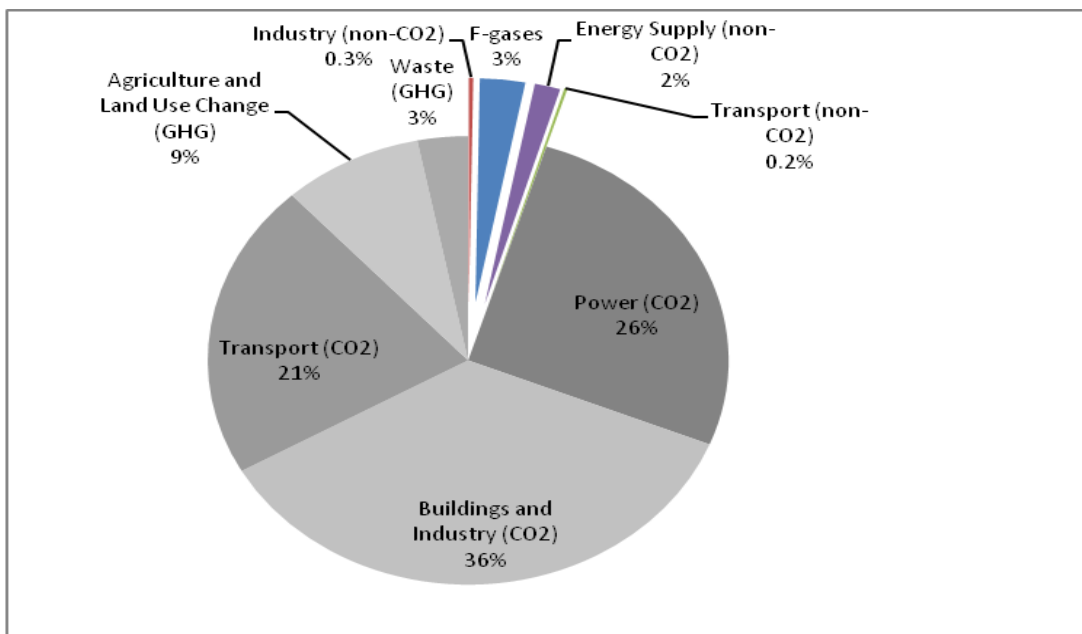


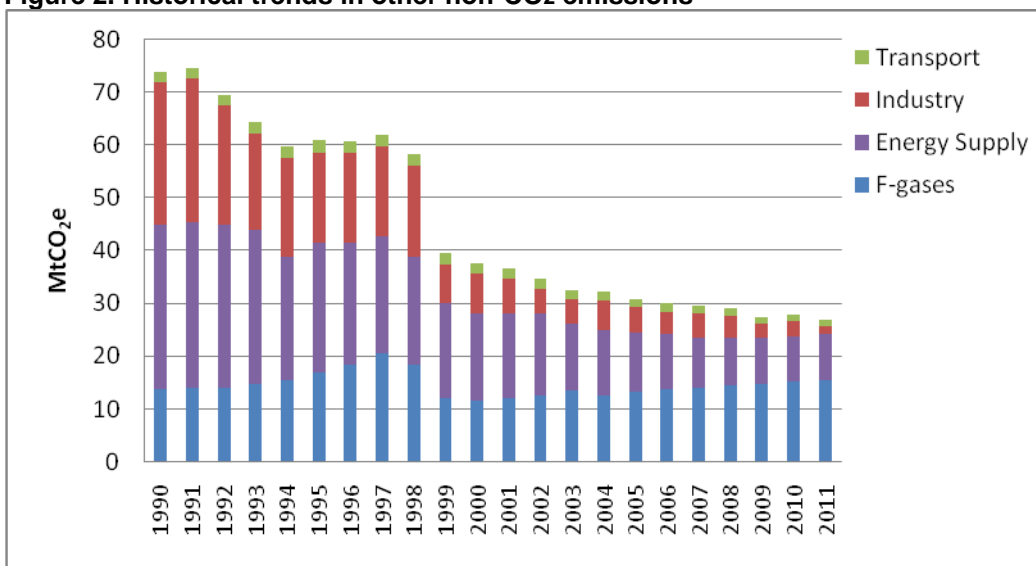
## What does this sector include?

This sector includes emissions of fluorinated gases (F-gases) and methane and nitrous oxide from sources other than agriculture and waste. In 2011, emissions were 15.5MtCO<sub>2</sub>e from F-gases (used in applications such as refrigerators, inhalers, fire extinguishers and air conditioning), 8.8MtCO<sub>2</sub>e from energy supply (mainly methane emissions from coal and gas production and distribution), 1 MtCO<sub>2</sub>e from catalytic converters in the transport sector, and 1.5MtCO<sub>2</sub>e from industry (mainly nitric acid production). In total these accounted for 5% of total greenhouse gas emissions in the UK in 2011 (Figure 1). Emissions have fallen by 64% since 1990 due largely to the installation of abatement equipment at nitric and adipic acid plants, and reductions in fugitive methane emissions from the decline of UK coal mining along with gas pipe replacement (Figure 2).

**Figure 1. Greenhouse gas emissions from 'other no-CO<sub>2</sub>' (coloured slices) (2011)**



**Figure 2. Historical trends in other non-CO<sub>2</sub> emissions**



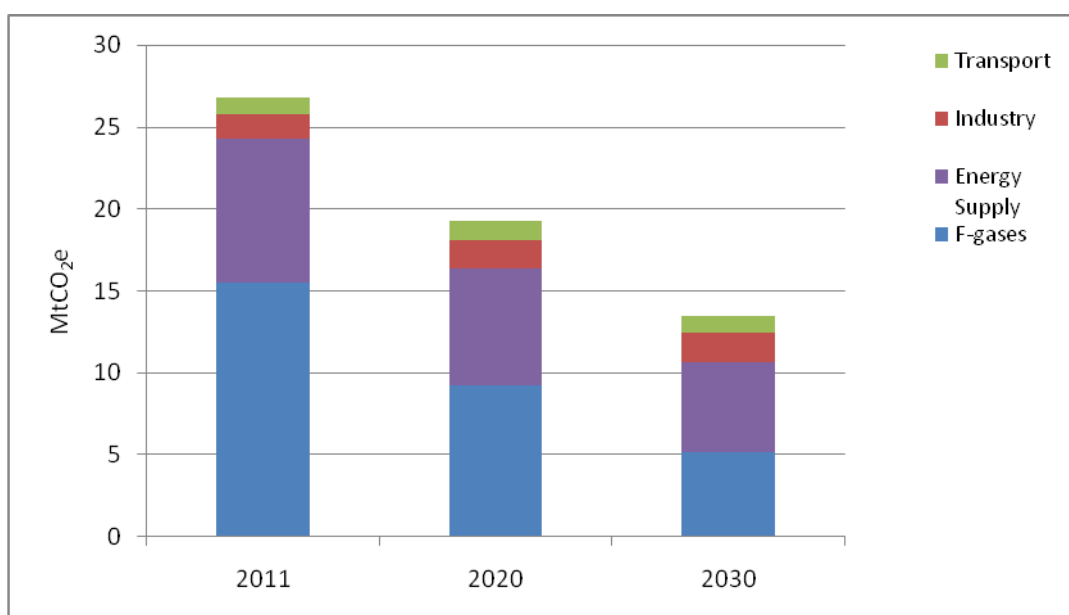
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## What can be done to reduce emissions in this sector?

Emissions of other non-CO<sub>2</sub> gases are expected to continue to fall under current EU legislation on F-gases and with ongoing gas pipe replacement and a reduction in fossil fuel production and usage. There is scope for significant further reductions in F-gas emissions, for example from switching to alternative refrigerants. This could be achieved at reasonable cost (e.g. less than £40/tCO<sub>2</sub>e) and would greatly reduce the climate impacts.

Figure 3 illustrates the potential emissions path to 2030 under current F-gas policy and with continuing reductions in fugitive methane emissions in energy supply. By 2030, other non-CO<sub>2</sub> emissions could be below 15 MtCO<sub>2</sub>e, with some scope to fall further if continued reductions in F-gas emissions can be delivered.

**Figure 3. Emissions scenarios 2011 - 2030**



## What is Government doing?

Policies relating to F-gas emissions are largely at the EU level. The EU Commission is currently proposing a phase-down in placing F-gases on the market from 2015, which would reduce emissions more quickly. A question has also been raised as to whether a complete ban on F-gases from 2020 would be more effective. The EU will make a decision on how to proceed in 2013.

## What is the CCC's position?

To meet the 2050 target all sectors will have to contribute, and to meet carbon budgets cost effectively abatement options should be pursued where they are cheapest. Opportunities to reduce other non-CO<sub>2</sub> emissions at low cost should be identified, and policies developed to deliver these. Where the relevant levers are at the European level (i.e. for F-gases), the UK Government should actively engage in policy development based on a thorough understanding of the evidence base.

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## Links to recent work by CCC

**Fourth Carbon Budget**, Chapter 3 – The fourth carbon budget [box 3.8]

<http://www.theccc.org.uk/reports/fourth-carbon-budget>

**The 2050 target**, Chapter 6 – Reducing emissions of non-CO<sub>2</sub> greenhouse gases

<http://www.theccc.org.uk/reports/international-aviation-a-shipping>