

Carbon Dioxide emissions

Indicator

Carbon Dioxide emissions (Climate Change)

Status



Amber and improving

Overview

Data on carbon dioxide emissions, along with a number of other gases, is collected nationally in order to monitor progress towards UK targets (set under the Climate Change Act 2008) to reduce carbon dioxide emissions (CO₂) by 34% by 2020 and 80% by 2050. The data is broken down by Local Authority area.

Local infrastructures influence the levels of carbon dioxide emissions from industry and commerce, domestic use and road transport.

There is a strong belief amongst the scientific community that rising concentrations of greenhouses gases, such as Carbon Dioxide, from the burning of fossil fuels in homes, power stations, vehicles, business and industry, are contributing to climate change. Climate change is a global phenomena, but it can be felt locally. In Worcestershire, over the last century there has been a lengthening in the growing season by a month, and over the last few decades there have been a number of incidences of severe flooding and drought, causing damage to property and habitats alike. These trends are set to accelerate unless action is taken to reduce greenhouse gas emissions.

Data for this indicator is available through DEFRA at a 2 year time lag so the data used in the 2011 update represents the situation as it was in 2008. The data for this indicator excludes motorway emissions & emissions from energy intensive industries included in the European Emissions Trading scheme.

In Worcestershire, the Worcestershire Partnership Climate Change Strategy sets out ways in which the County can contribute to reducing greenhouse gas emissions.

A delivery plan compiled of actions from partners to reduce emissions is held by the Worcestershire Partnership Climate Change Task Group. Progress towards actions will be reported annually to the task group.

Performance

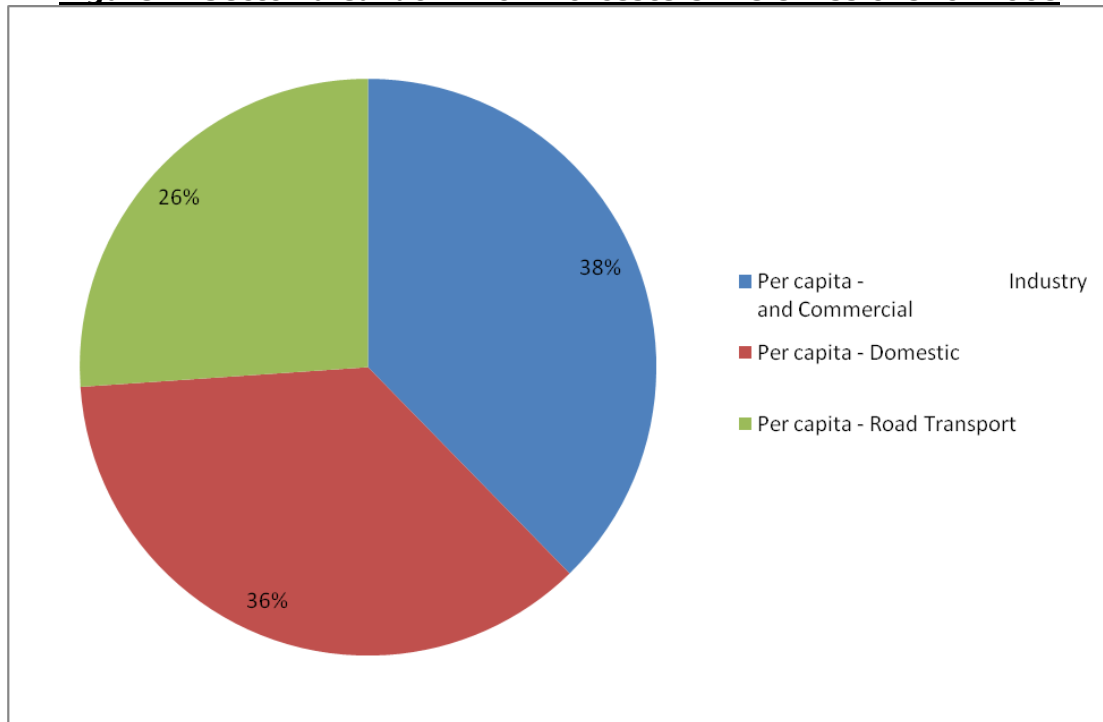
The latest CO₂ emission figures for 2008 show that Worcestershire per capita emissions have reduced by 0.3 tonnes per capita compared with the 2005 baseline. This equates to a 4.2% reduction between 2005 and 2008. Table 1 shows the Worcestershire Districts, County, West Midlands and National reduction figures between 2005 and 2008. From this we can see that the CO₂ reduction for Worcestershire (4.2%) is smaller than that for the West Midlands (5.6%) and the National (5.4%) reduction but the overall emissions per capita for Worcestershire is lower than the National figure. The largest reduction in Worcestershire was seen in Worcester City (10.8%) followed by Redditch (6.4%) and Wyre Forest District Council (6.3%). No reduction was made in Malvern Hills District, the next smallest reductions were made in Wychavon (2.3%) and Bromsgrove (3.2%). For 2008 the lowest per capita emissions figure in Worcestershire was noted for Worcester City (5.8 t per capita) and the largest for Wychavon District (8.6%).

Table 1: Tonnes per capita CO₂ emissions from 2005 to 2008 for Worcestershire districts, County, regional and national figures (also includes the overall percentage reduction over the time period).

	(t) per capita emissions 2005	(t) per capita emissions 2006	(t) per capita emissions 2007	(t) per capita emissions 2008	% reduction
Bromsgrove	6.3	6.4	6.2	6.1	3.2
Malvern	7.2	7.5	7.3	7.2	0
Redditch	7.8	7.8	7.6	7.3	6.4
Worcester	6.5	6.3	6	5.8	10.8
Wychavon	8.8	9.1	8.8	8.6	2.3
Wyre Forest	6.4	6.4	6.3	6.0	6.3
Worcestershire	7.2	7.3	7.1	6.9	4.2
West Midlands	7.1	7.1	6.9	6.7	5.6
National	7.4	7.4	7.2	7.0	5.4

The CO₂ emissions data is split into three sectors; these are domestic, industry and commerce and road transport (excluding motorway emissions). Figure 1 shows the percentage splits between these sectors. Most emissions (38%) came from the industry and commercial sector with the smallest emissions from the road transport sector (26%).

Figure 1: Sector breakdown for Worcestershire emissions for 2008



Looking at the districts by sector we see that most have the largest proportion of emissions from their domestic sector:

- Bromsgrove (42%)
- Malvern (39%)
- Worcester (41%)
- Wyre Forest (42%)

The remaining two districts, Redditch and Wychavon have the highest proportion of emissions from industry and commerce, with 51% and 43% respectively.

Geographical context

Using the Nearest Neighbour analysis developed by Chartered Institute of Public Finance and Accountancy (CIPFA) the three most similar areas to Worcestershire were selected and emissions compared to gauge performance. The three areas selected for comparison were Warwickshire, Gloucestershire and Staffordshire. Worcestershire had the lowest CO₂ emissions (6.9 t per capita) in 2008 compared with these three areas with the highest being 7.7 t per capita (Warwickshire). Worcestershire was third in terms of percentage per capita reduction figure having reduced by 4.2% compared to the largest reduction of 5.3% for Gloucestershire. The 2008 CO₂ emissions figure for each district was also compared to their nearest neighbours. Three of the six district councils have the lowest CO₂ emissions for 2008 compared with their nearest neighbours; these are Bromsgrove, Malvern and Wyre Forest (table 2).

Table 2: Worcestershire districts nearest neighbour analysis for per capita CO₂ emissions in 2008.

Worcestershire district	t per capita 2008	Comparison area	t per capita 2008
Bromsgrove	6.1	Lichfield	8
		South Staffordshire	6.4
		Maldon	6.2
Malvern	7.2	Derbyshire Dales	10.4
		Craven	8.4
		Babergh	7.8
Wyre Forest	6	Amber Valley	7.8
		High Peak	9.6
		Newcastle-under Lyme	6.5
Redditch	7.3	Tamworth	5.3
		Cannock Chase	5.5
		Welling Borough	7.8
Worcester	5.8	Gloucester	5.7
		Wyre Forest	6
		Rushmoor	6.2
Wychavon	8.6	Stratford	8.1
		Stroud	6.8
		Tewksbury	8.6

Actions

A number of projects in Worcestershire hope to be able to contribute to reducing CO₂ emissions for the County.

The Worcestershire Partnership has a Climate Change Strategy which is due for review in April 2011. It is hoped that CO₂ savings can be assigned to individual actions within this review.

New build projects such as Worcester Library and History Centre are being designed to BREEAM standards to have low CO₂ emissions. The number of credits achieved for CO₂ reduction is dependant on renewable energy technologies and energy conservation measures.

Home electricity monitors are on loan from libraries in each district for residents to monitor their electricity use in real time and note the cost of running certain appliances. It is hoped that once individuals see how much different appliances are costing they will make an effort to reduce electricity consumption.

Automatic Meter Reading is being installed in most Worcestershire schools to collect more accurate data on energy use.

Worcestershire has been running a pilot project with Keep Britain Tidy on Eco Communities with 5 communities in Redditch and Bromsgrove. Around 17 schools have been involved with this project focussing on energy and waste with over 500 families engaging with the project.

The Warmer Worcestershire Network is working to reduce fuel poverty across the County. Increasing fuel efficiency will ultimately reduce CO₂ emissions.

Street lighting is being replaced across Worcestershire for more efficient LED technologies. Dimming of street lights is also being trialled. This will not only achieve significant cost savings per year but reduce CO₂ emissions.

Worcestershire PCT and Mental Health Partnership along with Wyre Forest District Council and Malvern Hills District Council have signed up to take part in the Carbon Trust Carbon Management Programme from 2011. This programme will develop a set of actions for reducing emissions from their operations over a 5 year period. Worcestershire County Council are already part of the programme and have a Carbon Management Plan in place until 2016.

Further information

More information on actions taken or planned by members of the Worcestershire Partnership can be found in the [delivery plan](#).