Air Quality Technical Guidance

For

Forest of Dean District Council

July 2015

Summary

The Air Quality Technical Guidance for the Forest of Dean has been developed in response to the changes in national planning policy, through the National Planning Policy Framework (NPPF). This guidance will be regularly reviewed and updated in light of any specific future national and local policy changes, and feedback from users of the document.

The guidance will be available to download from the Forest of Dean District Council website www.fdean.gov.uk.

This guidance has been developed to improve air quality across the district and encourage emissions reductions to improve the environment and health of the population. It deals primarily with those pollutants regulated under the local air quality management (LAQM) regime and the impact of traffic emissions, although the increasing use of biomass boilers is now becoming an important local planning issue. The assessment and control of dust impacts during demolition and construction is also considered, as dusts contribute to airborne particulate matter, as well as being dust soiling. Greenhouse gas emissions are not addressed explicitly, as they are covered by other initiatives, but synergies exist between measures to minimise climate change and local air quality impacts.

The air quality assessment process follows a staged process:

1. Determining the classification of the development proposal using the 'Screening checklist';

2. Determining whether the development requires an air quality assessment or emissions assessment using the 'Air Quality and emission mitigation assessment checklist';

3. Determining whether an air quality assessment is required to assess the impact on public health and/or the local environment as well as the significance of a development on local air quality;

4. Determining whether an application should be refused on air quality grounds or what measures are required to make the development acceptable on air quality grounds;

5. Assessing the emissions from the development to determine the appropriate level of mitigation required.

The assessment process is summarised in the flow chart overleaf.

Consultation

The air quality technical guidance for the Forest of Dean District Council was consulted on between 1st December 2014 and 31st March 2015.

The document was adopted by Cabinet on 30th July 2015.

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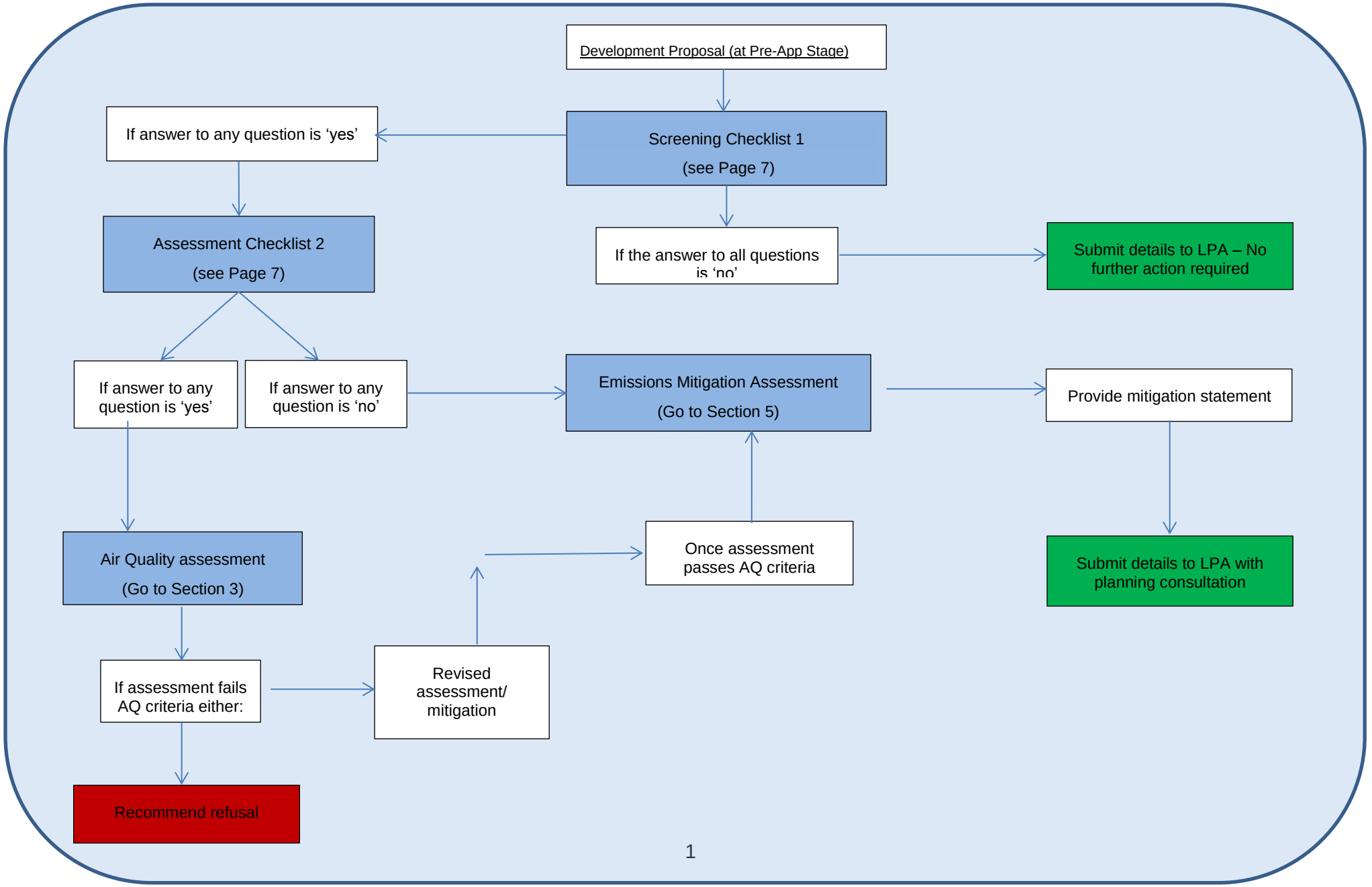
Contents

Quick Reference Guide



1 Introduction

Clean air is essential for life. The quality of the air impacts on human health, the natural environment and can damage buildings and materials. The aim of this document is to provide advice for developers and their consultants on addressing local air quality when making a planning application in the Forest of Dean.

Forest of Dean District Council continues to review the quality of air across the district to identify if there are breaches of UK and EU air quality standards. This has resulted in the declaration of an Air Quality Management Area in Lydney town centre (declared in 2010).

Air quality is a material consideration when a development is planned. The Local Planning Authority (LPA) will require an air quality assessment where it deems air quality impacts from the development may be detrimental to the environment or people's health.

Local planning policy will play a significant role in ensuring that development schemes are designed to be sustainable. This guidance has been developed to:

- Introduce an air quality assessment scheme which includes the quantification of impacts, formulating damage costs and identifying mitigation measures to be implemented to negate the impact.
- Tackles cumulative impact.
- Provides clarity and consistency of the process to developers, planners and local communities.

1.1 Planning Policy Framework

1.1.1 National Policy

National planning policy is now set by the National Planning Policy Framework (NPPF) NPPF. The NPPF places a general presumption in favour of sustainable development, stressing the importance of local development plans. One of its 12 Core Planning Principles states that planning should:

"contribute to conserving and enhancing the natural environment and reducing pollution", by: (paragraph 109) "preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability".

It goes on to state (paragraphs 120 and 124) that:

"To prevent unacceptable risks from pollution and land instability, planning policies and decisions should ensure that new development is appropriate for its location. The effects (including cumulative effects) of pollution on health, the natural environment or general amenity and the potential sensitivity of the area or proposed development to adverse effects from pollution, should be taken into account.

Planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in Air Quality Management Areas is consistent with local air quality action plans".

1.1.2 Local Planning Policy

The Planning and Compulsory Purchase Act 2004, amended by the Localism Act 2011 requires planning authorities to prepare Local Plans (previously known as Local Development Frameworks), which may be made up of a single or number of documents such as:

- Core strategy;

- Development Plan Policies;
- Site Specific Proposals;
- Area Action Plans;
- Other documents including supplementary planning documents.

The Local Plan will identify land areas for future development and include a number of strategic and development policies relating to local air quality management that will fulfil the National Planning Policy Framework sustainable development criteria. This technical guidance supports the implementation of the strategic and development policy framework.

1.2 Local Air Quality Management

The Environment Act 1995 established a local air quality management regime. It requires local authorities to review and assess ambient air quality in their areas against health based standards for a number of specific pollutants prescribed in the Air Quality Regulations 2000 and Air Quality (Amendment) Regulations 2002. If there is a risk that levels of air pollution in any part of the authority's area will be higher than the prescribed objectives, the authority is required to designate an Air Quality Management Area (AQMA). It is then required to produce an Action Plan which sets out the measures it intends to take in pursuit of the objectives.

It is not necessarily the case that a proposed development in an area of poor air quality will have a negative impact. However, it is important to recognise when such development might introduce additional people into an area of poor air quality.

The declaration of an AQMA does not mean that there will be no new development within that area.

Rather, it means that greater weight must be given to the consideration of air quality impacts and their mitigation.

In addition, the boundary of an AQMA does not necessarily define the limit of the area of poor air quality. The only constraint on the boundary definition is that it should be at least as large as the area of exceedance, where there is relevant exposure.

The fact that a development is within or close to an AQMA does not mean that it is necessarily affecting an area of exceedance of the objective, or that it is being affected by air pollution that exceeds the objective. On the other hand, a development could introduce new exposure into an area of poor air quality, which has not been identified and declared as an AQMA, as previously there was no relevant exposure.

2 What information is required and why

This section provides a more detailed explanation of the steps in the air quality and emissions mitigation assessment process.

2.1 Pre-application stage

In order to avoid unnecessary delays in the planning process and ensure optimum scheme design and sustainability, it is vital for communication at an early stage in any significant proposal. Pre-application discussions with the LPA should flag up if a development is planned in an AQMA or is a major development as stated in Checklist 1.

2.2 Checklist 1: Screening checklist (see Page 7)

The purpose of Checklist 1:

To screen out developments which are not likely to have a significant effect on local air quality and, therefore, do not require further assessments.

> ***The assessment is quick and simple and can be carried out by a developer, their agent or the LPA.***

How to use Checklist 1:

If the answer to <u>all</u> questions is 'NO', no further assessment is required.

If the answer to <u>any</u> of the questions is 'YES', then go to Checklist 2.

> ***If you need any help in completing the checklists, then please contact the Local Authority Air Quality Officer.***

2.3 Checklist 2: Air quality and emissions mitigation assessment checklist (see Page 7)

The purpose of Checklist 2

To determine whether a development requires an air quality assessment and/or emissions mitigation assessment.

> ***The checklist should be carried out by a developer's air quality consultant/expert in consultation with the Local Authority Air Quality Officer.***

How to use checklist 2:

If the answer to <u>all</u> questions is 'NO' then only an emissions mitigation assessment is required. Please move to Section 5.

If the answer to <u>any</u> of the questions is 'YES', then an air quality assessment is required. Please move to Section 3.

2.4 Air Quality Assessment

The purpose of an air quality assessment is to determine whether the predicted impacts from a development on local air quality will impact on public health and/or the local environment. This section also assesses the significance of the impact of a development on local air quality.

> **The assessment should be carried out by a developer's air quality consultant.**

Guidance on how to carry out an air quality assessment is given in Section 3, with supporting information provided in the Appendices.

2.5 Planning Requirements and Outcomes

The planning requirements and outcomes section provides information on whether a development should be refused on air quality grounds or if granted planning permission, what measures are required from a developer to make the development acceptable on air quality grounds.

Planning requirements in relation to the effect of a development on air quality are provided in Section 4.

Note: this section does not set out the specific mitigation requirements; these are provided in Section 5: Emission mitigation assessment.

2.6 Emissions Mitigation Assessment

The purpose of an emissions mitigation assessment is to determine the appropriate level of mitigation required from a development, by assessing the emission from that development.

The assessment should be carried out by a developer's air quality consultant.

Guidance on how to carry out an emission mitigation assessment is given in Section 5, with supporting information provided in the Appendices.

Checklist 1: Screening checklist

Screening checklist	Yes	No	Recommendations
Q1. Is the proposed development categorised as a major sized development?*			**If Yes, go to Checklist 2** **If No, go to Q2.**
Q2. Is the proposed development within, or in close proximity to, an Air Quality Management Area (AQMA)**?			**If Yes, go to Checklist 2** **If No, no further assessment required** **If unsure, please contact the LPA.**

Note: * Major sized category defined by Department for Transport indicative thresholds for transport assessments (see Appendix 1)
** AQMA locations can be located on the Forest of Dean District Council website (www.fdean.gov.uk)

Checklist 2: Air quality and emissions mitigation assessment checklist

Question (answer all questions)	Yes	No	Recommendations
Q3. Is the proposed development within or in relevant proximity to an Air Quality Management Area (AQMA) or in an area near to exceeding AQ limits (candidate AQMA)?			**If any questions answered = Yes, contact the Air Quality Officer to confirm that an air quality (AQ) assessment is required and then undertake an emission assessment** **If all questions are answered = No, OR the air quality officer determines there is no need for an AQ assessment = Go to Section 5**
Q4. Does the development require an EIA?			
Q5. Will development type likely become large scale major development category size? (either on its' own or as part of several separate (cumulative) planned developments.)			
Q6. Is there vehicle parking in the development: >100 (outside AQMA) or >50 (within or adjacent to AQMA)?			
Q7. For existing roads with >10,000 Annual Average Daily Traffic (AADT) does the development: Introduce extra vehicle movements (>5%), change avg. vehicle speeds (10kph), is it likely to cause congestion or introduce > 15 extra heavy duty vehicle movements per day?			
Q8. Will the development introduce new sensitive receptors: Into, or an area in relevant proximity to, an AQMA or a candidate AQMA?			
Q9. Are there any other proposed developments in the vicinity of this development which could have a cumulative effect on air quality?			
Q10. Is the development introducing biomass energy/heating plant into an urban environment?			
Q11.Is the development likely to impact on sensitive environments (i.e. SSSI's, National Parks etc.)			

Note: Contact the Local Authority Air Quality Officer if there is uncertainty over any questions.

3 Air quality assessment

The purpose of an air quality assessment is to determine whether the predicted impact of a development on local air quality will adversely affect public health and/or the local environment, both to help determine a planning application and to determine the appropriate level of mitigation from a development. The assessment should be carried out by a developer's air quality consultant.

3.1 Air quality assessment process

This section provides the technical elements and methodology for undertaking air quality assessments for developments. This includes:

• Guidance on air quality assessments

• Significance criteria for determining a developments' impact on air quality

• Recommendations for planning decisions.

3.2 Air quality assessment

The Forest of Dean District Council has used similar assessment methods to fulfil the requirements of their detailed Review and Assessment that led to the AQMA designations. For consistency, air quality assessments for developments should, where possible, follow similar methodologies.

• Local authorities will work with developers by providing guidance on the suitability of such measures which should be incorporated at the early design stage of any proposal.

• Guidance on the methodologies to be used for air quality assessments is also available in the Department for the Environmental, Food and Rural Affairs (DEFRA) Technical Guidance Note LAQM TG(09).

Note: Further detail of the air quality assessment requirements can be found in Appendix 2.

Key point:

Applicants intending to undertake an air quality assessment should always seek the latest information available on local air quality from the Local Authority.

3.3 Developments that require an Environmental Impact Assessment (EIA)

The Environmental Impact Assessment (EIA) procedure ensures that the likely effects of a new development on the environment are fully understood. The EIA is likely to include a detailed study of the effects of any development upon local air quality as highlighted below.

• Developments that require an EIA include major developments which are of more than local importance; developments which are proposed for particularly environmentally sensitive or vulnerable locations and developments with unusually complex and potentially hazardous environmental effects.

• Most proposals for commercial or industrial installations that have the potential to emit pollution (e.g. Part A1, A2 and B installations) are likely to require an air quality assessment under the EIA regulations but more detailed "screening" may be required before this can be finally determined.

There are likely to be many other situations where developments that do not require a full EIA will nevertheless warrant an air quality assessment as part of the planning application.

- It is advised that developers, as good practice, should check with the LPA to determine whether an air quality assessment is required before submitting a planning application.

Key point:

Planning applications for major developments may require an EIA, which may need to include a detailed assessment of the likely air quality effects. *The Environmental Impact Assessment Directive* provides the policy requirement for EIAs.

3.4 Determining the impact of a development on air quality

The key concern with regard to the air quality impacts of a development is the likely effect on human health. It is important that an air quality assessment evaluates modelled air quality in terms of changes in pollution concentrations where there is relevant public exposure.

- The Air Quality Regulations are concerned with areas that exceed air quality objectives and the revised Air Quality Strategy (2007) considers overall exposure reduction.
- This guidance considers that any development that leads to additional air pollution problems, even if it is outside an AQMA, could be significant.
- The local authority will have to make a balanced judgment on the likely impact of each development, based on the results of the air quality assessment and their professional experience. The local authority may also need to consider the impact of the development on air quality in neighbouring authorities.

3.5 Areas where air quality is a concern

There are key areas where the magnitude of change as well as the concentration of pollutants in air caused by proposed development is a concern.

In some cases, any additional contribution of emissions may worsen air quality and cause the creation of a new AQMA and, therefore, a small change in pollutant concentration can be as much a cause for concern as a large one. The areas of concern to consider are:

- AQMAs
- Areas near to or adjacent to AQMAs and candidate AQMAs
- Developments that require an EIA

The process for determining the impacts of a development on air quality is detailed below.

3.6 Determining significance of the impacts on air quality from a development.

1 The air quality assessment provides modelled predicted concentrations for scenarios (for agreed year/period): without development (baseline), with development, with development including mitigation measures.

2. A comparison of the scenarios will be presented in the report. Compare scenario "without development (baseline)" with scenario "with development including mitigation measures".

3. The difference in the compared scenarios is used to determine the classification of the change in air quality concentration.

4. The scale of air quality impact due to changes of concentration or if the additional concentration causes local exposure to approach or breach air quality objectives, determines the planning recommendations.

5. Planning recommendations are then provided.

3.7 Scaling of impacts on air quality from a development

An air quality assessment of a development should include modelling results as part of an air quality assessment for a proposal. These shall include modelled output scenarios "with" and "with-out" mitigation proposals as part of the application, to demonstrate predicted health exposure.

• Once the modelled outputs are agreed by the planning officer/air quality officer, then the scale or "magnitude" of change in pollutant concentration can be used to determine the significance of the air quality impact from a development.

• The increase in pollutant concentration is compared to National Air Quality Objective (AQO) levels and pollutant increases are expressed as percentages according to Table 1.

• The level of the change or magnitude provides the scale for recommendations for a planning decision (see Table 2, below).

The following table sets the classification of impact to determine their significance.

Table 1 Classification of impacts due to changes in pollutant concentration.

Classification of impact	Concentration change due to development:	Or if development contribution causes:
Very High	Increase > 10%	Breach of air quality objective (AQO)
High	Increase > 5 – 10%	Exposure to be within 5% AQO
Medium	Increase >1 <5 %	Exposure to be within 10% AQO
Low/Imperceptible	Increase < 1%	-

Note: Concentrations are relative to national air quality objective levels (AQO).

4 Planning Requirements and Outcomes

If the air quality assessment determines specific changes in air quality due to a single development or from the cumulative effect of several developments; the following recommendations are suggested to the LPA (see Table 2).

- An overriding consideration will be to ensure that the air quality in existing AQMAs does not worsen by the introduction of a development and/or that there is no additional air pollution burden from a development(s) which could create new AQMAs.
- Refusal of a planning application may still be recommended if high to very high air quality impacts from a development remain, even after all reasonable means to mitigate the impacts on air quality have been exhausted.

Table 2 Planning requirements.

Magnitude of change in air quality	Likely requirements	Likely outcomes
Very High	Require mitigation to remove very high air quality impacts. If impact of development on air quality still very high = strong presumption for recommendation for refusal on air quality grounds.	Recommend refusal
High	Recommend refusal unless appropriate on-site mitigation measures implemented to the satisfaction of the planning authority. Mitigations to include reducing exposure through various measures, emissions reduction technologies and/or development redesign.	Refusal, unless recommended mitigation is maximised.
Medium	Seek mitigation to reduce air quality impacts. Mitigations to include reducing exposure through various measures, emissions reduction technologies and/or development redesign.	Ensure on-site mitigation options are maximised.
Low/Imperceptible	Recommend the minimum mitigation for development scheme type.	Recommend minimum mitigation.

5 Emissions mitigation assessments

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.

5.1 Integrating emissions mitigation into a scheme:

The intention of the guidance is to identify and ensure the integration of appropriate mitigation into a scheme at the earliest stage.

Where mitigation is not integrated into a scheme, the LPA may require this through a planning condition(s). If on-site mitigation is not possible then the LPA may seek compensation for air quality impacts through a section 106 agreement.

5.2 Calculating the required mitigation for developments

The emissions calculator provides a calculation to determine the amount of pollutant emissions a development is likely to produce. This in turn, by multiplying the damage cost for the key pollutants (PM_{10} and NO_x see below), determines the amount (value) of mitigation that is expected to be spent on measures to mitigate those impacts.

5.3 Mitigation for minor developments:

If the development is not classified as major but is within or in relevant proximity to an AQMA, then it will be at the discretion of the Local Authority Officer responsible for air quality to suggest reasonable mitigation options for these types of development. For other developments use the emissions calculator (below).

5.4 Mitigation for all other developments:

The emissions assessment and mitigation calculator provides a formula to calculate the emissions resulting from a development or change of development use and produces a cost for mitigation measures and/or compensation.

> ***The assessment should be carried out by a developer's air quality consultant.***
>
> ***Please contact your local authority officer responsible for air quality for assistance.***

5.5 Emissions calculator

The calculation uses the most current DEFRA Emissions Factor Toolkit to estimate the additional pollutant emissions from a proposed development. (Ref: DEFRA Emissions Factor Toolkit: http://laqm.defra.gov.uk/review-and-assessment/tools/emissions.html) This will provide the relevant pollutant emissions outputs for the mitigation calculation, which is then multiplied to provide an exposure cost value.

This value is used for costing the required emissions mitigation for the development.

Road Transport Emission Increase =

{Estimated trip rate for 5 years x Emission rate per 10km per vehicle type x Damage costs}

Note: Further detail of the emissions calculator can be found in Appendix3.

The emissions assessment and corresponding mitigation calculation follows this process:

1. An emissions assessment calculates additional trips generated by the development.

2. The emissions are calculated for pollutants of concern (NO_x & PM_{10}).

3. Using DEFRA IGCB Air Quality Damage Costs for the specific pollutant emissions, the calculation then provides a resultant damage cost calculation.

4. The emissions total is then multiplied by 5, to provide a 5 year exposure cost value.

5. The resulting 5 year exposure cost value, is the value that is to be used to implement mitigation measures within the development. These mitigation measures should be agreed with the LPA to ensure that mitigation is in line with local policy and is appropriate for the type, size and location of the development.

6. If some or all mitigation measures cannot be accommodated within the development then mitigation may be provided through compensation via conditions or section 106 contributions. This will be determined by the LPA.

5.6 Calculating emissions from alternative fuels and technologies

The emissions calculator provides a basic emission calculation, however if a development proposal is to include alternative fuels or technology i.e. LPG, EV etc., then there are "advanced options" within the EFT to accommodate this. Always check in advance with the air quality officer to agree these options.

5.7 Example emissions calculation

The following example demonstrates the calculation based on a development with 10 domestic properties.

EFT* input:

10 Household (urban not London) (2012) (NO_x and PM_{10})

X 27 (trip/traffic ratio for 10 houses)

X cars only (0% HGV)

X 50 kph (avg.speed)

X 10km (NTS** UK avg.)

EFT output = 32.55 kg/annum (NO_x) and 3.795 kg/annum (PM_{10})

= 0.0325 tonnes/annum (NO_x) and 0.003795 tonnes/annum (PM_{10})

X ***£955/tonne (NO_x) and ***£48,517/tonne (PM_{10})

=£31.08 + £184.15

X 5 (years)

= £155.42 +£920.76

Total = £1,076

Notes:
- Trip rates can be sourced from transport assessment or local authority/transport authority.
- Trip length uses the National Travel Survey (NTS) UK average = 7.1miles/10km
- The IGCB damage costs used are the IGCB Air Quality Damage Costs per tonne, 2010 prices (Central estimate: NOx = £955/tonne and PM10 Transport Average £48,517).

*DEFRA Emissions Factor Toolkit (See reference section)
**National Travel Survey (See reference section)
***IGCB Air Quality Damage Costs per tonne

5.8 Requirements for mitigation measures

Scheme mitigation should be provided within the design of the development where possible. Table 3 lists the mitigation options to be considered.

Table 3 Mitigation measures

The following mitigation measures are for all residential, commercial and industrial developments.

- EV recharging infrastructure within the development (wall mounted or free standing in-garage or off-street points)
- Car club provision or support to local car club/eV car club
- Designation of parking spaces for low emission vehicles
- Differential parking charges depending on vehicle emissions
- 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
- On-street EV recharging
- Contribution to low emission vehicle refueling 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

The above list is not exhaustive and further options may be suggested where authorities feel it is appropriate, depending on the scale of development and air quality issues within an area.

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 for a scheme that the local authority may wish to be incorporated within a particular scheme.
- Any local air quality concerns; to assist in the remediation of potential cumulative air pollution impacts of the development on the local community.
- The type, size and activity of the development.

5.9 Scheme mitigation statement

Each development requires a brief mitigation statement.

In addition the developer will be required to follow *The Control of Dust and Emissions from Construction and Demolition, Best Practice Guidance*, to minimise dust and other emissions to atmosphere during the construction phase.

Scheme mitigation statement

The statement must include:

- Development traffic input data for emissions 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 emissions to atmosphere under *The Control of Dust and Emissions from Construction and Demolition, Best Practice Guidance*

References

The Air Quality Standards Regulations 2010
http://www.legislation.gov.uk/uksi/2010/1001/contents/made

The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007)
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69336/pb12654-air-quality-strategy-vol1-070712.pdf

Guidance on the assessment of dust from demolition and construction – IAQM (2014)
http://www.iaqm.co.uk/text/guidance/construction-dust-2014.pdf

The Control of Dust and Emissions during Construction and Demolition, Supplementary Planning Guidance – Mayor of London (2014)
https://www.london.gov.uk/sites/default/files/Dust%20and%20Emissions%20SPG%208%20July%202014_0.pdf

DEFRA Emissions Factor Toolkit
http://laqm.defra.gov.uk/review-and-assessment/tools/emissions-factors-toolkit.html

DEFRA Impact pathway guidance for valuing changes in air quality (2013)
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/197900/pb13913-impact-pathway-guidance.pdf

DEFRA Interdepartmental Group on Costs and Benefits
https://www.gov.uk/air-quality-economic-analysis

DEFRA Technical Guidance Note LAQM TG (09)
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69334/pb13081-tech-guidance-laqm-tg-09-090218.pdf

Environmental Impact Assessment Directive
http://ec.europa.eu/environment/eia/eia-legalcontext.htm

European Union Limit Values
http://ec.europa.eu/environment/air/quality/standards.htm

Electric Vehicle (EV) Network
http://www.ev-network.org.uk/

HM Treasury, Valuing impacts on air quality – Supplementary Green Book Guidance (2013)
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/197893/pu1500-air-quality-greenbook-supp2013.pdf

National Planning Policy Framework (NPPF) March 2012
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf

Town and Country Planning (Development Management Procedure) (England) Order 2010
http://www.legislation.gov.uk/uksi/2010/2184/pdfs/uksi_20102184_en.pdf

Appendices

Appendix 1

The major sized category is determined using criteria from the Department for Transport indicative thresholds for transport assessments[1].

Table 1: Criteria for Development Classification

Land Use	Description	Further Assessment Required
Food Retail (A1)	Retail sale of food goods to the public - supermarkets, superstore, convenience food store	>800m^2
Non-Food Retail (A1)	Retail sale of non-food goods to the public; but includes sandwich bars or other cold food purchased and consumed off site	>1500m^2
Financial and professional services (A2)	Banks, building societies and bureaux do change, professional services, estate agents, employment agencies, betting shops	>2500m^2
Restaurants and Cafes (A3)	Use for the sale of food consumption on the premises	>2500m^2
Drinking Establishments (A4)	Use a s apublic house,wine-bar for consumption on or off the premises	>600m^2
Hot Food Takeaway (A5)	Use for the sale of hot food for consumption on or off the premises	>500m^2
Business (B1)	(a) Offices other than in use within Class A2 (financial & professional)	>2500m^2
	(b) Research & Development - laboratorues, studios	
	(c) Light industry	
General Industrial (B2)	General industry (other than B1)	>4000m^2
Storage and Distribution (B8)	Storage and distribution centres - wholesale warehouses, distribution centres and repositories	>5000m^2
Hotels (C1)	Hotels, boarding houses and guest houses	>100 bedrooms
Residential Institutions (C2)	Hospitals, nursing homes used for residential accommodation and care	>50 beds
Residential Institutions (C2)	Boarding schools and training centres	>150 students
Residential Institutions (C2)	Institutional hostels, homeless centres	>400 residents
Dwelling houses (C3)	Dwellings for individuals, families or not more than six people in a single household	>50 units
Non-Residential Institutions (D1)	Medical & health services, museums, public libraries, art galleries, non-residential education, places or worhip and church halls	>1000m^2
Assembly and Leisure (D2)	Cinemas, dance and concert halls, sports halls, swimming, skating, gym, bingo, and other facilities not involving motorised vehicles or firearms.	>1500m^2

[1] http://webarchive.nationalarchives.gov.uk/+/http:/www.dft.gov.uk/adobepdf/165237/202657/guidanceontaappendixb

Other
1. Any development generating 30 or more two-way vehicle movements in any hour
2. Any development generating 100 or more two-way vehicle movements per day
3. Any development proposing 100 or more parking spaces
4. Any relevant development proposed in a location where the local transport infrastructure is inadequate
5. Any relevant development proposed in a location adjacent to an Air Quality Management Area (AQMA)

Appendix 2

Air Quality Assessment Protocol to Determine the Impact of Vehicle Emissions from Development Proposals

An air quality assessment should clearly establish the likely change in pollutant concentrations at relevant receptors resulting from the proposed development during both the construction and operational phases. It must take into account the cumulative air quality impacts of committed developments (i.e. those with planning permission).

Key Components of an Air Quality Assessment

The assessment will require dispersion modelling utilising agreed monitoring data, traffic data and meteorological data. The modelling should be undertaken using recognised, verified local scale models by technically competent personnel and in accordance with LAQM TG.09. The study will comprise of:

1. The assessment of the existing air quality in the study area for the baseline year with agreed receptor points and validation of any dispersion model;

2. The prediction of future air quality without the development in place (future baseline or do nothing);

3. The prediction of future road transport emissions and air quality with the development in place (with development or do-something).

4. The prediction of future road transport emissions and air quality with the development (with development or do-something) and with identified mitigation measures in place.

The assessment report should include the following details:

A. A detailed description of the proposed development, including:

- Identify any on-site sources of pollutants;
- Overview of the expected traffic changes;
- The sensitivity of the area in terms of objective concentrations;
- Local receptors likely to be exposed;
- Pollutants to be considered and those scoped out of the process.

B. The relevant planning and other policy context for the assessment.

C. Description of the relevant air quality standards and objectives.

D. The assessment method details including model, input data and assumptions:

For traffic assessment;

- Traffic data used for the assessment;
- Emission data source;
- Meteorological data source and representation of area;
- Baseline pollutant concentration including any monitoring undertaken;
- Background pollutant concentration;
- Choice of base year;
- Basis for NO_x:No_2 calculations;
- A modelling sensitivity test for future emissions with and without reductions;

For point source assessments:

- Type of plant;
- Source of emission data and emission assumptions;
- Stack parameters – height, diameter, emission velocity and exit temperature;
- Meteorological data source and representation of area;
- Baseline pollutant concentrations;

- Background pollutant concentrations;
- Choice of baseline year;
- Basis for deriving NO_2 from NO_x.

E. Model verification for all traffic modelling following DEFRA guidance LAQM.TG (09):

F. Identification of sensitive locations:

G. Description of baseline conditions:

H. Description of demolition/construction phase impacts:

I. Summary of the assessment results:

- Impacts during the demolition/construction phase;
- Impacts during the operation phase;
- The estimated emissions change of local air pollutants;
- Identified breach or worsening of exceedences of objectives (geographical extent)
- Whether Air Quality Action Plan is compromised;
- Apparent conflicts with planning policy and how they will be mitigated.

J. Mitigation measures.

Air Quality Monitoring

In some case it will be appropriate to carry out a short period of air quality monitoring as part of the assessment work. This will help where new exposure is proposed in a location with complex road layout and/or topography, which will be difficult to model or where no data is available to verify the model. Monitoring should be undertaken for a minimum of six months using agreed techniques and locations with any adjustments made following Defra Technical Guidance LAQM.TG (09).

Assessing Demolition/Construction Impacts

The demolition and construction phases of development proposals can lead to both nuisance dust and elevated fine particulate (PM_{10} and $PM_{2.5}$) concentrations. Modelling is not appropriate for this type of assessment, as emission rates vary depending on a combination of the construction activity and meteorological conditions, which cannot be reliably predicted. The assessment should focus on the distance and duration over which there is a risk that impacts may occur. The Institute of Air Quality Management (IAQM)[2] has produced a number of definitive guidance documents to which this guidance refers. The document `Guidance on the Assessment of the Impacts of Construction on Air Quality and the Determination of their Significance' should be the reference for reporting the construction assessment.

Cumulative Impacts

The NPPF (paragraph 124) recognises that a number of individual development proposals within close proximity of each other require planning policies and decisions to consider the cumulative impact of them. Difficulties arise when developments are permitted sequentially, with each individually having only a relatively low polluting potential, but which cumulatively result in a significant worsening of air quality. This will occur where:

- A single large site is divided up into a series of units, such as an industrial estate or retails park;
- A major development is broken down into a series of smaller planning applications for administrative ease; and
- There are cumulative air quality impacts from a series of unrelated developments in the same area.

[2] IAQM www.iaqm.co.uk

In the first two cases, the cumulative impact will be addressed by the likelihood that a single developer will bring forward an outline application for the whole site which should include an air quality assessment as part of an Environmental Impact Assessment. For major developments that are broken down into a series of smaller planning applications, the use of a `Master or Parameter Plan' that includes an air quality assessment will address the cumulative impact.

Appendix 3

Emissions Assessment Calculator

The calculation utilises the current Emissions Factor Toolkit (EFT)[3] to determine the transport related emissions from a development proposal. If the proposal is to include alternative fuels or technology i.e. LPG, EV etc, then there are "advanced options" within the EFT to accommodate this.

The output is given in kg of specified pollutant per year and requires converting to tonnes per year. This is then multiplied by the IGCB damage costs for the specified pollutant.

The following example demonstrates the calculation based on a development with 10 domestic properties[4].

EFT Input:

10 household (urban not London) (NO_x and PM_{10})

X 27 (trip/traffic ratio for 10 houses)

X cars only (0% HGV)

X 50kph (ave. speed)

X 10km (NTS UK avg.)

EFT Output = 32.55kg/annum (NO_X) & 3.795kg/annum (PM_{10})

= 0.0325tonnes/annum (NOR) & 0.003795tonnes/annum (PM_{10})

X £955/tonne (NO_x) + £48,517/tonne (PM_{10})

= £31.08 + £184.15

X 5 (years)

= £155.42 + £920.76

Total = £1,076

Notes:

1. Trip Rates are sourced from the Transport Assessments and local authority where available.

2. Trip Length uses the National Travel Survey[5] - (UK average = 10km).

3. The IGCB damage costs are the central estimates (currently NOx = £955/tonne & PM_{10} transport average £48,517).

[3] http://laqm.defra.gov.uk/review-and-assessment/tools/emissions.html#eft

[4] Sussex Air Quality Partnership 'Air Quality and Emission Mitigation Guidance for Sussex Authorities 2013'

[5] https://www.gov.uk/government/collections/national-travel-survey-statistics

Appendix 4

Electric Vehicle Charging Point Specification:

EV ready domestic installations

- Cable and circuitry ratings should be of adequate size to ensure a minimum continuous current demand for the vehicle of 16A and a maximum demand of 32A (which is recommended for Eco developments).
- A separate dedicated circuit protected by an RCBO should be provided from the main distribution board, to a suitably enclosed termination point within a garage, or an accessible enclosed termination point for future connection to an external charge point
- The electrical circuit shall comply with the Electrical requirements of BS7671: 2008 as well as conform to the IET code of practice on Electric Vehicle Charging Equipment installation 2012 ISBN 978-1-84919-515-7 (PDF)
- If installed in a garage all conductive surfaces should be protected by supplementary protective equipotential bonding. For vehicle connecting points installed such that the vehicle can only be charged within the building, e.g. in a garage with a (non-extended) tethered lead, the PME earth may be used. For external installations the risk assessment outlined in the IET code of practice must be adopted, and may require an additional earth stake or mat for the EV charging circuit. This should be installed as part of the EV ready installation to avoid significant on cost later.

EV ready commercial installations

Commercial and industrial installations may have private 11,000/400 V substations where a TN-S supply may be available, simplifying the vehicle charging installation design and risk analysis. It is, therefore, essential for developers to determine a building's earthing arrangements before installation.

Commercial vehicles have a range of charge rates and it is appropriate to consider a 3-phase and neutral supply on a dedicated circuit emanating from a distribution board. More than one EV charging station can be derived from a source circuit, but each outlet should be rated for a continuous demand of 63Amps. No diversity should be applied throughout the EV circuitry. 3 phase RCBOs should be installed and the supply terminated in a switched lockable enclosure. If an external application (for example car park or goods yard) is selected, the supply should be terminated in a feeder pillar equipped with a multi-pole isolation switch, typically a 300mA RCD, a sub-distribution board (if more than one outlet is fed from the pillar). If an additional earthing solution is required, the earth stake can be terminated within this pillar. See IET guideline risk assessment[6].

[6] www.the**iet**.org/resources/standards/**ev**-**charging**-cop.cfm

Appendix 5

Forest of Dean District Council Planning Policy Context

The adopted Core Strategy for the Forest of Dean Local Development Framework of February 2012, contains a policy CSP.1, which is strategically aimed at providing high quality environments:

Policy CSP.1 - Design, environmental protection and enhancement - the strategic objective being to provide quality environments. In order to achieve this, the following must be considered with regard to air quality:

The design and construction of new development must take into account important characteristics of the environment and conserve, preserve or otherwise respect them in a manner that maintains or enhances their contribution to the environment, including their wider context. New development should demonstrate an efficient use of resources. It should respect wider natural corridors and other natural areas, providing green infrastructure where necessary. In terms of air quality, in achieving the above, the following will be considered:

- The potential for the development to cause pollution and any mitigation measures to avoid pollution to make environmental improvements where existing problems occur.

Development that is not able to be satisfactorily accommodated in respect of the above will not be permitted.

1. Development proposals which are likely to cause pollution or are likely to be exposed to potential sources of pollution will only be permitted if it can be demonstrated that measures can be implemented to minimise emissions to a satisfactory level that protects health, environmental quality and amenity. In determining proposals particular consideration will be given to:

The likelihood of emissions which may have an unacceptable effect on the amenity of the local area; Where there is an identified risk that public health may be affected; Where there is a possibility that any proposed development will lead to a breach of national air quality objectives or lead to a deterioration of local air quality; Approved mitigation measures are carried out prior to occupation or operation of the development commencing.

2. Where the Council considers that an Air Quality Management Area may be affected by development, it will require the proposal to be consistent with the aims and objectives of the Council's Air Quality Action Plan.

Development within these Air Quality Management Areas will be controlled to ensure that the air quality is not made worse. The Council is concerned to ensure that all new development, particularly commercial, industrial and traffic generating sites, does not result in an unacceptable level of air pollution to the detriment of public health and other land uses. Developers will be expected to take proper account of air quality issues when drawing up their proposals. Within Air Quality Management Areas an air quality assessment will be required to be submitted with proposals for development. In addition, proposals for new development will be required to contribute to air quality improvement measures. Development outside Air Quality Management Areas may also require an air quality assessment. The Council has produced an Air Quality Action Plan, and developers will be expected to take this into account when proposing development which could have an impact on air quality. Where proposals are acceptable, mitigation measures may be secured through planning conditions and/or legal agreements.