Business

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

Sector summary – historic emissions

- Overall contribution of emissions to UK GHG emissions in 2010 was 15%.
- Emissions from the business sector have decreased by 21% since 1990, driven mostly by decreases in emissions from iron and steel, and other industrial combustion.
- CO_2 is the dominant GHG emitted.
- Emissions from industrial combustion dominate business sector emissions in the UK.

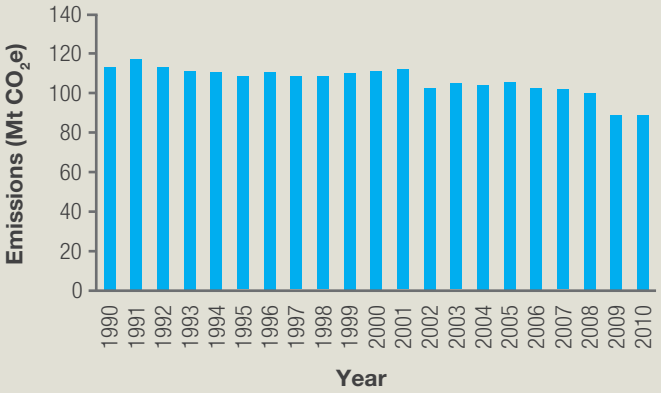
Sources of emissions and data sets

- Stationary combustion (commercial combustion, industrial combustion in: iron and steel; non-ferrous metals; chemicals; pulp, paper and print; food, drink and tobacco; and other industrial sectors) includes all emissions from the direct combustion of fuel, either to provide the heat required for certain industrial processes or for heating. The main data set used is DECC's Digest of UK Energy Statics (DUKES), and for iron and steel data are provided by Tata Steel.
- Industrial off-road machinery includes emissions from equipment such as portable generators and forklift trucks. A detailed study was undertaken in 2004 to estimate the total UK population of this equipment. Annual estimates are based on population growth drivers (such as economic growth) or sales data.
- Emissions of HFCs from refrigeration are modelled, based on bottom up statistics for the number of various types of refrigeration units in use in the UK.
- Other emissions in this sector include emissions from foam blowing, fire extinguishers, solvents, and energy recovery in the chemicals industry. Data are taken from a range of industry experts, literature and the Environment Agency's Pollution Inventory.

Methodology

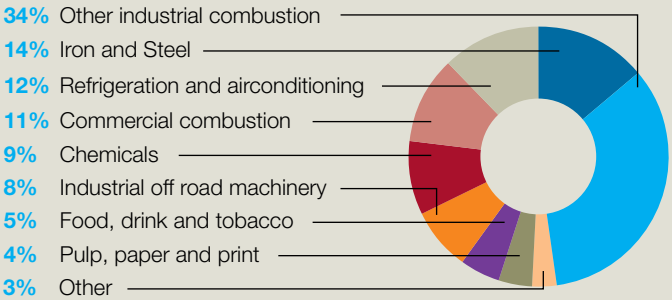
- Stationary fuel combustion emissions are estimated by multiplying the fuel use estimates in DUKES by an emission factor (either UK specific or default, taken from published inventory guidelines

Business Emissions 1990-2010



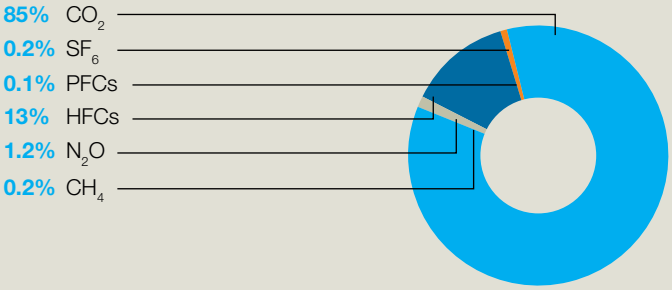
Source: UK GHG Inventory (UNFCCC coverage) (AEA, 2012)

Business Emissions by Source (2010)



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

Business Emissions by Gas (2010)



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

(IPCC and UNECE)). For some sources, independent estimates of fuel use are provided by industry, and therefore the sector allocations in DUKES are modified. The total fuel consumption estimates remain consistent with DUKES (aside from the estimates for petroleum coke).

- Emissions from industrial off road machinery are modelled based on the population of the various machinery types, the age profile, the lifetime of the equipment, and average annual usage.
- Emissions of F-gases, arising from their use in products can occur in a range of phases: when the product is manufactured and filled; during the lifetime of the product as it operates; and when the product is decommissioned or disposed of. Emissions of F-gases during each phase of the product's lifetime are estimated using a model. The model takes account of parameters such as leakage rates at each phase and product lifetime.
- Estimates of CO_2 emissions from the energy recovery in the chemicals industry (the use of waste solvents as a fuel) are based on an estimate of the amount of solvent recovered, as reported to the Environment Agency's pollution inventory, and the carbon content of solvents, supplied by the Mineral Products Association MPA).

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.
- Total emissions within this category are dominated by fuel combustion. CO_2 emissions from fuel combustion are relatively certain, since the carbon content of fuel is well known, and the energy statistics are of good quality.
- CH_4 and N_2O emissions from fuel combustion are dependent on more factors than just the fuel quality, and are therefore more uncertain.
- F-gas emissions reported within this sector are also uncertain, since they are based on modelled data. Uncertainties for these sources range from +/-7 to 30%, as a 95% confidence interval.
- The overall uncertainty for the business sector is estimated to be +/-4% as a 95% confidence interval in 2010.

Improvements

- The refrigeration model was rebuilt during 2011, to replace top down estimates based on total refrigerant inputs with bottom up data for various refrigerant units. All parameters in the model were extensively reviewed to ensure that they are up to date and appropriate for the UK, and in line with international inventory guidance.
- Emissions from industrial combustion have been reported at a more detailed sector level for the first time in 2012.

Projections

- Projected emissions from the business sector are expected to decrease by 13% from 2010 to 2025.
- Emissions continue to be dominated by CO_2.
- The overall decrease in business sector emissions between 1990 and 2025 is estimated to be 32%. This excludes the impact of emissions trading.
- 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 Business

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
- The Environment Agency: http://www.environment-agency.gov.uk/business/topics/pollution/32254.aspx