

## How are we doing?

This page describes how County Durham is doing as we work to reduce our carbon emissions. We all contribute to the carbon footprint of the county through how we travel, where we live and work, and how we have fun. The charts below show how our carbon footprint has reduced over the years, but also that we have a long way left to go.

### Carbon Targets Timeline

County Durham's carbon footprint has shrunk since 1990, and we hope it will continue to reduce as we work toward our carbon reduction goals for 2030, 2040, and 2050.

A bar chart is displayed with the following information:

Actual data and Targets to a Carbon Neutral County Durham – The graph shows carbon emissions between 1990 and 2019 and target goals for 2030, 2040 and 2050. Click on a date above to see the figures for that year.

Keys for the bar chart are Domestic Housing; Industrial, Public and Commercial; and Transport.

The vertical axis represents 'Thousand tonnes of carbon dioxide' with 0, 2000 and 4000 listed and the horizontal axis represents the years with columns including 1990, 2005, 2019, 2030, 2040 and 2050.

A box to the top-right of the graph highlights that there is a total of 11k kilo tonnes of carbon dioxide (ktCO<sub>2</sub>).

The contents of the graph and accompanying table are as follows;

For the year 1990, there was 1414 thousand tonnes of carbon dioxide from domestic housing, 2574 thousand tonnes of carbon dioxide from industrial, public and commercial and 710 thousand tonnes of carbon dioxide from transport. There was a total of 4698 thousand tonnes of carbon dioxide in 1990.

For the year 2005, there was 1315 thousand tonnes of carbon dioxide from domestic housing, 1328 thousand tonnes of carbon dioxide from industrial, public and commercial and 744 thousand tonnes of carbon dioxide from transport. There was a total of 3387 thousand tonnes of carbon dioxide in 2005.

For the year 2019, there was 825 thousand tonnes of carbon dioxide from domestic housing, 623 thousand tonnes of carbon dioxide from industrial, public and commercial and 733 thousand tonnes of carbon dioxide from transport. There was a total of 2181 thousand tonnes of carbon dioxide in 2019.

For the year 2030, it is our target that there will be 389 thousand tonnes of carbon dioxide from domestic housing, 270 thousand tonnes of carbon dioxide from industrial, public and commercial and 186 thousand tonnes of carbon dioxide from transport. It is our target that there will be a total of 845 thousand tonnes of carbon dioxide in 2030.

For the year 2040, it is our target that there will be 115 thousand tonnes of carbon dioxide from domestic housing, 90 thousand tonnes of carbon dioxide from industrial, public and commercial and 30 thousand tonnes of carbon dioxide from transport. It is our target that there will be a total of 235 thousand tonnes of carbon dioxide in 2040.

For the year 2050, it is our target that there will be a total of 0 thousand tonnes of carbon dioxide in 2050.

## 1990

4,700,000 tonnes of carbon dioxide per year (actual). Climate Change was a topic of discussion in the 1990s. Schools were teaching about 'acid rain' due to air pollution and scientists were aware that our planet was warming up due to burning fossil fuels. In 1989 CFCs were banned in an effort to mend the hole in the ozone layer. The ozone hole stopped growing in the mid-nineties and should be back to pre-1980s levels before the next century.

A bar chart is displayed with the following information:

Actual data and Targets to a Carbon Neutral County Durham – The graph shows carbon emissions between 1990 and 2019 and target goals for 2030, 2040 and 2050. Click on a date above to see the figures for that year.

Keys for the bar chart are Domestic Housing; Industrial, Public and Commercial; and Transport.

The vertical axis represents 'Thousand tonnes of carbon dioxide' with 0, 2000 and 4000 listed and the horizontal axis represents the years with the column displaying 1990.

A box to the top-right of the graph highlights that there is a total of 4698k kilo tonnes of carbon dioxide (ktCO<sub>2</sub>).

The contents of the graph and accompanying table are as follows;

For the year 1990, there was 1414 thousand tonnes of carbon dioxide from domestic housing, 2574 thousand tonnes of carbon dioxide from industrial, public and commercial and 710 thousand tonnes of carbon dioxide from transport. There was a total of 4698 thousand tonnes of carbon dioxide in 1990.

## 2005

3,400,000 tonnes of carbon dioxide per year (actual). The Kyoto Protocol came into force in 2005. It committed the UK to a 12.5% reduction in emissions from 1990 levels by 2012. By 2005, County Durham had already reduced emissions by 28% from 1990 levels, largely due to a reduction in industry in the area.

A bar chart is displayed with the following information:

Actual data and Targets to a Carbon Neutral County Durham – The graph shows carbon emissions between 1990 and 2019 and target goals for 2030, 2040 and 2050. Click on a date above to see the figures for that year.

Keys for the bar chart are Domestic Housing; Industrial, Public and Commercial; and Transport.

The vertical axis represents 'Thousand tonnes of carbon dioxide' with 0, 2000 and 4000 listed and the horizontal axis represents the years with the column displaying 2005.

A box to the top-right of the graph highlights that there is a total of 3387k kilo tonnes of carbon dioxide (ktCO<sub>2</sub>).

The contents of the graph and accompanying table are as follows;

For the year 2005, there was 1315 thousand tonnes of carbon dioxide from domestic housing, 1328 thousand tonnes of carbon dioxide from industrial, public and commercial and 744 thousand tonnes of carbon dioxide from transport. There was a total of 3387 thousand tonnes of carbon dioxide in 2005.

## 2019

2,181,000 tonnes of carbon dioxide per year (actual). 2018 was the year that saw the beginning of the movement that led to the Climate Emergency Declarations across the world. The UN declared that the world had 12 years left to act on Climate Change. Durham County Council was one of the first Authorities to declare a Climate Emergency. In February 2019 County Durham pledged to be Carbon Neutral by 2050.

A bar chart is displayed with the following information:

Actual data and Targets to a Carbon Neutral County Durham – The graph shows carbon emissions between 1990 and 2019 and target goals for 2030, 2040 and 2050. Click on a date above to see the figures for that year.

Keys for the bar chart are Domestic Housing; Industrial, Public and Commercial; and Transport.

The vertical axis represents 'Thousand tonnes of carbon dioxide' with 0, 2000 and 4000 listed and the horizontal axis represents the years with the column displaying 2019.

A box to the top-right of the graph highlights that there is a total of 2181k kilo tonnes of carbon dioxide (ktCO<sub>2</sub>).

The contents of the graph and accompanying table are as follows

For the year 2019, there was 825 thousand tonnes of carbon dioxide from domestic housing, 623 thousand tonnes of carbon dioxide from industrial, public and commercial and 733 thousand tonnes of carbon dioxide from transport. There was a total of 2181 thousand tonnes of carbon dioxide in 2019.

## 2030

850,000 tonnes of carbon dioxide per year (target). Our aim is to get County Durham's carbon footprint down by 75% by 2030. This will require achieving all of the easy wins in carbon reduction such as generating most of our electricity renewably and using low or zero carbon transport. We anticipate that heating our buildings will be the hardest problem to fix and expect that most of our remaining emissions will be from gas boilers. Replacing those gas boilers will be difficult but essential work.

A bar chart is displayed with the following information:

Actual data and Targets to a Carbon Neutral County Durham – The graph shows carbon emissions between 1990 and 2019 and target goals for 2030, 2040 and 2050. Click on a date above to see the figures for that year.

Keys for the bar chart are Domestic Housing; Industrial, Public and Commercial; and Transport.

The vertical axis represents 'Thousand tonnes of carbon dioxide' with 0, 2000 and 4000 listed and the horizontal axis represents the years with the column displaying 2030.

A box to the top-right of the graph highlights that there will be a target of 2181k kilo tonnes of carbon dioxide (ktCO<sub>2</sub>).

The contents of the graph and accompanying table are as follows:

For the year 2030, it is our target that there will be 389 thousand tonnes of carbon dioxide from domestic housing, 270 thousand tonnes of carbon dioxide from industrial, public and commercial and 186 thousand tonnes of carbon dioxide from transport. It is our target that there will be a total of 845 thousand tonnes of carbon dioxide in 2030.

## 2040

240,000 tonnes of carbon dioxide per year (target). Nearly there! Our aim is to get County Durham's carbon footprint down by 90% by 2040. That will give us the last ten years to tackle the last 10% of the county's footprint. This is likely to be difficult to heat buildings which still rely on burning fossil fuels for warmth as well as some particular industrial processes and heritage activities.

A bar chart is displayed with the following information:

Actual data and Targets to a Carbon Neutral County Durham – The graph shows carbon emissions between 1990 and 2019 and target goals for 2030, 2040 and 2050. Click on a date above to see the figures for that year.

Keys for the bar chart are Domestic Housing; Industrial, Public and Commercial; and Transport.

The vertical axis represents 'Thousand tonnes of carbon dioxide' with 0, 2000 and 4000 listed and the horizontal axis represents the years with the column displaying 2040.

A box to the top-right of the graph highlights that there will be a target of 235k kilo tonnes of carbon dioxide (ktCO<sub>2</sub>).

The contents of the graph and accompanying table are as follows:

For the year 2040, it is our target that there will be 115 thousand tonnes of carbon dioxide from domestic housing, 90 thousand tonnes of carbon dioxide from industrial, public and commercial and 30 thousand tonnes of carbon dioxide from transport. It is our target that there will be a total of 235 thousand tonnes of carbon dioxide in 2040.

## 2050

0 tonnes of carbon dioxide per year (target). Our aim is to make County Durham Carbon Neutral by 2050. We might still have some carbon emissions, but these must be offset by actions such as tree planting, peatland restoration, renewable electricity generation, or other carbon negative activities.

Our carbon footprint should be zero because any emissions we do have will be countered by these off-setting actions. We may never be completely zero carbon, but where emissions must remain, we can make up for them.

## Durham's Carbon Footprint

Everything we do has an effect on the environment we live in; from heating and lighting our homes to manufacturing goods, scientific research, travel, and everything in between. Our carbon footprint comes from all of these actions and everyone who lives in or visits County Durham.

## County Durham's emissions in 2019

A key is displayed listing domestic, transport, industrial, commercial and public.

A pie chart is also displayed breaking down the percentage of emissions in each area as follows:

Domestic – 39%  
Transport – 34%  
Industrial – 17%  
Commercial – 7%  
Public – 5%

### Domestic

Homes in County Durham are responsible for 38% of the County's carbon emissions. In 2019, that was 825 thousand tonnes of carbon dioxide. These figures include electricity, gas, and any other utilities the people of Durham use in their homes. On average, a person living in Durham emits 1.6 tonnes of carbon dioxide per year just from using electricity and heating their home. These emissions can be reduced by ensuring all homes are well insulated with efficient heating systems that are not over-used.

### Transport

Transport in County Durham is responsible for 34% of the County's carbon emissions. In 2019, that was 733 thousand tonnes of carbon dioxide. These figures include all road traffic on all roads apart from through traffic on the A1. It only counts exhaust emissions, and does not consider air pollution from brake pads and tyres that all vehicles emit.

### Industrial

Industry in County Durham is responsible for 17% of the County's carbon emissions. In 2019 that was 365 thousand tonnes of carbon dioxide. These figures include electricity, gas, and other utilities consumed by industrial buildings, as well as agricultural combustion. It includes factories, processing plants, farming, and any other industrial property.

### Commercial

Commercial properties in County Durham are responsible for 7% of the County's carbon emissions. In 2019 that was 155 thousand tonnes of carbon dioxide. These figures include electricity, gas, and other utilities consumed by commercial buildings. It includes shops, offices, cinemas, privately run leisure facilities, and any other commercial property.

## Public

The Public Sector in County Durham is responsible for 5% of the County's carbon emissions. In 2019 that was 103 thousand tonnes of carbon dioxide. These figures include electricity, gas, and other utilities consumed by public buildings. It includes public offices, libraries, museums, publicly run leisure facilities, hospitals, schools, and any other public property. Durham County Councils emissions make up a portion of this figure.

## Temperatures in Durham

The Climate Emergency can be felt in Durham. The graph below uses data provided by Durham University to show how temperatures have changed since 1844. Durham is now around 1.5 degrees hotter than it was during the industrial revolution.

A line graph is displayed detailing the annual average air temperature in Durham since 1844 in degrees Celsius with the vertical axis displaying the temperature including 6, 8 and 10 degrees Celsius and horizontal axis displaying years including 1850, 1900, 1950 and 2000. There are two lines on the graph with one representing the annual average temperature and another representing the 11-year rolling average temperature.

The annual average temperature line starts at 7.9 degrees Celsius in 1850 and fluctuates up and down before showing an increase to 8.3 degrees Celsius in 1900. The line continues to increase and decrease and shows records of 8.5 degrees Celsius in 1950 and 9.4 degrees Celsius in 2000. The graph finishes in the year 2020 with 10 degrees Celsius.

The 11-year rolling average temperature line starts at 8.1 degrees Celsius in 1855 and fluctuates up and down before showing an increase to 8.3 degrees Celsius in 1900. The line continues to increase and decrease and shows records of 8.9 degrees Celsius in 1950 and 9.5 degrees Celsius in 2000. The graph finishes in the year 2015 with 9.6 degrees Celsius.

The temperature rise in Durham is happening all over the world. In some places, temperatures have risen by more than in Durham, and in others it has been less noticeable. The University of East Anglia have provided figures which show the global temperature anomaly since 1850. That is, the amount that global average temperatures have shifted from what was previously considered normal. The figures show a rise in temperature very similar in gradient to the rise in temperatures in Durham. The temperature anomaly is currently an increase of around 1 degree.

A second line graph is displayed detailing the Global Temperature Anomaly in degrees Celsius with the vertical axis displaying the temperature including -1, -0.5, 0, 0.5 and 1 degrees Celsius and horizontal axis displaying years including 1850, 1900, 1950 and 2000. There are two lines on the graph with one representing the temperature anomaly and another representing the 11-year rolling average.

The temperature anomaly starts at -0.42 degrees Celsius in 1850 and fluctuates up and down before showing an increase to -0.23 degrees Celsius in 1900. The line continues to increase and decrease and shows records of -0.23 degrees Celsius in 1950 and 0.33 degrees Celsius in 2000. The graph finishes in the year 2020 with a temperature anomaly of 0.92 degrees Celsius.

The 11-year rolling average line starts at -0.3 degrees Celsius in 1855 and fluctuates up and down before showing an increase to -0.4 degrees Celsius in 1900. The line continues to increase and

decrease and shows records of -0.1 degrees Celsius in 1950 and 0.5 degrees Celsius in 2000. The graph finishes in the year 2015 with 0.83 degrees Celsius.