



Main Campus, University of Winchester, Winchester SO22 4NR
01962 827083 contactus@winacc.org.uk www.winacc.org.uk

Greenhouse gas emissions in Winchester District: Part XI Estimates, trends (2005-2019) and future mitigation Executive Summary

Bob Whitmarsh and Robin Speed

September 2021

Purpose of this report

Winchester Action on Climate Change wants to help policymakers, citizens and businesses make decisions about what they need to do to tackle the climate emergency – an emergency that events in 2021 show is fast becoming a crisis not only for humans but also for much of life on Earth.

This document is the summary of a longer detailed report that aims to show the emissions from different sources, their variations since 2005, and where we might be heading. The full report includes a data as tables and graphs, and describes the main sectors in which emissions can be cut.

The report was written to offer WinACC's advice to Winchester City Council (WCC) on how they could achieve net zero carbon emissions across Winchester District by 2030 following their declaration of a Climate Emergency in June 2019. The full report also gives WinACC's recommendations for actions that Winchester City Council can take towards its target of carbon neutrality across Winchester District by 2030.

The report is the eleventh of a series of annual WinACC reports which draw together data about greenhouse gas emissions in Winchester District, based on UK Government data published by the Department for Business, Energy and Industrial Strategy (BEIS).

Some important points to be aware of:

1. We cannot tell if the drop in total energy use after the upwards trend between 2013 and 2018 is an encouraging change or just a one-year blip. To be confident that a change is real, we need to see it continue for two or three years.
2. Because the report is based mostly on BEIS data up to 2019, the most recent available, it doesn't describe the situation in September 2021 when the report is published.
3. All the data comes from before COVID-19. There is no impact from lockdown in the emissions reported here.
4. Where we give percentages of emissions from various sources (transport, heating etc), this is the percentage of all emissions before deducting the "negative emissions" carbon capture impact of land use.
5. Because the report is focused on reducing the emissions of the district, we only mention renewable energy in passing, although we acknowledge its importance. Renewable energy needs to be addressed separately in a Green Energy plan.

We are aware that a lot of work is already under way or being planned. Our recommendations do not distinguish between actions that are already being taken by the City Council or others and new actions, because we want to help with setting priorities across all possible actions.

The majority of people are often more progressive than many politicians expect when it comes to tackling climate change.^a Public opinion is changing fast in reaction to 2021's extreme weather and the warning from the United Nations that we face "Code Red for Humanity".

In short, we believe that Winchester City Council should concentrate on what it can achieve or persuade others to achieve locally. But it also needs to try to influence Hampshire County Council, the local MPs and the UK government, as well as large organisations in the public and business sectors.

There is an urgent need for bold and affirmative leadership that has the courage to do what is right.

^a

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/985092/BEIS_PAT_W37_-_Key_Findings.pdf. This UK government survey in March 2021 found that 80% are concerned about climate change, 70% thought that climate change was affecting people in the UK as a whole, and 34% thought that government, as opposed to 26% who thought that the general public, should have the most responsibility for tackling climate change.

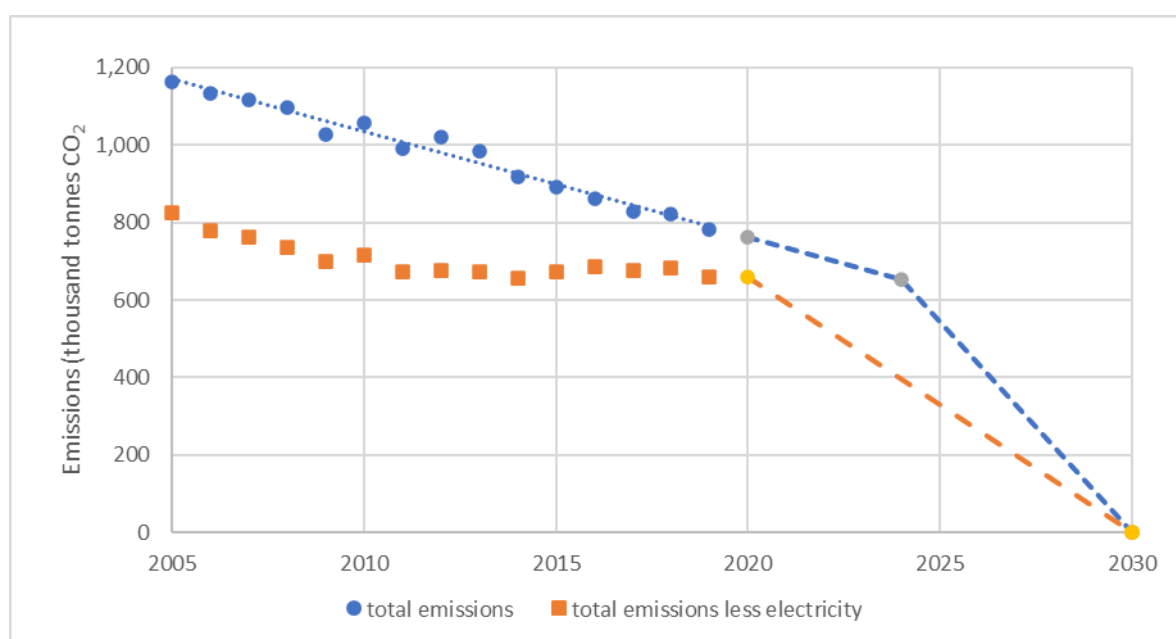
Executive Summary

Total energy use in Winchester District decreased from 2005 until 2013, then slowly increased up to 2018, and then fell sharply in 2019, according to data from BEIS. 2019 also saw falls in the district's consumption of car fuels and in commercial electricity and gas.

Almost half the Winchester District energy use reported by BEIS is attributable to road transport. Although there has been considerable variation in energy consumption among different types of road vehicles (petrol cars v. diesel cars and a huge growth in diesel vans) the total energy consumed by road transport in the district has remained almost static.

The remainder of the district's energy use is attributed by BEIS to the use of electricity, gas and residual fuels.

Emissions from the use of electricity have fallen steadily since 2012 because of the progressive closure of the UK's coal and oil burning power stations. This will cease in late 2024. Omitting electricity, the total emissions from other sources in the district have barely changed since 2011 (see figure).



The total direct emissions of Winchester District from 2005 up to 2019 on a timescale that ends at 2030 when the City Council intends the district to be carbon neutral. The dots denote total emissions which have been steadily decreasing largely because of the systematic closure of UK fossil-fuel-burning power stations since 2005. The squares show a more realistic appraisal, which excludes the emissions from electricity consumption, and suggests that the district's emissions reached a plateau, or at least were no longer declining, around 2014.

In detail we see a reduction in motorway traffic, some public buildings and domestic residual fuels (mostly heating oil and coal), and increases in non-domestic residual fuels. The district's total emissions since 2005 are summarised in the figure which starkly illustrates how little emissions have decreased in the past and how much emissions must fall if the district is to become carbon neutral by 2030.

In 2019, road transport, including motorway emissions, was responsible for 58% of the district's emissions, followed by domestic gas (14%), and non-domestic electricity (9.6%). Land use of all sorts is a useful net sink of carbon (-6.3%).

Another data set, which provides information at parish and ward level, shows that emissions are spread unevenly throughout Winchester District. 71% of household emissions are sourced outside Winchester city. A quarter of all BEIS industry and commercial emissions come from just two rural business parks.

Maps of the National Atmospheric Emissions Inventory show that emissions appear to be concentrated around main roads and populated areas reflecting the burning of fossil fuels by road vehicles and home central heating systems (mains gas, oil and LPG), respectively.

Suggestions for future actions are hampered by a lack of detailed information on energy consumption and emissions from the industry (principally manufacturing) and commercial sectors which are responsible for 21% of emissions.

Nevertheless, we identify areas in which Winchester City Council could act to reduce the district's emissions. These include:

- Transport, especially emissions from road transport
- Emissions from homes
- Emissions from non-domestic buildings, and improving their energy performance
- A shift to plant-based diets
- Land use and agriculture
- Emissions from business and industry
- Renewable energy generation. Renewable energy generation should be supported by the Council as part of its contribution to meeting UK emissions targets, even though, on strict accounting, once electricity is fed into the national grid it doesn't substantially contribute to cutting the *district's* emissions.

We appreciate that the City Council has limited powers e.g. planning. Therefore many of our suggested actions depend on influencing others.

We also stress the importance of appropriate use of funds and assets, and financial planning, to increase funds for action on the climate emergency.