



## Energy and environment

### Transport energy consumption

([Table ENV0102](#))

- In 2010, transport accounted for 39% of all final energy consumption in the UK. Road transport accounted for 27% of final energy consumption with aviation accounting for 8%.
- The direct use of petroleum accounted for 97% of transport energy consumption.
- Energy from renewable sources made up around 2.1% of transport energy consumption in 2010 up from 0.1% in 2005.
- Almost all transport renewable energy consumption is in the form of biofuels blended into petrol and road diesel. Biofuels made up 3.0% of road transport energy consumption in 2010, up from 0.2% in 2005.

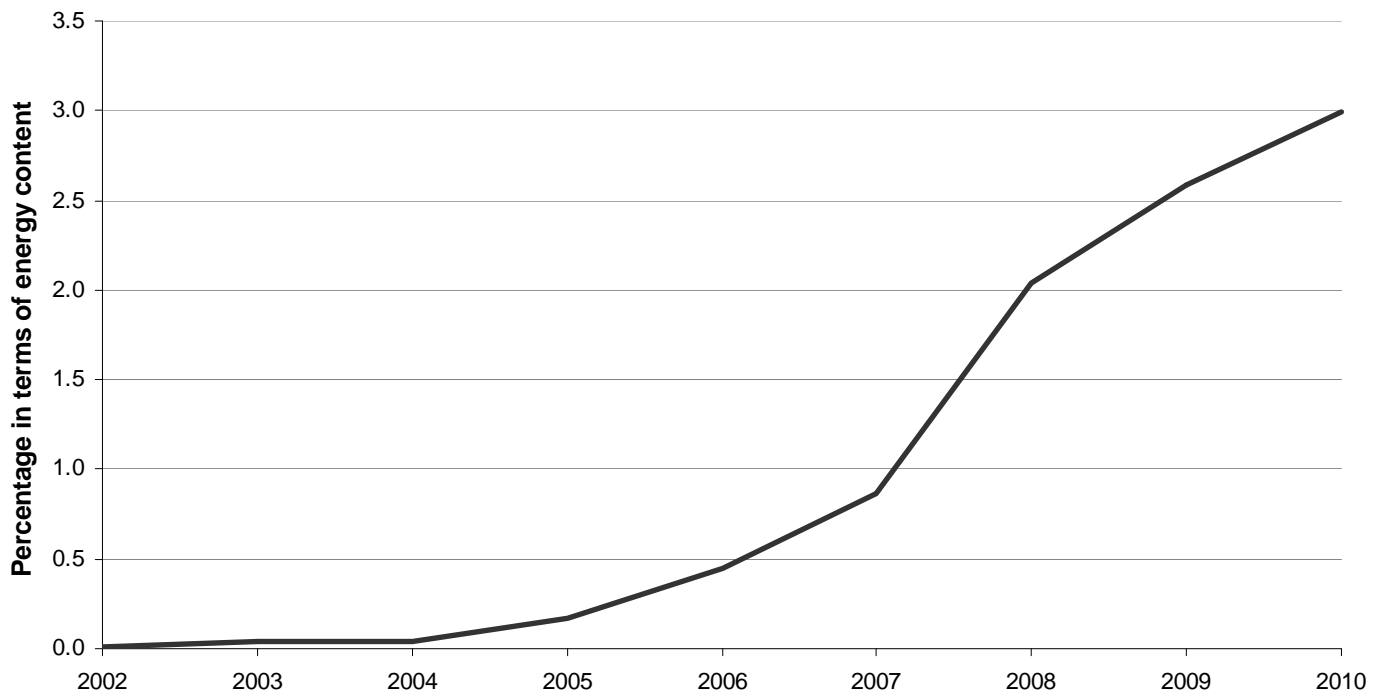
#### This summary contains information on:

- Transport energy consumption;
- Greenhouse gas emissions from transport;
- Air pollutant emissions from transport.

Detailed statistics (tables and charts) can be found in the [Energy and environment web tables](#).

Background on the data sources for each table can be found in the [Energy and environment notes and definitions](#).

### Chart 1 – Biofuels as a proportion of all road transport fuels 2002 – 2010



### Background notes

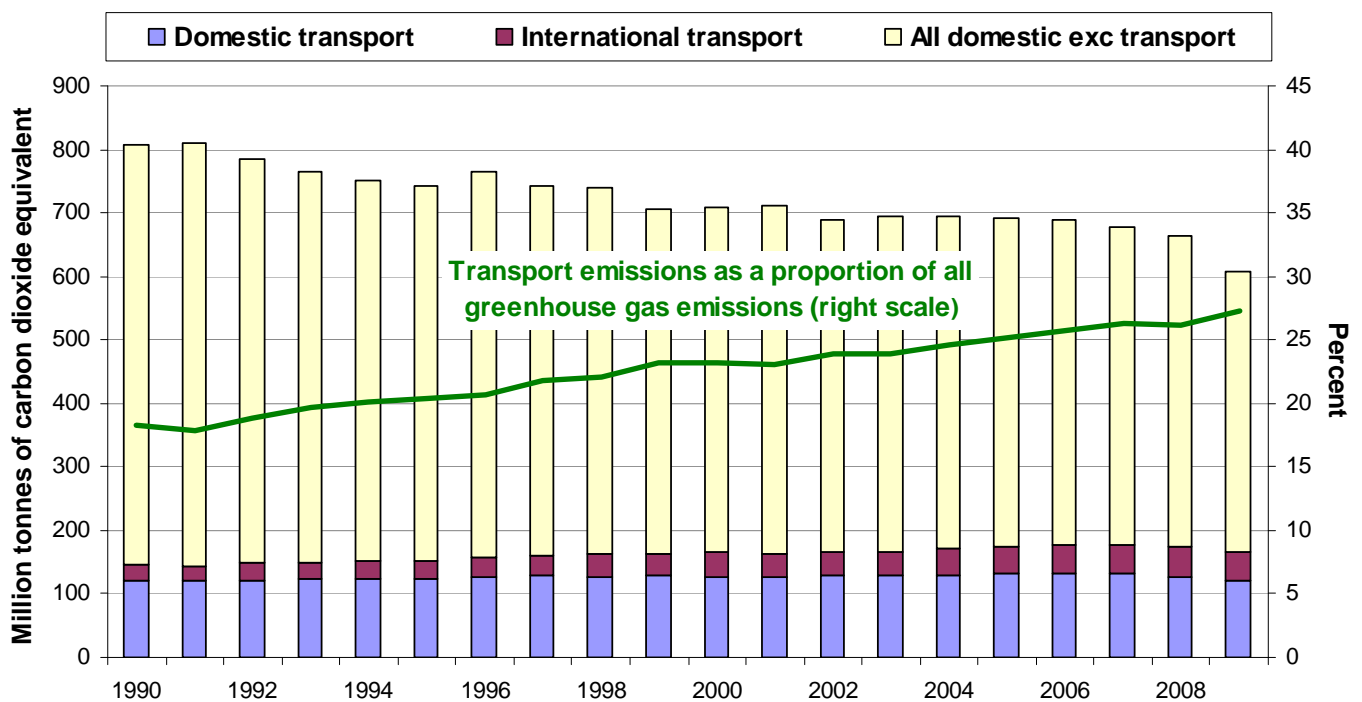
More information on UK energy consumption can be found in the [Digest of UK Energy Statistics \(DUKES\)](#).

## Greenhouse gas emissions ([Table ENV0201\(a\)](#))

There is no internationally agreed way of allocating emissions from international transport to individual nation states. However emissions from international shipping and international aviation based on estimated fuel consumption from UK fuel bunkers can be added to the domestic emissions to give a UK total.

- Between 1990 and 2009 greenhouse gas (GHG) emissions from transport (shown by the bottom two bars in chart 2) have increased by 13% whilst total GHG emissions have fallen by 25% over the same period. As a result, as a proportion of total GHG emissions, transport emissions have risen from 18% in 1990 to 27% in 2009, as shown by the line in chart 2 below.

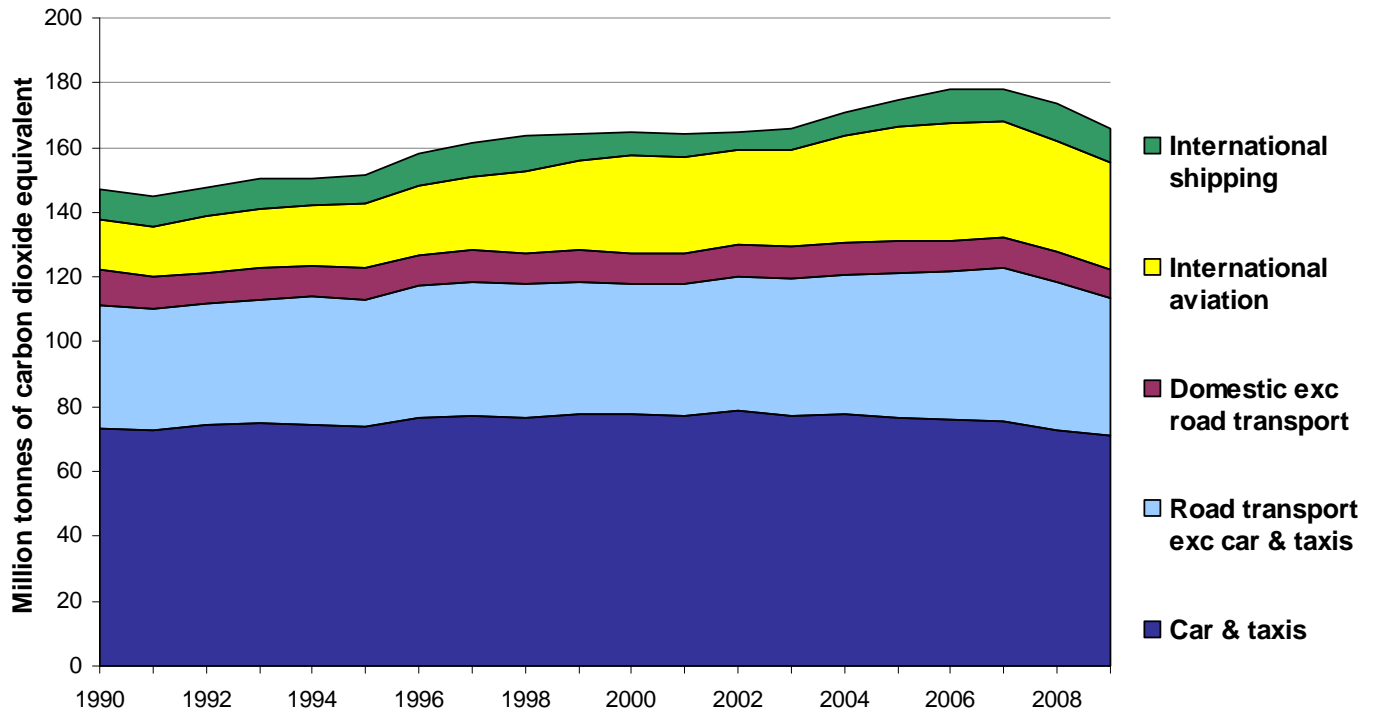
**Chart 2 - UK greenhouse gas emissions, 1990 – 2009**



- Emissions from international transport (shown by the middle bars in chart 2) have grown by 75% between 1990 and 2009. As a proportion of total GHG emissions, international transport emissions have risen from 3% in 1990 to 7% in 2009.

- Road transport made up 68% of total GHG emissions from transport in 2009. However most of the growth in total transport GHG emissions since 1990 is attributable to growth in international air travel. Emissions from international aviation in 2009 were more than double 1990 levels (a 110% increase). Emissions from international aviation made up a fifth (20%) of total transport GHG emissions in 2009.

**Chart 3 - UK transport greenhouse gas emissions by mode, 1990 – 2009**

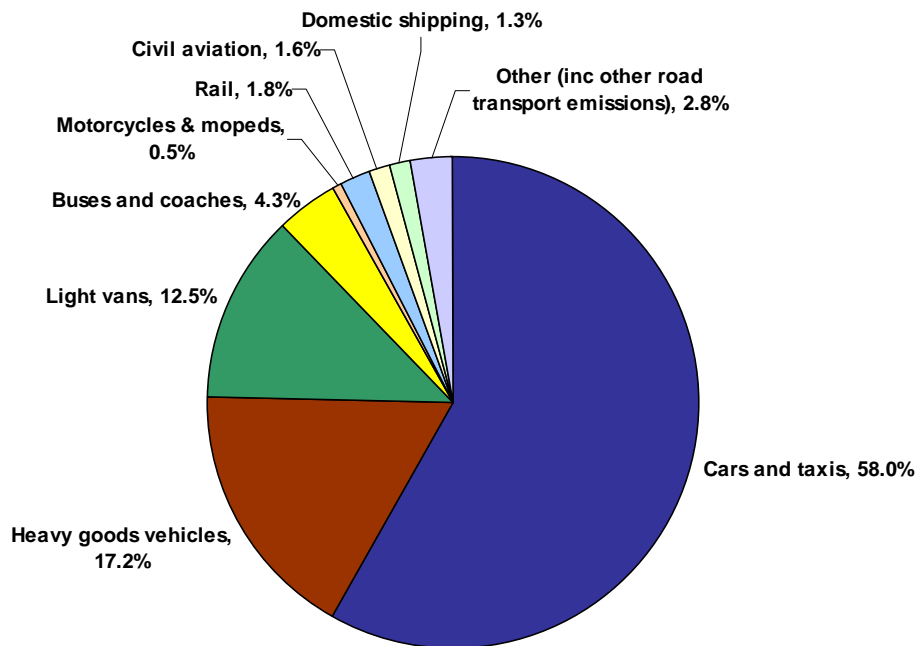


### Domestic greenhouse gas emissions ([Table ENV0201\(a\)](#))

- Domestic greenhouse gas (GHG) emissions from transport (shown by the bottom bars on chart 2) were around the same level in 2009 (122.2MtCO<sub>2</sub>e) as in 1990 (122.1MtCO<sub>2</sub>e). Domestic emissions from all other sources (shown by the top bars on chart 2) fell by 33% over the same period. As a result emissions from domestic transport increased as a proportion of all domestic GHG emissions, from 16% in 1990 to 22% in 2009.
- Domestic transport GHG emissions grew by 8% between 1990 and 2007, with continual improvements in the fuel economy of new cars slightly offset by continuing growth in road traffic volumes. This was followed by a fall of 8% between 2007 and 2009.

- Road transport makes up just over 90% of all domestic transport emissions, with car travel accounting for over a half (58%) and heavy goods vehicle and light van traffic accounting for just under a third (30%) in 2009.

**Chart 4 - UK domestic transport greenhouse gas emissions, 2009**



- The falls in road traffic volumes during the recession are likely to have been the main driver of the 8% fall in domestic transport GHG emissions between 2007 and 2009. The other key factor was improvements in car fuel economy. Continual improvement in new car fuel economy over time has meant that older less efficient cars have been replaced by increasingly more efficient new cars. This is likely to be the key reason for the decreases in car traffic GHG emissions since 2002 despite growth in car traffic volumes.
- Increases in biofuels as a proportion of all transport fuels (see chart 1) have also contributed to the fall in domestic transport GHG emissions between 2007 and 2009. CO<sub>2</sub> emissions from the combustion of biofuels are not included in the GHG emission figures, in line with international guidelines. These CO<sub>2</sub> emissions are offset by the CO<sub>2</sub> absorbed in the growth of the crops which the biofuels are produced from.

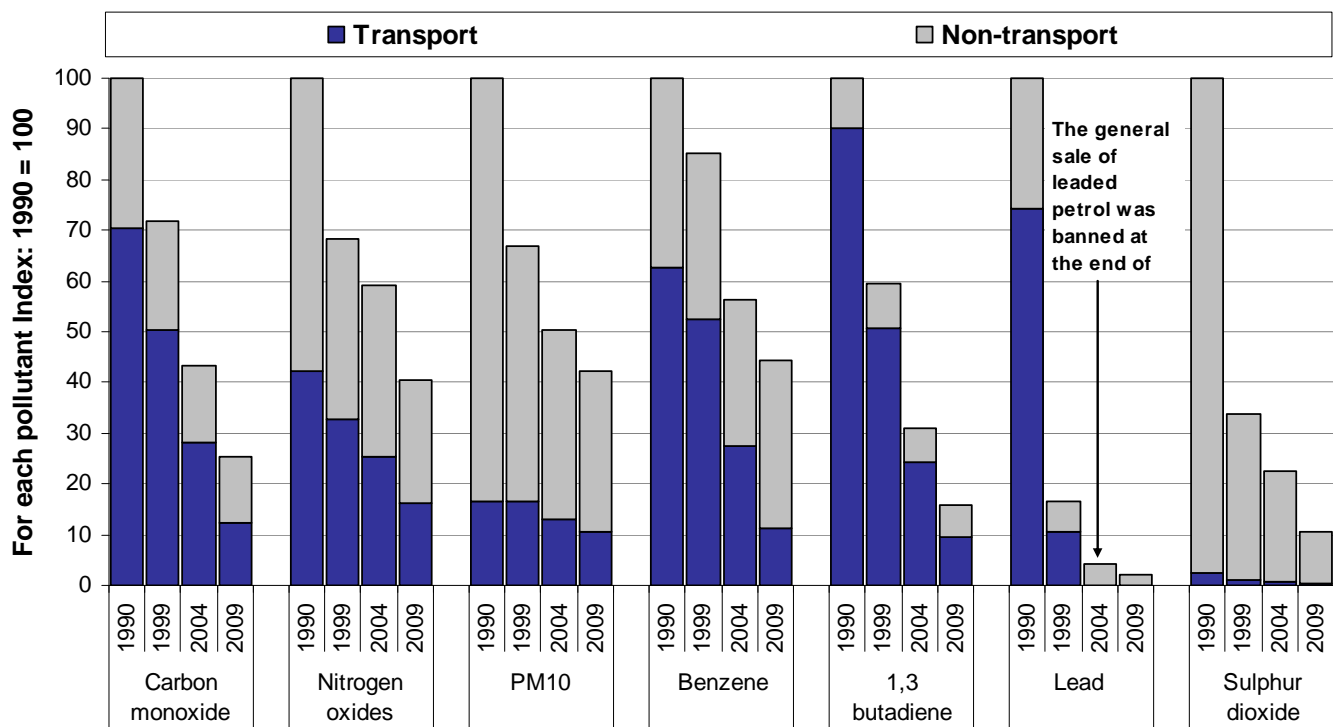
### Background notes

1. More information on greenhouse gases emissions can be found on the [DECC Greenhouse gas emissions webpage](#).
2. More data on UK greenhouse gas emissions can be found on the [DECC 2009 Final 2009 Greenhouse Gas Emissions webpage](#).

## Air pollutant emissions from transport (Table ENV0301)

Local air pollutants need to be controlled to reduce risks to health, the environment and quality of life. As is the case with case with greenhouse gas emissions, emissions from road transport accounts for the majority of air quality pollution from transport. Air pollutant emissions from transport have fallen considerably since 1990, mainly as a result of cleaner road vehicles and road fuels.

Chart 5 - UK air pollutant emissions: 1990, 1999, 2004 and 2009



- Carbon monoxide reduces the oxygen carrying capacity of blood. Emissions from transport have fallen by 82% since 1990.
- Nitrogen oxides are acid gases and can affect human health and vegetation. They also contribute to the formation of ground level ozone which can trigger a range of health problems and damage vegetation. Nitrogen oxide emissions from transport have fallen by 61% since 1990.
- Benzene and 1,3 butadiene are also involved in the formation of ground level ozone and can cause a range of adverse health effects. They are also carcinogenic. Transport emissions of these pollutants have fallen by 82% and 89% respectively.

### Background notes

More data and information about air pollutant emissions can be found on the [Defra Air Quality Statistics web page](#).