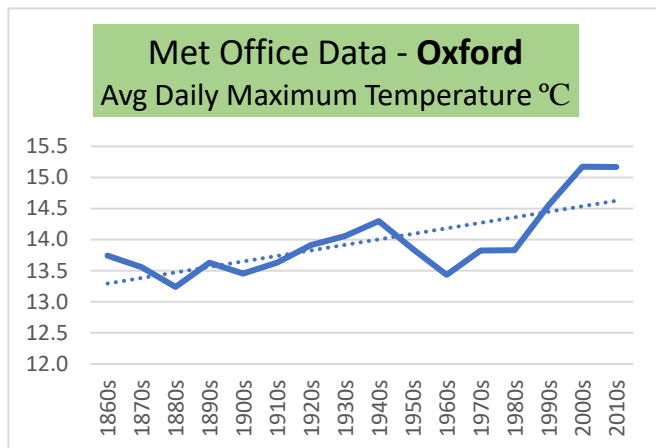


What is Climate Change?

Climate change refers to a large-scale, long-term shift in the planet's weather patterns and average temperatures. The average temperature at the Earth's surface has risen by about 1°C over the last 150 years. The increase has been greater over land than over the oceans and has been particularly fast in the Arctic.



The UK is already affected by rising temperatures.

During the period 2008-2017 the temperature was on average 0.8 °C warmer than the 1961-1990 average.

Since 1884 all of the UK's ten warmest years have occurred since 2002.

A fuller explanation of climate change can be found on the UK Government and Met Office websites →

www.gov.uk/guidance/climate-change-explained



www.metoffice.gov.uk/weather/climate-change/what-is-climate-change



How will Charlton Kings be affected by Climate Change?

UK summers are expected to become warmer still, with more frequent and longer lasting periods of very hot weather, which will be uncomfortable for many but dangerous to some older people. Droughts will last longer and be more frequent, making gardens and allotments more difficult to manage. Winters are expected to be generally wetter, with rain events which will be more intense and longer lasting, so the River Chelt, which rises very quickly after heavy local rainfall, will cause more frequent and more damaging flooding. We are already finding damaging new insect pests like the Cypress aphid and the Stink bug, and others will follow as our climate becomes more like mainland Europe.

Climate Change and Greenhouse Gases (GHGs)

The earth's atmosphere is a mix of gases. Some gases help to keep our planet warm by trapping the sun's energy - carbon dioxide, methane, nitrous oxide and some others – these are known as **greenhouse gases (GHGs)**.

Excessive GHGs are being generated by human activity - from food production, flying and driving, mining and drilling, manufacturing, heating our homes, and much more.

For example, **carbon dioxide** (CO₂) is released when natural gas is burnt to generate electricity. **Methane** is emitted by the farming of animals. **Nitrous oxide** is emitted when nitrogen fertilisers are applied to agricultural land.

What is a Carbon Footprint?

A **Carbon Footprint** is a measure of all greenhouse gases (GHGs) emitted into the atmosphere by someone or something. Every person has a carbon footprint – it's the GHGs that result from that person's: **Consumption** of goods and services, their **Travel, Diet** and **Home Energy** usage.

An item like a mobile phone has a carbon footprint – it's the GHGs emitted in making the mobile through mining & processing of raw materials, by manufacturing the battery and other component parts, transportation, assembly, etc. When someone purchases a new mobile phone, they inherit the carbon footprint of the mobile.

How is a Carbon Footprint measured? What is CO₂e ?

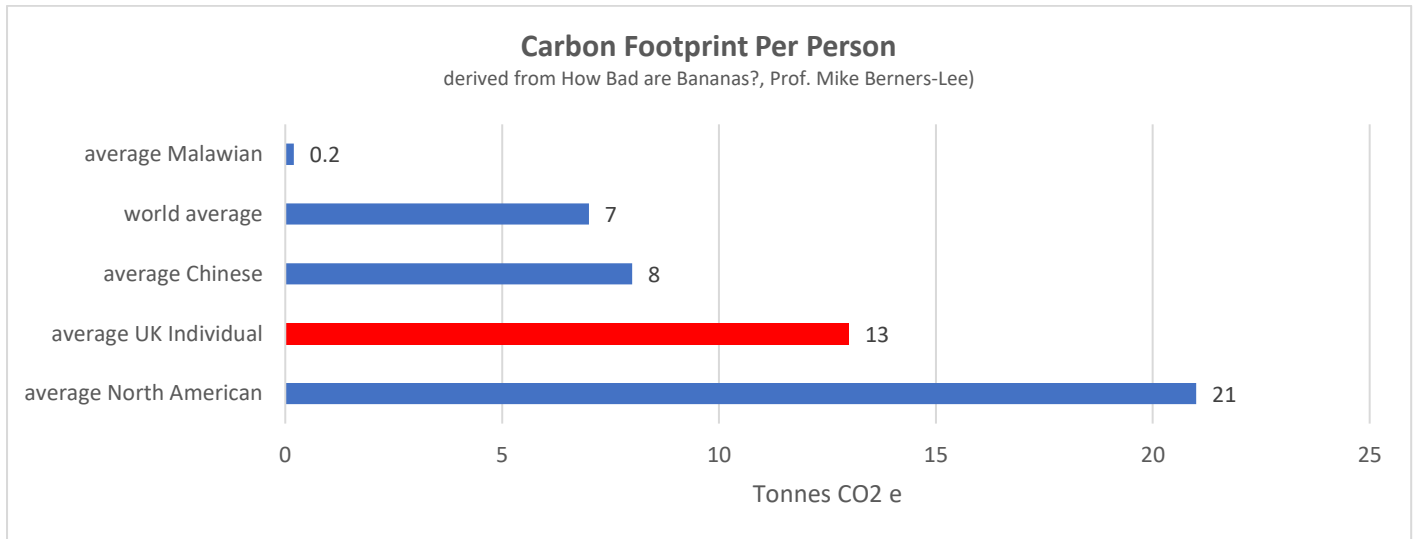
Carbon dioxide (CO₂) is the main greenhouse gas. It has a certain capacity to trap heat in the atmosphere and has a certain lifecycle. In fact, each greenhouse gas is unique, having its own particular heat trapping capacity and lifecycle.

So, what is CO₂e? It is a single measure which represents the warming effect of **all** greenhouse gases.

*[Think of currency: Let's say you possess £10 pounds, €10 Euro and \$10 Dollars. Because currency can be converted, the total amount you possess could be expressed in a single currency, e.g., £25.65. Because a carbon footprint comprises a number of greenhouse gases it is usually easier to represent the total effect of all GHGs as carbon dioxide, or **carbon dioxide equivalent - CO₂e**]*

A **Carbon Footprint** is ordinarily measured as **CO₂e**.

How does the UK compare with other countries?



The UK's carbon footprint fell by 15% between 1990 and 2016. However, the **average UK person** still has a carbon footprint of around **13 tonnes CO₂e** per year. This figure comes from consumption of: Food, Goods & Service, Personal Travel and Home Energy, plus a contribution to national services such as the NHS, police, army and government.

How can I assess my carbon footprint?

There are a number of online tools available. If you're getting started the *WWF Footprint Calculator* is a straightforward place to start.

WWF Footprint Calculator

footprint.wwf.org.uk

An easy-to-use tool which calculates a carbon footprint following completion of a questionnaire.



Open University Carbon Calculator

www.open.edu/openlearn/nature-environment/environmental-studies/environment-treading-lightly-on-the-earth/content-section-3.1

This calculator is part of a free OU course. Create an OU account (personal information is not collected).

The calculator gathers detailed information and allows the user to 'play' with data – for example, to assess the difference between drying clothes in a tumble dryer versus line drying.





Giki Zero is an app which guides you through a series of easy-to-understand questions to establish your personal footprint. The app offers guidance and you choose the steps which suit your lifestyle.

[//giki.earth/](https://giki.earth/)

What should my footprint be?

The short answer is, for most people, lower than it is now. WWF propose a 2021 target carbon footprint of 10.5 tonnes CO₂e per person (UK).

The average household in **Charlton Kings** has a footprint which is **70% bigger** than the average for England (source: IMPACT Community carbon calculator, as at April 2021).

The UK is committed to net-**zero** greenhouse gas emissions **by 2050**. On the journey to 2050 our footprints will need to shrink significantly. The *Climate Change Committee* www.theccc.org.uk, the body which advises UK Government, says that around 2/3^{rds} of the change required to achieve net-zero will affect people – how we travel, the food we eat, how we heat our homes, the products we consume.

What changes can I make?

There are many, many options to reduce a personal carbon footprint. Some changes can make a big difference, for example flying less and avoiding food waste.

Other changes may not seem significant but their cumulative effect can be. For example, drying clothes on a line rather than tumble drying, choosing to walk rather than drive

Our **carbon reduction guides** can be found on the parish council website. They contain lots of information on the impact of day-to-day choices, together with thoughts on alternate, lower carbon options. www.charltonkingsparishcouncil.gov.uk/knowledge-and-tools

Can I make a difference?

Yes. As individuals we have the power to limit our own footprint. We have the power to influence business through our choices, where we shop and what we buy. We can help friends and family reduce their carbon footprint. We can support the many initiatives that will appear over the next few years.