

# Appendix 11.1

---

## Air Quality Legislation

## 11.1 Air Quality Legislation

### Air Quality Standards (AQS)

The UK AQS were enacted under Section 80 of the Environment Act 1995. The basis of the AQS is intended to protect and improve ambient air quality in the UK in the medium-term, without imposing unacceptable economic or social costs (DETR, 2000b).

The AQS sets a number of health-based ambient air quality standards and objectives, as given in Table A1. These are given statutory backing, in England, through the Air Quality (England) Regulations 2000, and subsequent amendments in 2002.

The Strategy's objectives for particles (PM<sub>10</sub>), benzene and carbon monoxide were reviewed in 2000/01, in particular, to take account of the latest health evidence and advice on the impact of particles on people's health and of developments in Europe. After careful consideration the objectives for these pollutants were updated and set out in an addendum to the Air Quality Strategy in February 2003. The updated objectives are also shown in Table A1.

**Table A1 Air Quality Objectives**

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Benzene	16.25 µgm <sup>-3</sup>	Running annual mean	31/12/2003
	5 µgm <sup>-3</sup>	Annual mean	31/12/2010
1,3-Butadiene	2.25 µgm <sup>-3</sup>	Running annual mean	31/12/2003
Carbon monoxide	10 mgm <sup>-3</sup>	Running 8-hour mean	31/12/2003
Lead	0.5 µgm <sup>-3</sup>	Annual mean	31/12/2004
	0.25 µgm <sup>-3</sup>	Annual mean	31/12/2008
Nitrogen dioxide	200 µgm <sup>-3</sup>	1-hour mean; not to be exceeded more than 18 times a year	31/12/2005
	40 µgm <sup>-3</sup>	Annual mean	31/12/2005
Particles (PM <sub>10</sub> )	50 µgm <sup>-3</sup>	24-hour mean; not to be exceeded more than 35 times a year	31/12/2004
	40 µgm <sup>-3</sup>	Annual mean	31/12/2004
	50 µgm <sup>-3</sup>	24-hour mean; England (apart from London) not to be exceeded more than 7 times a year London not to be exceeded more than 10 times a year	31/12/2010
<b>PROVISIONAL</b>	20 µgm <sup>-3</sup>	Annual mean; England (apart from London)	31/12/2010
	23 µgm <sup>-3</sup>	Annual mean; London (It is proposed that London should work towards a 20 µgm <sup>-3</sup> annual mean aspirational objective after 2010, with the aim of achieving it by 2015, where cost effective and proportionate local action can be identified)	31/12/2010

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Sulphur dioxide	350 $\mu\text{gm}^{-3}$	1-hour mean; not to be exceeded more than 24 times a year	31/12/2004
	125 $\mu\text{gm}^{-3}$	24-hour mean; not to be exceeded more than 3 times a year	31/12/2004
	266 $\mu\text{gm}^{-3}$	15-minute mean; not to be exceeded more than 35 times a year	31/12/2005

When considering the requirements of the AQS, it is important to note the distinction between standards and objectives. The AQS standards have been set in accordance with the recommendations of the Expert Panel on Air Quality Standards (EPAQS) and the World Health Organisation (WHO) and define concentration levels that would avoid or minimise risks to health, i.e. they do not necessarily reflect levels that are presently technically feasible or economically efficient. In contrast, the AQS objectives have been set with regard to what is realistically achievable within the timetable specified. It is also important to note that the approach adopted by the Strategy is to apply the objectives where members of the public, in a non-occupational capacity and at locations close to ground level, are likely to be exposed over the averaging time of the objective, e.g. over 1-hour, 24-hour or annual periods as appropriate.

## Clean Air Act 1993

The Clean Air Act 1993 is primarily (Part I) concerned with the restriction and emission of dark and black smoke from chimneys (Section 1) and from industrial and trade premises (Section 2). Part II of the Act limits the emissions of grit, dust and fumes from non-domestic furnaces and controls the heights of chimneys through secondary legislation.

Regulations made under Section 30 of the Clean Air Act impose requirements as to the composition, content and marketing of fuel used in motor vehicles. The Motor Fuel (Composition and Content) Regulations 1999 relate to the quality of petrol and diesel fuels and bans the marketing of leaded petrol from 1 January 2000.

## Climate Change: the UK Programme

This climate change programme aims to bring about a reduction in UK emissions of greenhouse gases, including Carbon dioxide, Methane, Nitrous oxide, Hydrofluorocarbons, Perfluorocarbons and Sulphur hexafluoride.<sup>†</sup>

Under the Kyoto Protocol the UK has a legal obligation to reduce the emissions of greenhouse gases to 12.5% below 1990 levels by 2008-2012. The UK has gone beyond this in setting a domestic target of a 20% reduction in CO<sub>2</sub> emissions below 1990 levels by 2010.

---

<sup>†</sup> The greenhouse gases Chlorofluorocarbons (CFCs) and Hydrofluorocarbons (HCFCs) are being phased out under the Montreal Protocol and are not covered by the Kyoto Protocol and UK Climate Change Programme.

## Air Quality and Transport

Road transport is a major source of a number of air pollutants, including Benzene, Nitrogen dioxide, Carbon monoxide, particulate matter and lead. Their estimated contributions to total emissions in 1997 were:

- Benzene (petrol combustion) 56%
- Carbon monoxide (petrol) 71%
- Lead 61%
- Nitrogen dioxide 48%
- Particles (PM<sub>10</sub>) (diesel) 18%

The predicted growth in traffic and distance travelled in the future could result in a deterioration in local air quality, though this must be balanced against the concurrent improvements in engine technology and cleaner fuels. These improvements in technology and fuels are driven by EU and national legislation and targets.

In the UK, the attainment of the NAQS objectives is closely linked to the need for a reduction in traffic related pollution. Regulations made under the Road Traffic Act 1988, Transport Act 1982 and Clean Air Act 1993 seek to regulate the emissions from road traffic. The legislative framework set in these Regulations, in conjunction with the Government White Paper 'A New Deal for Transport' (which aims to improve public transport and reduce congestion and traffic generated pollution), is intended to reduce the impact of the transport sector on air pollution, and in so doing to assist the achievement of the air quality objectives.

The effect of the proposed development on local traffic may have an effect on local air quality by altering vehicle emissions. Vehicles operate most efficiently and generate the least pollution in freely flowing traffic and at moderate speeds (DETR, 1993 as amended). Factors affecting vehicle emissions include speed, engine temperature, acceleration rates, vehicle condition, type and size.