

Public Sector

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

- This sector covers public sector stationary combustion and emissions from natural gas combustion dominate.
- Overall contribution of emissions to UK GHG emissions in 2010 was 1.4%.
- Emissions from the public sector have decreased by 36% since 1990, driven mostly by a decrease in liquid and solid fuel combustion. This was partially offset until 2004 by an increase in natural gas use.
- CO₂ is the dominant GHG emitted.

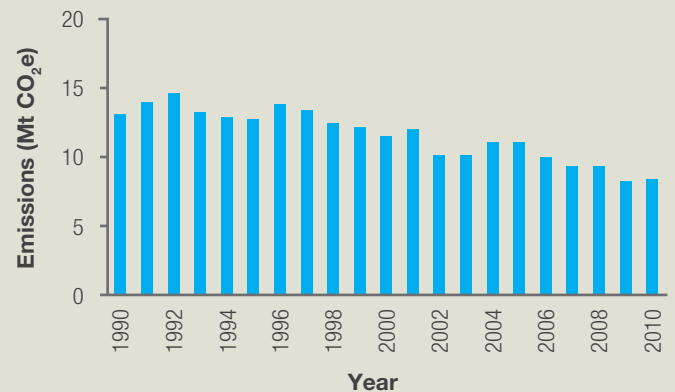
Sources of emissions and data sets

- Emissions of GHGs from this sector occur from the combustion of fuel within the public sector.
- Activity data (fuel use) is taken from DECC's Digest of UK Energy Statistics (DUKES).
- The DUKES category "Public Administration" includes:
 - Public Administration and Defence; Compulsory Social Security
 - Education
 - Health and Social work
- Emission factors for CO₂ are UK specific, based on the Carbon Factors Review, conducted in 2004.
- Emission factors for CH₄ and N₂O are based on IPCC default values.

Methodology

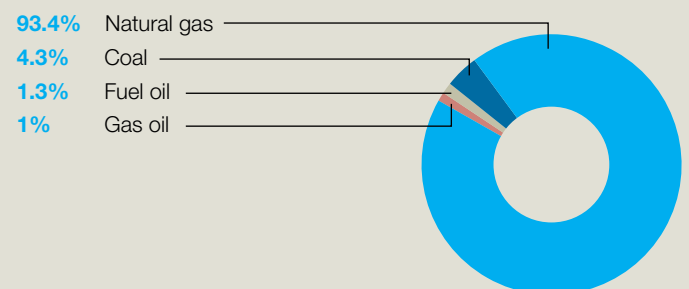
- Fuel combustion emissions are estimated by multiplying the fuel use by an emission factor.
- The estimate for the UK is based on a top-down method, using the total fuel combustion from DUKES. It is not possible to further break this down into different areas of the public sector.
- Emissions from public sector transport sources (including ambulances, for example) are not estimated explicitly, and are included in the transport sector of the inventory.

Public Sector Emissions, 1990-2010



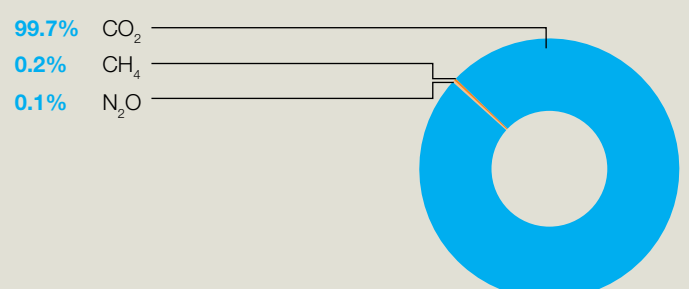
Source: UK GHG Inventory (UNFCCC coverage) (AEA, 2012)

Public Sector Emissions by Fuel (2010)



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

Public Sector Emissions by Gas (2010)



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

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 factors are dependent on a range of contributing factors, such as boiler size and efficiency, and 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 public sector is +/-5%, as a 95% confidence interval.

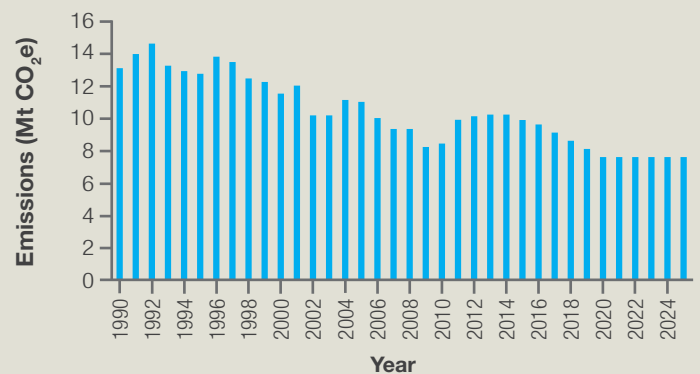
Improvements

- A The latest inventory included a review on the combustion of gas oil in different sectors. This has led to a reallocation of gas oil consumption between public and other sectors.
- The combustion of sewage gas in heat plants has been reallocated to the Energy Supply sector following UNFCCC recommendation.

Projections

- Projected emissions from the public sector are expected to be 10% below 2010 levels in 2025.
- Emissions continue to be dominated by CO₂.
- The overall decrease in public sector emissions between 1990 and 2025 is estimated to be 42%.
- The projections are taken from DECC's Updated Energy and Emissions Projections: October 2011 although historic emissions presented here are taken from 2012 inventory data.

Historic and Projected Emissions from the Public 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>