



Air Quality in Scotland

Standards

Air quality is measured by comparing against a range of health-effects based standards.

This page gives information about what this means.

Air Quality Standards and Objectives

A set of air quality standards and objectives has been developed for several pollutants of concern for human health. Standards are concentrations of pollutants that are considered safe for humans and the environment. Objectives are derived from the standards and are a compromise between what is desirable purely on health grounds and what is practical in terms of feasibility and costs. Each objective has a date by when it must be achieved.

The objectives adopted in Scotland for the purpose of Local Air Quality Management are set out in the Air Quality (Scotland) Regulations 2000, the Air Quality (Scotland) Amendment Regulations 2002 and the Air Quality (Scotland) Amendment Regulations 2016. Similar targets are set at EU level, where there are called limit or target values. These are set out in the European 2008 Ambient Air Quality Directive (2008/50/EC) and transposed into Scottish legislation by the Air Quality Standards (Scotland) Regulations 2010. It is the responsibility of EU Member States to achieve the limit and target values.

A summary of the current UK Air Quality Objectives is provided below.

Summary of objectives of the National Air Quality Strategy

Pollutant	Air Quality Objective		To be achieved by
	Concentration	Measured as	
Benzene All UK authorities	16.25 $\mu\text{g m}^{-3}$	Running annual mean	31 December 2003
Authorities in Scotland and N. Ireland	3.25 $\mu\text{g m}^{-3}$	Running annual mean	31 December 2010
1,3-Butadiene	2.25 $\mu\text{g m}^{-3}$	Running annual mean	31 December 2003
Carbon Monoxide Authorities in Scotland Only	10.0 mg m^{-3}	Running 8-hour mean	31 December 2003
Lead	0.5 $\mu\text{g m}^{-3}$	Annual mean	31 December 2004
	0.25 $\mu\text{g m}^{-3}$	Annual mean	31 December

	0.25 µg m ⁻³	Annual mean	31 December 2008
Nitrogen Dioxide	200 µg m ⁻³ not to be exceeded more than 18 times a year	1-hour mean	31 December 2005
	40 µg m ⁻³	Annual mean	31 December 2005
Particles (PM10) (gravimetric)	All authorities	50 µg m ⁻³ , not to be exceeded more than 35 times a year	24 Hour mean
		40 µg m ⁻³	Annual mean
Scotland Only	50 µg m ⁻³ , not to be exceeded more than 7 times a year	24 Hour mean	31 December 2010
		18 µg m ⁻³	Annual mean
Particles (PM2.5) (gravimetric) *	All UK authorities	25 µg m ⁻³ (target)	Annual mean
		15% cut in urban background exposure	Annual mean
		10 µg m ⁻³ (limit)	Annual mean
Authorities in Scotland Only			2020
Sulphur dioxide	350 µg m ⁻³ , not to be exceeded more than 24 times a year	1-hour mean	31 December 2004
		125 µg m ⁻³ , not to be exceeded more than 3 times a year	24-hour mean
		266 µg m ⁻³ , not to be exceeded more than 35 times a year	15-minute mean
PAH *	0.25 ng m ⁻³	Annual mean	31 December 2010
Ozone *	100 µg m ⁻³ not to be exceeded more than 10 times a year	8 hourly running or hourly mean*	31 December 2005

* not currently assessed by Scottish local authorities.

UK Air Quality Objectives for protection of vegetation and ecosystems - July 2007

Pollutant	Concentration	Air Quality Objective	To be achieved by
Oxides of Nitrogen (for protection of	30 µg m ⁻³	Annual mean	31

vegetation & ecosystems) *			December 2000
Sulphur dioxide (for protection of vegetation & ecosystems) *	20 $\mu\text{g m}^{-3}$ 20 $\mu\text{g m}^{-3}$	Annual mean Winter Average (Oct - Mar)	31 December 2000
Ozone *	18000 $\mu\text{g m}^{-3}\cdot\text{h}$	AOT40 ⁺ , calculated from 1h values May-July. Mean of 5 years, starting 2010	01 January 2010

* not currently assessed by Scottish local authorities.

+ AOT 40 is the sum of the differences between hourly concentrations greater than 80 $\mu\text{g m}^{-3}$ (=40ppb) and 80 $\mu\text{g m}^{-3}$, over a given period using only the 1-hour averages measured between 0800 and 2000.