

Holme Valley Parish Carbon Reduction calculator to be Carbon Neutral by 2030 PLAN

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INFORMATION AND METHODOLOGY

This file and information gives the basis of the carbon reduction plans behind the Holme Valley Parish Council's Climate Emergency Action Plan and their calculations of the carbon footprint for the HV parish area. These calculations were used to derive a baseline carbon emission of 180,000 tonnes of CO₂e [all greenhouse gas (GHG) emissions expressed as CO₂e or carbon dioxide gas equivalent]. The methodology was to use the UK governments published annual carbon emission data, to assess an average carbon emission per capita for every person in the UK eg approx 7 tonnes CO₂e per person in 2017. This data was also used to assess the carbon emissions per capita for each reporting sector eg energy, transport, agriculture, waste, environment (LULUCF)etc, and activities within each sector e.g car driving in Transport. These UK average figures per sector per person, were then factored for the HV parish area characteristics eg our transport emissions are higher as we have more cars and drive more as a semi rural/commuter area. The HV average figures per sector per capita were then applied to the HV population of circa 27,000 to give the total estimated carbon emissions for the HV parish area of 180,000 tonnes. In June 2019 when the HVPC CE Action Plan was being developed and the latest published carbon data available was for the year 2017, so this year 2017 data was used as the baseline carbon footprint. In 2021, the UK government did a major revised the historic UK carbon emissions to reflect revised peatlands emissions - the 2017 UK figure was increased from 460.2 to 474.2 Megatonnes of CO₂e. This change has increased the baseline HV parish area carbon emissions from 180,000 to 190,000 tonnes per annum. This new figure has been used for progress comparison purposes. Using the published year 2018 and 2019 emission data, a progress comparison has been made of the reductions achieved to date, against the reductions necessary to get down to carbon neutral by 2030.

Data from UK gov emissions 2019 statistical report

What you need to know about these statistics:

This publication provides the latest estimates of 1990-2019 UK territorial greenhouse gas emissions, meaning emissions that occur within the UK's borders. They are presented in carbon dioxide equivalent units (CO₂e) throughout this statistical release and cover the Kyoto "basket" of seven greenhouse gases: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulphur hexafluoride (SF₆) and nitrogen trifluoride (NF₃).

We made a major methodology change to the estimates this year to better represent emissions from peatlands, which combined with other changes has led to a large upward revision to our emission estimates of between 10 and 17 MtCO₂e each year from 1990 onwards compared to those published last year. Further details are given on page 30.

Recent baseline changes due to peatland emissions

The most notable methodological changes to the historical series since the 1990-2018 Greenhouse Gas Inventory was published are the large revisions to the LULUCF sector as a result of the new estimates for peatlands emissions consistent with the 2013 IPCC Wetlands Supplement. Revisions to the datasets used in producing these estimates have also led to changes across most sectors for more recent years. Details of the changes made to estimates of 1990 and 2018 emissions are given below. Revisions to other years of the time series are generally of a similar scale other than for the business sector which has seen larger decreases in the emissions estimates during the 2000s following the introduction of a new model for refrigeration, air conditioning and heat pump emissions.

International comparisons with UK average emission of circa 7 tonnes CO₂e

Countries' emissions tend to reflect their size, with the highest emissions coming from the countries with the largest populations and land areas. China is the country with the highest greenhouse gas emissions, of around 11,200 MtCO₂e in 2014 (the latest year of data available), followed by the United States, which had emissions of 5,900 MtCO₂e in 2018. The European Union as a whole (excluding the UK) had emissions in 2018 of 3,500 MtCO₂e.

When adjusted for population, Australia has the highest emissions of G20 countries of around 22 tonnes of CO₂e per person in 2018, while Canada, Saudi Arabia and the United States also each had emissions of over 17 tCO₂e per person in their latest available data. India has the lowest emissions per person in the G20, at around 2 tCO₂e per person in its latest data from 2014, although this has been increasing in recent years. The UK had emissions of around 7 tCO₂e per person in 2018. Higher emission rates can be associated with a number of factors, such as significant heavy industry, a large manufacturing sector or the use of more carbon intensive fuels such as coal for electricity generation.

Sector descriptions and available breakdown of UK's carbon emissions per capita

For the purposes of reporting, greenhouse gas emissions are allocated into sectors known as National Communication (NC) sectors as follows:

Energy Supply	Emissions from electricity generation and other energy production activities such as mining, refining and manufacturing fuels. In the end-user estimates these emissions are instead assigned between the other sectors based on where the electricity/fuel is used, or to the <i>Exports</i> sector where they are used abroad.
Business	Emissions from fuel combustion and product use in industrial and commercial sectors, and F gas emissions from refrigeration and air conditioning in all sectors. Includes industrial off-road machinery but not business-related transport emissions, which are included in the <i>Transport</i> sector.
Transport	Emissions from road transport, domestic aviation, railways and domestic shipping. Only includes emissions from vehicles and not from transport related infrastructure or from air conditioning. International aviation and shipping emissions are not included in national totals.
Public	Emissions from the combustion of fuel in public sector buildings, e.g. hospitals and schools. Emissions from public transport are included in the <i>Transport</i> sector.
Residential	Emissions from residential properties, including from consumer product use. Primarily consists of fuel combustion for heating/cooking, garden machinery, and fluorinated gases released from aerosols and metered dose inhalers.
Agriculture	Emissions of greenhouse gases from livestock, agricultural soils (excluding carbon stock changes which are included in the <i>LULUCF</i> sector) and agricultural machinery.
Industrial processes	Emissions resulting from industrial processes, except for those associated with fuel combustion which are included in the <i>Business</i> sector.
Land use, land use change and forestry (LULUCF)	Emissions/removals of CO ₂ from changes in the carbon stock in forestland, cropland, grassland, wetlands, settlements and harvested wood products, and of other greenhouse gases from drainage (excl. croplands and intensive grasslands) and rewetting of soils, nitrogen mineralisation associated with loss and gain of soil organic matter, and fires. Because the impact of biomass harvest on carbon stocks in ecosystems is included in this sector, any emissions of CO ₂ from burning biomass (regardless of the country of origin) are excluded from other sectors to avoid double counting them.
Waste management	Emissions resulting from the treatment and disposal of solid and liquid waste, for example from landfill, incineration and composting. Emissions from incineration with energy recovery are instead reported in the <i>Energy Supply</i> sector and emissions from residential composting are included in the <i>Residential</i> sector.