

APPENDIX 6.1: AIR QUALITY LEGISLATION AND GUIDANCE

National Air Quality Strategy

- 6.1.1 The Environment Act 1995, as amended 2021, requires the UK government to prepare a national Air Quality Strategy. The first UK strategy was published in March 1997, setting out policies for the management of ambient air quality. This was subsequently updated in 2007¹.
- 6.1.2 The 2007 strategy establishes the framework for air quality management in England, Scotland, Wales and Northern Ireland. Air quality standards and objectives are set out for eight pollutants which may potentially occur at levels that give cause for concern. The strategy also provides details of the role that local authorities are required to take in working towards improvements in air quality, known as the Local Air Quality Management (LAQM) regime.

Air Quality Standards and Objectives

- 6.1.3 Air quality standards and objectives are set out in the strategy for the following pollutants: nitrogen dioxide (NO₂), sulphur dioxide (SO₂), carbon monoxide (CO), lead (Pb), fine particulate matter (PM₁₀), benzene (C₆H₆), 1, 3-butadiene (C₄H₆) and ozone (O₃).
- 6.1.4 Objectives for each pollutant, except O₃, were first given statutory status in the Air Quality (England) Regulations 2000² and Air Quality (England) (Amendment) Regulations 2002³. These objectives are defined in the strategy as:
- “the maximum ambient concentration not to be exceeded, either without exception or with a permitted number of exceedances, within a specified timescale.”*
- 6.1.5 EU limit values, set out within the Ambient Air Quality Directive 2008/50/EC⁴ (i.e. the CAFE Directive), were transposed into UK legislation on 11th June 2011 as The Air Quality Standards Regulations 2010. These are mostly the same as the air quality objectives in terms of concentrations; however, there are differences in determining how compliance is achieved. Although the UK is no longer part of the EU, no changes

¹ Department of Environment, Food and Rural Affairs, The Air Quality Strategy for England, Scotland, Wales and Northern Ireland. July 2007

² The Air Quality (England) Regulations 2000. SI No 928

³ The Air Quality (Amendment) Regulations 2002

⁴ Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe

have yet been made to the objectives and limit values used in the management and assessment of air quality.

6.1.6 Whilst there is no specific objective for PM_{2.5} in England, a limit value of 20µg/m³ is referred to in the regulations, which has been adopted for use in this assessment (as recommended by the LAQM Helpdesk). An objective has been set for PM_{2.5} in Scotland since early 2016. The Environmental Improvement Plan 2023 sets an interim target that by January 2028, an annual average of 12 µg/m³ for PM_{2.5} is not exceeded by any monitoring station.

6.1.7 Examples of where these objectives and limit values apply are detailed in the Defra LAQM Technical Guidance document LAQM.TG(22)⁵ and are included in Table 6.1/1.

Averaging Period	Objectives Should Apply at:	Objectives Should Generally Not Apply at:
Annual mean	All locations where members of the public might be regularly exposed. Building façades of residential properties, schools, hospitals, care homes, etc.	Building facades of offices or other places of work where members of the public do not have regular access. Hotels, unless people live there as their permanent residence. Gardens of residential properties. Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term
24-hour mean and 8-hour mean	All locations where the annual mean objectives would apply, together with hotels. Gardens of residential properties ^a	Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term
1-hour mean	All locations where the annual mean and 24 and 8-hour objectives apply. Kerbside sites (e.g. pavements of busy shopping streets). Those parts of car parks and railway stations etc. which are not fully enclosed, where members of the	Kerbside sites where public would not be expected to have regular access

⁵ Department for Environment, Food and Rural Affairs, Local Air Quality Management Technical Guidance LAQM.TG(22), August 2022

Table 6.1/1: Examples of Where the Air Quality Objectives Should Apply		
Averaging Period	Objectives Should Apply at:	Objectives Should Generally Not Apply at:
	public might reasonably be expected to spend one hour or more. Any outdoor locations to which the public might reasonably be expected to spend one hour or longer	
15-minute mean	All locations where members of the public might reasonably be exposed for a period of 15 minutes or longer	
<p>^a Such locations should represent parts of the garden where relevant public exposure is likely, for example where there is seating or play areas. It is unlikely that relevant public exposure to pollutants would occur at the extremities of the garden boundary, or in front gardens, although local judgement should always be applied</p>		

Local Air Quality Management

- 6.1.8 LAQM legislation in the Environment Act 1995 requires local authorities to conduct the periodic review and assessments of air quality. These aim to identify all those areas where the objectives are being, or are likely to be, exceeded. Where exceedances are likely to occur, local authorities are required to declare an Air Quality Management Area (AQMA).
- 6.1.9 LAQM.TG(22) presents a streamlined approach for LAQM in England and Scotland; however, Northern Ireland is still considering changes to LAQM and therefore works according to the previous regime.
- 6.1.10 The Welsh Government amended the LAQM regime in Wales in 2017 by issuing new statutory policy guidance in order to bring the system into line with the Well-being of Future Generations (Wales) Act 2015⁶. This aims to achieve compliance with the national air quality objectives in specific hotspots and to reduce exposure to pollution more widely, so as to achieve the greatest public health benefit.
- 6.1.11 Local authorities in England are required to produce Annual Status Reports (ASRs), and in Scotland, Annual Progress Reports (APRs). These replace all other reports which previously had to be submitted including Updating and Screening Assessments, Progress Reports and Detailed Assessments (which would be produced to assist with an AQMA declaration).

⁶ Well-being of Future Generations (Wales) Act 2015 (anaw 2)

- 6.1.12 Local authorities now have the option of a fast-track AQMA declaration option. This allows more expert judgement to be used and removes the need for a Detailed Assessment where a local authority is confident of the outcome. Detailed Assessments should however still be used if there is any doubt.
- 6.1.13 As part of the UK Government's requirement to improve air quality, selected local authorities in England are also currently investigating the feasibility of setting up Clean Air Zones (CAZs). These are areas where targeted action and co-ordinated resources aim to improve air quality within an urban setting, in order to achieve compliance with the EU Limit Values within the shortest possible time.
- 6.1.14 The first CAZs were implemented in Bath in March 2021 and in Birmingham in June 2021. In addition, the London Ultra Low Emission Zone (ULEZ) will expand to incorporate the North and South Circular roads in October 2021. The Bristol CAZ became live in November 2022. The Newcastle-upon-Tyne and Gateshead CAZ became live in January 2023. The Sheffield CAZ became live in February 2023. Charges apply to certain types of vehicles travelling within these areas, including buses, coaches, taxis, private hire vehicles and heavy-duty vehicles (HDVs). The Greater Manchester CAZ, due to be introduced from 30 May 2022, has been delayed and is currently under review.

National Planning Policy Framework

- 6.1.15 The National Planning Policy Framework (NPPF)⁷, introduced in March 2012, updated, in July 2021, and then most recently in December 2023 requires that:

“Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of AQMAs and CAZs, and the cumulative impacts from individual sites in local areas.

Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications.

Planning decisions should ensure that any new development in AQMAs and CAZs is

⁷ Department for Levelling Up, Housing & Communities, National Planning Policy Framework (NPPF), December 2023.

consistent with the local air quality action plan.”

Planning Practice Guidance

6.1.16 The Planning Practice Guidance (PPG)⁸, updated in November 2019, states that whether or not air quality is relevant to a planning decision will depend on the proposed development and its location. Concerns could arise if the development is likely to generate air quality impacts in an area where air quality is known to be poor. They could also arise where the development is likely to adversely impact upon the implementation of air quality strategies and action plans and/or, in particular, lead to a breach of EU legislation (including that applicable to wildlife).

6.1.17 Where a proposed development is anticipated to give rise to concerns about air quality, an appropriate assessment needs to be carried out. Where the assessment concludes that the proposed development (including mitigation) will not lead to an unacceptable risk from air pollution, prevent sustained compliance with national objectives or fail to comply with the requirements of the Habitats Regulations, then the local authority should proceed to decision with appropriate planning conditions and/or obligations.

Sunderland City Council Clean Air Zone Planning Policy

6.1.18 At the time of writing, there are no specific clean air zone planning policies in the Sunderland area.

Institute of Air Quality Management – Guidance on the Assessment of Dust from Demolition and Construction

6.1.19 Guidance has been prepared by the Institute of Air Quality Management (IAQM)⁹ with relation to the assessment of dust from demolition and construction. Further details on the assessment methodology are provided in Appendix 6.2.

Environmental Protection UK and Institute of Air Quality Management – Land-Use Planning and Development Control: Planning for Air Quality

6.1.20 Guidance has been prepared by Environmental Protection UK (EPUK) and the IAQM¹⁰ with relation to the assessment of the air quality impacts of proposed developments and their significance.

⁸ Department for Communities and Local Government. Planning Practice Guidance: Air Quality, November 2019

⁹ Institute of Air Quality Management, Guidance on the Assessment of Dust from Demolition and Construction v2.1, August 2023

¹⁰ Moorcroft and Barrowcliffe et al, Land-Use Planning and Development Control: Planning for Air Quality v1.2, January 2017

6.1.21 The impact of a development is usually assessed at specific receptors, and takes into account both the long-term background concentrations, in relation to the relevant Air Quality Assessment Level (AQAL) at these receptors, and the change with the development in place.

6.1.22 The impact descriptors for individual receptors are detailed in Table 6.1/2.

Table 6.1/2: Impact Descriptors for Individual Receptors				
Long Term Average Concentration at Receptor in Assessment Year*	Percentage Change in Concentration Relative to Air Quality Assessment Level (AQAL)*			
	1%	2-5%	6-10%	>10
75% or less of AQAL	Negligible	Negligible	Slight	Moderate
76-94% of AQAL	Negligible	Slight	Moderate	Moderate
95-102% of AQAL	Slight	Moderate	Moderate	Substantial
103-109% of AQAL	Moderate	Moderate	Substantial	Substantial
110% or more of AQAL	Moderate	Substantial	Substantial	Substantial

**Percentage pollutant concentrations have been rounded to whole numbers, to make it easier to assess the impact. Changes of 0% (i.e. less than 0.5% or 0.2µg/m³) should be described as Negligible*

6.1.23 Impacts on air quality, whether adverse or beneficial, will have an effect on human health that can be judged as either ‘significant’ or ‘not significant’.

6.1.24 Once the impact of the proposed development has been assessed for the individual impacts, the overall significance is determined using professional judgement. This takes into account a number of factors such as:

- The existing and future air quality in the absence of the development;
- The extent of the current and future population exposure to the impacts; and
- The influence and validity of any assumptions adopted when undertaking the prediction of impacts.

6.1.25 The guidance suggests that a negligible or slight adverse impact can usually be described as ‘not significant’.

Institute of Air Quality Management – A Guide to the Assessment of Air Quality Impacts on Designated Nature Conservation Sites

6.1.26 Guidance has been prepared by the IAQM with relation to the assessment of air quality impacts on designated nature conservation sites¹¹. For the assessment of point

¹¹ Institute of Air Quality Management, A Guide to the Assessment of Air Quality Impacts at Designated Nature Conservation Sites v1.1, May 2020

sources, such as stacks associated with industrial processes, this makes reference to the Environment Agency (EA) guidance on carrying out a risk assessment as part of an Environmental Permit application (including the screening distances for habitat sites and the criteria for screening out significant effects).

Environment Agency Guidance on Air Emissions Risk Assessments

6.1.27 The Environment Agency (EA) has produced guidance to support the completion of an air emissions risk assessment as part of Environmental Permit applications¹². This sets out steps to be followed when carrying out a risk assessment, including defining when detailed atmospheric dispersion modelling is required as part of an Environmental Permit application. The document also sets out environmental benchmarks for a range of pollutants and the required contents of air dispersion modelling reports.

AQTAG06 – Technical Guidance on Detailed Modelling Approach for an Appropriate Assessment for Emissions to Air

6.1.28 Guidance has been produced¹³ to provide an overview of how a quantitative assessment (Stage 3 appropriate assessment) should be carried out, using short range modelling to consider emissions to air arising from an Environmental Permitting Regulations (EPR) process, to fulfil the requirements of the Habitats Regulations.

6.1.29 The guidance provides details of the different inputs required for a dispersion modelling exercise. In addition, it sets out recommended deposition velocities for both grassland and forest habitats, which are used in an assessment of nutrient nitrogen and acid deposition.

Guidance on Evaluating Model Impacts Against Critical Loads

6.1.30 A method for calculating exceedance of the acidity critical load function, and the contribution from a source to the critical load function, is provided on the Air Pollution Information System (APIS) website¹⁴.

6.1.31 The critical load function, which was developed under the UNECE Convention on Long-Range Transboundary Air Pollution (CLRTAP), defines combinations of sulphur and nitrogen deposition, and so allows the combined inputs of sulphur and nitrogen deposition to be considered. The function is a three-node line on a graph representing

¹² Environment Agency, Air emissions risk assessment for your environmental permit, March 2023 [Accessed at: <https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit>]

¹³ Technical guidance on detailed modelling approach for an appropriate assessment for emissions to air, AQTAG06, March 2014

¹⁴ [Accessed at: <http://www.apis.ac.uk/clf-guidance>]

the acidity critical load, with combinations above this line exceeding the critical load. All areas below or on the line represent an “envelope of protection” where critical loads are not exceeded. An example graph is shown in Figure 6.1/1 below.

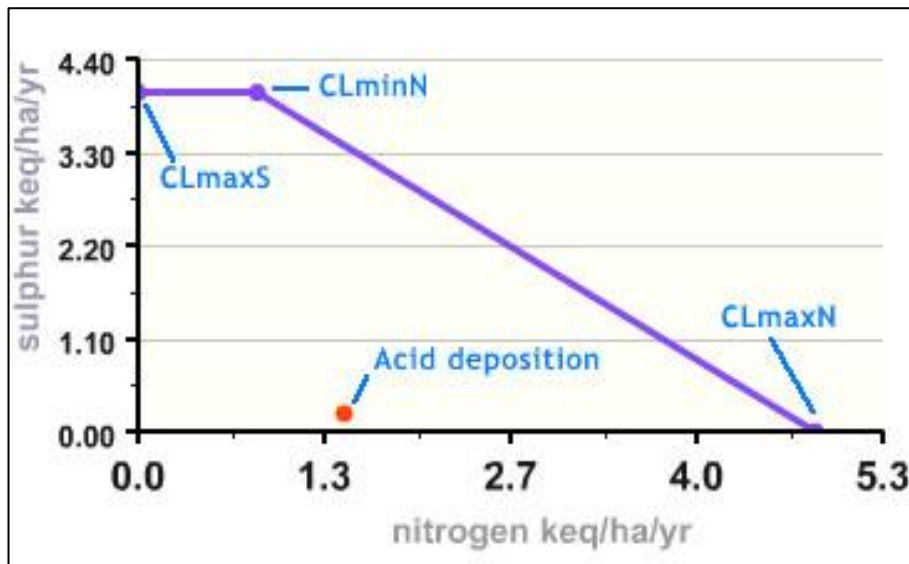


Figure 6.1/1: Example critical load function graph, reproduced from the APIS website

6.1.32 The guidance enables a calculation to be made of the contribution to acid deposition as a percentage of the relevant critical load value, and advises:

“Where PEC is greater than CLminN (the majority of cases), the combined inputs of sulphur and nitrogen need to be considered. In such cases, the total acidity input should be calculated as a proportion of the CLmaxN.

Where PEC N Deposition > CLminN

*PC as %CL function = ((PC of S+N deposition)/CLmaxN)*100”.*