



Carlisle City Council

Supplementary Planning Guidance for Air Quality

January 2021

Supplementary Planning Guidance for Air Quality

The purpose of this guidance document is to inform Planning officers and developers of which air quality considerations are required for any particular development. This will improve the understating between Planning Officers, Environmental Health Officers and developers when deciding on what is required from a given development proposal. It will also add greater clarity and consistency in the decision-making process.

The previous Air Quality and Land Use Planning guidance note¹ by Carlisle City Council encouraged applications that adhered to sustainable development principles that minimised environment impact and allowed mitigation where possible. LAQM Policy Guidance (PG16) requires that the planning and air quality functions of local authorities should be carried out in close cooperation. As such this updated guidance note supersedes that previously published and considers the following documents:

- LAQM PG (16)²,
- National Planning Policy Framework
- Planning Guidance and AQ guidance from the Institute of Air Quality Management (IAQM)³

National Planning Policy Framework

The National Planning Policy Framework (NPPF) provides a framework which local councils can produce neighbourhood plans that reflect the needs of their local communities. Key paragraphs related to air quality include:

Paragraph 110

Within this context, applications for development should:

- a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second - so far as possible - to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;
- b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;
- c) create places that are safe, secure and attractive - which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;
- d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and
- e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.

Paragraph 180

Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

- a) mitigate and reduce to a minimum potential adverse impact resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;
- b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason; and
- c) limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.

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https://www.carlisle.gov.uk/Portals/0/Documents/Residents/Environment/Air_Quality_Land_Use_Guidance.pdf

2 <https://iaqm.defra.gov.uk/documents/LAQM-PG16-April-16-v1.pdf>

3 <https://iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf>

Paragraph 181

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 Air Quality Management Areas and Clean Air Zones, 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 the 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 Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan

Paragraphs 102 -111 relating to sustainable transport are also relevant.

Air Quality Guidance

Local planning guidance on air quality tends to follow the IAQM guidance which aims to define the appropriate assessment of air quality in planning applications. A review of existing supplementary or local planning guidance documents^{4,5} shows that flow diagrams and screening checklists are very useful tools to help visualise the overall process and how steps within the process inter-relate. The approach followed by Kent&Medway Air Quality Partnership⁶ was considered an excellent exemplar and was used as the basis of the approach followed by Carlisle City Council. This document has hence been developed to:

- Introduce a method for assessing the air quality impacts of a development which includes the quantification of impacts, calculation of damage costs and the identification of mitigation measures to be implemented to negate the impact of development on air quality.
- Tackle cumulative impacts.
- Provide clarity and consistency of the process for developers, the local planning authority (LPA) and local communities.

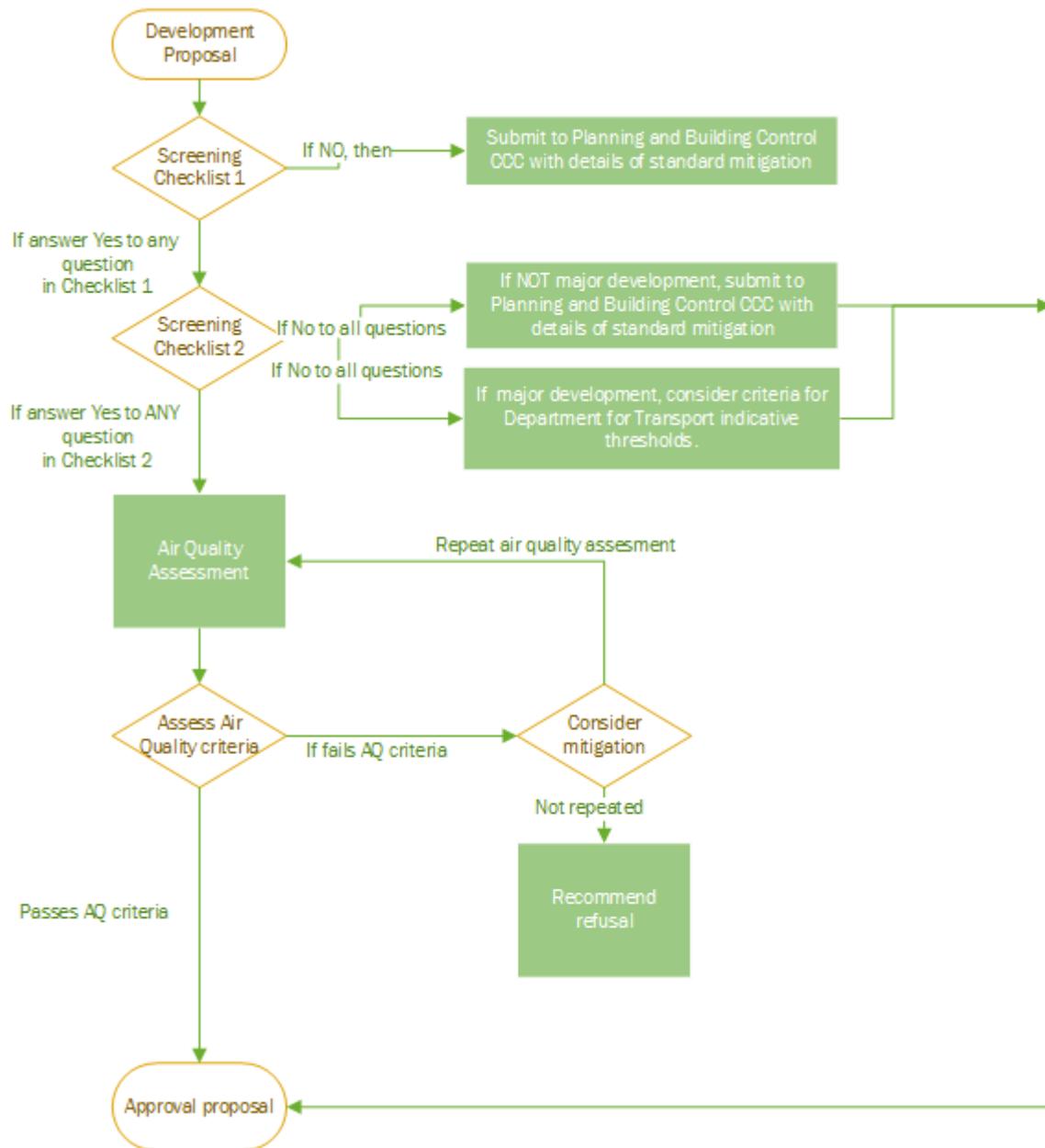
A flow chart summarising the air quality assessment process is summarised in Figure A and the associated screening checklists are described below. Checklist 1 screens out developments which are not likely to have a significant effect on air quality. Checklist 2 determines whether an air quality assessment or mitigation assessment are required.

⁴ http://kentair.org.uk/documents/K&MAQP_Air_Quality_Planning_Guidance_Mitigation_Option_A.pdf

⁵ http://www.sussex-air.net/Consultation/Sussex_AQ_Guidance_2019.pdf

⁶ http://kentair.org.uk/documents/k%26maq_p_air_quality_planning_guidance_mitigation_option_a.pdf

Figure A - Flowchart summarising the processes to assess the impact of a development on air quality



Screening Checklist 1: Questions to be answered by the Developer

Screening checklist	Yes	No	Recommendation
Q1. Is the proposed development categorised as a major development			If Yes, go to Checklist 2 If No, go to Question 2
Q2. Is the proposed development within, or close to an Air Quality Management Area (AQMA)			If Yes, go to Checklist 2 If No, submit to planning department with standard mitigation for all developments

Screening Checklist 2: Questions to be answered by the Developer

Screening checklist	Yes	No	Recommendation
Q3. Does the development require an Environmental Impact Assessment (EIA)?			<p>If any question is answered = YES, then consider applying the standard mitigations specified below for all developments and contact the Air Quality Officer to confirm whether an air quality (AQ) assessment and / or emission mitigation assessment is also required.</p> <p>OR</p> <p>If all questions are answered = NO, and the development is a major development then consider mitigation for all developments and undertake an emissions mitigation assessment.</p> <p>OR</p> <p>If all questions are answered = NO, and the development is a NOT a major development OR the air quality officer determines there is no need for an AQ and/or emissions mitigation assessment then consider just the standard mitigation for all developments</p>
Q4. Will development type likely become large scale major development? ⁷ (either on its' own or as part of several separate cumulative planned developments.)			
Q5. Is there vehicle parking in the development: >100 (outside AQMA) or >50 (within or adjacent to AQMA)?			
Q6. For existing roads with >10,000 Annual Average Daily Traffic (AADT) does the development: Introduce extra vehicle movements (>5%), is it likely to cause congestion or introduce > 15 extra heavy- duty vehicle movements per day?			
Q7. Will the development introduce new sensitive receptors into an AQMA?			
Q8. Are there any other proposed developments in the vicinity of this development which could have a cumulative effect on air quality?			
Q9. Is the development introducing biomass energy/heating plant into an urban environment?			
Q10. Is the development likely to impact in sensitive environments (ie. Sites of Special Scientific Interest etc.)			

⁷ The definition 'major development' is described in Town and Country Planning (Development Management Procedure) Order (England) 2015 definitions <http://www.legislation.gov.uk/ukxi/2015/595/made>.

It is reproduced here:

'major development' means development involving any one or more of the following

- (a) the winning and working of minerals or the use of land for mineral-working deposits;
- (b) waste development;
- (c) the provision of dwellinghouses where-
 - (i) the number of dwellinghouses to be provided is 10 or more; or
 - (ii) the development is to be carried out on a site having an area of 0.5 hectares or more and it is not known whether the development falls within sub-paragraph (c)(i);
- (d) the provision of a building or buildings where the floor space to be created by the development is 1,000 square metres or more; or
- (e) development carried out on a site having an area of 1 hectare or more;

Air Quality Assessment

The purpose of an air quality assessment is to determine whether emissions or activity from a new development will impact on air quality and/or local environment.

The air quality assessment (AQA) will only be required for major developments (as defined in footnote on previous page). The format of the AQA is specified in the IAQM (Section 6.18 to 6.23). LAQM TG(16), Chapter 7, provides the tools and supporting information to help local authorities and developers carry out assessments of air quality. Before proceeding with an air quality assessment, the applicant should discuss its scope with Environmental Health Department.

Any development which includes a biomass boiler or incinerator is required to complete the Biomass Boiler Information Request form which can be found on the city council website, using the following link. This must be completed at the start of the process and presented with the initial application documentation. This will be used to determine if a further detailed AQ assessment is required:

<https://www.carlisle.gov.uk/Portals/0/Documents/Residents/Environment/Biomass%20Boiler%20Information%20Request%20Form.pdf>

Mitigation

Mitigation is the reduction of the severity of air quality impact related to the development.

Standard mitigation

In line with many Local Planning Guidance Documents a minimum series of mitigation measures will be set for all developments, these are listed in Table A.

Table A Standard mitigation to be applied to all developments

Category	Mitigation measure
Residential	All gas-fired boilers to meet a minimum standard of < 40 mg NO _x /kWh
	Electric Vehicle charging point per dwelling with dedicated parking or 1 charging point per 10 spaces (unallocated parking)
Commercial /Industrial	10% of parking spaces to be provided with Electric Vehicle charge points which may be phased with 5% initial provision and the remainder at an agreed trigger level
Demolition/ Construction	Mitigation in accordance with the Institute of Air Quality Management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction ⁸

Emissions mitigation assessment

The purpose of an emissions mitigation assessment is to assess the local emissions from a development and to determine the appropriate level of mitigation required to help reduce the potential effect on health and/or the local environment. In addition, the developer will be required to minimise dust emissions during the construction phase in accordance with the IAQM Guidance on the Assessment of Dust from Demolition and Construction.

Where mitigation is not integrated into a scheme, the local planning authority (LPA) will require this through a planning condition(s). If on-site mitigation is not possible then the LPA may seek contribution to wider air quality mitigation measures through a Section 106 agreement.

⁸ https://iaqm.co.uk/text/guidance/guidance_monitoring_dust_2018.pdf

Each emissions mitigation assessment should include a brief emissions mitigation statement, which should include:

- Development traffic input data for emissions mitigation calculation
- Emissions calculation and totals
- Mitigation proposed to be equivalent to the value of emissions calculation (appropriate to the type and size of development and local policy requirements)
- Statement of provision required to minimise dust emissions in accordance with the IAQM Guidance on the Assessment of Dust from Demolition and Construction.

An emissions mitigation calculation inputs the additional number of trips generated by the development into the latest DEFRA Emissions Factor Toolkit (EFT)⁹. A worked example to calculate the extra NO_x and PM₁₀ emissions for a development of 10 houses is provided here. The inputs are as follows:

Input year: 2019
 Trips per day: 70
 Traffic type: Cars only (HGV set to 0%)
 Average speed: 50 kph
 Length of road link: 10 km

The inputs are provided as follows

The emission calculator is run by pressing the “Run EFT” button. Annual emissions of NO_x and PM₁₀ are provided below:

Pollutant Name	Annual Emission (tonnes/yr)	AQ damage cost, £/tonne	AQ damage cost, £ for 1 year	AQ damage cost, £ for 5 years
NO _x	0.0805	6199	499	2495
PM ₁₀	0.00838	67947	569	2847
			Total	5342

The emission is then multiplied by the damage costs factor¹⁰. The cost is calculated as a five-year total and is the value used for costing the required emissions mitigation for the development.

Additional requirements for mitigation measures

The mitigation options selected for a development should be relevant and appropriate to:

- Any local policies including Air Quality Action Plans, which may determine the mitigation priorities that the local authority may wish to be incorporated within a particular scheme.
- Any local air quality concerns; to assist in the mitigation of potential cumulative air pollution impacts of the development on the local community.
- The type, size and activity of the development.

⁹ <https://laqm.defra.gov.uk/review-and-assessment/tools/emissions-factors-toolkit.html>

¹⁰

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/770576/air-quality-damage-cost-guidance.pdf (see Table 3)

Scheme mitigation should be provided within the design of the development where possible. Table B lists the mitigation measures to be considered.

Table B Potential mitigation measures¹¹

Category	Mitigation measure
Residential	Travel plan (where required) including mechanisms for discouraging high emission vehicle use and encouraging the uptake of low emission fuels and technologies
	A Welcome Pack available to all new residents online and as a booklet, containing information and incentives to encourage the use of sustainable transport modes from new occupiers
	Eco-driver training and provision of eco-driver aid to all residents
	EV recharging infrastructure within the development (wall mounted or free standing in-garage or off-street points)
	Car club provision within development or support given to local car club/eV car clubs
	Designation of parking spaces for low emission vehicles
	Improved cycle paths to link cycle network
	Adequate provision of secure cycle storage
	Using green infrastructure ¹² , in particular trees to absorb dust and other pollutants
Commercial /Industrial	Differential parking charges depending on vehicle emissions
	Public transport subsidy for employees
	All commercial vehicles should comply with either current or previous European Emission Standard
	Fleet operations should provide a strategy for considering reduced emissions, low emission fuels and technologies
	Use of ultra-low emission service vehicles
	Support local walking and cycling initiatives
	Contributing funding to measures, including those identified in air quality action plans and low emission strategies, designed to offset the impact on air quality arising from new development
Additional mitigation	Contribution to low emission vehicle refuelling infrastructure
	Low emission bus service provision or waste collection services
	Bike/e-bike hire schemes
	Contribution to renewable fuel and energy generation projects
	Incentives for the take-up of low emission technologies and fuels

¹¹

http://kentair.org.uk/documents/K&MAQP_Air_Quality_Planning_Guidance_Mitigation_Option_A.pdf

¹² Green Infrastructure¹² is repeatedly included in many of the LPGs reviewed. Since these were published further evidence from the Air Quality Expert Group (AQEG) on the effectiveness of GI has been reviewed¹² which concluded that care needs to be taken when considering this as a measure to mitigate air pollution. It is also noteworthy that Defra are not funding GI as part of LA air quality grant applications funding in 2019¹²