

Residential

GHG Inventory summary Factsheet

Territorial coverage: UK including Crown Dependencies and Overseas Territories

Total emissions: Quoted with respect to emissions including net LULUCF

Sector Definition: National Communication, by source, consistent with UK GHG national statistics

Sector summary – historic emissions

- Overall contribution of emissions to UK GHG emissions in 2010 was 15%.
- CO₂ is the dominant GHG (96%).
- Emissions from the residential sector are 11% higher in 2010 than in 1990. This is largely due to a 16% increase in emissions from residential combustion between 2009 and 2010.
- Emissions from stationary combustion dominate residential sector emissions (95%), and have increased by 8% since 1990.

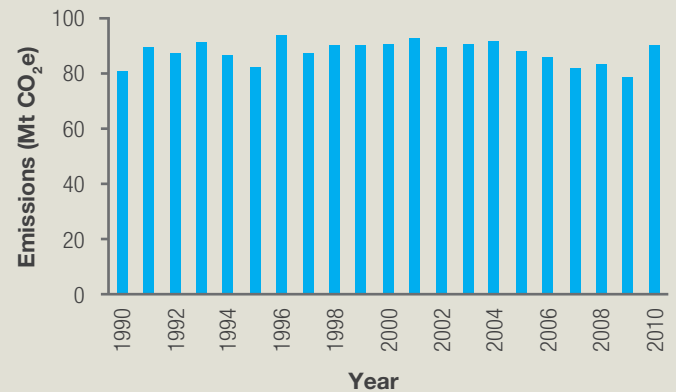
Sources of emissions and data sets

- Domestic combustion includes all emissions from the direct combustion of fuel for heating or cooking. The main dataset used is DECC's Digest of UK Energy Statistics (DUKES).
- Emissions from aerosols and metered dose inhalers (MDI) relate to HFCs used as a propellant. The main data sources for these emissions are BAMA (the British Aerosol Manufacturers' Association) and sales data for metered dose inhalers.
- Emissions from the breakdown of household products arise from the decomposition of products such as soaps and detergents.
- Other emission sources include household and garden machinery and accidental vehicle fires.

Methodology

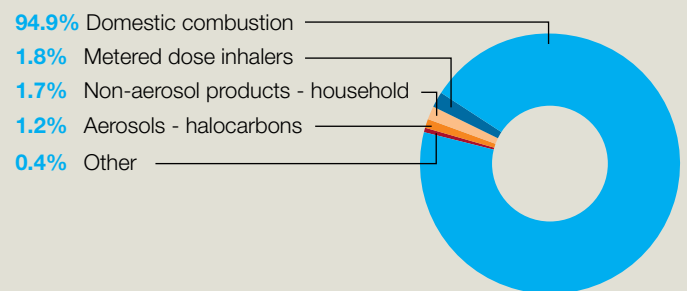
- Domestic fuel combustion emissions are estimated by multiplying the fuel use estimates in DUKES by an emission factor. Emission factors are either UK specific or are taken from published inventory guidelines (IPCC and UNECE).
- Emissions from aerosols and MDI are based on estimates of the total HFCs in aerosols in each year, combined with estimates of how much HFC is released at manufacture, during use, and at disposal.

Residential Sector Emissions, 1990-2010



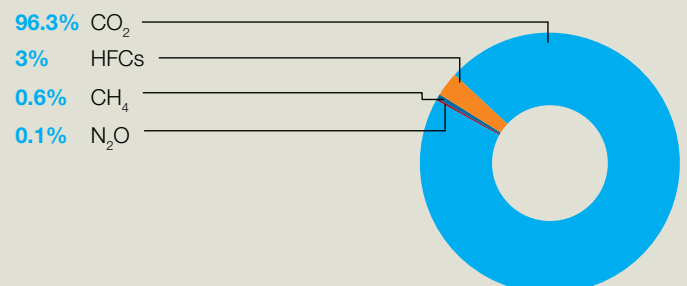
Source: UK GHG Inventory (UNFCCC coverage) (AEA, 2012)

Residential Emissions by Source (2010)



Source: UK GHG Inventory (UNFCCC coverage) (AEA, 2012)

Residential Emissions by Gas (2010)



Source: UK GHG Inventory (UNFCCC coverage) (AEA, 2012)

- For the breakdown of consumer products, estimates of the carbon content of these products are combined with an estimate of how much carbon is stored, and how much is released. These estimates are based on a study conducted by Atlantic Consulting, supplemented by sales data from the Cosmetics, Toiletries & Perfumery Association, and data from the US EPA.

Uncertainties

- The GHG Inventory quantifies uncertainties on emission factors and activity data, which in turn allow for the production of uncertainty estimates on the: emissions; overall uncertainty by gas; and indicative-only estimates of sector level uncertainties.
- The uncertainty associated with the emission factors for CO₂ is low, since the carbon content of the fuels used is well known. For non-CO₂ gases, the emission estimates are dependent

on a range of contributing factors, such as boiler size and efficiency. Therefore the uncertainty on the emission factors used to represent the whole sector across the UK is high, although the contribution to total emissions is much lower.

- The uncertainty associated with total fuel use in the UK is relatively low; however the sectoral split is more uncertain.
- The indicative uncertainty for the residential sector is +/-1%, as a 95% confidence interval.

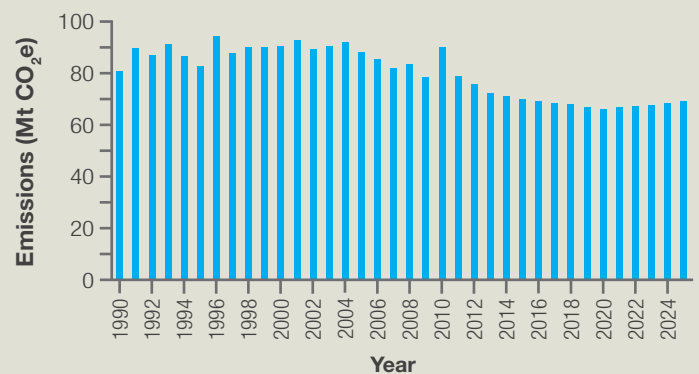
Improvements

- Some petrol and diesel use has been reallocated from road transport to household and garden machinery following a review of gas oil and diesel consumption across different sectors.

Projections

- Projected emissions from the residential sector are expected to decrease by 23% from 2010 to 2025.
- Emissions continue to be dominated by CO₂.
- The overall decrease in residential sector emissions between 1990 and 2025 is projected to be 14%.
- The projections are taken from DECC's Updated Energy and Emissions Projections: October 2011 although historic emissions presented here are from the 2012 inventory.

Historic and Projected Emissions from the Residential Sector



Source: Updated Energy and Emissions Projections: October 2011 (DECC).

Links

- UK GHG Inventory: <http://ghgi.decc.gov.uk/>
- UK GHG National Statistics: <http://www.statistics.gov.uk/hub/agriculture-environment/environment/climate-change/index.html>
- UK Updated Energy Projections: http://www.decc.gov.uk/en/content/cms/about/ec_social_res/analytic_projs/en_emis_projs/en_emis_projs.aspx
- DUKES: <http://www.decc.gov.uk/en/content/cms/statistics/publications/dukes/dukes.aspx>
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