

‘Invisible’ air pollution is the biggest public health crisis for decades

**PLP Defra Backbench Group
London: 16 April 2012**

Simon Birkett, Founder and Director, Clean Air in London

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First sighting of Boris' Pollution Suppressor



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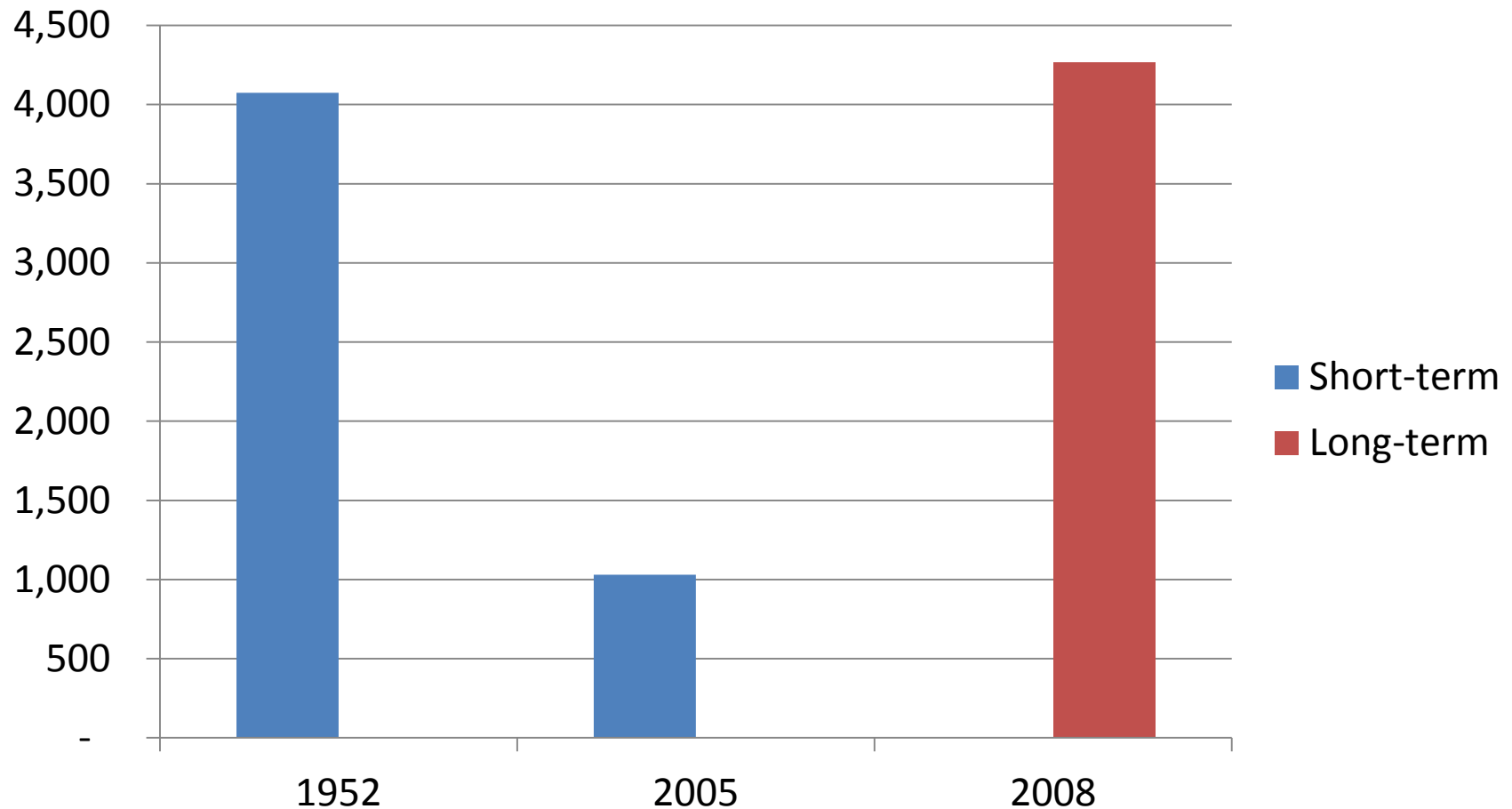
Summary

- Great Smog of 1952
- Is air quality still a problem?
- ‘Epidemiology 101’: an introduction to ‘air quality’
- Health impact in London and nationally
- Schools near our busiest roads
- Legal framework
- Sources of air pollution in London (and elsewhere)
- Key issues for 2012 and beyond

London and the UK should be leading the world in tackling air pollution as it did after the Great Smog of 1952

As many early deaths now as we thought in 1952

Deaths in London attributable to short-term exposure to visible air pollution and long-term exposure to 'invisible' air pollution



Great Smog of 1952 – What happened?



- 5-8 December 1952: Great Smog. Estimated 4,075 premature deaths (and perhaps up to 12,000 in total)
- Until the 1960s London suffered from terrible coal smoke smogs

Great Smog of 1952 – What changed?



- The Government failed to act after the Great Smog
- Newspapers, such as The Times, pushed for cleaner air
- First Clean Air Act was a Private Members Bill which the Government later supported reluctantly
- Public and media pressure was instrumental in getting the Clean Air Act passed
- At this point London led the world in the effective control of air pollution

Is air quality still a problem?

- “The rate of decline in some air pollutants is now levelling off and improvements are increasingly costly to achieve. However, air pollution still reduces life expectancy by an **average of six months**, with social costs estimated at £8 to 17 billion per year.” Defra, July 2010. **CAL emphasis**
- “Air pollution in the UK has **declined significantly over recent decades** through measures to reduce pollution from transport, industrial and domestic sources. However, the rate of reduction is now levelling off for some key pollutants such as oxides of nitrogen.” Defra, December 2010
- “*Our air* – **air quality is good across 99% of the UK**, but air pollution continues to harm human health particularly in some urban areas.” Defra, July 2010
- “Air pollution shouldn’t harm you if you’re healthy.” Some health alerts

Is air quality still a problem? Yes!

- Great Smog: 4,075 early deaths attributable to short-term exposure to 'visible' air pollution. No understanding of health impacts of long-term exposure to air pollution until mid-1990s and later. Only smoking causes more early deaths
- March 2010: Mayor Johnson estimates 4,267 premature deaths in London in 2008 attributable to long-term exposure to 'invisible' PM_{2.5}.
- Traffic related air pollution may be responsible for 15-30% of all new cases of asthma in children. Note: the most vulnerable may be exposed to up to 50% more air pollution than the least vulnerable
- Air pollution concentrations have been broadly unchanged since the late 1990s. Using the same language' used for alcoholism, obesity and smoking, the average loss of life is 11.5 years. We live in the '1%'....
- *"We now need Mayor Johnson and the Government to play their part in tackling an invisible public health crisis with as many early deaths attributable to air pollution in London in 2008 as we thought occurred during the Great Smog of 1952."* Simon Birkett, TIME.com, April 2011

'Epidemiology 101' – An introduction to 'air quality'

- Several ambient air pollutants
 - Nitrogen dioxide (NO₂)
 - Tropospheric ozone (O₃)
 - Particulate matter: ultrafine (PM_{0.1}); fine (PM_{2.5}); coarse (PM_{2.5-10}) and PM₁₀
 - Sulphur dioxide (SO₂)
 - Others e.g. benzene
- Mortality (death) and morbidity (sickness). Acute (short time) and chronic (long time)
- Size matters. Smaller particles penetrate deeper into lungs and bloodstream
- Toxicity matters. So don't just worry about PM_{2.5}
- Time scale matters. 'Time series' studies to assess short-term. 'Cohort' for long-term
- Unknown degree of overlap between pollutants and time scales
- Anthropogenic (man-made) vs non-anthropogenic air pollution
- Population weighted exposures have been based on residency not personal exposure
- Concentration response function is not linear. Impact on those aged 30+. Children
- Relative risk (hazards rates); year (of life) lost; average years lost per victim; and average nationally

'Epidemiology 101' – Public health statistics

- Public health risks:
 - *“There are between 15,000 and 22,000 alcohol-related deaths every year in England. Most of these deaths are premature: on average, every man in this group loses 20 and every woman 15 years of life compared with the average.”* DoH, June 2008
 - *“Obesity is responsible for 9,000 premature deaths each year in England, and reduces life expectancy by, on average, 9 years.”* DoH, September 2007
 - *“Smoking is responsible for 87,000 deaths in England each year.”* DoH, December 2008. *“Men who quit smoking by 30 added 10 years to their life.”* NHS, July 2010
- 2,222 people killed in road accidents in GB in 2009. DfT, 2010
- Using the same ‘language’, there were 29,000 premature deaths in the UK in 2008 attributable to long-term exposure to anthropogenic (i.e. man-made) PM_{2.5} at an average loss of life of 11.5 years

Health impact in London and nationally

Short-term exposure

- **COMEAP 1998** (based on 1995/1996 pollution levels)
 - **8,100** GB urban 'deaths brought forward' annually due to PM₁₀ (using +0.75% per 10 µg/m³, 24 hour mean)
 - **3,500** GB urban 'deaths brought forward' annually due to SO₂ (using +0.6% per 10 µg/m³, 24 hour mean)
 - **700 to 12,500** urban and rural GB 'deaths brought forward' during summer only due to O₃ (+3.0% per 50µg/m³, 8 hour mean)

Long-term exposure

- **COMEAP 2010**
 - **29,000** premature deaths in the UK in 2008 attributable to long-term exposure to anthropogenic PM_{2.5} (6% per 10 µg/m³ increase in [annual mean] PM_{2.5})
 - 36.5 million life years over the next 100 years. Average across new births of six months
 - Air pollution may have contributed to all 200,000 cardiovascular deaths at an average of two years

National range

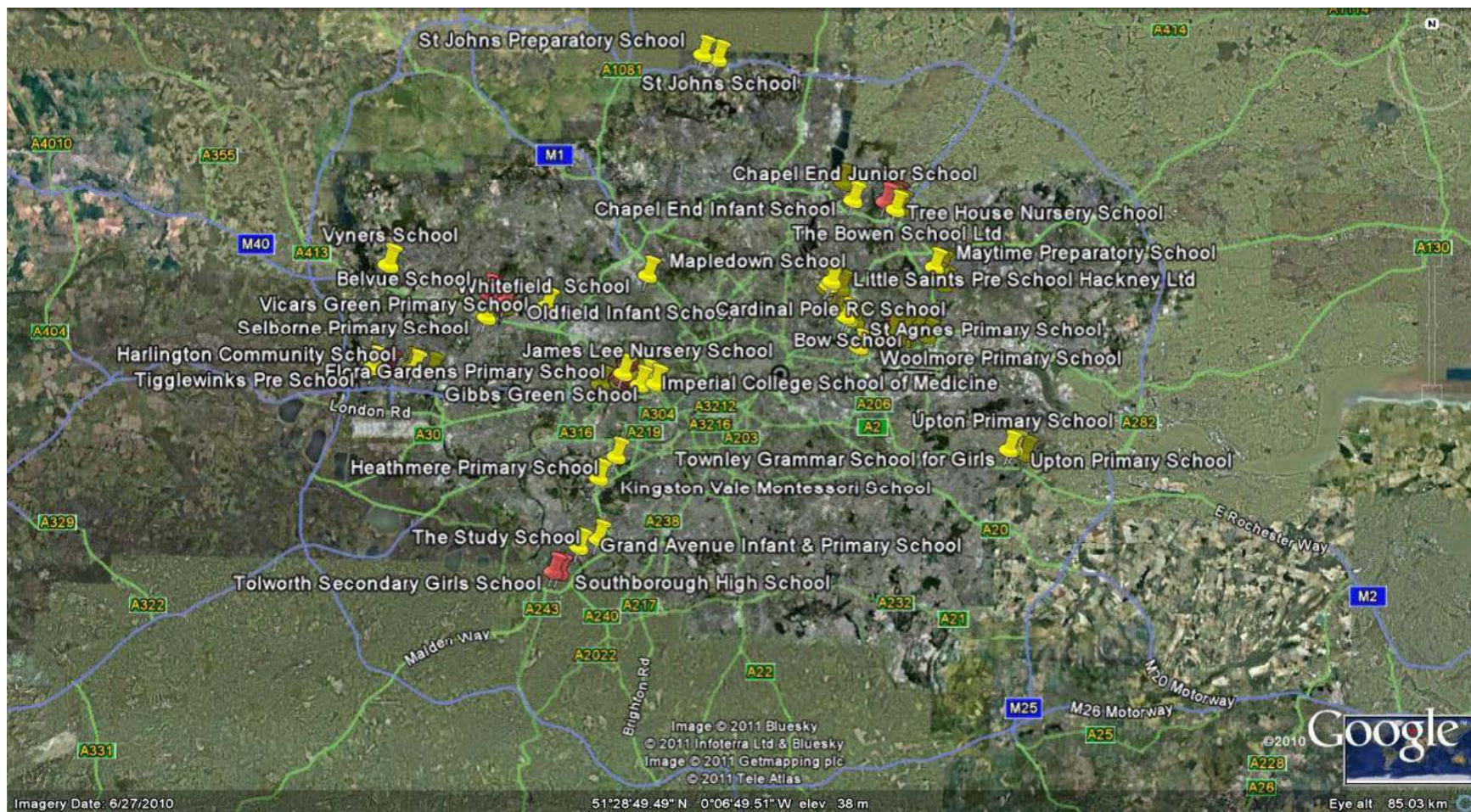
- **29,000 to 53,100** premature deaths attributable to air pollution

London

- **4,267** premature deaths in 2008 attributable to long-term exposure to PM_{2.5}. Ave 11.5 yrs
- Range 756 (1%) to 7,965 (12%). Assumes population weighted exposure of 15.34 µg/m³
- Air pollution may have contributed to 15,800 cardiovascular deaths at ave three years

London schools within 150m and 400m of busy roads

Roads carrying over 100,000 vehicles per day



Don't forget indoor air quality: We can protect ourselves from up to 90% of air pollutants

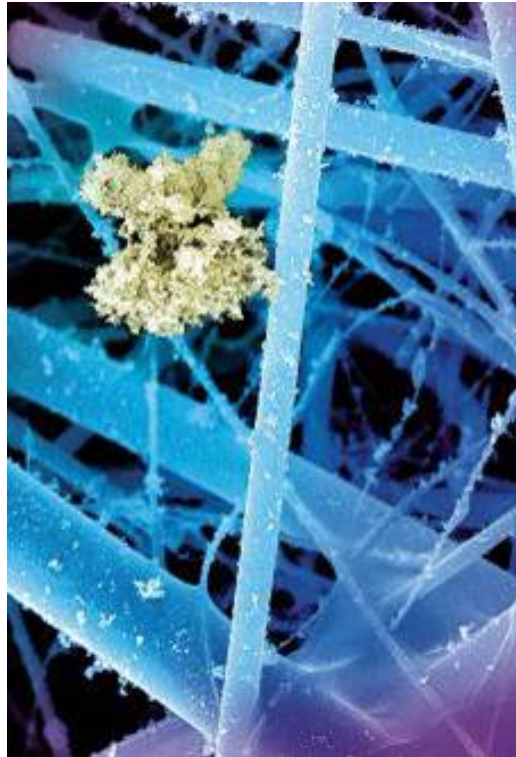


Photo of soot particles in air filter
Photo: Lennart Nilsson

If your hospital or workplace has a mechanical ventilation system or air conditioning (i.e. it is likely to contain the necessary ducting) please ask:

“Does our ventilation system include regularly maintained air filters that comply with European standard EN 13779 and, if not, why not?”

Any questions: visit www.camfilfarr.co.uk
a sponsor of Clean Air in London or call 01706 238 000

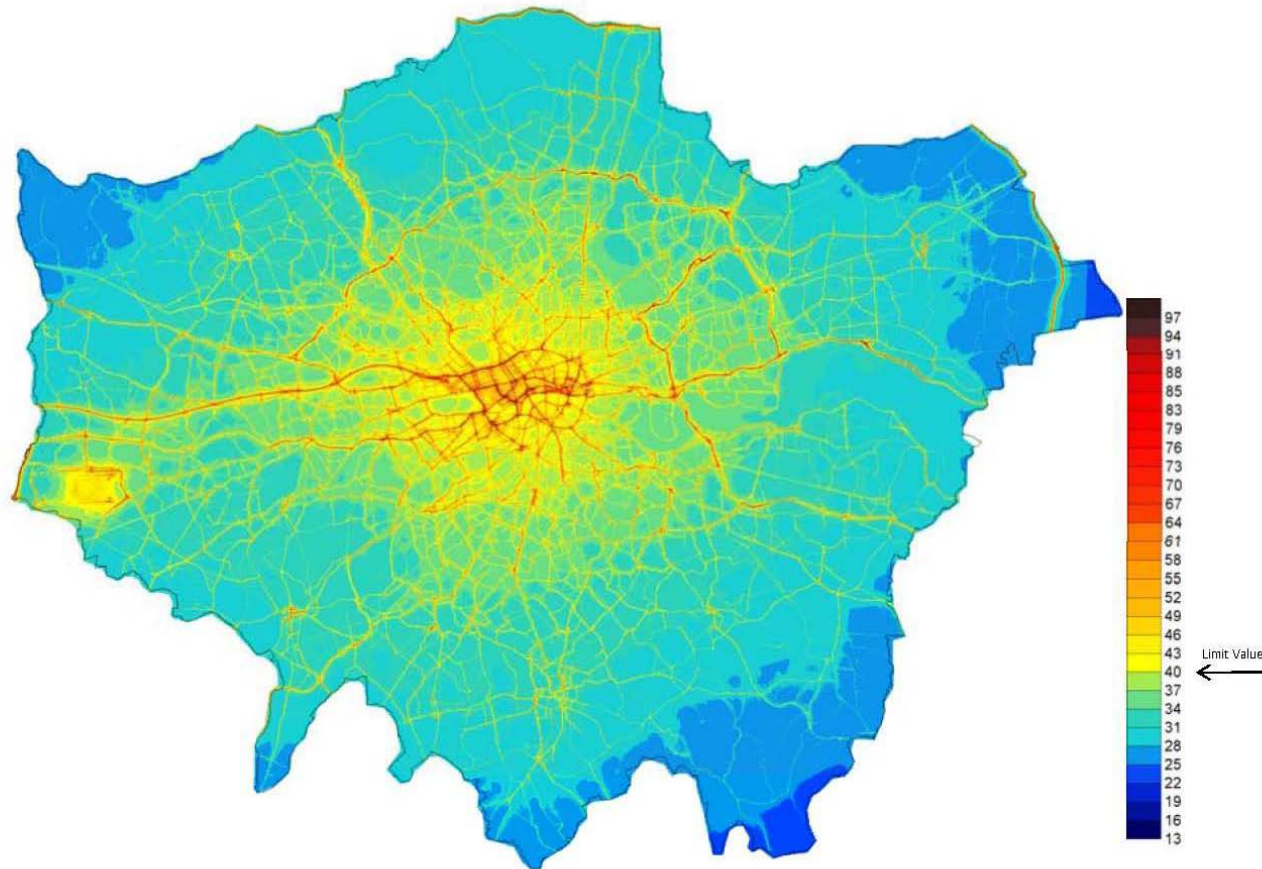
Note: a building may have air conditioning but not ventilation or air filters (and/or vice versa)

EU legal standards compared to WHO guidelines

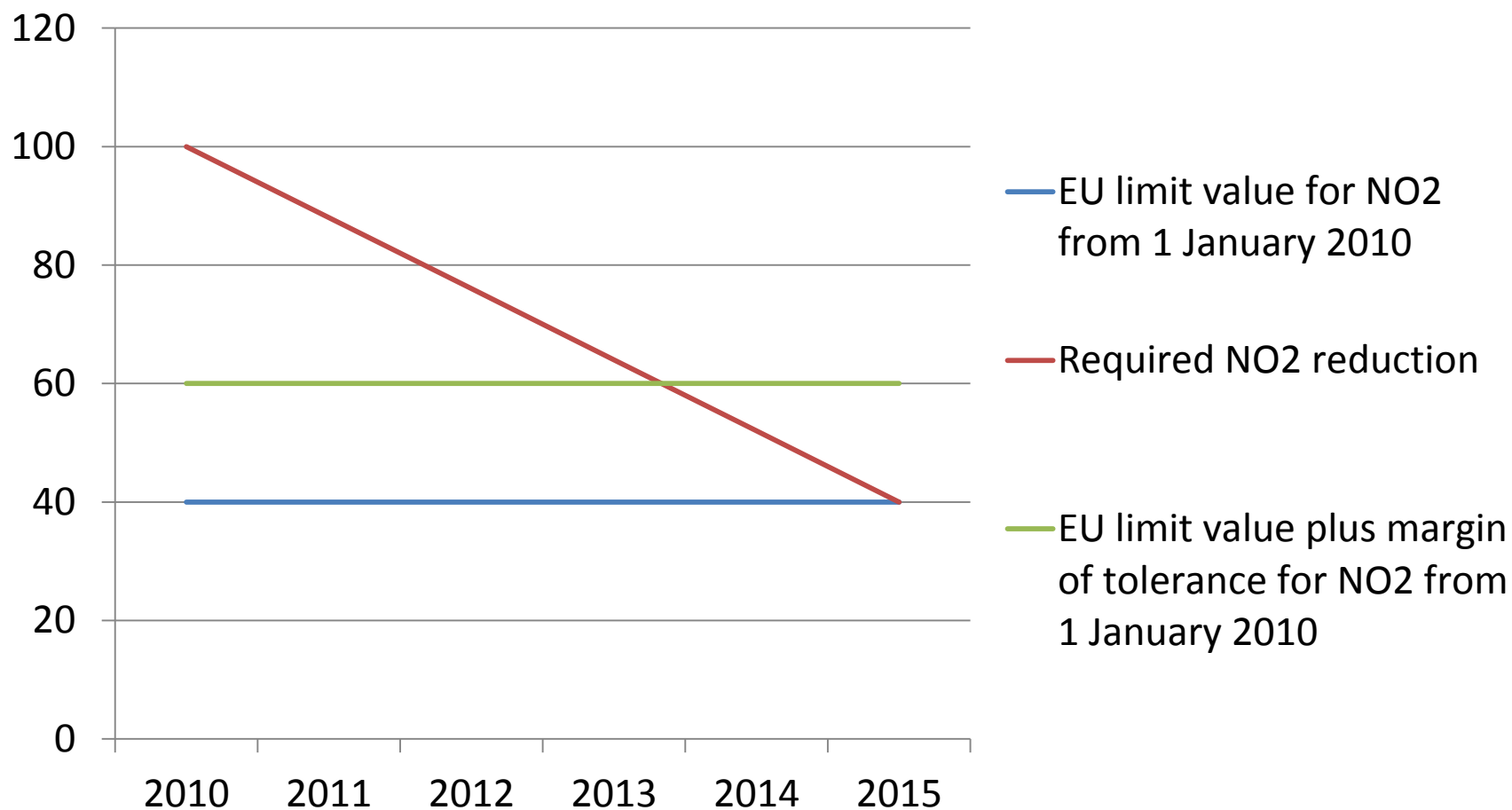
Pollutant	Legal standard		WHO guideline	
	Short term	Annual mean	Short term	Annual mean
Fine particulate matter (PM _{2.5})	<ol style="list-style-type: none"> 25 µg/m³ annual mean to become limit value in 2015 20 µg/m³ exposure concentration obligation based on 3-year average Exposure reduction target in percentage by 2020 		25 µg/m ³ 24-hour mean	10 µg/m ³
Particulate matter (PM ₁₀)	35 days over 50 µg/m ³ since 1 January 2005 (or 11 June 2011)	40 µg/m ³ since 1 January 2005 (or 11 June 2011)	50 µg/m ³ 24-hour mean	20 µg/m ³
Nitrogen dioxide (NO ₂)	18 hours over 200 µg/m ³ since 1 January 2010	40 µg/m ³ since 1 January 2010	200 µg/m ³	40 µg/m ³

Concentration and trends – Mayor's Air Quality Strategy

NO₂ annual mean concentrations for 2008



Concentrations of nitrogen dioxide (NO₂) in micrograms per cubic metre (µg/m³)



UK Plans and Programmes for NO₂: page 1

Table 1: Summary of exceedence of NO₂ limit values and date of expected compliance by zone.

Zone/Agglomeration	Annual mean limit value exceedence				Hourly Limit value exceedence	Postponement of the compliance date required? (Yes/No)	Compliance with NO ₂ limits projected by	Current and planned baseline measures will achieve compliance by 2015?	LEZ scenario measure projected to achieve compliance in 2015?
	2008 baseline	Km of road exceeding annual limit value	2010 projection	Projected Km of road exceeding annual limit value in 2010	2008 baseline				
Greater London Urban Area	Yes	1287	Yes	947	Yes	Yes	<2025	×	×
West Midlands Urban Area	Yes	265	Yes	161	No	Yes	2020	×	×
Greater Manchester Urban Area	Yes	261	Yes	114	No	Yes	2020	×	×
West Yorkshire Urban Area	Yes	110	Yes	54	No	Yes	2020	×	×
Tyneside	Yes	56	Yes	30	No	Yes	2015	×	✓
Liverpool Urban Area	Yes	72	Yes	37	No	Yes	2015	×	✓
Sheffield Urban Area	Yes	58	Yes	39	No	Yes	2015	×	✓
Nottingham Urban Area	Yes	45	Yes	18	No	Yes	2015	✓	n/a
Bristol Urban Area	Yes	32	Yes	16	No	Yes	2015	×	✓
Brighton/Worthing/Littlehampton	Yes	3	Yes*	0-3	No	Yes	≤2015	✓	n/a
Leicester Urban Area	Yes	24	Yes	8	No	Yes	2015	✓	n/a

UK Plans and Programmes for NO₂: page 2

Portsmouth Urban Area	Yes	14	Yes	10	No	Yes	2015	✓	n/a
Teesside Urban Area	Yes	16	Yes	14	No	Yes	2020	×	×
The Potteries	Yes	23	Yes	18	No	Yes	2020	×	×
Bournemouth Urban Area	Yes	12	Yes	5	No	Yes	≤2015	✓	n/a
Reading/Wokingham Urban Area	Yes	9	Yes	1	No	Yes	≤2015	✓	n/a
Coventry/Bedworth	Yes	11	Yes	2	No	Yes	≤2015	✓	n/a
Kingston upon Hull	Yes	32	Yes	23	No	Yes	2020	×	×
Southampton Urban Area	Yes	21	Yes	15	No	Yes	2020	×	×
Birkenhead Urban Area	Yes	13	Yes*	0-13	No	Yes	≤2015	✓	n/a
Southend Urban Area	Yes	9	Yes	3	No	Yes	≤2015	✓	n/a
Blackpool Urban Area	No	0	No	0	No	No		-	-
Preston Urban Area	Yes	3	Yes	1	No	Yes	≤2015	✓	n/a
Glasgow Urban Area	Yes	76	Yes	46	Yes	Yes	2020	×	×
Edinburgh Urban Area	Yes	14	Yes	9	No	Yes	2015	✓	n/a
Cardiff Urban Area	Yes	18	Yes	10	No	Yes	2015	✓	n/a
Swansea Urban Area	Yes	3	Yes*	0-3	No	Yes	≤2015	✓	n/a
Belfast Metropolitan Urban Area	Yes	36	Yes	25	No	Yes	2015	✓	n/a
Eastern	Yes	111	Yes	80	No	Yes	2020	×	×
South West	Yes	62	Yes	29	No	Yes	2015	✓	n/a
South East	Yes	163	Yes	106	No	Yes	2020	×	×
East Midlands	Yes	82	Yes	36	No	Yes	2020	×	×

UK Plans and Programmes for NO₂: page 3

North West & Merseyside	Yes	210	Yes	136	No	Yes	2020	×	×
Yorkshire & Humberside	Yes	230	Yes	182	No	Yes	2020	×	×
West Midlands	Yes	76	Yes	49	No	Yes	2020	×	×
North East	Yes	53	Yes	30	No	Yes	2020	×	×
Central Scotland	Yes	24	Yes	10	No	Yes	2015	✓	n/a
North East Scotland	Yes	18	Yes	7	Yes	Yes	≤2015	✓	n/a
Highland	No	0	No	0	No	No		-	-
Scottish Borders	No	0	No	0	No	No		-	-
South Wales	Yes	32	Yes	19	No	Yes	2020	×	×
North Wales	Yes	11	Yes	10	No	Yes	2015	✓	n/a
Northern Ireland	Yes	27	Yes	3	No	Yes	≤2015	✓	n/a
TOTAL	40	3600	40	2303	3	40	-	19	4

n/a refers to the fact that the LEZ scenario has not been applied in the zone.

*Projections show a chance of compliance by 2010 but projection uncertainties mean the confidence is low. Early indication from the 2010 assessment of air quality for the UK supports this judgement for all these zones.

≤2015 means by 2015 or possibly before

Sources of air pollution in London

Mayor's Air Quality Strategy 2010

- Emissions (not concentrations). Based on 2008 estimates
- PM₁₀ (Central London)
 - Road transport 79%. Cars 23%; taxis 20%; LGVs 10%. Buses <10%
 - Tyre and brake wear 35%
- PM_{2.5} (Greater London)
 - Road transport 80%; industrial and commercial gas combustion
 - LGV, cars and taxis 20% each. Buses 5%
 - Tyre and brake wear 25%
- Oxides of nitrogen
 - Road transport 46%; domestic gas 22%
 - Commercial gas, industry, airport and rail 7-8%
 - Cars 35%; HGVs 30%; buses 21%
- DfT 2009: Diesel versus petrol cars (g/mile): 21.7x PM₁₀; 2.1x NOx

Key issues

- Mayoral election
 - Pollution Suppressor
 - Smog alerts
 - Commitments. Boris's backward steps and lack of promises
- Legal compliance with PM₁₀ and NO₂ legal standards
- Olympic and Paralympic Games
 - Olympic Route Network
 - Impact of smog episodes like 2003 or 2006
- Shipping
- Health and Wellbeing Boards
- Year of Air in 2013

Key issues: Manifesto for 'clean air in London'

Mayoral candidates must promise to:

- Lead the fight to improve London's air
- Clean up London's transport
- Build a low emission city
- Protect the most vulnerable
- Ensure a legacy from the Olympic Games

*Clean Air in London intends to rank the candidates
before the Mayoral election*

Key issues: The Pollution Suppressor

<http://youtu.be/WUkvGkDOyYA>

The Pollution Suppressor Marylebone Road

26 March 2012

Key issues: The Pollution Suppressor

Google



CMA Routes and PM10 Monitors

A map showing routes where Transport for London is applying calcium magnesium acetate to the road surface (pollution suppressant).

Air quality monitoring stations measuring PM10 concentrations are shown where they are located on the application routes. Yellow markers show stations from the London Air Quality Network, red markers are also part of the UK Automatic Urban and Rural network.

Routes and monitor locations are approximate.

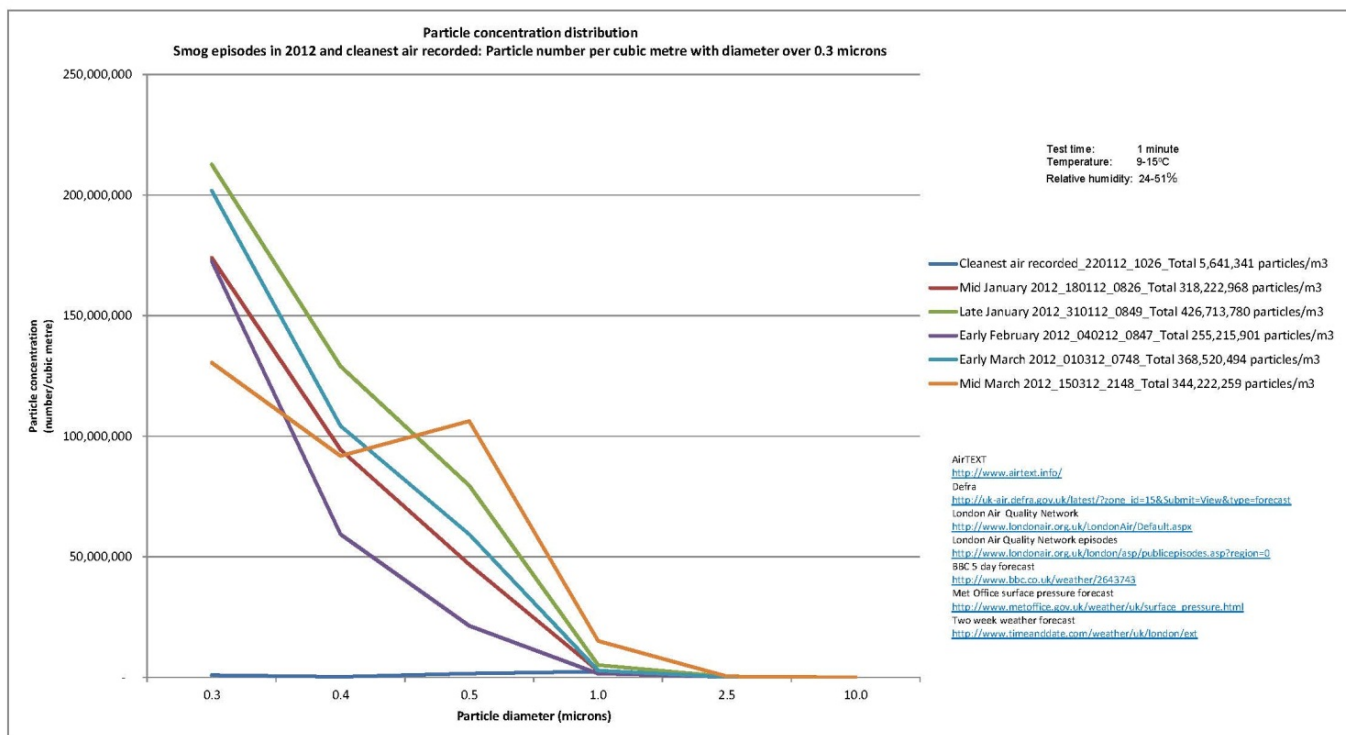
Unlisted · 522 views
Created on Mar 21 · By · Updated Apr 4

Key issues: Smog episodes in 2012

POLLUTION CHECK

SMOG EPISODES 2012

ERRORS AND OMISSIONS EXCEPTED



© Clean Air in London

11:03 18/03/2012

PC17_170312_Smog episodes

Key issues: Lack of smog alerts in 2012

Defra air pollution announcement (3 April 2012)

“Each year, as the weather gets warmer, there is a possibility of some air pollutants reaching higher levels for short periods of time, especially if there is still, sunny weather. Whilst most people will not be affected by short term peaks in air pollution, some people, particularly vulnerable groups such as those with existing heart or lung conditions, may experience increased symptoms.

“Defra encourages people to take sensible precautions based on the levels of air pollution in their region and their health, such as reducing or avoiding strenuous activity and ensuring they have access to their usual medication, such as asthma inhalers.

“Find out what the air quality is like in your region via the following link: <http://uk-air.defra.gov.uk> or by calling Defra’s freephone helpline on 0800 556677. These sources also offer health advice based on current air pollution levels to the general public and those who may be particularly sensitive to air pollution. You can subscribe through the website to email bulletins for pollution forecasts and latest pollution information.”

Key issues: Legal compliance for PM₁₀ and NO₂

- Clean Air in London's complaint to European Commission
 - PM₁₀ time extension until 2011 was unlawful
 - Even if sustained, it was breached in Neasden Lane in 2011
 - NO₂ limit values breached in 40 of 43 UK zones in 2010
 - No time extension sought for 17 zones. London by 2025!
- Clean Air in London's Environmental Information case
- Infraction action in five stages
 - First and second written warning. CJEU. Second written warning. Unlimited lump sum and daily CJEU fines
 - Infraction against UK for PM₁₀ is currently frozen between stages 2 and 3. Note: Localism Act allows transfer of fines
- ClientEarth legal case against Defra

Key issues: Olympics and Paralympic Games

- Olympic Route Network
 - Admit it will cause local, temporary and unmitigated breaches of NO₂ air quality laws (and PM₁₀?)
 - Marylebone Road on 25/35 Bad Air Days
 - Marylebone Road FDMS station on 17/35 Bad Air Days
 - Upper Thames Street on 29/35 Bad Air Days. Loss of power
 - Plan to use Pollution Suppressor to mitigate PM₁₀
- Possible impact a smog episode like 2003 or 2006

Key issues: Shipping

- International Maritime Organisation agreed in 2008 new standards for prevention of air pollution from ships from 2012 (MARPOL Annex VI). Mainly sulphur dioxide (SO₂)
- European Parliament voted on 16 February 2012 to tighten these proposals
- Council of Ministers opposed further tightening. Mediterranean states supported by UK and one or two others
- Danish presidency seeking 1st reading agreement with European Parliament by 1 July 2012

Key issues: Health and Wellbeing Boards

Public health outcomes framework 2013-2016

- Metrics for Health and Wellbeing Boards from 2013 include Domain 3: Health protection; 3.1 Air pollution:

“The mortality effect of anthropogenic particulate air pollution (measured as fine particulate matter, PM_{2.5}) per 100,000 population”
- Mortality Burden: To be expressed as attributable deaths and associated years of life lost

Attributable deaths by London borough in 2008

Inner London has highest pollution. Outer London shows more early deaths as borough size is bigger (incl. non-anthropogenic)

Note: Provisional calculations prepared by Campaign for Clean Air in London (30 June 2010 as at 12 noon)

Boroughs ranked by average concentration of PM2.5

	Tot pop	PM2.5	6%
City of London	9,155	17.590	4
Westminster	214,750	16.561	96
Camden	207,198	16.188	107
Kensington and Chelsea	169,015	16.169	75
Tower Hamlets	231,664	16.024	102
Islington	195,114	15.921	100
Waltham Forest	226,706	15.920	129
Southwark	276,838	15.804	136
Hammersmith and Fulham	178,656	15.794	86
Hackney	223,357	15.702	96
Lambeth	291,783	15.696	139
Wandsworth	289,091	15.564	148
Newham	261,691	15.423	121
Enfield	291,256	15.410	178
Ealing	317,721	15.405	167
Brent	277,863	15.402	133
Haringey	235,055	15.321	99
Lewisham	269,020	15.300	153
Hounslow	229,905	15.258	121
Greenwich	236,450	15.244	150
Merton	198,068	15.192	107
Redbridge	252,553	15.114	153
Barnet	328,752	15.112	201
Richmond upon Thames	184,519	15.048	97
Barking and Dagenham	172,357	15.036	120
Kingston upon Thames	154,205	15.015	91
Croydon	341,021	14.953	205
Sutton	185,180	14.940	124
Hillingdon	253,432	14.898	154
Bexley	218,945	14.842	161
Harrow	218,956	14.819	119
Bromley	302,464	14.725	217
Havering	230,479	14.621	182
Greater London (per CCAL)	7,673,219		4,271
Greater London (per Mayor)	7,673,217		4,267

Boroughs ranked by total estimated premature deaths

	Tot pop	PM2.5	6%
Bromley	302,464	14.725	217
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Kingston upon Thames	154,205	15.015	91
Hammersmith and Fulham	178,656	15.794	86
Kensington and Chelsea	169,015	16.169	75
City of London	9,155	17.590	4
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Key issues: Year of Air in 2013

We need continuity and the tightening of health and legal protections

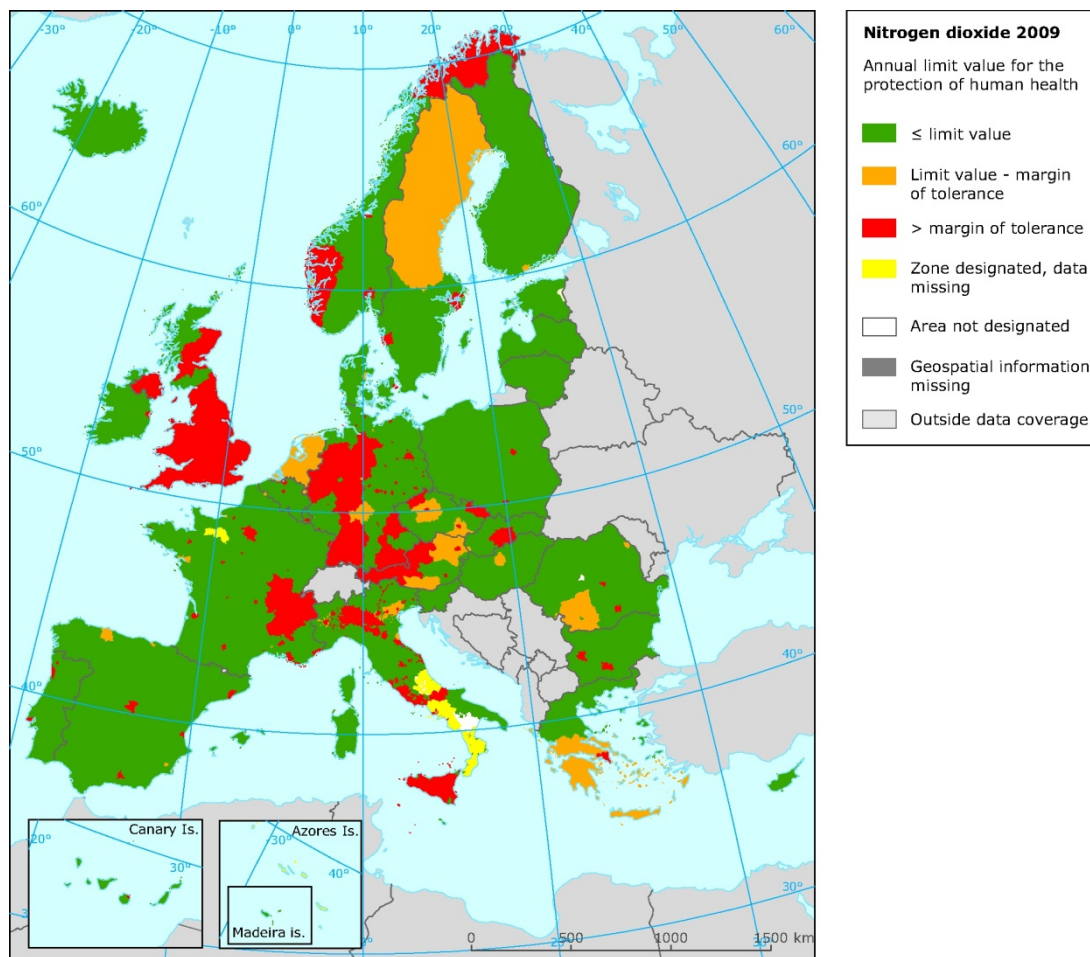
Working in partnership with other Member States, we will also use the European Commission review of air quality legislation, expected in 2013, to seek:

- Amendments to the Air Quality Directive which reduce the infraction risk faced by most Member States, especially in relation to nitrogen dioxide provisions.
- Simplifications to the legal framework (e.g. through reducing requirements for Member States) to reduce costs and administrative burdens to local authorities and businesses whilst maintaining or improving health and ecosystem protection.
- Requirements that are strictly proportional to evidence on costs and benefits.

Defra, Red Tape Challenge, Environment Theme proposals (19 March 2012)

Key issues: Year of Air in 2013

UK has highest % age of zones exceeding LV+MOT



The vision: Clean air urgently and sustainably in all large cities

	Air quality	Climate change
London (or any city)	2012	
Rest of world		

Key issues: How the PLP can help

- Co-ordinated action at all levels of Government
- Developing a good working knowledge of the subject
- Parliamentary questions and PMQs
- Debates and oral questions
- Media engagement
- Community engagement and other events
- Call for a major campaign to build public understanding of the dangers of air pollution with advice on mitigation and adaptation
- Urge action by Health and Wellbeing Boards
- Call for smog alerts, low emission zones and scrappage schemes
- Condemn the Government's backward steps on air pollution
- Demand continuity and the tightening of health and legal protections in the Year of Air in 2013 and otherwise

Summary

- Great Smog of 1952
- Is air quality still a problem?
- ‘Epidemiology 101’: an introduction to ‘air quality’
- Health impact in London and nationally
- Schools near our busiest roads
- Legal framework
- Sources of air pollution in London (and elsewhere)
- Key issues for 2012 and beyond

London and the UK should be leading the world in tackling air pollution as it did after the Great Smog of 1952

‘Invisible’ air pollution is the biggest public health crisis for decades

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'Epidemiology 101' – Protecting public health




- *“Since 1900, the average lifespan of persons in the United States has lengthened by over 30 years; 25 years of this gain are attributable to advances in public health”, Journal of the American Medical Association, 1999*
- *“Public health experts agree that environmental risks constitute 25% of the burden of disease”. WHO, 2011*

Key messages

- As many early deaths in London in 2008 attributable to long-term exposure to 'invisible' air pollution as we thought occurred in the Great Smog of 1952 due to short-term 'visible' air pollution
- Scientists didn't know about long-term impacts until mid-1990s and later
- Health impacts: cardiovascular, respiratory, cancer and asthma
- Only smoking causes more early deaths than air pollution
- Traffic related air pollution may be responsible for 15-30% of all new cases of asthma in children
- We are in a communications 'battle' with those seeking delay (including some in Government)
 - “We agree with your objective but not with the timescale to get there”
- We must use metrics that relate to those well established for alcoholism, obesity and smoking etc. We must speak the same 'language'
- People want and deserve to understand the risks they face. Children and the elderly are particularly vulnerable. Inequalities are a particular concern
- There is a tremendous opportunity for London to lead the world again

Air pollution – How bad is it?

London Air Quality Network: Neasden Lane

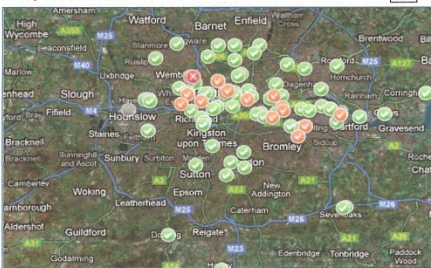




PUBLIC
POLICY
SCIENCE
HELP

You are on this page: Statistics Maps » Brent - Neasden Lane

LAQN Monitoring Statistics
Bulletins Site Details **Statistics** Pollution Episodes

Enter postcode or area:



Select a monitoring site to view:

Change objective: daily mean PM10 objective (no. of days)

Include closed sites:

Show Authorities (OS Data):

Achieved

Achieved but raised

Exceeded

No Data

Closed

Your selected monitoring site » **Brent - Neasden Lane**

Air Quality Statistics

The table below shows whether pollution levels recorded at the site you have selected remained within the Government's Air Quality Strategy Objectives in 2012 (to date). For further basic statistics click on the button below, or for more precise statistics, use the Statistics Calculator.

Pollutant	Objective	Was it achieved?	Value
PM10 Particulate	Annual Mean (ug/m3)	NO	47
PM10 Particulate	No. days 24hr mean >50ug/m3	NO	36
PM10 (redundant method)	Annual Mean (ug/m3)	NO	50
PM10 (redundant method)	No. days 24hr mean >50ug/m3	NO	43
Nitrogen Dioxide	Annual Mean (ug/m3)	NO	43
Nitrogen Dioxide	No. hours hourly mean >200ug/m3	YES	0

* Note that these results cover from the start of the year to now, and are still subject to change until the end of the year.

* Note - all results from TEOM PM10 analysers from 2004 onward are now converted to reference equivalence using the volatile correction method. Results using the old 'TEOM'1.3' method are also shown for comparison where relevant. More information.

[Basic Stats](#)
[Reports](#)
[Wind Plot](#)

Pollution

- [Nowcast](#)
- [Latest](#)
- [Annual](#)

Monitoring

- [Local Authorities](#)
- [Sites](#)
- [Annual Statistics](#)
- [Episodes](#)

Information

- [Air Mail](#)
- [News](#)
- [Guide](#)
- [Videos](#)
- [Reports](#)

Tools

- [Data Download](#)
- [Graph Drawing](#)
- [Statistics](#)
- [Openair](#)

Access

- [Mobile Site](#)
- [Mobile Apps](#)
- [Accessibility](#)

Website

- [Help](#)
- [Site map](#)
- [About](#)
- [Contact](#)

Air pollution – How bad is it?

London Air Quality Network: Marylebone Road

London Air

KING'S College LONDON

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You are on this page: Statistics Maps > Westminster - Marylebone Road

LAQN Monitoring Statistics

Enter postcode or area:

Select a monitoring site to view:

Change objective: all objectives

Include closed sites:

Show Authorities (OS Data):

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 Achieved but raised
 Exceeded
 No Data
 Closed

[Bulletin](#)
[Site Details](#)
[Statistics](#)
[Pollution Episodes](#)

Your selected monitoring site > Westminster - Marylebone Road

Air Quality Statistics

The table below shows whether pollution levels recorded at the site you have selected remained within the Government's Air Quality Strategy Objectives in 2012 (to date). For further basic statistics click on the button below, or for more precise statistics, use the Statistics Calculator.

Pollutant	Objective	Was it achieved?	Value
Sulphur Dioxide	No. days 24hr mean >125ug/m3	YES	0
Sulphur Dioxide	No. hours hourly mean >350ug/m3	YES	0
Sulphur Dioxide	No. periods 15min mean >267ug/m3	YES	0
PM10 Particulate	Annual Mean (ug/m3)	NO	43
PM10 Particulate	No. days 24hr mean >50ug/m3	YES	25
PM10 (redundant method)	Annual Mean (ug/m3)	NO	44
PM10 (redundant method)	No. days 24hr mean >50ug/m3	YES	33
Ozone	No. days max rolling 8hr mean >100ug/m3	YES	0
Nitrogen Dioxide	Annual Mean (ug/m3)	NO	91
Nitrogen Dioxide	No. hours hourly mean >200ug/m3	NO	20
Carbon Monoxide	No. hours rolling 8hr mean >10mg/m3	YES	0

** Note that these results cover from the start of the year to now, and are still subject to change until the end of the year.*

** Note - all results from TEOM PM₁₀ analysers from 2004 onward are now converted to reference equivalence using the volatile correction method. Results using the old TEOM₁₃ method are also shown for comparison where relevant. More information.*

[Basic Stats](#)
[Reports](#)
[Wind Plot](#)

Pollution
[Nowcast](#)
[Latest](#)
[Annual](#)

Monitoring
[Local Authorities](#)
[Sites](#)
[Annual Statistics](#)
[Episodes](#)

Information
[Air Mail](#)
[News](#)
[Guides](#)
[Videos](#)
[Reports](#)

Tools
[Data Download](#)
[Graph Drawing](#)
[Statistics](#)
[Operair](#)

Access
[Mobile Site](#)
[Mobile Apps](#)
[Accessibility](#)

Website
[Help](#)
[Site map](#)
[About](#)
[Contact](#)

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Air pollution – How bad is it?

London Air Quality Network: Marylebone Road

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You are on this page: Statistics Maps » Westminister - Marylebone Road FDMS

LAQN Monitoring Statistics

Enter postcode or area:

Your selected monitoring site » **Westminister - Marylebone Road FDMS**

Air Quality Statistics:

The table below shows whether pollution levels recorded at the site you have selected remained within the Government's Air Quality Strategy Objectives in 2012 (to date). For further basic statistics click on the button below, or for more precise statistics, use the Statistics Calculator.

Pollutant	Objective	Was it achieved?	Value
PM10 Particulate	Annual Mean (ug/m3)	YES	36
PM10 Particulate	No. days 24hr mean >50ug/m3	YES	17

* Note that these results cover from the start of the year to now, and are still subject to change until the end of the year.

[Basic Stats](#) [Reports](#) [Wind Plot](#)

Select a monitoring site to view:

Change objective: all objectives

Include closed sites:

Show Authorities (OS Data):

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[Pollution](#)
[Nowcast](#)
[Latest](#)
[Annual](#)

[Monitoring](#)
[Local Authorities](#)
[Sites](#)
[Annual Statistics](#)
[Episodes](#)

[Information](#)
[Air Mail](#)
[News](#)
[Guide](#)
[Videos](#)
[Reports](#)

[Tools](#)
[Data Download](#)
[Graph Drawing](#)
[Statistics](#)
[Openair](#)

[Access](#)
[Mobile Site](#)
[Mobile Apps](#)
[Accessibility](#)

[Website](#)
[Help](#)
[Site map](#)
[About](#)
[Contact](#)

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Air pollution – How bad is it?

London Air Quality Network: Euston Road

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You are on this page: Statistics Maps » Camden - Euston Road

LAQN Monitoring Statistics

Enter postcode or area: Find

Select a monitoring site to view:

Change objective: hourly mean nitrogen dioxide objective (no. of hours)

Include closed sites:

Show Authorities (OS Data):

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Your selected monitoring site » Camden - Euston Road

Air Quality Statistics: 2012 (to date) Go

The table below shows whether pollution levels recorded at the site you have selected remained within the Government's Air Quality Strategy Objectives in 2012 (to date). For further basic statistics click on the button below, or for more precise statistics, use the Statistics Calculator.

Pollutant	Objective	Was it achieved?	Value
Nitrogen Dioxide	Annual Mean (ug/m3)	NO	115
Nitrogen Dioxide	No. hours hourly mean >200ug/m3	NO	144

* Note that these results cover from the start of the year to now, and are still subject to change until the end of the year.

[Basic Stats](#) [Reports](#) [Wind Plot](#)

Pollution Nowcast Latest Annual

Monitoring Local Authorities Sites Annual Statistics Episodes

Information Air Mail News Guide Videos Reports

Tools Data Download Graph Drawing Statistics Openair

Access Mobile Site Mobile Apps Accessibility

Website Help Site map About Contact

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Air pollution – How bad is it?

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You are on this page: Statistics Maps » Camden - Euston Road

LAQN Monitoring Statistics

Enter postcode or area: Find

Select a monitoring site to view:

Change objective: annual mean nitrogen dioxide objective

Include closed sites:

Show Authorities (OS Data):

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 No Data
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[Bulletins](#)
[Site Details](#)
[Statistics](#)
[Pollution Episodes](#)

Your selected monitoring site » **Camden - Euston Road**

Air Quality Statistics: 2012 (to date) Go

The table below shows whether pollution levels recorded at the site you have selected remained within the Government's Air Quality Strategy Objectives in 2012 (to date). For further basic statistics click on the button below, or for more precise statistics, use the [Statistics Calculator](#).

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[Basic Stats](#)
[Reports](#)
[Wind Plot](#)

Pollution
[Nowcast](#)
[Latest](#)
[Annual](#)

Monitoring
[Local Authorities](#)
[Sites](#)
[Annual Statistics](#)
[Episodes](#)

Information
[Air Mail](#)
[News](#)
[Guide](#)
[Videos](#)
[Reports](#)

Tools
[Data Download](#)
[Graph Drawing](#)
[Statistics](#)
[Openair](#)

Access
[Mobile Site](#)
[Mobile Apps](#)
[Accessibility](#)

Website
[Help](#)
[Site map](#)
[About](#)
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