

## P: Air and atmosphere

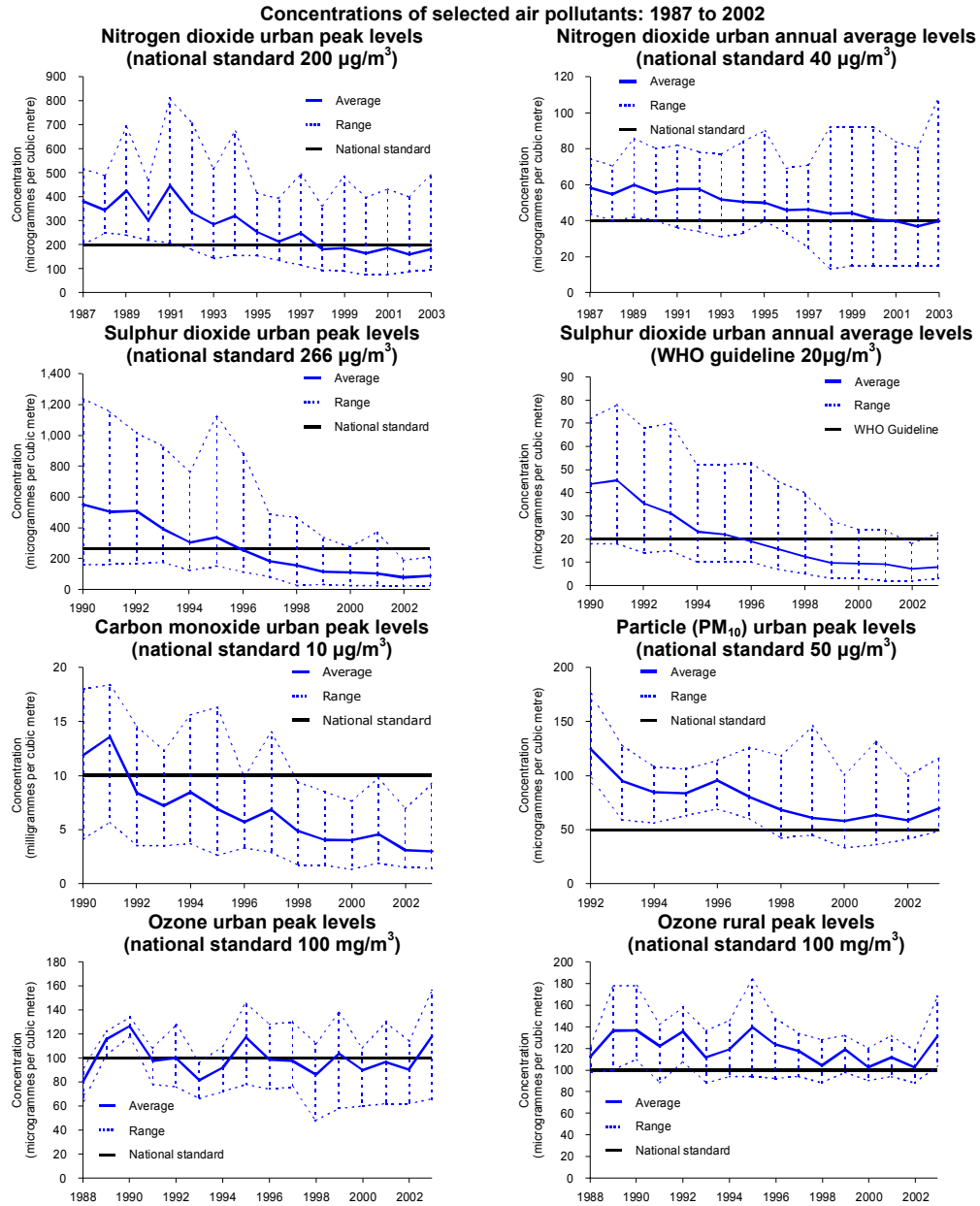
With decreases in emissions, concentrations of pollutants other than ozone have been falling since 1990, and in most cases have continued to decrease over more recent years, although some trends may be levelling off. However, ground level rates of ozone formation are subject to fluctuation as they are heavily dependent on the weather.

There have been significant reductions in emissions of nitrogen dioxides, carbon monoxide and particulates from urban road transport. There have also been significant reductions in sulphur dioxide emissions and an associated reduction in acid deposition. Chlorine loading of ozone depletors in the stratosphere has fallen since 1994.

Ref. no.	Indicator		QOLC 1999		QOLC Updated Assessment		
			Change since		Change since		
			1970	1990	1970	1990	Strategy
H10	Air quality: Days when air pollution is moderate or higher (headline)	Urban	☹	✓	☹	✓	✗
		Rural	☹	≈	☹	≈	✗
P1	Concentrations of selected air pollutants	SO <sub>2</sub> , CO	☹	✓	☹	✓	✓
		NO <sub>2</sub> , Particulates	☹	✓	☹	✓	≈
		Ozone	☹	≈	☹	≈	≈
P2	Emissions of selected air pollutants	CO	✓	✓			
		NO <sub>x</sub>	☹	✓	✓	✓	✓
		Particulates	≈	✓			
P3	Sulphur dioxide and nitrogen oxides emissions		✓	✓	✓	✓	✓
P4	Acidification in the UK	Sulphur deposition	☹	✓	☹	✓	✓
		Sensitive lakes	☹	≈	☹	✓	✓
P5	Ozone depletion	Chlorine loadings from ozone depletors	✗	≈	✗	≈	✓
		Ozone levels	☹	≈	☹	≈	≈

**Indicator: Concentrations of selected air pollutants**

**P1**



United Kingdom  
Source: NETCEN

NO<sub>2</sub>, Particulates

SO<sub>2</sub>, CO

Ozone

Change since

Change since

Change since



1970  
1990  
1998



1970  
1990  
1998



1970  
1990  
1998

**Indicator: Concentrations of selected air pollutants**  
(continued)

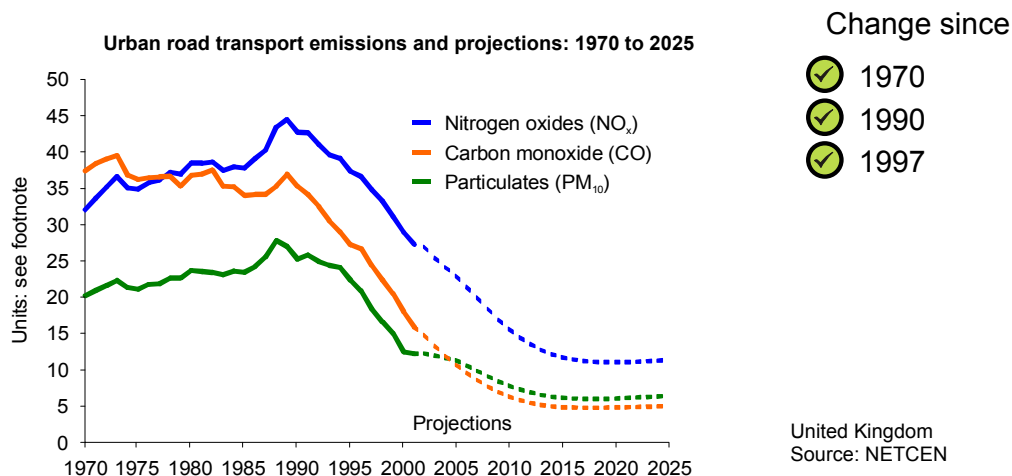
**P1**

Objective: Reduce air pollution and ensure air quality continues to improve through the longer term

- Pollutants other than ozone have been reducing since 1990, and in most cases have also decreased since 1998, although some trends may be levelling off.
- Ground level ozone formation is heavily dependent on the weather. As a result it varies greatly from year to year and there is no clear trend.
- The hot summer in 2003 caused high ozone levels, and also contributed to higher particulate pollution.

**Indicator: Emissions of selected air pollutants**

**P2**



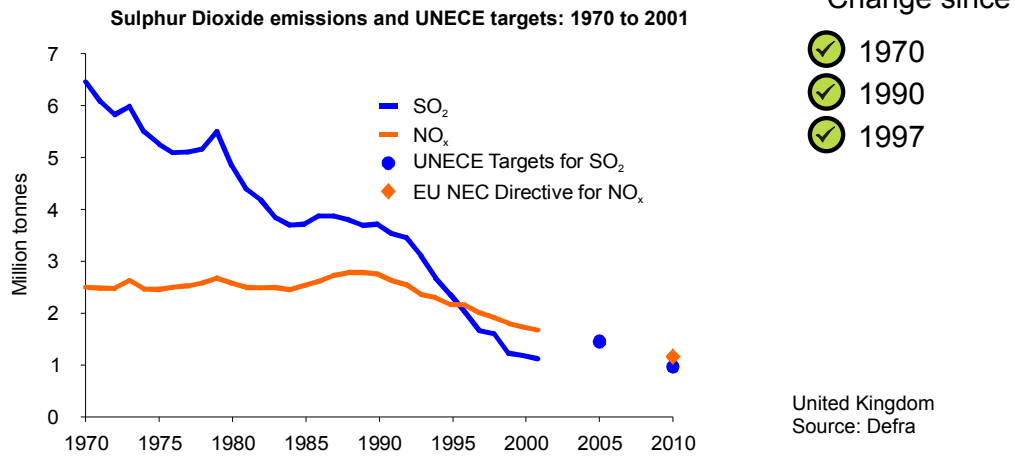
Note: Units: CO = 100,000 tonnes; NO<sub>x</sub> = 10,000 tonnes; PM<sub>10</sub> = 1,000 tonnes

Objective: Reduce air pollution and ensure air quality continues to improve through the longer term

- Between 1990 and 2001 urban road transport emissions of nitrogen oxides fell by 36 per cent, emissions of particulates fell by 52 per cent and emissions of carbon monoxide fell by 55 per cent.
- New 2001-based projections have been made for all three pollutants since the Strategy; those for carbon monoxide and particulates have been revised significantly downwards.

**Indicator: Sulphur dioxide and nitrogen oxides emissions**

**P3**

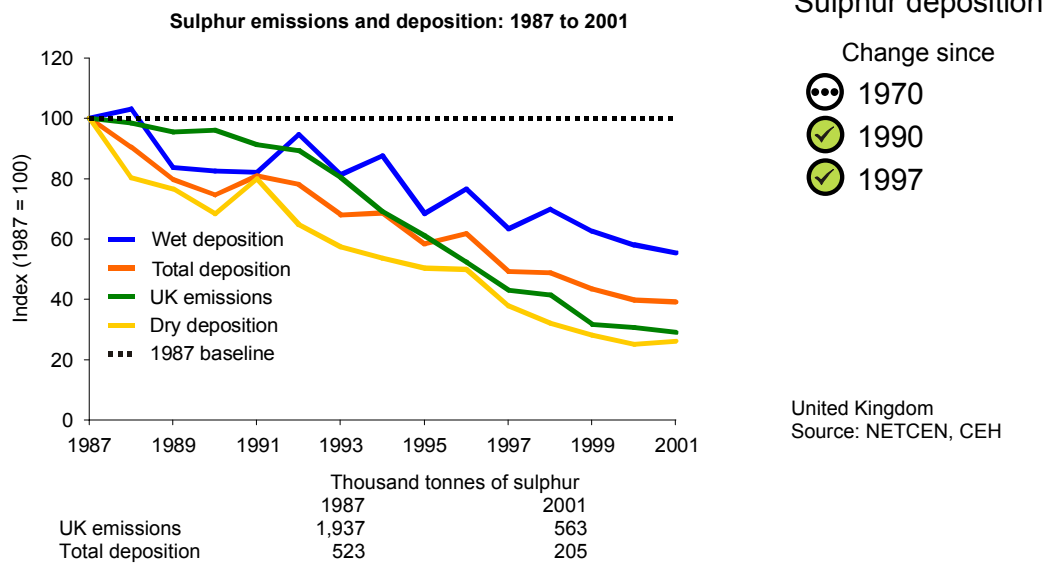


Objective: Ensure that polluting emissions do not cause harm to human health or the environment

- Between 1970 and 2001, sulphur dioxide emissions fell by 83 per cent and nitrogen oxides emissions by 33 per cent.
- Between 1998 and 2001, sulphur dioxide emissions fell by 30 per cent, and nitrogen oxides emissions by 12 per cent.

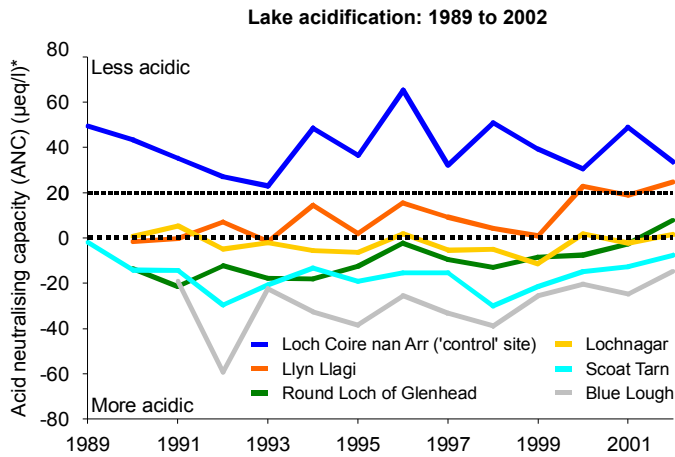
**Indicator: Acidification in the UK**

**P4**



**Indicator: Acidification in the UK (continued)**

**P4**



**Sensitive lakes**

Change since



United Kingdom  
Source: Defra

Note: \* For individual sites the greater the negative value the more severe the acidification; damage to fish populations is unlikely to occur above an ANC of 20

**Objective:** Ensure that polluting emissions do not cause harm to human health or the environment

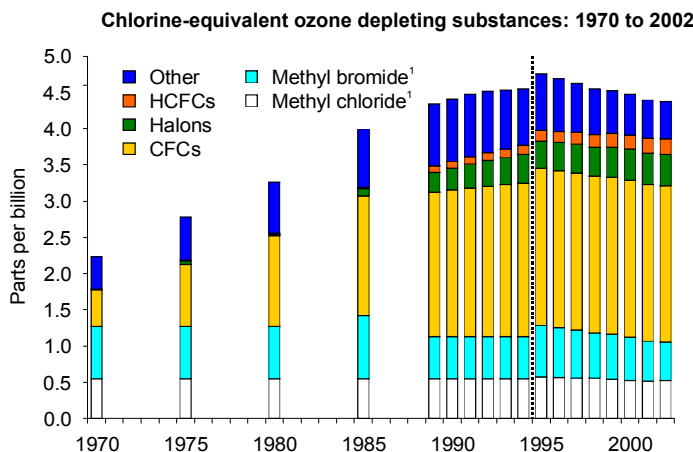
- In response to a fall of 71 per cent in sulphur dioxide emissions between 1987 and 2001, dry sulphur deposition fell by 74 per cent and wet sulphur deposition by 45 per cent.
- Recent sulphur emissions reductions have been accompanied by improvements in lake water chemistry, although it is too soon to be sure if this represents a sustained trend.

**Indicator: Ozone depletion**

**P5**

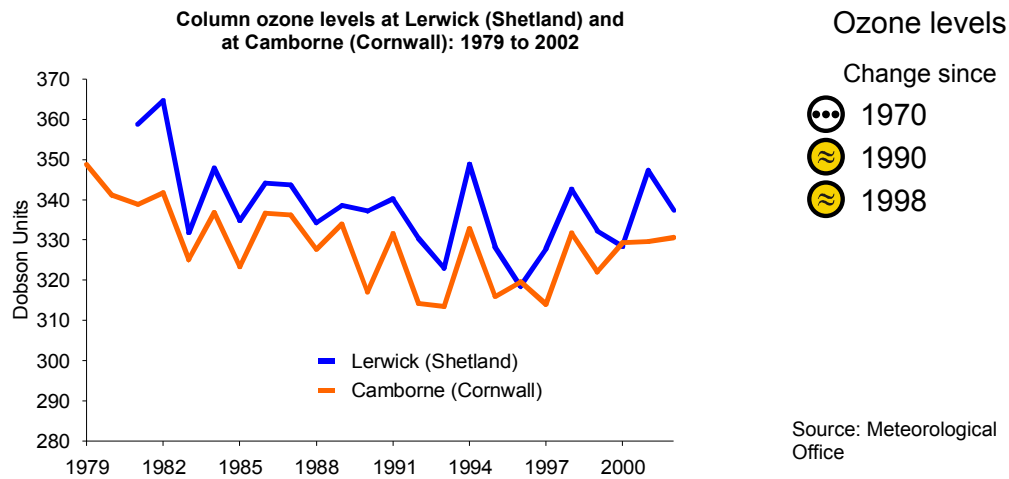
**Chlorine loadings from ozone depletors**

Change since



Northern Hemisphere  
Source: Defra, Meteorological Office

Notes: 1. Natural emissions of methyl chloride and methyl bromide account for around 30 per cent of the total loadings. Estimates have been revised back to 1995. Data for 1994 and earlier may therefore not be exactly comparable with more recent estimates.

**Indicator: Ozone depletion** (*continued*)**P5****Objective: Controls on ozone depleting substances**

- The chlorine loading in the stratosphere more than doubled from 1974 to a peak in 1994. It then started to decline.
- Column ozone measurements in the UK have fluctuated, but have generally decreased since the early 1980s. It appears that this trend may have levelled off in recent years.