CARBON EMISSIONS & ACHIEVING NET-ZERO

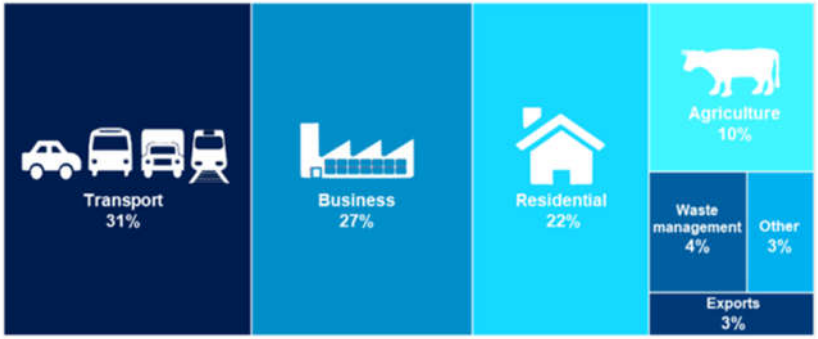
UK Carbon Emissions

In 2017, UK emissions were estimated to be 460.2 million tonnes of carbon dioxide equivalent ($MtCO_2e$) , a decrease of 2.7% compared to 2016. This decrease was mainly caused by:

- A reduction in emissions from the energy sector of 7.6%, due to a switch in fuel mix for electricity generation from coal and gas to renewables.
- A decrease of 4.2% in the residential sector, driven by a reduction in the use of natural gas for heating, due to warmer weather in the first half of 2017.

When broken down by end user, transport accounts for 31% of all emissions, with Business accounting for 27% and Residential for 22%. Agriculture, Waste Management, Exports and Other make up the remainder.

Figure 2: Proportion of net greenhouse gas emissions in each end user sector, UK 2017



Source: Table 3, Final UK greenhouse gas emissions national statistics 1990-2017 Excel data tables
Note: Other includes Public, Industrial Processes and the Land Use, Land Use Change and Forestry (LULUCF) sectors (note that LULUCF acts as a net sink of emissions). The percentages may not sum to 100% due to rounding.

Figure 17

County Wide Carbon Emissions

Emissions in Dorset follow a similar pattern to those of the UK, dropping from 2,500 $ktCO_2e$ in 2005 to 1,759 $ktCO_2e$ by 2017 (the most recent national data).

By sector, the emissions profile is like the national picture but with a smaller proportion of emissions from industry. Notably, emissions from heating are down 26% and electricity down 56%, which reduces the overall contribution from the industry and domestic sectors. These emissions have particularly fallen due to a major rise in renewable energy capacity in the UK over recent years and reduced use of coal, both contributing to a decarbonisation of the national grid.

In contrast, emissions from transport have only marginally decreased. Despite large gains in vehicle efficiency and clean technology, these gains have been offset by the increase in road traffic.

Emissions from agriculture in Dorset have also remained steady but the carbon sequestration effect of land use changes has grown effectively, balancing out these agricultural emissions. However, it is strongly suspected that this national data set is incomplete and that emissions from the agricultural sector are largely under-represented. Other areas in the South West have undertaken more detailed studies and discovered agriculture can account for over 10% of emissions of the area. Further work is required to estimate this for Dorset.

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Proportion of net greenhouse gas emissions in each end user (source BIES[21])

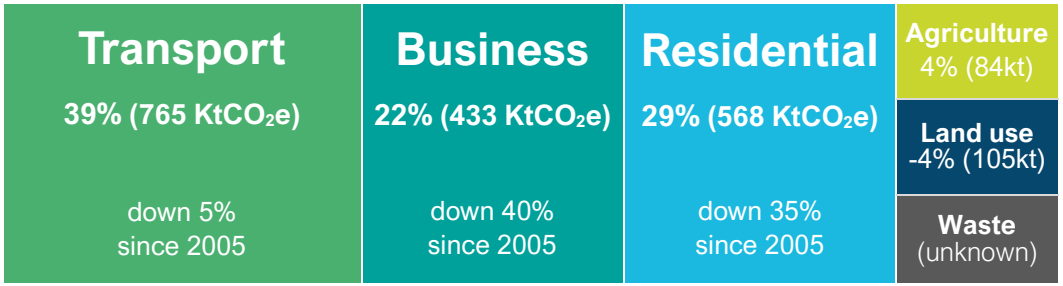

Figure 18

Each person in Dorset has an average carbon footprint of 4.6 tCO_2 . This is less than comparator councils and the UK average of 5.3 tCO_2 / person.

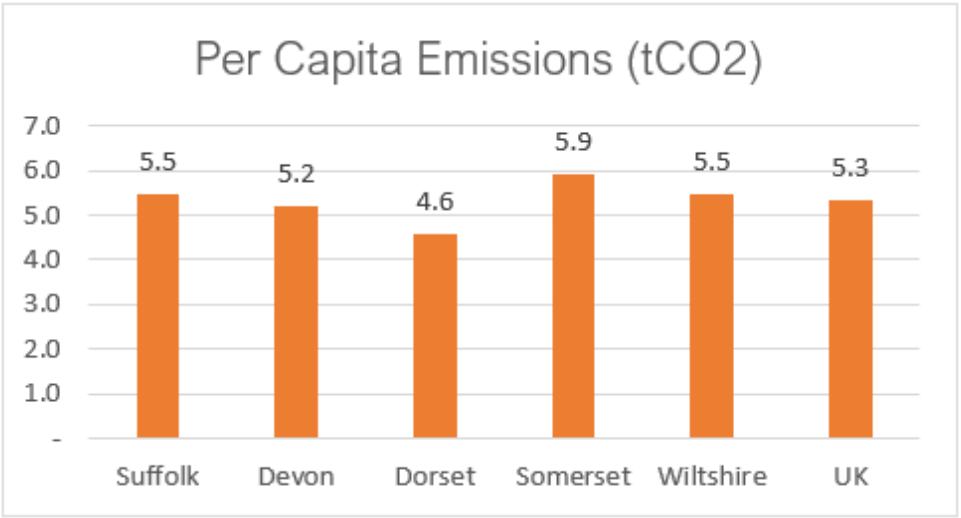

Figure 19

Dorset Council Emissions

As a new unitary Council (only in existence since April 2019), no historic data is available to directly compare progress. However, each of the former local authorities now forming Dorset Council had carbon management programmes, which had recorded savings in the region of 10-15% since 2009. Major carbon reductions had been made in the areas of streetlighting, staff business travel, and fleet vehicle full use.

Scope of baseline data

The baseline for measuring future progress will be financial year April 2019 – March 2020.

Dorset Council is one of the largest organisations in Dorset responsible for a wide range of services across the County and approximately 1% of Dorset's carbon footprint. We own over 1,200 built assets, from office buildings, car parks and hotels. This is as well as running a fleet of over 400 vehicles, from cars to heavy goods vehicles, and manage 40,000 streetlights and 4,000 signs. Many of our 9,000 staff would normally commute to and from work and use their cars for business, typically travelling over 5 million business miles a year. In addition, we work with partners and contractors to deliver key services, such as education and adult and social care.

All these activities create greenhouse gas emissions from our use of energy to power and heat our buildings, as well as fuel used in fleet vehicles. This is in addition to our use of water, the disposal of our waste, the electricity to power streetlights and our staff's emissions outside of work.

CARBON EMISSIONS & ACHIEVING NET ZERO

We have included in our carbon footprint all the carbon emissions that we have influence over. This includes:

- **DIRECT CONTROL** - emissions from our own operational buildings, business travel, fleet vehicles, and Dorset streetlights and road signs.
- **INDIRECT INFLUENCE** - emissions from the delivery of services, such as Adult Care buildings operated by Tricuro, Local Authority Schools, Leisure centres, and contracted out services, such as school transport and staff commuting.

Dorset Council baseline emissions profile, initial breakdown 2019-2020

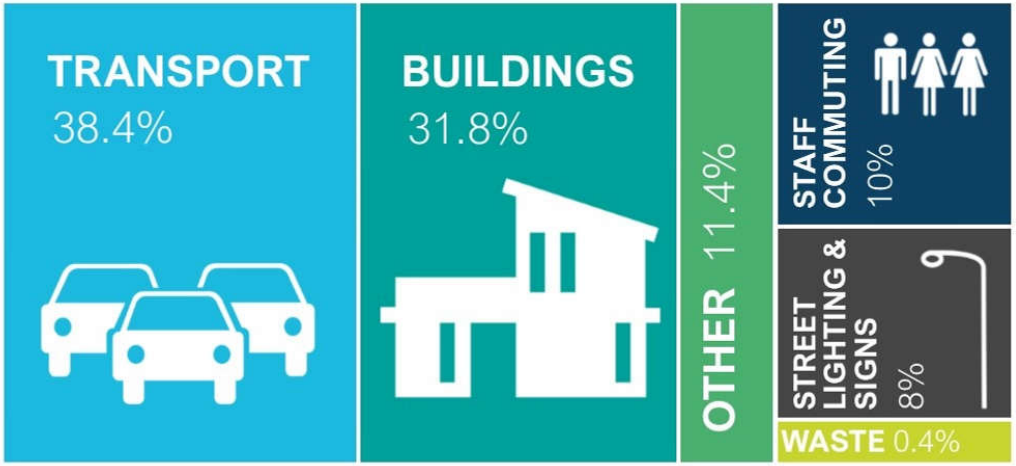

Figure 20

Dorset Council's TOTAL Carbon footprint for 2019-2020 is estimated at 40,000 to 45,000 tCO_2e.

As a new authority we don't yet have enough data to give an accurate figure. But we can say that the footprint for 2019/20 was at least 33,704 tCO_2e/yr. More data is needed on the Council's fleet fuel consumption and commuting figures to give a more complete representation.

In 2016 the County Council's footprint was recorded as 45,727 tCO_2e/yr. But a direct comparison between this figure and today's footprint will not be very useful as what we are counting has changed - emissions from academies are no longer included, but school transport and highway maintenance are.

In all likelihood, our footprint will have dropped from the 2016 figure. Mainly because of the exclusion of academies and the reduction in the carbon intensity of the electricity grid. These factors are likely to have outweighed the additional emissions from an increase in Council staff and buildings during this period. We will have a clearer picture once more data has been gathered and sufficiently analysed.