

Aviation Policy Framework
Department for Transport
Great Minster House (1/24)
33 Horseferry Road
London SW1P 4DR

25 September 2012

Dear Sir or Madam

Draft Aviation Policy Framework – Response from Clean Air in London

I am writing on behalf of Clean Air in London (CAL) to respond to your consultation on a Draft Aviation Policy Framework (the Consultation). Please note that this response addresses only the air quality issues within the framework (i.e. part of Chapter 4 of the Consultation document). The Consultation can be seen at:

<http://www.dft.gov.uk/consultations/dft-2012-35/>

CAL is a company limited by guarantee which campaigns to achieve urgently and sustainably full compliance with World Health Organisation (WHO) guidelines for air quality throughout London (and elsewhere).

CAL is independent of any government funding, has cross-party support and a large number of supporters, both individuals in London and organisations. CAL provides a channel for both public concern and expert opinion on air pollution in London. This document provides both general and expert comments in response to the Consultation.

Transport is a major cause of air pollution in London which in turn causes thousands of premature deaths per year, and many thousands more instances of illness, chronic illness and disability. For this reason, transport measures are also measures to deal with air quality.

London has the highest levels of nitrogen dioxide of any capital city in Europe

Ambient or outdoor air pollution comprises particles and gases. The particles, which can comprise anything from tiny droplets to diesel soot and tyre and brakewear, are called ‘particulate matter’ and classified by their aerodynamic diameter in microns (one-millionth of a metre (μm) which is about one-hundredth of the thickness of a human hair) e.g. $\text{PM}_{2.5}$ and PM_{10} . The gases, which can coalesce and become particles, are mainly nitrogen dioxide (NO_2), ozone (O_3) and sulphur dioxide (SO_2).

CAL’s analysis of the latest data confirms that London had the highest levels of NO_2 , a toxic gas, of any capital city in Europe in 2010. Concentrations of dangerous airborne particles ($\text{PM}_{2.5}$ and PM_{10}) are also high in London though not the worst among European cities. Detail including supporting information can be seen at:

<http://cleanairinlondon.org/sources/guide-to-sources-london-has-the-highest-levels-of-nitrogen-dioxide-of-any-capital-city-in-europe/>

The WHO says there is little evidence to suggest a threshold below which no adverse health effects would be anticipated for particulate matter or, put another way, there is no safe level of human exposure to it. An ‘Update of WHO air quality guidelines’ (AQG) published in February 2008 said “The AQG have always addressed exposures and health effects of individual pollutants or indicators (such as PM₁₀ mass, an indicator of a complex pollution mixture with multiple sources). However, as understanding of the complexity of the air pollution mixture has improved, the limitations of controlling air pollution and its risk through guidelines for single pollutants have become increasingly apparent. Nitrogen dioxide (NO₂), for example, is a product of combustion processes and is generally found in the atmosphere in close association with other primary pollutants, including ultrafine particles. It is itself toxic and is also a precursor of ozone, with which it coexists along with a number of other photochemically generated oxidants. Concentrations of NO₂ are often strongly correlated with those of other toxic pollutants. Its concentration is readily measured but needs interpretation as a potential surrogate for a set of sources and the resulting mixture. Achieving guideline concentrations for individual pollutants, such as NO₂, may therefore bring public health benefits that exceed those anticipated on the basis of estimates of a single pollutant’s toxicity”. NO₂ is not just a molecule therefore as the Government would have us believe.

Details including supporting information can be seen at:

<http://cleanairinlondon.org/health/guide-to-health-impacts-invisible-air-pollution-is-the-biggest-public-health-failing-or-cover-up-for-decades/>

Nitrogen dioxide in the UK – the current situation

The pollutant most strongly associated with airport activity is NO₂. Limit values for NO₂ are contained in the EU Directive on ambient air and cleaner air for Europe (Directive 2008/50/EC) with a deadline for compliance of 1 January 2010 (since 1999 legislation) (limit values). These limit values apply at all locations where the public have access. Limit values are legally binding on Member States and, in the case of the UK, are enforced through two main mechanisms:

- **European enforcement action** – the European Commission (Commission) can take enforcement (‘infraction’ or ‘infringement’) action against Member States who fail to meet the limit values. This process involves five main stages: Letter of Formal Notice (or first written warning); Reasoned Opinion (or second written warning); reference to the Court of Justice of the European Union (CJEU); Reasoned Opinion (final written warning); and reference by the Commission to the CJEU with a request to impose lump sum and/or daily fines. The CJEU can impose unlimited lump sum and daily fines on Member States which the Localism Act 2011 allows the Government to pass to the Mayor of London and/or local authorities subject to certain protections; and
- **UK planning law** – Limit values are a material consideration in the planning system¹. Developments should not proceed if they are likely to cause or contribute to a breach, or the worsening of a breach, of a limit value unless the impacts are fully mitigated. Limit values are concentrations to be attained and not exceeded once attained.

¹ Paragraph 124 of the New Planning Policy Framework states that ‘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.’

Directive 2008/50/EC is transposed into UK law through the Air Quality Standards Regulations 2010.

Directive 2008/50/EC also permits a process of compliance flexibility, whereby Member States can obtain time extensions of up to five years to comply with NO₂ limit values subject to strict conditions. For the purposes of air quality assessment each Member State is divided into a number of different zones; to obtain a time extension a Member State must submit a plan for each zone in exceedance that will demonstrate how compliance with the limit values will be achieved as quickly as possible, and in all cases by the latest possible deadline of 1 January 2015.

In June 2012 the Commission announced its decision on the UK's NO₂ time extension applications. The results were²:

- three zones were considered already compliant (no time extension necessary);
- 12 zones were granted time extensions, although four with deadlines earlier than 2015; and
- 12 zones were denied time extensions (but may reapply).

The UK Government did not apply for time extensions for the remaining 16 zones, as they did not expect them to comply by 2015. These zones include Greater London, where compliance is not expected until 2025. All zones without a time extension may now be the subject of enforcement action by the Commission, as the original 2010 deadline still applies to them.

Nitrogen dioxide and aviation

NO₂ emissions are produced by both airside operations (aircraft and airport vehicles) and also by road traffic accessing airports. Whilst many major airports contribute towards local exceedances of NO₂ limit values, the problems are most acute at Heathrow due to its status as the UK's largest and busiest airport and the proximity of two major motorways.

The 2008 consultation 'Adding Capacity at Heathrow Airport' presented the results of air quality modelling that suggested that oxides of nitrogen (NO_x) emissions from road vehicles would fall over future years as older vehicles were replaced by newer, cleaner vehicles. As a result 'headroom' would be created for the airport to expand whilst meeting NO₂ limit values. This assumption was challenged by CAL and others, who suggested that a wider range of NO₂ scenarios should be investigated. As a result, following the consultation, the Government announced that the operational use of new capacity (e.g. a new runway) would be restricted until air quality limit values were met, with the Environment Agency given responsibility for ensuring that air quality around Heathrow did not breach these limits.

CAL understands that the modelling of aviation's impact on air quality assumes no impact when aircraft are above 1,000 metres i.e. other than the landing and take-off cycle.

Changes since 2008

² See http://cleanairinlondon.org/wp-content/uploads/CAL-187-UK-AQ-Zones-and-AQ_Draft-280612.pdf for a full summary

Since 2008 the air quality policy landscape has changed significantly. First, as detailed above, the UK has not obtained a time extension until 2015 to comply with NO₂ limit values throughout the Greater London zone. This brings the threat of enforcement action, but also means that planning decisions must consider a 2010 deadline for NO₂ compliance in the zone rather than the 2015 deadline previously assumed in airport expansion consultations.

The 2008 Heathrow consultation document stated that ‘The ability to meet air quality limits in future years largely results from substantial improvements in road vehicle emissions due to further developments in European emission standards’ (page 67). However, evidence³ is now increasingly showing that:

- roadside NO₂ concentrations are static or even increasing in some locations;
- vehicle emission standards (Euro standards) for diesel vehicles are having little impact on ‘real world’ NO_x emissions, with new diesel vehicles showing little improvement in emissions over far older vehicles;
- the new car market has undergone (and continues to undergo) a large shift from petrol to diesel, with diesel cars now making up more than half of new car sales; and
- NO₂ has increased as a percentage of NO_x emissions from around 5% to nearly 25%.

Policy Exchange has estimated that diesel vehicles are responsible for some 91% of PM_{2.5} and 95% of NO₂ road traffic exhaust emissions in London. See:

<http://www.policyexchange.org.uk/publications/category/item/something-in-the-air-the-forgotten-crisis-of-britain-s-poor-air-quality>

This evidence means that it is unrealistic to assume a downwards trend in NO_x emissions and associated NO₂ concentrations to provide ‘headroom’ for increased emissions from airport expansion. Even if the forthcoming Euro 6/VI standard successfully addresses the problems of ‘real world’ diesel emissions it will be many years before this has an appreciable impact on emissions from the UK’s vehicle fleet as a whole.

The Government blames the European engine emission standards for its failure to comply with NO₂ limit values. But: Euro standards never set limits on NO₂; and successive Governments have incentivised the purchase of diesel vehicles when they knew doing so would cause more problems than petrol and after they knew the proportion of NO₂ as a fraction of NO_x emissions was rising. Successive Governments have failed to mitigate or adapt to this public health crisis.

The WHO has recently classified diesel exhaust as carcinogenic for humans.

‘Year of Air’ in 2013

The Commission has declared 2013 will be the ‘Year of Air’. See:

http://cleanairinlondon.org/wp-content/uploads/CAL-187-Commissioner-Potocnik-speech-240912_Year-of-Air.pdf

³ See http://uk-air.defra.gov.uk/reports/cat05/1103041401_110303_Draft_NOx_NO2_trends_report.pdf

and

http://ec.europa.eu/environment/air/review_air_policy.htm

CAL is calling for proposals from the Commission that will deliver continuity and the further tightening of health and legal protections during the Commission's 'Year of Air' in 2013. Such proposals are expected in September 2013 or later.

In contrast, the Department of Environment Food and Rural Affairs (Defra) has said 'Working in partnership with other Member States, we will also use the European Commission review of air quality legislation, expected in 2013, to seek Amendments to the Air Quality Directive which reduce the infraction risk faced by most Member States, especially in relation to nitrogen dioxide provisions'.

http://cleanairinlondon.org/wp-content/uploads/CAL-149-Defra-conclusions-after-RTC_March-2012.pdf

http://cleanairinlondon.org/wp-content/uploads/CAL-187-Defra-RTC-implementation-plan_Sept-2012.pdf

If Defra succeeds, it will reduce by around 50% current health and legal protections near the UK's busiest roads.

CAL is campaigning to protect public health and enforce legal standards for air quality and hopes to achieve other benefits by supporting sustainable development.

Conclusions

The UK's aviation policy framework should incorporate the following considerations with respect to air quality:

1. under EU law, and UK planning law, any expansion of airport capacity must be within the boundaries set by legally binding limit values for NO₂ (and PM₁₀ and other pollutants). These limit values are currently exceeded at and near many UK airports. Airside operations and road traffic accessing the airport both contribute towards these exceedances;
2. the air quality situation has changed materially since the 2008 'Adding Capacity at Heathrow Airport' consultation. The UK has not obtained a time extension to comply with NO₂ limit values throughout the Greater London zone (which includes Heathrow), and also in many other UK air quality assessment zones that contain a major airport. This means that the UK faces imminent infraction action by the Commission and must, in any event, meet the limit values as soon as possible i.e. there is no 'breathing space' until 2015 or possibility of delaying compliance until 2025 (or later);
3. expected falls in NO_x emissions from road transport have not taken place, removing expected air quality 'headroom' for airport expansion. Projections of vehicle emissions used in air quality modeling need to make conservative assumptions and not simply assume a downwards trajectory; and
4. restricting the availability of new capacity via an environmental regulator (as per the 2008 Heathrow policy) may be one option for controlling air quality impacts. However, in light of points 2 and 3 above it is far more likely that more stringent restrictions on the operational use

of new capacity would be needed than previously thought e.g. implementing low emission zones around airports that would restrict or ban the use of diesel vehicles.

Limit values are legally binding and must be complied with in full where they apply in order to provide minimum public health protections.

Please contact me if you have any questions regarding this response.

With best wishes.

Yours faithfully

Simon Birkett
Founder and Director
Clean Air in London