1 Can we get to “Net Zero” in Watlington?

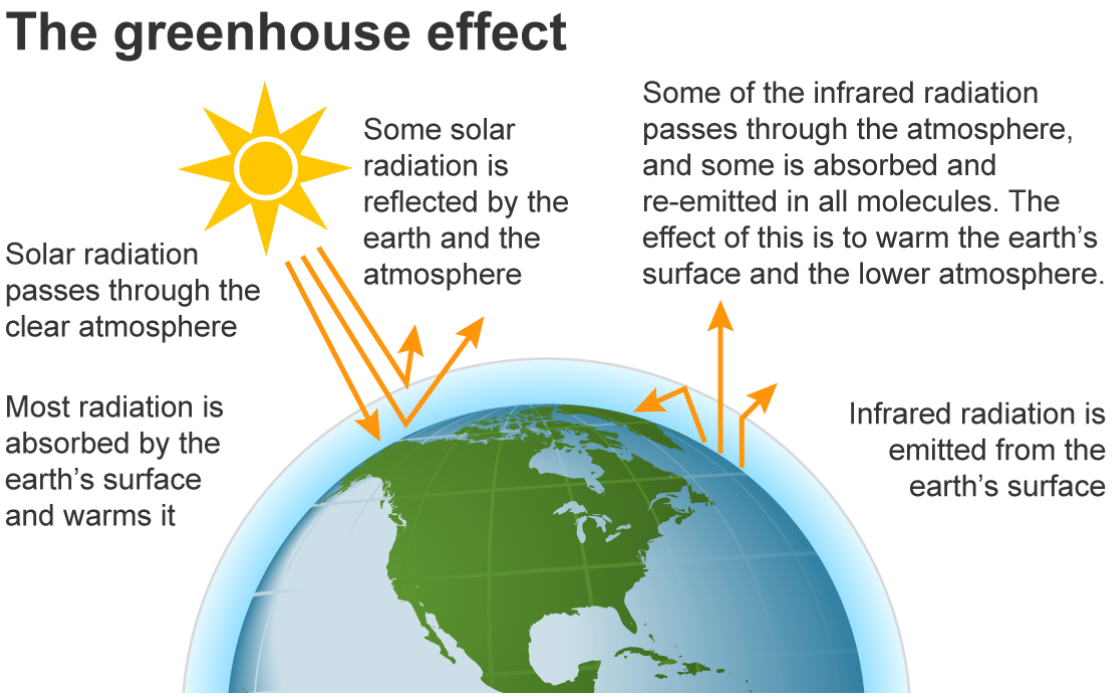
In December Watlington Parish Council agreed a Climate Action Plan which commits the council to work to achieve “Net-zero Carbon Dioxide emissions by 2050” in the parish. The same target that the UK Government has set for the country.

The plan includes an analysis of Watlington’s emissions today and how they can be reduced over the next 30 years. This article is the first of a series which looks at our plan and what you can do to help Watlington achieve that goal.

Let’s start by reminding ourselves why we are doing this. There is a lot of talk of Climate Change, Greenhouse Gases, low carbon and so on but what is the science behind it?

Every day the Earth is warmed by the Sun and every night it cools down. If the Earth had no atmosphere (like the Moon) temperatures would rise to 127˚C in the day and fall to -232˚C at night. Life would be impossible.

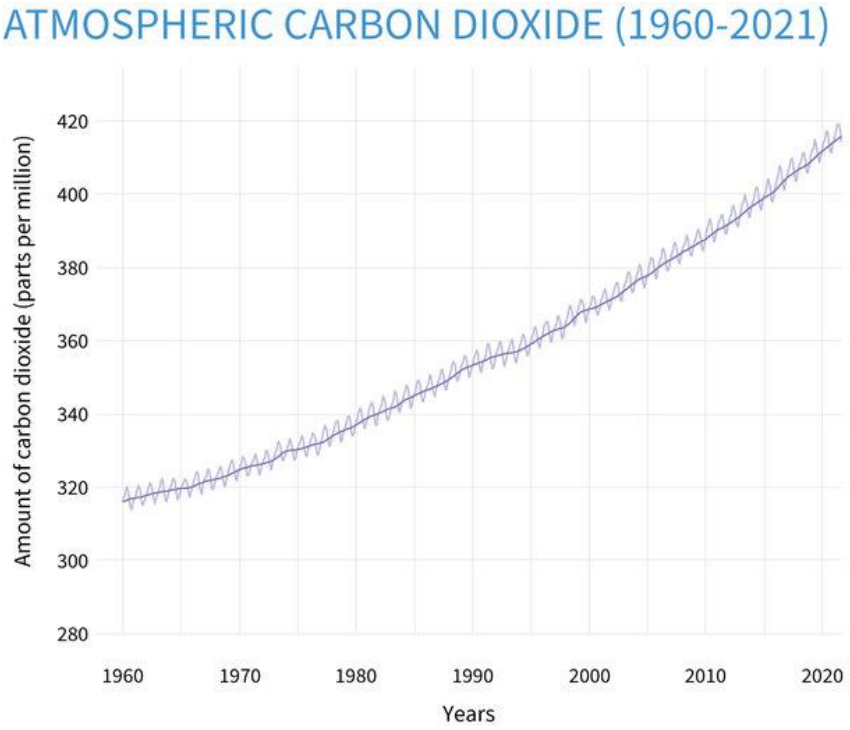
Luckily, the atmosphere protects us from these extremes. Clouds reflect some of the sunlight back into space to keep day time temperatures low and the atmosphere acts as a blanket, trapping some of the heat to keep us warm at night.



Source: Adapted from U.S. Environmental Protection Agency (public domain)

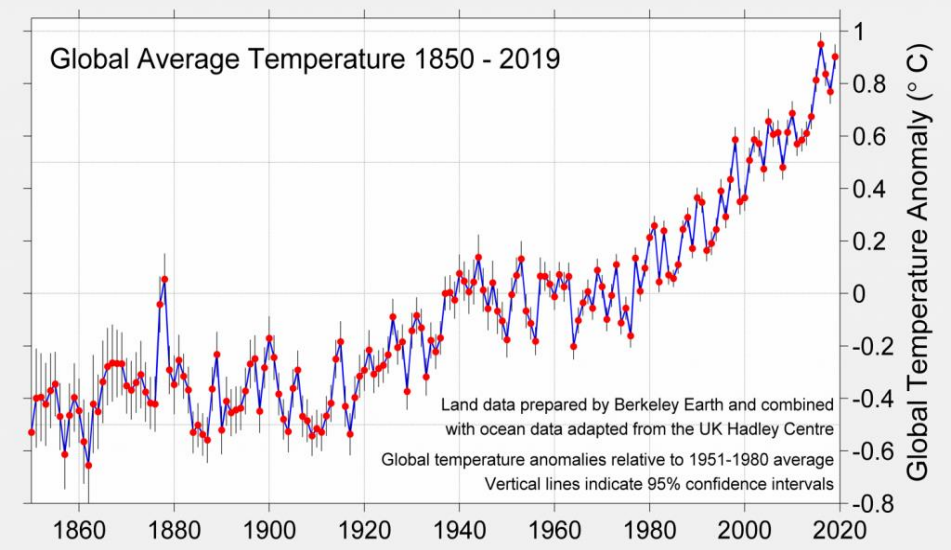
Carbon Dioxide (CO_2) in the atmosphere plays a crucial part in this. It is a "Greenhouse Gas" which is very effective at capturing the heat that would otherwise be lost. Laboratory experiments show that increases in CO_2 concentrations result in increased temperatures and we can see that effect in the atmosphere today.

When I was at school I was taught that air contained 345 parts per million of Carbon Dioxide or 0.0345%. Today it is 412 ppm (0.0412%) a 20% rise in my lifetime. At the same time global average temperatures have risen by almost 1˚C.



Climate.gov image, based on data from NOAA Global Monitoring Lab

While other reasons for the recent temperature rise (e.g. sun spots) have been proposed, a majority of scientists now believe that CO_2 emissions from burning oil, coal and gas are responsible for warming.



Why should we be worried? The climate is an incredibly complex system and how a small rise in temperature will impact that system is hard to predict. Whether or not you believe in the more extreme “extinction” scenarios, it is inevitable that if you trap more energy in a system, something is going to change. Evidence from melting glaciers to the increasing size of equatorial deserts is starting to show that change is happening.

Next month we’ll look at what “Net-Zero” and the target that the Parish Council has adopted.

Steve Bolingbroke
4th March 2022