

CAMPAIGN FOR CLEAN AIR IN LONDON

"The cross-party campaign to achieve urgently and sustainably at least World Health Organisation recommended standards of air quality throughout London"

Campaign website: www.cleanairinlondon.org

Boris Johnson
Mayor of London
Greater London Authority
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By email: MAQS@london.gov.uk

17 November 2009

Dear Mayor Johnson

Mayor of London has a statutory duty to ensure his Air Quality Strategy (AQS) includes policies and proposals for the achievement of the air quality standards

'Clean Air in London' and Health Protection Agency have agreed estimates of premature deaths in London due to fine particulate matter (PM_{2.5}) in 2005 (assuming average-only UK exposure): 3,000 (COMEAP central estimate); 5,600 (plausible estimate); and 6,900 (Precautionary Principle)

The draft AQS is a start but not yet 'fit for purpose'. Five NGOs (and others) have written therefore to the European Commission urging it to reject the UK's application to delay compliance with the EU limit values for PM₁₀

I am writing on behalf of the cross-party Campaign for Clean Air in London (CCAL) to respond to the consultation on the Mayor's draft Air Quality Strategy (AQS) which opened on 5 October and closes on 30 November 2009. Thank you for the opportunity for do so. The full consultation document can be seen at:

http://www.london.gov.uk/mayor/environment/air_quality/index.jsp

Details of CCAL's Mission and a list of its supporters can be found at www.cleanairinlondon.org.

CCAL supports strongly (except if in conflict with this letter in which case this letter prevails): all the comments made by Environmental Protection UK and ClientEarth in their responses to the consultation; the 65 Recommendations submitted previously by CCAL to your environment team (attached); and the cross-party report published by the Environment Committee of the London Assembly on 1 May 2009 titled 'Every Breath You Take' which can be seen at:

<http://www.london.gov.uk/assembly/reports/environment/air-quality-report-200904.pdf>

Please consider these submissions and include all their recommendations in the Mayor's AQS.

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Summary

The Mayor’s draft AQS is a start but it is not yet ‘fit for purpose’. To become ‘fit for purpose’ it should apply the Precautionary Principle to tackle a serious public health problem and must show how air quality laws will be complied with in full.

CCAL has agreed with government officials that some 3,000 premature deaths occurred due to exposure to dangerous airborne particles (PM_{2.5}) in London in 2005 (even assuming average UK population-weighted exposure) and that the number may have been 6,900 (again assuming average UK population-weighted exposure). At the higher level that would represent one in eight deaths in London in 2005. Professor Nino Kunzli estimated in 2001 that the amount of time lost per statistical victim is 9.8 years equating to some 0.6 years in the total population (i.e. seven to eight months). Please recognise the scale and urgency of this public health crisis in the Mayor’s AQS.

The Greater London Authority Act 1999 (GLA Act) requires that the Mayor of London’s AQS contains ‘... policies and proposals – for the achievement in Greater London of the air quality standards and objectives prescribed in regulations made under the Environment Act.’ In ‘Mayor answers to London’, you have admitted to Mike Tuffrey that ‘expected’ compliance with PM₁₀ limit values is ‘subject to: detailed concentration modeling; and – importantly – to full funding of the programme and support from boroughs and central government’. You have stated that concentrations of oxides of nitrogen (NO_x) need to be reduced by some 80% to ensure compliance with the limit values for nitrogen dioxide (NO₂) by January 2015 and yet your AQS plans shows only reductions in emissions of NO_x of 35-40% by 2015. You have omitted to address other air quality laws also e.g. the need to ensure annual average concentrations of NO₂ remain below 60 micrograms per cubic metre (µg/m³) from 1 January 2010. This is not good enough. Please recognise the scale and urgency of these legal duties in the Mayor’s AQS and comply fully with relevant health-based laws throughout London.

In CCAL’s view, the Mayor has the legal powers necessary to ensure full compliance with the European Union (EU) limit values for PM₁₀ throughout London by June 2011 (or forthwith if the UK fails to obtain a time extension for PM₁₀, as seems likely). Indeed, London is the only city in the UK expected still to breach those standards by that date. In contrast, over 100 cities and towns across the UK are expected to breach limit values for NO₂ from January 2010, with London experiencing the highest concentrations of any capital city in western (or eastern) Europe. In CCAL’s view, the limit values for PM₁₀ could be achieved quickly through the adoption of sensible transport policies (e.g. a Berlin style inner low emission zone) whereas the latter will require ‘everything including the kitchen sink’ (backed by numerous national initiatives and funding).

CCAL is particularly concerned that the Mayor is taking ‘one or two steps backwards’ on air quality when ‘one or two bold steps forward’ are required. The delay of Phase 3 of the LEZ and the removal of the WEZ seem certain, based on the draft AQS, to result in an unnecessary and unacceptable health burden on the public and exacerbate breaches of air quality laws. This is totally unacceptable. CCAL urges you to implement one or more inner LEZs by early 2011. CCAL is concerned that you may have wrongly dismissed such an approach by wrongly weighing the costs and benefits of a Euro 4 inner zone with a Euro 3 outer zone when you should have considered the same standards for both (since the standards must be met in inner London whether through a carefully chosen inner zone or a blunt outer

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zone). A transect of London for annual average concentrations of oxides of nitrogen demonstrates this situation clearly (attached).

CCAL urges you to go from ‘zero to hero’ simultaneously on environment, transport and public health matters. You could achieve a wonderful legacy for London by ensuring full compliance with air quality laws by the 2012 Olympics and put in place measures that will surely save thousands of lives. Please show the world how air pollution can be tackled successfully in all large cities including London.

Protecting public health

Poor air quality is a major public health issue in London. London is well known for having the worst air quality in the UK and amongst the worse in Europe. Without robust, early action, the UK is set to breach health-based air quality laws in London every year up to and including 2012 (and thereafter).

CCAL therefore wrote to you, in a letter dated 20 September 2009, urging you to tackle fully and urgently this public health problem and apply the Precautionary Principle when developing your AQS (including government recommendations for sensitivity analyses).

It is particularly disappointing therefore that you have failed to include any estimates for the health impact of poor air quality in your draft AQS. CCAL therefore urges you again to do so when determining the extent of policies and proposals needing to be included in the draft AQS for public consultation. CCAL’s letter of 20 September is attached and should be considered part of this submission.

CCAL was invited to meet government officials on 21 October including the Health Protection Agency (HPA) to discuss the letter of 20 September and agree the health impact of poor air quality in London. CCAL and the HPA have agreed that some 3,000 people died prematurely in London due to dangerous airborne particles (PM_{2.5}) in 2005 (using the latest recommendation of the Committee on the Medical Effects of Air Pollutants (COMEAP) of a 6% coefficient and assuming only UK average populated-weighted exposures in London). CCAL and the HPA have also agreed, using a similar recommendation and assumption, that a plausible upper limit may be 5,600 (using a 12% coefficient) and the actual number of premature deaths may have been 6,900 (using a 15% coefficient) (out of some 52,995 total deaths in Greater London in 2005). The detailed method and calculations are shown in Appendix One. These are shocking numbers and exclude deaths from other forms of air pollution e.g. ozone (O₃) and sulphur dioxide (SO₂).

In a wide ranging and thorough discussion at the above meeting:

- i. CCAL and the HPA agreed estimates for the number of premature deaths due to PM_{2.5} in London in 2005 assuming the three coefficients recommended by COMEAP (i.e. 6%, 12% and 15% as above);
- ii. the HPA offered to send a weblink to the Executive Summary of the COMEAP 1998 Report titled ‘The Quantification of the Effects of Air Pollution on Health in the United Kingdom’. See below:

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<http://www.advisorybodies.doh.gov.uk/comeap/statementsreports/airpol7.htm>

- iii. we agreed for the relevant reference, in the third paragraph on page 5 of the letter, that the COMEAP Report 2009 might have used better wording such as ‘but linear scaling is a reasonable approximation in certain circumstances’;
- iv. the HPA team pointed out that the COMEAP 1998 Report assessed the risk of premature death due to short term exposure to poor air quality whereas subsequent reports (2001 and thereafter) have assessed deaths due to long term exposure to poor air quality. COMEAP recommended a coefficient of 0.75% for the former and 1.0% for the latter in its 2001 Report (now 6%);
- v. the HPA team pointed out that the health impact of short term exposure to poor air quality is assessed using time series analysis and deaths from all age groups. Long term, cohort studies usually apply to deaths amongst those aged 30 years and older; and
- vi. the Defra team pointed out the health costs referred to on page 9 of the letter are ‘societal’ values not the cash cost to the Department of Health.

These were the only changes proposed to the letter other than identifying the need to agree subsequently an updated estimate, using COMEAP’s latest recommendations, of the 1,031 premature deaths referred to on page 3 of the letter. At the end of that meeting, CCAL asked the relevant officials to consider and revert with their estimate:

- i. of the 1,031 premature deaths referred to on page 3 of the letter based on COMEAP’s current 6% coefficient for PM_{2.5} and assuming ratios of PM_{2.5} to PM₁₀ of 65%, 70% and 75%; and
- ii. for the most recent year possible, the number of premature deaths due to PM_{2.5} (and preferably all air pollution) in Greater London using 6%, 12% and 15% coefficients (and, if necessary, say 65%, 70% and 75% ratios for PM_{2.5} to PM₁₀).

A reply is awaited but still expected.

The HPA team expressed concern that the number of premature deaths should be presented in a bar chart to show how the number of premature deaths would fall gradually over time as concentrations of dangerous airborne particles fall. CCAL agreed this approach would be useful but pointed out that it would need to show also the number of deaths due to PM₁₀ and/or PM_{2.5} between the years, say, of 2000 and 2010 with a line showing actual population-weighted exposures to particulate matter over the same period i.e. not assuming sharply falling concentrations due to optimistic modeling.

The numbers estimated to die prematurely due to poor air quality have risen sharply in recent years as large scale, long term scientific studies have been completed. CCAL urges the Mayor therefore to be ‘upfront’ with people about the sheer scale of the risks in a way that means something to people i.e. not using abstract concepts for the entire 61 million UK population such as total (i.e. millions of) years of life lost and/or reduction in average life expectancy of up to seven to eight months nationally.

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In CCAL’s view, people should be told that up to one person in eight who died in London in 2005 may have done so due to exposure to dangerous airborne particles (assuming only average UK population-weighted exposures in London). Research published in 2001 by Professor Nino Kunzli suggests that those who die prematurely due to dangerous airborne particles may do so, on average, 9.8 years early.

The health impact of poor air quality is similar or greater to that for alcoholism, obesity and/or smoking.

Complying fully with air quality laws

The Greater London Authority Act 1999 (GLA Act) requires that the Mayor of London’s AQS contain ‘... policies and proposals – for the achievement in Greater London of the air quality standards and objectives prescribed in regulations made under the Environment Act.’

The draft AQS currently fails to comply with the statutory requirement referred to above. For example:

- the draft AQS states, on page 25, ‘In order for the limit value [for nitrogen dioxide (NO₂)] to be met everywhere in London, NO_x emissions within London would need to be over 80 per cent lower in 2015 than current projections’. It then goes on to show in Figure 5.4 on page 78 an ‘Estimated reduction in NO_x emissions from all sources in Greater London (including planned measures, natural vehicle turnover etc) of 35-40%’; and
- in a response to Mike Tuffrey, in ‘Mayor answers to London’ Question number 2981/2009 on 14 October 2010, that ‘We believe the measures laid out in the Strategy mean London will meet the EU limit values for PM₁₀ in 2011; however, this is subject to the detailed concentration modeling we are now undertaking and – importantly – to full funding of the programme and support from boroughs and central government’. See:

<http://www.london.gov.uk/mqt/public/question.do?id=28064>

Please ensure that the draft AQS submitted for public consultation (and the final AQS thereafter) complies fully with the GLA Act and takes full account of the following:

- i. the inclusion of a long list of policies and proposals in the AQS would not be enough *per se* to meet the strict requirements of the GLA Act. Indeed, a long list of vague and unfunded proposals, may indicate no more than a ‘busy fool’ strategy that will achieve little or nothing;
- ii. under the GLA Act, all the Mayor’s strategies must be consistent and therefore take full account of the requirements for the AQS. In particular, please note that it is not acceptable to say that the Mayor is weighing up whether or how far to comply with his different statutory duties i.e. all laws must be complied with in full;
- iii. EU limit values must be achieved everywhere except: any locations situated within areas where members of the public do not have access and there is no fixed habitation; on factory premises or at industrial installations to which all relevant provisions concerning health and safety at work apply and on the carriageway of roads; and on central reservations except where there is normally

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pedestrian access to the central reservation (Annex III of the new EU directive on ambient air and cleaner air for Europe (the new AQ Directive)); and

- iv. a limit value is a [concentration] to be attained and not to be exceeded once attained (Article 2 of the new AQ Directive).

You will be well aware that the UK has applied for a time extension to comply with the EU limit values for PM₁₀ until June 2011 with the European Commission due to reach its decision by early February 2010. In CCAL's carefully considered view, the UK is not entitled to such a time extension. If the UK's time extension is rejected, the UK must comply forthwith with the EU limit values for PM₁₀ and the Mayor's AQS must show how this will be done.

As you know, at least five non-governmental organisations have written to the European Commission since the draft AQS was published urging it to reject the UK's application for a time extension to comply with EU limit values for PM₁₀. In significant part they have written because the draft AQS is inadequate.

You will be aware also that the UK has said it plans to apply during 2010 for a time extension to comply with the EU limit values for NO₂ until January 2015. CCAL has seen no evidence yet that the UK is entitled to such a time extension. Even if it is, however, a condition of any time extension for NO₂ would be that the UK shall ensure, *inter alia*, that the annual mean concentrations of NO₂ do not exceed 60 µg/m³ i.e. concentrations must not exceed 40 µg/m³ or 60 µg/m³ from 1 January 2010. Clearly, the Mayor's AQS must include policies and proposals to achieve no more than 60 µg/m³ from 1 January 2010.

Please ensure that your AQS includes policies and proposals for the achievement of these obligations.

Comments on Policies and Proposals

In CCAL's considered view, the draft AQS is a start but it is not yet 'fit for purpose', primarily for the health and legal reasons set out above. Despite these fundamental failings, some good work is included in the draft AQS.

CCAL urges the Mayor to define a bold vision for his AQS around: seeking a reduction in hazardous concentrations to the point they do not harm human health; and compliance forthwith in full with air quality laws. The AQS needs also to define clearly responsibility, authority and accountability for the delivery of his AQS. 'Wedges' should be used to show graphically how and when concentrations will be reached.

CCAL supports strongly (except if in conflict with this letter in which case this letter prevails): all the comments made by Environmental Protection UK and ClientEarth in their responses to the consultation; the 65 Recommendations submitted previously by CCAL to your environment team (attached); and the cross-party report published by the Environment Committee of the London Assembly on 1 May 2009 titled 'Every Breath You Take' which can be seen:

<http://www.london.gov.uk/assembly/reports/environment/air-quality-report-200904.pdf>

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Please consider these submissions and include all their recommendations in the AQS.

CCAL has already encouraged your air quality team, in general, to: include much more ambitious policies and proposals in the draft AQS to protect public health and ensure full compliance with air quality laws; specify precisely the policies and proposals that are included; and back the policies and proposals with unambiguous, robust and fully funded commitments. Subject to the foregoing, CCAL has the following detailed comments on the policies and proposals listed in the ‘Summary of policies and proposals’ attached to the draft AQS:

1. Policy 1 – Encouraging smarter travel choices and sustainable travel behaviour

Edward Townes, a researcher, has undertaken ground breaking work as part of an appeal with CCAL for the comprehensive consideration of vehicle emissions in London. Edward’s research, analysing the Department for Transport’s database of ‘New emission factors’ has compared carbon dioxide emissions with those of particulate matter and oxides of nitrogen for: different vehicle types; different fuels (i.e. diesel, petrol and electricity); different Euro engine emission standards; and speeds of 5mph and 20 mph. See the DfT database at:

<http://www.dft.gov.uk/pgr/roads/environment/emissions/>

Edward’s research demonstrates clearly the dangers of the government’s myopic focus on carbon dioxide emissions instead of looking at air pollution holistically (including the need to protect public health), particularly in cities where air quality is poor e.g. London.

CCAL would welcome an early opportunity to present these results to TfL and your air quality team. The research is being emailed separately to your team.

CCAL supports the measures proposed in Policy 1 but they must be implemented ambitiously and successfully instead of becoming ‘busy fool’ ideas that sit on the shelf and look good but achieve nothing.

Action: CCAL and Edward Townes urge you to ensure that the Mayor’s AQS takes comprehensive consideration of vehicle emissions in London.

2. Policy 2 – Promoting technological change and cleaner vehicles

CCAL supports the measures proposed but they must be implemented ambitiously and successfully instead of becoming ‘busy fool’ ideas that sit on the shelf and look good but achieve nothing.

3. Policy 3 – Targeting air quality hotspots through a package of localised measures

It is difficult to comment on this Policy because the measures proposed are largely unspecified, unquantified, untested and unfunded. CCAL assumes they are meant to be ongoing measures but that should be confirmed please in the AQS.

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It seems further that this Policy (and Policy 6 below) may be intended to mitigate the impact of the delay of Phase 3 of the low emission zone (LEZ) (from October 2010 to 2012) and the possible removal of the Western Extension Zone (WEZ) of the Congestion Charging Scheme.

In general, CCAL supports a widespread, systematic approach to improvements in air quality to tackle hotspots rather than hotspot measures *per se* (although the latter are clearly required if the former is inadequate). This is because: air quality standards are only as loose as they are because laws require them to be met everywhere, thereby forcing much wider health benefits; they are more reliable and cost effective; and they are less disruptive. Crucially though, standards must be met everywhere.

While CCAL does not object to the measures proposed *per se* (e.g. focusing the cleanest buses on routes operating in central London where possible), CCAL considers it incredible that this policy should be expected to contribute in any significant way to the achievement of the EU limit values throughout London. By way of evidence, please consider:

- i. the scientific paper published in Environmental Pollution (157 (2009) 2645-2653) and titled ‘An integrated tool to assess the role of new planting in PM₁₀ capture and the human health benefits: A case study in London’ by Tiwary et al, 2009 (which CCAL has already passed to your team). That paper concludes that a substantial planting programme might avert two premature deaths per year and two hospital admissions;
- ii. the Clean Air and Action Plan for Berlin 2005 – 2010 (attached) published by the Senate Department of Urban Development in August 2005 which highlights the difficulties with this approach; and
- iii. a paper obtained from the government under the Freedom of Information Act (attached) which shows that hotspots are expected to be fairly widespread still by June 2011 and exist on a number of the busiest roads in central London - even before the delay of Phase 3 of the LEZ and the removal of the WEZ.

CCAL has responded separately in relation to Phase 3 of the LEZ under Policy 5 below.

The Mayor has stated under this policy heading on page 40 of the draft AQS that he is minded to remove the WEZ. In the Draft Revised Mayor’s Transport Strategy Integrated Impact Assessment: Appendix E: Report on the Removal of the Western Extension Zone (dated October 2009), Table 3.3 on page 20 addresses ‘Impacts of removing WEZ in 2010 compared to conditions in late 2007/early 2008. Table 3 predicts an increase in circulating road traffic of 15-20% (vehicle kilometres) and an increase in congestion of 11 to 18% (minutes per kilometre) within the extension zone. Emissions of PM₁₀ and NO_x are predicted to increase by 4 to 8% respectively within the extension zone after its removal. These are large increases contrary to the impression the strategy seeks to portray i.e. up to 20/30% of all gains by 2012 and/or 2015 (and they are certain, already being in place).

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The government has made clear that if the Mayor removes the WEZ it expects him to replace it with equal or greater measures to improve air quality. At least, in part, this is because concentrations of PM₁₀ (and NO₂) set by the limit values have now been achieved in places within the WEZ and cannot again be exceeded. More specifically, irrespective of weather-effects, air quality laws require that once attained the daily limit value for PM₁₀ cannot be breached on a single day after the 35 days allowed. This is a reasonable requirement designed to ensure widespread, systematic reductions in air pollution not adhoc ‘sticking plaster’ type measures to eliminate hotspot problems.

In CCAL’s carefully considered view, Mayor Johnson would put the Secretary of State for Environment Food and Rural Affairs in breach of his statutory duties with respect to air quality if he removed the WEZ and then failed to ensure limit value concentrations are then met everywhere they are currently met, irrespective of future weather conditions. Thurloe Place, which sits between Brompton Road and Cromwell Road, is a good example of this issue since the daily limit value for PM₁₀ is now met there. It is unlikely that this limit value would still be met if traffic volumes increase sharply as expected upon removal of the WEZ (unless an inner LEZ is in place).

Action: CCAL urges the Mayor to ensure robust compliance with EU limit values at air quality hotspots, wherever possible, through widespread systematic measures rather than a package of localised measures. If localised measures are needed to ensure compliance, they must be specified, quantified, tested and funded. CCAL supports road-user charging and advocates dynamic road pricing. CCAL opposes the removal of the WEZ unless it is replaced simultaneously by one or more inner low emission zones (preferably modelled on the Berlin scheme) that overlap fully the current WEZ. See Policy 5 also below.

4. Policy 4 – Reducing emissions from the public transport fleet

Page 26 of the draft AQS states that ‘Road transport is the dominant source of PM₁₀ emissions in central London, contributing some 83% in 2006’.

CCAL is very disappointed by the lack of ambition proposed for this Policy. For example, the age limit proposed for licenced taxis of 15 years by 2012 and 12 years by 2015 is very weak when these vehicles are estimated to produce some 25% of all PM emissions from road transport in central London.

After acknowledging that the fitting of abatement filters has not been effective for taxis, the Mayor is then taking several years not even to get back to Euro 3 standards which were mean to be in place from July 2008. Pre-Euro 3 vehicles need to be replaced quickly with Euro 3 following. As such a big contributor to the health problem, surely taxi drivers should get financial support for upgrading their vehicles?

In CCAL’s view, the AQS needs to tackle fairly every source of harmful emissions if the EU limit values are to be met to protect public health. For the public transport fleet this means:

- i. all buses in London should meet, for particulates and oxides of nitrogen, the Euro IV standard by June 2011 and the Euro V standard by January 2015. Maximum use should be made of

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- retrofitting of selective catalytic reduction and other abatement devices. CCAL understands such devices have been successfully trialled and could be fitted quickly to some 80% of London’s bus fleet;
- ii. all London taxis and PHVs should be Euro 4 or better (for particulates and oxides of nitrogen) by June 2011 and Euro 5 or better (for particulates and oxides of nitrogen) by January 2015. The fitness of carriage obligations should be revised to exclude by January 2011 requirements such as the turning circle in order to allow a wide range of manufacturers to compete e.g. providers of electric taxis;
 - iii. all GLA and functional body vehicles should be Euro 4 or better (for particulates and oxides of nitrogen) by June 2011 and Euro 5 or better (for particulates and oxides of nitrogen) by January 2015; and
 - iv. diesel trains entering within the M25 should be required to use ultra-low sulphur diesel and best available technology abatement devices by June 2011.

Action: CCAL urges the Mayor to tackle this category of emissions effectively. Otherwise the Mayor will need to impose unreasonable burdens on other sources of emissions e.g. business and private individuals.

5. Policy 5 – Emissions control schemes

CCAL is very disappointed by the Mayor’s approach to this Policy.

For example, the proposal to delay Phase 3 of the LEZ from October 2010 to 2012 will delay reductions of over 15% in the number of people expected to be exposed to levels of NO₂ exceeding the annual average limit value and over 15% of those worst effected by dangerous airborne particles. For details, please refer to Annex A titled ‘Summary of projected impacts on emissions, exceedances and population exposure’ in Scheme Description and Supplementary Information of the Public and Stakeholder Consultation for the Proposed Low Emission Zone.

This situation is not acceptable, not least when air quality laws for both PM₁₀ and NO₂ are expected to be breached in the intervening period.

A high degree of certainty is needed to comply with EU limit values for PM₁₀ by June 2011 and ensure (at a minimum) that annual average levels of NO₂ do not exceed 60 µg/m³ from 1 January 2010. Large and reliable measures are therefore needed. It seems incredible to CCAL that the Mayor should be delaying a crucial measure when public health laws are being breached so substantially.

On several occasions, CCAL has urged the Mayor to consider one or more inner low emission zones to ensure that air quality is improved rapidly, reliably and cost effectively in London. In particular, CCAL continues to urge the Mayor to include a Berlin style LEZ in inner London (to include the whole central and western extension of the congestion charging scheme and the boundary roads). Please see two attachments which detail the impact of that scheme.

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CCAL is concerned that the Mayor may have failed adequately to assess such an inner LEZ. When assessing such a proposal, the key metric should be to ensure the most cost effective means of complying with legal obligations. It seems obvious to CCAL that if Euro 4 standards (for diesel vehicles) are needed throughout central London by January 2011 and Euro 5 standards by January 2015 that it will be much more cost effective to adopt measures only where they are required rather than across the whole of Greater London. In other words, the Mayor should be weighing the inputs (e.g. costs) to achieve certain outputs (e.g. concentrations) of a Euro 4 (and then Euro 5) inner LEZ against the same standards simultaneously, London-wide (i.e. at the current boundary) i.e. the Mayor should not be comparing a Euro 4 inner with a Euro 3 outer (or Euro 5 inner with Euro 4 outer). Clear thinking is needed by the Mayor and his advisers on this issue or huge and unnecessary disruption will impact many Londoners.

Action: CCAL opposes strongly the delay of Phase 3 of the LEZ and urges the Mayor to introduce by January 2011 one or more inner LEZs along the lines of the Berlin scheme (i.e. to coincide with the possible removal or the WEZ or otherwise). If an inner LEZ is working effectively, it may be possible then to delay further tightening of the outer LEZ.

6. Policy 6 – Air Quality Action Days and Special Measures

It is difficult to comment on this Policy because the measures proposed are largely unspecified, unquantified, untested, unfunded and adhoc. CCAL assumes they are meant to be ‘emergency type’ measures but that should be confirmed please in the AQS.

It seems further that this Policy (and Policy 3 above) may be intended to mitigate the impact of the delay of Phase 3 of the low emission zone (LEZ) (from October 2010 to 2012) and the possible removal of the Western Extension Zone (WEZ) of the Congestion Charging Scheme.

In general, CCAL supports a widespread, systematic approach to improvements in air quality to tackle hotspots rather than hotspot measures *per se* (although the latter are clearly required if the former is inadequate). CCAL is concerned that the use of ‘emergency type’ measures (although perhaps being required if the Mayor fails to improve air quality substantially and systematically) is flawed for the following reasons:

- they fail to understand the aims of the air quality laws. Air quality standards are only set as loosely as they are because air quality laws require them to be met everywhere, thereby forcing much wider health benefits;
- they fail to understand the health impact of poor air quality. COMEAP estimates that the coefficient for short terms deaths is 0.75% of all deaths per 10 $\mu\text{g}/\text{m}^3$ increase in PM_{10} whereas COMEAP’s recommended coefficient for long term exposure to $\text{PM}_{2.5}$ is 6.0% for those aged 30 and above. With nearly 10 times as many people dying due to long term exposure to poor air quality, it is essential that a more widespread systematic approach is adopted to deliver compliance in hotspots; and

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- they fail to understand the likely disruption that would be caused by such measures. Berlin looked at such policies in 2005 and concluded that this measure is not proportionate e.g. because general driving bans do not adequately differentiate between polluters and it is essential to supply the city and to remove urban waste. Berlin concluded further that even if such measures were not chaotic they would still fail to achieve the necessary effect because some 70% of the PM emissions arise from outside sources on high pollution days.

Action: CCAL urges the rejection of Policy 6 except as a last resort if the Mayor has failed to tackle the air quality challenge in a systematic and effective manner.

7. Policy 7 – Reducing emissions from construction and demolition sites

CCAL supports the measures proposed but they must be implemented ambitiously and successfully instead of becoming ‘busy fool’ ideas that sit on the shelf and look good but achieve nothing.

The failure of the Olympic Delivery Authority to adopt fully the ‘Best Practice Guidance for the control of dust and emissions from demolition and construction’ at the Olympic Park and elsewhere is lamentable. It must trigger a call to action to require legally their full adoption on all public sector and major private sector projects throughout London.

Action: CCAL urges the Mayor to require legally the full adoption of these policies and proposals on all public sector and major private sector projects throughout London.

8. Policy 8 – Better use of the planning process

Substantial progress has been made in recent decades in building and construction technology. Please take full advantage of this and require each new or replacement building to be air quality positive by 25% or more. This should not be difficult for developers to achieve and would offer substantial co-benefits for energy efficiency and climate change.

In other respects CCAL supports the measures proposed but they must be implemented ambitiously and successfully instead of becoming ‘busy fool’ ideas that sit on the shelf and look good but achieve nothing.

Action: CCAL urges the Mayor to require each new or replacement building to be air quality positive by 25% or more. A full study should be undertaken to assess the potential scale of benefit that could be achieved.

9. Policy 9 – Energy efficient buildings

Substantial progress has been made in recent decades in building and construction technology. Please take full advantage of this and require each new or replacement building to be air quality positive by

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25% or more. This should not be difficult for developers to achieve and would offer substantial co-benefits for energy efficiency and climate change.

In other respects CCAL supports the measures proposed but they must be implemented ambitiously and successfully instead of becoming ‘busy fool’ ideas that sit on the shelf and look good but achieve nothing.

Action: CCAL urges the Mayor to require each new or replacement building or initiative to be air quality positive by 25% or more. A full study should be undertaken to assess the potential scale of benefit that could be achieved.

10. Policy 10 – A less polluted public realm

CCAL is concerned that ‘living walls’ may be encouraged at the cost of losing public space i.e. it may be favoured by developers to intensify development.

In other respects CCAL supports the measures proposed but they must be implemented ambitiously and successfully instead of becoming ‘busy fool’ ideas that sit on the shelf and look good but achieve nothing.

Action: CCAL urges the Mayor to define clearly his proposals and the contribution they are expected to deliver. A full study should be undertaken to assess the potential scale of benefit that could be achieved.

11. Policy 11 – Encouraging innovation

CCAL supports the measures proposed but they must be implemented ambitiously and successfully instead of becoming ‘busy fool’ ideas that sit on the shelf and look good but achieve nothing.

12. Policy 12 – Raising public awareness and encouraging behavioural change

CCAL supports the measures proposed but they must be implemented ambitiously and successfully instead of becoming ‘busy fool’ ideas that sit on the shelf and look good but achieve nothing.

Other

CCAL notes and/or emphasises that:

1. references to emissions of oxides of nitrogen in many places in the AQS, instead of concentrations of NO₂, is disappointing. NO_x emissions are an ‘input’ not the ‘output’. Medical advice and EU limit values are defined for NO₂ concentrations. Please therefore focus almost entirely on the latter not the former in the revised AQS; and
2. the AQS needs to take account of actual population exposure to dangerous airborne particles and other air pollutants not just residential exposures. For example, as you know, very large numbers

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of people visit London’s two international shopping centres of the West End and Knightsbridge either as visitors or workers. Research on personal exposure to air pollution has highlighted the cumulative effect of such exposure. Please ensure that the benefits assessed by the strategy include the benefits of reducing personal exposure to these large numbers of people.

Resolving the impasse between government and the Mayor

The health and legal imperatives make necessary urgent action to improve air quality in London.

CCAL encourages the government and the Mayor to ‘do a deal’ on PM₁₀ to salvage UK’s time extension application for London. This deal should include, *inter alia*, the following commitments:

- government money and support;
- the Mayor ensuring limit values for PM₁₀ are met throughout London by June 2011 (or now if no time extension is granted);
- the Mayor implementing Phase 3 of the LEZ by 1 June 2011 (to support the government’s time extension application); and
- the Mayor implementing one or more Berlin style inner LEZs by 1 January 2011.

The challenge of complying with limit values for NO₂ poses a major problem nationally. Therefore the approach needed must be much more far reaching. It should include, *inter alia*, the following:

- passing responsibility and more powers to local authorities;
- a national framework of LEZs;
- a national scheme for PM and/or NO_x abatement devices;
- multiple scrappage schemes for redundant technology; and
- everything including the ‘kitchen sink’.

CCAL has seen the Mayor’s list of requirements to be met by the government and supports it fully (attached).

CCAL encourages the government and the Mayor to seek a ‘win-win’ outcome for themselves and Londoners.

Ten tests for the draft MAQS when it is presented for public consultation

In CCAL’s carefully considered view, to be judged ‘fit for purpose’ the draft AQS for Public Consultation (and the AQS thereafter) must include/demonstrate, *inter alia*, the following:

1. a clear long term vision and timetable to eliminate harmful air pollutants and show how air pollution can be tackled successfully and rapidly in the largest cities, with substantial co-benefits;
2. a recognition that poor air quality is estimated to have caused up to 6,900 premature deaths due to dangerous airborne particles (PM_{2.5}) in London in 2005 (even assuming average UK population-weighted exposure);

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3. full compliance with the requirements for air quality within the GLA Act including how the legal standards will be met including when and by whom:
 - i. how the limit values for PM₁₀ will be met throughout Greater London by 11 June 2011 (or forthwith if the UK’s time extension application is rejected as CCAL expects). This needs to include a ‘deal’ with government;
 - ii. how annual average concentrations of NO₂ will be kept below 60 µg/m³ throughout Greater London from 1 January 2010 and 40 µg/m³ from 1 January 2015 (or forthwith if the UK’s time extension application is rejected as CCAL expects). This needs to include commitments from government; and
 - iii. how the exposure concentration obligation(s) and exposure reduction requirements for PM_{2,5} will be met out to 2020;
4. one or more Berlin-style inner LEZs. These should include at a minimum:
 - i. the whole area of the Central and Western Extension Zones of the Congestion Charging Scheme including all boundary roads;
 - ii. the local roads around Heathrow airport with immediately adjacent sections of the motorways to follow before 2015 (as in Austria and Germany);
 - iii. Euro 4 for diesel by January 2011 and Euro 5 for diesel by January 2015. If this is not done, then the Mayor must set these standards for the whole of Greater London at the current boundary to achieve the same desired reductions in concentrations where they are needed most; and
 - iv. the 2015 version of the inner LEZ being applied during the 2012 events, for as many vehicle categories as necessary, to showcase London’s vision for the future and achieve the required reductions in traffic volumes in an environmentally friendly and healthy manner.
5. Phase 3 of the low emission zone being implemented in full by no later than 1 June 2011 (unless an inner LEZ is fully operational and effective in which case it may be possible to delay the tightening of the current outer LEZ);
6. the WEZ being kept unless it is replaced simultaneously by an overlapping Berlin-style inner LEZ;
7. sharp reduction in emissions from the public transport fleet including:
 - i. over 80% of buses meeting the Euro IV standard for NO_x and PM by June 2011 and Euro V by January 2015 (through the use of Selective Catalytic Reduction devices or otherwise); and

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- ii. all taxis and PHVs’ meeting at least Euro 4 standards for NO_x and PM by June 2011 and Euro 5 by January 2015. The removal from January 2011 of the turning circle requirement in the Conditions of Fitness;
8. the focus consistently and throughout the AQS on NO₂ concentrations instead of NO_x emissions;
9. robust funding and implementation plans; and
10. a convincing plan to tackle the challenges and opportunities offered by the Queen’s Diamond Jubilee and the Olympics in 2012 e.g. the Olympic Route Network.

Please acknowledge receipt of this letter to the email address provided separately and respond to CCAL on the action points raised in this letter.

With best wishes.

Yours sincerely

Simon Birkett
Founder and Principal Contact
Campaign for Clean Air in London

Enclosures

Cc: By hand:

Winston Fletcher, Chair, The Knightsbridge Association
Carol Seymour-Newton, Honorary Secretary, The Knightsbridge Association

Cc: Commissioner Dimas, Environment DG
The Rt. Hon. Hilary Benn MP, Secretary of State for Environment Food and Rural Affairs
The Rt. Hon. Lord Andrew Adonis MP, Secretary of State for Transport
The Rt. Hon. Ed Miliband, Secretary of State for Energy and Climate Change
The Rt. Hon Andy Burnham, Secretary of State for Health
Jim Fitzpatrick MP, Minister for Air Quality
ORGANISATIONS
Helen Ainsworth, EU and International Air Quality, Defra
Jenny Bates, London Regional Campaigns Co-ordinator, Friends of the Earth
Patricia Brown, Chief Executive, Central London Partnership
The Lord Coe
Peter Daw, Interim Strategy Manager (Air Quality, Energy and Climate Change), GLA
Isabel Dedring, Environment Adviser to the Mayor of London

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Daniel Instone, Defra
Dame Judith Mayhew, Chair, New West End Company
Daniel Moylan, Deputy Chair, Transport for London
Philip Mulligan, Chief Executive, Environmental Protection UK
Derek Picot, Chairman, The Knightsbridge Business Group
Dragomira Raeva, EU Policy Unit, European Environmental Bureau
The Lady Valentine, Chief Executive, London First
Dr Martin Williams, Senior Reporting Officer, Atmospheric Quality and Industrial Pollution, Defra
Tim Williamson, Deputy Senior Reporting Officer, Defra

LEADING POLITICIANS

Jean Lambert MEP, Green
Baroness Ludford MEP, Liberal Democrat
Claude Moraes MEP, Labour
Charles Tannock MEP, Conservative
Gareth Bacon AM, Conservative, London Assembly Member
James Cleverly AM, Conservative, Environment Committee, London Assembly
Roger Evans AM, Conservative, Environment Committee, London Assembly
Nicky Gavron AM, Labour, Environment Committee, London Assembly
Darren Johnson AM, Green, Chair of the Environment Committee, London Assembly
Caroline Pidgeon AM, Liberal Democrat, Deputy Chair of the Transport Committee
Murad Qureshi AM, Deputy Chair, Environment Committee, London Assembly
Valerie Shawcross AM, Chair of the Transport Committee, London Assembly
Mike Tuffrey AM, Liberal Democrat, Environment Committee, London Assembly

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APPENDIX ONE

Agreed calculation of Premature Deaths due to PM_{2.5} in London in 2005

CCAL and the Health Protection Agency (HPA) have used national average annual PM_{2.5} concentrations from Defra’s Air Quality Strategy 2007 to calculate the Attributable Deaths in London in 2005 due to exposure to PM_{2.5} using the following assumptions:

- i. London has the same anthropogenic PM_{2.5} (i.e. man-made fine particles) annual average population-weighted mean as the whole UK of 10.144 µg/m³ (gravimetric) (see Table 2.11 on page 87 of Volume 3 of Defra’s Air Quality Strategy 2007) in 2005. See

<http://www.defra.gov.uk/environment/quality/air/airquality/publications/stratreview-analysis/chap-2-icgb.pdf>

Note that Defra assumed (on page 87) the level of non-anthropogenic PM_{2.5} to be constant and estimated it to be about 3.37 µg/m³ annual average population-weighted mean.

- ii. 52,995 total deaths in London in 2005 from Table 4.1b on page 57 of National Statistics: Key Population and Vital Statistics, Local and Health Authority Areas. See:

http://www.statistics.gov.uk/downloads/theme_population/KPVS32_2005/KPVS2005.pdf

- iii. the death rate of those dying before 30 years of age as 1.9% of total deaths from Table 6.1 on page 47 of National Statistics, Population Trends, No. 124, Summer 2006. See:

http://www.statistics.gov.uk/downloads/theme_population/PT124.pdf

- iv. calculated that there were 52,995 x (1 – 0.019) = 51,988 total deaths in London in 2005 of people aged 30 and above; and

- v. applied the recommendations from COMEAP’s 2009 Report to use a coefficient of 6% per 10 µg/m³ of PM_{2.5} as the best estimate of Attributable Deaths, with a sensitivity of 12% and a wider interval of 15% (which COMEAP said should be used in any report on quantification of risks from long-term exposure to air pollution represented by PM_{2.5}).

The calculation of premature deaths is explained in the footnote on page 46 of the COMEAP 2009 Report. It says:

“If the new concentration change in population-weighted mean for the policy interest is $-x$ µg/m³ (with a negative sign as the analysis usually concerns reductions), then the new RR [Relative Risk] for an x µg/m³ reduction is calculated as $1.06^{-x/10}$ [assuming 1.06 is the RR for a 10 µg/m³ increase in PM_{2.5}]. As the equation represents a curved relationship, concentration increments need to be identified as increases

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or decreases – the new RR will have a different value for a given concentration increment depending on whether it is for an increase or a decrease.”

CCAL and the HPA have therefore used the above log-linear function to scale the results to ensure an accurate number and applied the resulting RR to the number deaths of people of 30 years of age and older.

The agreed calculations for London in 2005 using the different coefficients and assuming only UK average population-weighted exposures in London are:

$$\mathbf{6\%: \quad Attributable Deaths = 51,988 \times (1 - 1.06^{-10.144/10.000}) = 2,984}$$

$$\mathbf{12\%: \quad Attributable Deaths = 51,988 \times (1 - 1.12^{-10.144/10.000}) = 5,646}$$

$$\mathbf{15\%: \quad Attributable Deaths = 51,988 \times (1 - 1.15^{-10.144/10.000}) = 6,873}$$

Previously CCAL had simply applied the RRs of 1.06, 1.12 and 1.15 figures for the 10.144 $\mu\text{g}/\text{m}^3$ reduction in $\text{PM}_{2.5}$ as indicated on page 46 of the COMEAP Report 2009 can be done as an approximation. The differences for a 10.144 $\mu\text{g}/\text{m}^3$ reduction in $\text{PM}_{2.5}$ become:

$$\text{Instead of 6\%:} \quad 1 - 1.06^{-10.144/10.000} = 0.0574 \text{ i.e. } 5.74\%$$

$$\text{Instead of 12\%:} \quad 1 - 1.12^{-10.144/10.000} = 0.1086 \text{ i.e. } 10.86\%$$

$$\text{Instead of 15\%:} \quad 1 - 1.15^{-10.144/10.000} = 0.1322 \text{ i.e. } 13.22\%$$

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APPENDIX 2

An appeal for the comprehensive consideration of vehicle emissions in London

Summary of Observations

- Slower-travelling vehicles emit more pollutants per unit distance
- Diesel vehicles are worse polluters of oxides of nitrogen and particulate matter than petrol
- Diesel vehicles are losing their advantage in carbon dioxide emissions to petrol vehicles
- Taxis are some of the most polluting vehicles
- Sequential Euro standards are making all vehicle types less polluting
- Diesel and petrol vehicles are due to be air quality/ climate change neutral from about 2015

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