residential 15%
- Agriculture 10%
- Waste management 5%
- Other 5%

> "Lighting accounts for around 5% of global carbon dioxide emissions."

Food footprint

All the food we buy has a carbon footprint too, although we just can't see it, from operating the heavy machinery, fertilisers, and other materials to grow it, to harvesting, packaging and transport it to the shops. We then produce carbon when cooking and storing it.

The government estimates that transporting food within, to and around the UK produces 19 million tonnes of carbon dioxide annually and it's responsible for 25% of all miles covered by heavy goods traffic. And the average person travels around 135 miles a year in shopping for food, but it's worth

remembering that food production, especially beef, is the biggest GHG emitter.

Greenhouse gases emitted by human activities:

- Carbon dioxide - mainly caused by fossil fuels, deforestation and agriculture.
- Methane - mainly caused by agriculture, energy use and biomass burning.
- Nitrous oxide - mainly caused by fertilisers used in agriculture.

However, carbon dioxide is the biggest contributing factor, accounting for 80% of the UK's total emissions in 2019.

How to reduce CO_2

By "shrinking" carbon footprint, people can individually contribute to the overall reduction of greenhouse gas emissions. It might be a cliché but it's also true, that many little changes add up to very big differences.

There are many simple ways to reduce carbon footprint and one of the many mantras of sustainability is the "5 Rs":

- Refuse
- Reduce
- Reuse
- Rot
- Recycle

While the Holy Grail for many is achieving zero waste status that is easier said than done, but worth struggling to achieve. On that road, people can lessen their impact on the planet.

We can all do our bit to help the planet and slow the rate of global warming, by reducing our carbon emissions. From simple changes such as eating less meat to purchasing an eco-friendly vehicle - it all makes a difference.

Lighting accounts for around 5% of global carbon dioxide emissions. Switching to LED lighting in your home could reduce the energy you use by up to 85%! LEDs require less power than traditional bulbs and the less energy you use, the better it is for the environment.

Find out more about why you should switch to LEDs here.

Energy is also needed to filter, heat and pump water at home, contributing to your carbon footprint but there are tons of things you can do to save water at home. Shortening time spent in the shower, turning running taps off and installing a water butt are a few examples. Check out our water saving tips for more.

To go one step further, you could purchase one of our eco-friendly showers from hansgrohe or Grohe.

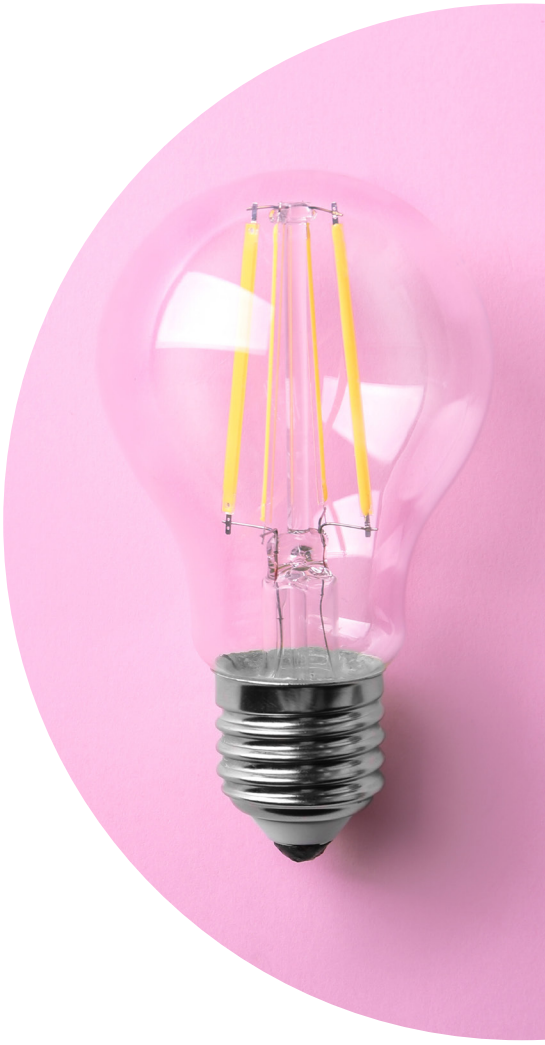
Remember to use a Flow Bag to measure the flow of your existing taps and showerheads before and after to instantly see your savings.

For families that want to reduce their plastic, landfill and water wastage, check out one of our handy starter kits with everything you need to get started on your eco-warrior journey. In your box you'll receive 100% recycled toilet paper, compostable kitchen bin bags, biodegradable bamboo toothbrushes, biodegradable dental floss and cotton buds,

1. **Our carbon footprints** in the UK are twice the world's average.

2. **Around 40%** of UK emissions come from our homes.

3. **Even the food** we buy (and waste) has a carbon footprint!



> "The average person in the UK travels around 135 miles a year in shopping for food!"

compostable sponges, a reusable flow bag and an OceanSaver anti-bac starter kit.

For those of you that want to tackle the biggest carbon emitter of all – transport – it's good to know that while the initial cost of an electric vehicle (EV) is higher than a petrol or diesel model, the lifetime costs are much lower than a fossil-fuel vehicle now. And installing a smart charging point is a wise move if you have space. The government gives grants to help as well.

Our electric scooters and bikes will not only reduce your carbon footprint, but they'll also put a huge grin on your face. All of our electric vehicles are road safe too.

You can swap to an eBike to reduce carbon emissions. The new folding electric commuter bike from Axon Rides is fully road legal. Save Up to 410g of CO_2 for every mile you cover on the carbon busting Axon Eco eBike, rather than travelling in your car or taxi, saving around 200kg CO_2 annually.

The Inmotion L8D Electric Scooter can go for 18 miles before it needs charging. Its folding design makes it easy to carry and fit into small spaces - great if you live in the city. For bigger budgets, the Inmotion L9 Electric Scooter can go for an impressive 59 miles before it needs charging and a max speed of 30 km/h.

You may not think that investing in an electric vehicle would be a budget-friendly option for your lifestyle but with our Home Club discount, you'll experience huge money savings. Why not treat yourself and the planet this Christmas by tackling the leading cause of carbon emissions.

Offsetting – what is it and does it really work?

A carbon offset is a way to compensate for your emissions by funding an equivalent carbon dioxide saving elsewhere. Our everyday actions, at home and at work, consume energy and produce carbon emissions, such as driving, flying and heating buildings.

Methods of offsetting are mainly tree planting, energy conservation, and funding research into energy conservation and renewable fuel sources.

Well-run schemes can make a contribution to the battle against climate change but it's worth bearing in mind that Greenpeace, WWF and Friends of the Earth advise that carbon offsetting is often used as an "easy way out for governments, businesses and individuals to continue polluting

without making changes to the way they do business or their behaviour".

In some carbon offsetting schemes, less than 30 pence in every pound goes directly to the projects designed to reduce emissions. UN data shows that on average 28p goes to set-up and maintenance costs of an environmental project with 34p going to the company taking on the risk that the project may fail. The investors take 19p, with smaller amounts of money being distributed between organisations involved in brokering and auditing the carbon credits.

Top tips to shrink your carbon footprint

1. Choose energy efficiency

From fitting LED bulbs to selecting the most energy-efficient appliances, there are easy wins for the eco-friendly household. And remember to to turn off and unplug anything not in use.

2. Switch supplier

Choose an energy supplier that provides greener tariffs, offering electricity from solar, wind, and hydroelectric energy, and save money on your energy bills.

3. Go solar

Install solar panels for electricity and water heating.

4. Install heat pumps

Air source or ground source heat pumps are a very low carbon alternative to other forms of heating.

5. Insulate

insulating the loft and walls retains heat in winter while remaining cool in summer.

6. Be water wise

Much energy is used in treating and pumping water supplies to homes and more energy is used to pump it around when it gets there. Reduce water use by more than 60% by fitting low flow taps, tap aerators and eco-showers, consider low flush toilets as well.

7. Change diet

Eating fewer animal products, especially red meat, or even choosing a plant-based diet reduces the amount of greenhouse gases being emitted. Buying locally sourced food also lessens impact from long-distance shipping and distribution.

8. Use the bike

Cycling (and walking) is a very green means of travel - and very healthy too. For some, though, the standard bike is a big challenge so buying an ebike is a perfect solution.

9. Ditch plastic

Single-use plastics pollute our waterways and oceans, and need energy to produce and recycle.

10. Plant trees

Planting trees and big grasses like bamboo is always good if you have garden space, or you can join a scheme like one run by the National Trust.

Reducing your carbon emissions doesn't have to seem like a mammoth mission.

Message your Carbon Mentor and let those queries shrink away!