Clean Air IN LONDON

The Rt. Hon. Alan Johnson MP
Secretary of State for Health
Department of Health
Richmond House
79 Whitehall
London SW1A 2NS

By registered post

19 April 2009

Dear Secretary of State

What is the real health impact of poor air quality in Greater London?

Latest research suggests some 2,900* people aged 30 or over may die prematurely per annum from dangerous airborne particles (PM_{10}) in Greater London alone: nearly three times earlier estimates

Research suggests amount of time lost, per statistical victim, may be 9.8 years equating to an average change in life expectancy of approximately 0.6 years (7.2 months) in the total population

This letter is sent on behalf of the Campaign for Clean Air in London (CCAL). Details of our Mission and Supporters can be seen at www.cleanairinlondon.org.

Summary

The primary purpose of this letter is to ask the Department of Health (DoH): for its urgent assistance to clarify the full extent of the health impact of poor air quality in Greater London; and to commit to a major public information programme to communicate updated similar information at least annually in future.

On 24 March 2009, the European Environment Agency published a report titled 'Spatial assessment of PM_{10} and ozone concentrations in Europe (2005)' (the EEA Report) from which CCAL calculates there were some 2,905 premature deaths attributable to dangerous airborne particles (PM_{10}) among adults of 30 years of age and older in Greater London in 2005. The EEA Report (5.2 MB) can be downloaded at:

http://www.eea.europa.eu/publications/spatial-assessment-of-pm10-and-ozone-concentrations-in-europe-2005-1

Furthermore, some of the medical research to which the EEA refers (Kunzli et al, 2000), suggests that the amount of time lost per statistical victim may be 9.8 years equating to a change in life expectancy of approximately 0.6 years (7.2 months) in the total population.

∗ CCAL calculation based on latest European Environment Agency Report; Greater London assumed to have no worse than average UK exposure to PM_{10}; and ONS population estimates for mid-2007.

This new information is particularly worrying given that: the only previous premature death figure for London seen by CCAL was 1,031 premature deaths from PM_{10} in total in 2005; and the government's Air Quality Strategy for England, Scotland, Wales and Northern Ireland in 2007 (AQS 2007) appears to have omitted references to premature deaths (when earlier government-sponsored publications had included them) and years of life lost. The AQS 2007 stated simply 'estimated to reduce life expectancy of every person in the UK by an average of 7-8 months with an equivalent health cost of up to £20 billion each year'.

CCAL is deeply concerned that the public health impact of poor air quality in Greater London, which is recognised – including by the government – to be the worst in the United Kingdom (UK), may be much worse than earlier research showed.

In addition, why have major public information campaigns been launched on alcohol abuse, obesity, road traffic accidents and smoking – and not on poor air quality – when poor air quality is such a major killer? Similarly, why is there no-one seemingly from the DoH commenting regularly in the media on the importance of major research into the health impacts of poor air quality whenever it appears?

In CCAL's view, it is essential that people are given an opportunity to understand the full extent and seriousness of the air quality problem and the part they can play in improving the situation.

Latest research published by the European Environment Agency

On 24 March 2009, the European Environment Agency published a report titled 'Spatial assessment of PM_{10} and ozone concentrations in Europe (2005)' (the EEA Report). The EEA Report (5.2 MB) can be downloaded at:

http://www.eea.europa.eu/publications/spatial-assessment-of-pm10-and-ozone-concentrations-in-europe-2005-1

Dangerous airborne particles (PM_{10})

The EEA Report shows in a bar chart in Figure 3.4 on page 20 the UK as having around 650 premature deaths per million inhabitants attributable to PM_{10} in 2005 among adults of 30 years of age and older.

On 21 August 2008, the Office of National Statistics issued mid-2007 population estimates for all local authorities in England and Wales. A report by the Data Management an Analysis group (DMAG) titled 'GLA Demography Update 14-2008 August 2008' can be downloaded at:

http://legacy.london.gov.uk/gla/publications/factsandfigures/DMAG-Update-14.rtf

Table 6 of the DMAG report is titled 'Mid-2007 Population estimates by broad age range, Greater London and London boroughs'. It shows that there were some 4,469,400 adults of 30 years of age and older in Greater London in mid-2007.

In order to make a conservative estimate, CCAL has assumed that Greater London has exposure to PM_{10} equal to the UK average. This is despite it being widely acknowledged (including by the government) that Greater London has the worst air pollution in the UK and the EEA Report notes on page 21 that 'On the average, the annual average concentration at a traffic hotspot is 20 to 25% higher than at an urban background station'. CCAL calculates that there were:

650 times 4.4694 = 2,905 premature deaths attributable to PM_{10}
among adults of 30 years of age and older in Greater London in 2005

This number (for adults of age 30 and older) is nearly three times the 1,031 accelerated deaths in total attributable to PM_{10} in London in 2005 that was referred to in the Introduction on page 1 of the Mayor's Air Quality Strategy, Progress Report to March 2005 (published in August 2005). That report can be downloaded at:

http://legacy.london.gov.uk/mayor/environment/air_quality/docs/MAQS_progress_report_2005.pdf

The Executive summary of the EEA Report on page 5 states that 'Measured particulate matter (PM) concentrations in Europe have not shown, in general, any downward tendencies over the period from 2000 to 2005.' It would seem reasonable to assume therefore that the current rate of premature deaths attributable to PM_{10} in Greater London may still be some 2,905 among adults of 30 years of age and older.

Nationally, Table 1 of ONS' the 'Mid-2007 Population Estimates: United Kingdom; estimated resident population by single year of age and sex' shows some 38,131,700 adults of 30 years of age and older (out of a total UK population of 60,975,400). At a rate of 650 premature deaths per million inhabitants attributable to PM_{10} in 2005 among adults of 30 years of age and older, this would equate to 24,785 premature deaths in this age group nationally in 2005. This report can be downloaded at:

http://www.ons.gov.uk/ons/rel/pop-estimate/population-estimates-for-uk--england-and-wales--scotland-and-northern-ireland/2007/index.html

It should be possible from data in the above report to estimate also premature deaths in each local authority area across the UK.

Ozone

In addition, the bar chart in Figure 4.2 on page 29 of the EEA Report shows the UK as having around 10 premature deaths per million inhabitants attributable to ozone exposure in 2005. If that number is multiplied by the 7,556,900 total inhabitants in Greater London in mid-2007, Greater London experienced 75 premature deaths attributable to ozone exposure in 2005. If correct, this would take the total premature deaths attributable to PM_{10} and ozone to some 2,980 in Greater London in 2005. Please note that this figure includes only adults of age 30 and older for PM_{10}.

CCAL notes that meteorology, which effects air quality, was broadly average in 2005.

Importantly, the EEA Report estimates a figure of 830 premature deaths per million inhabitants corresponding to about 373,000 premature deaths in the EU-25 countries in 2005, assuming a PM_{10} natural concentration of 5 micrograms per cubic metre ($\mu g/m^3$). The CAFÉ Programme results included an estimate of 348,000 premature mortalities due to anthropogenic emissions of primary PM and PM precursors in the year 2000 (see Table 34 on page 129). That report (6.4 MB) can be downloaded at:

http://ec.europa.eu/environment/air/pdf/sec_2005_1133.pdf

The similarity between the 2000 and 2005 figures suggests that the extent of the health impact of dangerous airborne particulates (PM_{10}) has been known for many years.

As you will be aware, recent publications show the UK as having the worst record on a number of measures on nitrogen dioxide (NO_2), a toxic gas, in the whole of Europe. Please see the recent update published by CCAL for further details:

http://cleanairinlondon.org/legal/defras-consultation-on-uk-plans-and-programmes-to-meet-eu-air-quality-limit-values-for-no2/

In CCAL's view, the time has come to step up substantially the UK's efforts to improve air quality.

15 questions for the Department of Health

CCAL asks respectfully that you reply personally, in your capacity as Secretary of State for Health, to the two primary questions at the start of the 'Summary' above and to the other specific questions listed below. Relevant background information appears in the two Appendices attached to this letter: 'What are the health facts?'; and 'What have we been told by the government and others?'.

1. The importance of improvements in public health - In the DoH's view, what was the average increase in life expectancy in the UK between 1900 and 1999 and how much of this gain was attributable to advances in public health?;

2. Premature deaths - In the DoH's view, how many people died prematurely due to PM_{10} in Greater London in 2005 (and/or specified subsequent years)? In the DoH's view, how many people in total died prematurely due to air pollution in Greater London in 2005 (and/or specified subsequent years)? Please use a population weighting approach like that in Table 3.2. on page 19 of the EEA Report;

3. Time lost per victim - In the DoH's view, what was the amount of time lost per statistical victim in years for those that died prematurely due to PM_{10} in Greater London in 2005 (and/or specified subsequent years)? In the DoH's view, what was the amount of time lost per statistical victim in years for all those that died prematurely due to air pollution in Greater London in 2005 (and/or specified subsequent years)? Please use a population weighting approach like that in Table 3.2. on page 19 of the EEA Report;

4. Average reduction in life expectancy - In the DoH's view, what was the estimated average

reduction in life expectancy due to PM_{10} of every person in Greater London and equivalent health cost in 2005 (and/or specific subsequent years)? In the DoH's view, what was the estimated average reduction in life expectancy due to all forms of air pollution of every person in Greater London and equivalent health cost in 2005 (and/or specific subsequent years)? Please use a population weighting approach like that in Table 3.2. on page 19 of the EEA Report;

5. Future reporting - Will the DoH commit please to publish for each local authority (or similar area) in the UK - soon after the end of each calendar year - its estimate of: the number of people who died prematurely in that year due to PM_{10}; the amount of time lost per statistical victim due to PM_{10}; and the average change in life expectancy in the total population due to PM_{10}? Will the DoH commit to publish for each local authority (or similar area) in the UK - soon after the end of each calendar year - its estimate of: the number of people who died prematurely in that year due to air pollution; the amount of time lost per statistical victim due to air pollution; and the average change in life expectancy in the total population due to air pollution?;

6. COMEAP independence ensured - Will the DoH confirm please that the report on 'Long-Term Exposure to Air Pollution: Effect on Mortality' due to be published shortly by the Committee on the Medical Effects of Air Pollutants (COMEAP) will include recommendations based entirely on medical research and medical judgements not other factors (such as the economic consequences of that advice)?;

7. COMEAP - Air quality banding - Will the DoH ask please COMEAP to update its air quality banding which forms the basis for public bulletins? It seems that this was last updated in January 1998 and therefore pre-dates the European Union (EU) Limit Values and more recent advice from the World Health Organisation. As a result, it is currently possible for air pollution to be 'Low' all year round and still breach widely the EU Limit Values – this is a confusing message for the public;

8. COMEAP - Health effects of incinerators and biomass burning - Will the DoH ask please COMEAP to investigate and make recommendations on the health effects of emissions from incinerators and biomass burning in cities?;

9. The precautionary principle - Does the DoH support fully adherence to the precautionary principle and if not why not?;

10. Possible impact of summer smog episode on London 2012 - Does the DoH agree that, if 2012 experiences a summer smog episode like that in August 2003, a total of between 46 and 212 premature deaths from ozone and 85 from particulate matter would be expected to take place in Greater London? In this regard, CCAL was surprised that there was no 'First summer smog' alert from the government in early April 2009;

11. The importance of nitrogen dioxide (NO_2) - Does the DoH agree that, as well as being a toxic gas in its own right, NO_2 is an indicator or proxy for other air pollutants and if so which ones and what health effect might they have?:

12. Health inequalities – Please will the DoH share with CCAL any reports it has on the

effects of mortality in socially deprived parts of Greater London, not just at Ward level but along main roads;

13. Omission of information – In the DoH's view, why did 'The Air Quality Strategy 2007 for England, Scotland, Wales and Northern Ireland' not refer (as far as CCAL can find) to numbers of premature deaths and/or the amount of time lost per statistical victim when this information seems so important (and is still used across Europe and/or in other areas of public health e.g. smoking and obesity)?;

14. Funding to promote improvements in air quality - How much money has the DoH spent in each local health area in total in each year since 2000 (for which information is available) to promote improvements in air quality (e.g. public information campaigns but not research)? What are the comparable money amounts to promote improvements in: road safety; obesity; smoking and the estimated total number of premature deaths and average life lost of each? Note: poor air quality is estimated to cost the UK some £20 billion per annum. Poor air quality may have a health impact similar to that for severe obesity or lifelong smoking; and

15. Transparency - In the DoH's view, if the answers to the above questions result in the disclosure of material new information to the general public, why has it taken a campaigning group to prompt their release?

    This letter asks important questions and raises serious issues about public health in Greater London. It aims to do so in a constructive and responsible manner. CCAL hopes therefore that the DoH will take this opportunity to: put the full health facts in the public domain; and commit to a major public information programme to communicate updated similar information at least annually in future.

On behalf of CCAL, I look forward to receiving your response to the questions above, by electronic reply, to the confidential email address provided separately.

With best wishes.

Yours sincerely

Simon Birkett
Principal Contact
Campaign for Clean Air in London

By hand:

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

Cc: The Rt. Hon. Gordon Brown MP, The Prime Minister

Commissioner Dimas, Environment DG
The Rt. Hon. Hilary Benn MP, Secretary of State for Environment Food and Rural Affairs
The Rt. Hon. Geoff Hoon MP, Secretary of State for Transport
The Rt. Hon. Ed Miliband, Secretary of State for Energy and Climate Change
The Lord Hunt of Kings Heath, Minister for Air Quality
Boris Johnson, Mayor of London

ORGANISATIONS

Helen Ainsworth, EU and International Air Quality, Defra
Professor John Ayres, Chairman, COMEAP
Jenny Bates, London Regional Campaigns Co-ordinator, Friends of the Earth
Patricia Brown, Chief Executive, Central London Partnership
The Lord Coe, Chairman, LOCOG
Peter Daw, Interim Strategy Manager (Air Quality, Energy and Climate Change),
GLA Sir Liam Donaldson, The Chief Medical Officer, Department of Health
Dame Judith Mayhew, Chair, New West End Company
Dr Robert Maynard CMG, Health Protection Agency 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 John Bowis MEP, Conservative
Jean Lambert MEP, Green
Baroness Ludford MEP, Liberal Democrat
Claude Moraes MEP, Labour
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

Appendix One: What are the health facts?

European Environment Agency report – How clean is Europe's air? (23 March 2009)

Homepage:

http://www.eea.europa.eu/highlights/how-clean-is-europe2019s-air

Report titled 'Spatial assessment of PM_{10} and ozone concentrations in Europe (2005)' (5.2MB):

http://www.eea.europa.eu/publications/spatial-assessment-of-pm10-and-ozone-concentrations-in-europe-2005-1

Search the report above on 'premature' and see particularly pages 5, 20 and 21. Figure 3.4 on page 20 shows around 650 deaths per million on average from PM_{10} in the UK in 2005 for people aged 30 and over. Note: Figure 3.4 shows 38 states not 27.

Contacts for European Environment Agency Press Office:

http://www.eea.europa.eu/pressroom#presscontact

Assessment of Deaths Attributable to Air Pollution: Should We Use Risk Estimates based on Time Series or on Cohort Studies? Kunzli et al 2000

See page '1054' i.e. second last page which refers to 'the amount of time lost, per statistical victim, turned out to be 9.8 years, which corresponds to a change in life expectancy of approximately 0.6 years in the total population'. Note: 0.6 years is 7.2 months. Does this include only those whose life is lost due to identifiable air pollution exposure?

http://aje.oxfordjournals.org/cgi/content/full/153/11/1050

The Committee on the Medical Effects of Air Pollutants (COMEAP):

Homepage for Statements, Reports and Advice:

http://comeap.org.uk/

Draft report on 'Long-Term Exposure to Air Pollution: Effect on Mortality'

Homepage and invitation to comment on 'Long-Term Exposure to Air Pollution: Effect on Mortality':

http://www.advisorybodies.doh.gov.uk/comeap/statementsreports/longtermeffectsmort2007.htm

Full draft 2007 report for comment (987 kB):

http://www.advisorybodies.doh.gov.uk/comeap/statementsreports/longtermeffectsmort2007.pdf

COMEAP statement on long-term effects of particles on mortality (April 2001)

Main report:

http://www.advisorybodies.doh.gov.uk/COMEAP/statementsreports/longtermeffects.pdf

Supporting papers:

http://comeap.org.uk/membership/63-long-term-exposure-to-air-pollution-effect-on-mortality.html

COMEAP advice: 'The health effects of air pollutants' (July 2000)

Section 4.2 states 'the life expectancy of those who have never smoked is around 7 years greater than those who do smoke'. See:

http://comeap.org.uk/introduction-to-air-pollution/advice.html

Economic Appraisal of Health Effects of Air Pollution (Ad-Hoc Group, 13 January 1999)

http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4088884

COMEAP statement on banding of air quality (January 1998)

Link no longer available

Environment Agency: Where are we now? Data and trends

'The Great Smog of London in 1952 caused over 4,000 deaths.'

http://www.environment-agency.gov.uk/research/library/publications/115747.aspx

An estimate of the health impact of the August 2003 photochemical episode (John R Stedman, netcen, 04/10/2003)

During London's summer smog episode in August 2003 there were a total of between 46 and 212 premature deaths from ozone and 85 from particulate matter.

http://www.airquality.co.uk/archive/reports/cat09/0401130931_heatwave2003.pdf

London's summer smog episode in July 2006 was likely to have resulted in a similar or greater number of premature deaths from ozone and a slightly lower number for particulate matter.

European Commission: CAFÉ Reference Documents

Homepage:

http://ec.europa.eu/environment/archives/cafe/general/keydocs.htm

Health impacts for each EU Member State:

Link no longer available

Obesity dangers 'rivals smoking' (BBC, 17 March 2009)

'Severe obesity, which applies to about 2% of the UK population, reduced life expectancy by about 10 years.' 'Much of the obesity-related risk is down to heart disease and stroke and to a lesser extent cancer.'

http://news.bbc.co.uk/1/hi/health/7946290.stm

Estimate of deaths attributable to passive smoking among UK adults: database analysis (Konrad Jamrozik, 1 March 2006)

'Across the United Kingdom as a whole, passive smoking at work is likely to be responsible for the deaths of more than two employed people per working day (617 deaths per year), including 54 deaths in the hospitality industry each year. Each year passive smoking at home might account for another 2700 deaths in persons aged 20-64 years and 8000 deaths among people aged 65 and over.'

http://www.bmj.com/cgi/content/abstract/330/7495/812

Data Management and Analysis Group, GLA Demography update 14-2008 August 2008

Homepage:

http://www.london.gov.uk/who-runs-london/mayor/publications/society/facts-and-figures/population

ONS Mid-year Population Estimates: 2007 (24 August 2008). See Table 6 on page 9. 4.469 million inhabitants of 30 years of age or older in Greater London in mid-2007:

http://legacy.london.gov.uk/gla/publications/factsandfigures/DMAG-Update-14.rtf

Office of National Statistics Mid-2007 Population Estimates (21 August 2008)

National, regional and local estimates of population:

http://www.ons.gov.uk/ons/rel/pop-estimate/population-estimates-for-uk--england-and-wales--scotland-and-northern-ireland/2007/index.html

Department for Transport

Total deaths nationally from road traffic accidents in 2007 were 2,946.

http://www.dft.gov.uk/pgr/statistics/datatablespublications/accidents/casualtiesgbar/roadcasualtiesgreatbritain20071

Ten Great Public Health Achievements – United States, 1900-1999

In last century, the average lifespan of persons in the United States has lengthened by greater than 30 years; 25 years of this gain have been attributed to advances in public health (i.e. five due to improvements in medical care)

http://www.cdc.gov/mmwr/preview/mmwrhtml/00056796.htm

Wikipedia: 'The precautionary principle'

'The precautionary principle is a moral and political principle which states that if an action or policy might cause severe or irreversible harm to the public or the environment, in the absence of a scientific consensus that harm would not ensue, the burden of proof falls on those who would advocate taking the action.'

http://en.wikipedia.org/wiki/Precautionary_principle

Clean Air IN LONDON

Appendix Two: What have we been told by the government and others?

HM Treasury, Pre-Budget Report 2001 Chapter 7: Protecting the Environment

Paragraph 7.10. 'Each year in the UK, short-term air pollution episodes are associated with 12,000 to 24,000 premature deaths'. 'Evidence suggests that the health effects of exposure to long-term air pollution are even greater.'

http://www.hm-treasury.gov.uk/prebud_pbr01_repchap07.htm

Defra: 'The Air Quality Strategy for England, Scotland, Wales and Northern Ireland

This does not seem to have a single reference to a number of premature deaths e.g. the Ministerial Foreword on page 3 of Volume 1 says 'estimated to reduce life expectancy of every person in the UK by an average of 7-8 months with an equivalent health cost of up to £20 billion each year'.

http://www.defra.gov.uk/publications/tag/air-quality-strategy/

Mayor's Air Quality Strategy, Progress Report to March 2005 (August 2005)

Introduction on page 1, 'It is estimated that in 2005, 1031 accelerated deaths and 1088 respiratory hospital admissions will occur in London as a result of PM_{10} air pollution.'

http://legacy.london.gov.uk/mayor/environment/air_quality/docs/MAQS_progress_report_2005.pdf

And similarly on page 1 of Chapter 4 of the Greater London Authority's State of the Environment Report (Pollution Chapter) (June 2007):

http://legacy.london.gov.uk/gla/publications/environment/soereport/full-report.pdf

Mayor of London press release: 'London's poor air quality tackled with launch of Low Emission Zone' (4 February 2008)

'Poor air quality worsens asthma and causes the premature death of an estimated 1,000 people each year in London. Seven out of ten Londoners say they are worried about pollution from traffic exhaust fumes.'

http://www.london.gov.uk/view_press_release.jsp?releaseid=15533

Royal Commission on Environmental Pollution: 'The Urban Environment' (6 March 2007)

Homepage:

http://www.rcep.org.uk/urbanenvironment.htm

Summary report (see page 5 for 24,000 premature deaths from air pollution):

http://www.rcep.org.uk/urban/report/urb_env_summary.pdf

Rogers Review of Local Authority Regulatory Priorities (4 April 2007)

Homepage:

http://archive.cabinetoffice.gov.uk/rogersreview/

National enforcement priorities for local authority enforcement services (see page 59, paragraph 5.9 for
'between 12,000 and 24,000 premature deaths each year):

http://archive.cabinetoffice.gov.uk/rogersreview/upload/assets/rogersreview/rogers_review_2007.pdf