



“One Air”

Clean Air in London | The inside story

By Simon Birkett
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Clean Air in London – The inside story

2006-2008: Getting started. Mission. Directive 2008/50/EC.

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Case studies: Alerts, diesel(gate), media and social media

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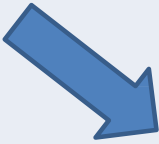
Directive

2024-2030: Opportunity: Ella's Law, comply with new WHO guidelines

The London Matrix – ‘One Air’

	Air pollution	Climate change
London		
Rest of world		

The London Matrix – ‘One Air’

	Air pollution	Climate change
London	Success	
Rest of world		

Mission

“To achieve full compliance, urgently and sustainably, with World Health Organisation guidelines for air quality throughout London and elsewhere”

Strategy

- Mission-focused: London, 'up' and 'out' e.g. EU, WHO and UN
- No point trying to persuade politicians to do things they don't want to do and don't have to do
- Build public understanding of air pollution by warning people and giving them advice on how to protect themselves (i.e. adaptation) and reduce pollution for themselves and others (i.e. mitigation)
- Camfil has sponsored CAL's campaign to build public understanding of indoor air quality since 2011
- Large network of supporters
- Wholesale not retail
- Content and communication

Jargon

- Particles (PM_{2.5} and PM₁₀) and gases(NO₂)
- Short and long-term health effects. Mortality and morbidity. Overlapping impacts
- Emissions and concentrations. Exposures, impacts and outcomes. Visible and invisible
- All affected. Many outcomes. Deaths mainly cardiovascular
- Local (NO₂), regional (PM_{2.5}) and transboundary pollution e.g. tropospheric ozone (O₃)

Myopic focus on CO₂

*A very senior civil servant, now retired, who worked in the [Department of Environment in the late 1990s] and has asked not to be named, said that cost-benefit studies of a switch to diesel were done, but climate change was “the new kid on the block” and long-term projections of comparative technologies were not perfect. “I recall all the discussions had the health issue as a significant factor,” he says. “We did not sleepwalk into this. **To be totally reductionist, you are talking about killing people today rather than saving lives tomorrow.** Occasionally, we had to say we were living in a different political world and everyone had to swallow hard.”*

John Vidal, Environment Editor, in The Guardian, 20 June 2015

Myopic focus on CO₂

“The Chairman, summing up the discussion, concluded that the points could be put to Ministers in a general way. It was important, however, not to allow the question of fiscal incentives to encourage the purchase of cars meeting lower emission standards than the mandatory ones to obscure the long-term need to encourage people to use fuel efficient [diesel] vehicles.”

Department of Transport

Minute of meeting on 28 September 1990

Directive 2008/50/EC

Transposed as Air Quality Standards Regulations 2010 (updated 2016)

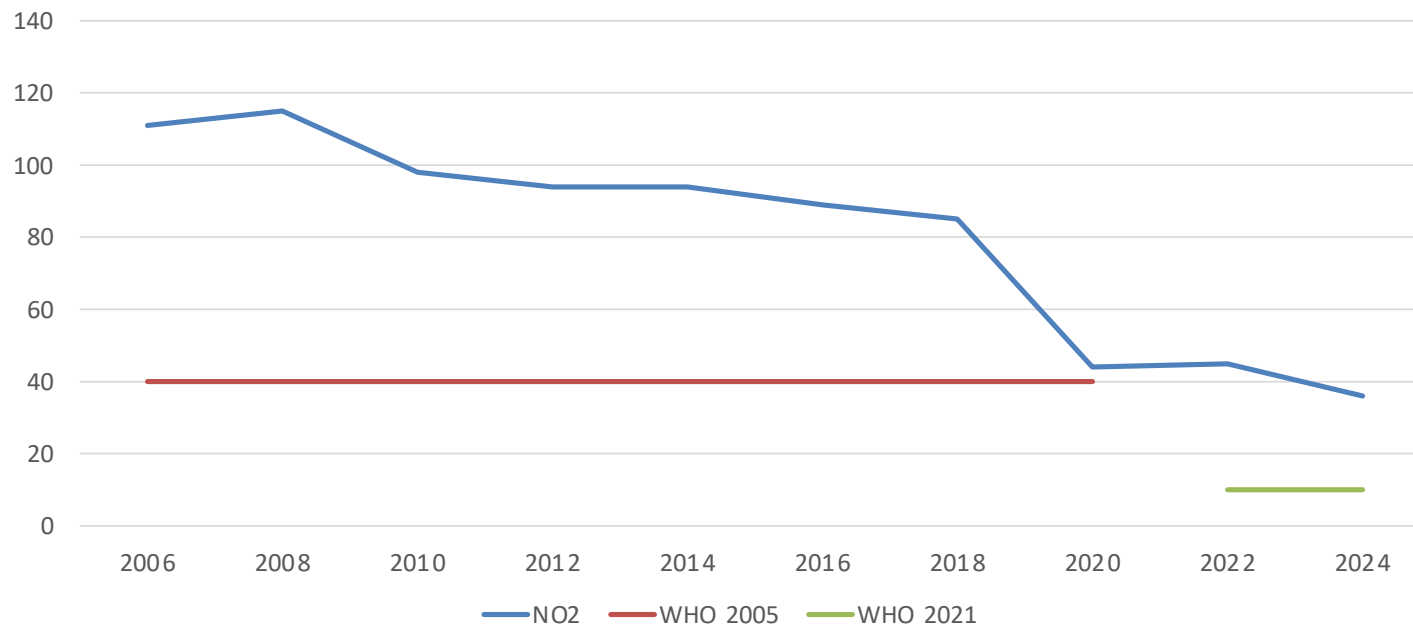
- Highest common denominator of Council, Commission and Member States i.e. best for health and the environment of each of their positions
- CAL's three 'red lines':
 1. No 'burden of proof' before Member States can take action to improve air quality
 2. Limit values continue to apply 'everywhere' i.e. no arbitrary 'let-outs'
 3. No 'unconditional' time extensions e.g. from 2010 to 2015
- Margin of tolerance for initial exceedances reduced as the deadline approached
- Independent (4 July 2008) – Simon Birkett: *"We're choking to death while the Government dithers"*

Health

- **2005/6:** New WHO air quality guidelines
- **2008 (28 August):** FOI to GLA request re 1,031 'accelerated deaths' (in 2005 report). Refused by GLA (25 September 2008)
- **2009 (18 August):** Request to HPA re 1,031 premature deaths
- **2009:** Long term: CAL accuses Labour government of 'one of the biggest public health 'cover-ups' or public health failings in modern history'
- **2010:** Public Health Indicator published for PM_{2.5} attributable fraction
- **2011:** Last media release sent to journalists and weather presenters
- **2013 (15 February):** Ella Roberta Adoo-Kissi-Debrah died aged nine
- **2014:** First ever rankings of top 10 death outcomes in London
- **2015:** Witness Seminar: Air Pollution Research in Britain c1955-c2000
- **2020 and 2021:** COVID-19. Air filtration to improve indoor air quality
- **2020 (December) and 2021 (April):** Inquest and Report to prevent future deaths
- **2021 (September):** New WHO AQGs: PM_{2.5} halved and NO₂ slashed $\frac{3}{4}$.
- **2024 (October):** Government apologises to Rosamund Adoo-Kissi-Debrah

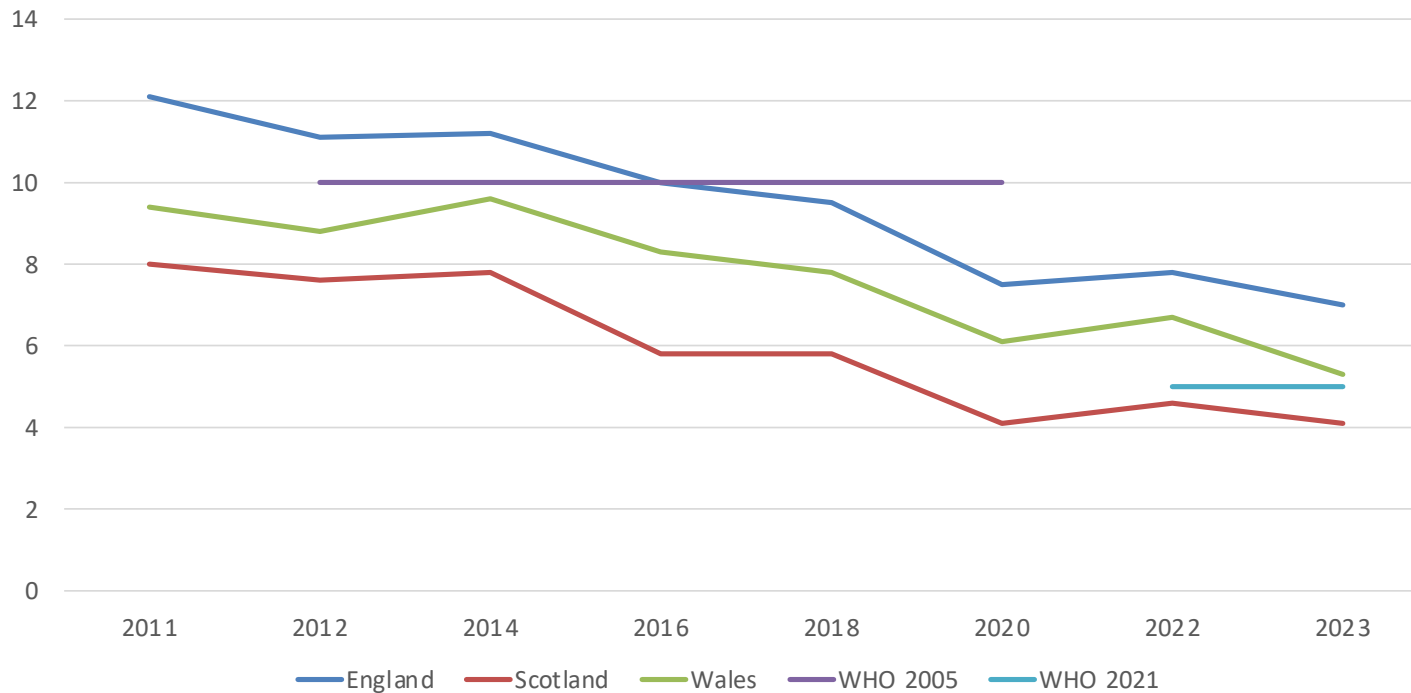
Annual mean concentrations of NO₂ (µg/m³) – Marylebone Road

*We're back where we thought we were – Again.
And will be again...*



Population-weighted annual mean concentrations of PM_{2.5} (µg/m³)

We're making good progress



London: 15 March 2012



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Legal action

- SO₂ breach*: *“Pollution puts Britain in the dock”*
- **2008**: Directive 2008/50/EC
- **2009 – 2012**: ClientEarth
- **2012**: FOI/EIR Birkett v Defra in Court of Appeal C3/2011/1094
- **2012 (January)**: Complaint to Commission. Closed 24 April 2024
- **2013**: European Commission’s ‘Year of Air’
- **2015**: ClientEarth Supreme Court. Blog and HIGH.
- **2021**: CJEU Judgement. Case C-664/18 on NO₂
- **2022**: UN General Assembly: Human right to a clean, healthy and sustainable environment
- **2022**: Ella’s Law – Clean Air (Human Rights) Bill
- **2024**: New EU Ambient Air Quality Directive

*Paragraphs 186 and 195 in Volume 2 of the Air Quality Strategy 2007

ClientEarth win

Supreme Court in April 2015



Defra UK Air reported exceedances for NO₂

		2021	2022	2023
UK0001	Greater London	x	x	x
UK0002	West Midlands	x	x	x
UK0003	Greater Manchester	x	x	x
UK0004	West Yorkshire	x	x	x
UK0006	Liverpool	x	x	x
UK0007	Sheffield	x	x	Comply
UK0008	Nottingham	x	x	x
UK0009	Bristol	x	x	x
UK0017	Coventry/Bedworth	Comply	Comply	x
UK0031	South East	Comply	x	x
UK0024	Glasgow	x	Comply	Comply
UK0041	South Wales	x	Comply	Comply
		10	9	9

CJEU Judgment (2021) and Withdrawal Agreement

Under Article 89(1) of the Withdrawal Agreement such judgments of the CJEU that are handed down after the end of the transition period in proceedings referred to in Article 86, shall have binding force on and in the UK. Under Article 89(2) of the Withdrawal Agreement, the UK is required to take the necessary measures to comply with any such judgment that finds that there has been a failure to fulfil an obligation under the Treaties

Case: C-664/18

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A62018CJ0664>

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Air pollution warnings

1. When did Defra last send a press release to journalists and weather desks warning of HIGH air pollution episode? 'Information bulletins' are not 'press releases'
2. 21 April 2011 (Easter Thursday) – HIGH ozone and 36th exceedance of PM₁₀ daily limit value <https://uk-air.defra.gov.uk/news?view=149>
3. Last government 'covered-up' or failed to report a statutory alert for high ozone levels on 26 June 2024 i.e. days before the General Election
4. Good luck finding this webpage <https://uk-air.defra.gov.uk/latest/measurement-summary-map> from <https://uk-air.defra.gov.uk/> or bookmarking the 'Latest measured hourly bulletin' <https://uk-air.defra.gov.uk/>
5. Defra and DHSC should update 'Daily Air Quality Index' for WHO air quality guidelines 2021
6. Government should follow Mayor of London's example – Our air is toxic, killing people and stunting children's lungs. I'm doing something about it. Issue effective 'HIGH' warnings including when O₃ or other pollutants expected to exceed an information or alert threshold
7. Government should go beyond requirements in forthcoming EU Air Quality Directive
8. Build public understanding of short and long-term exposure to air pollution

Pollution Suppressor – 26 March 2012



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Media coverage: Oxford Street



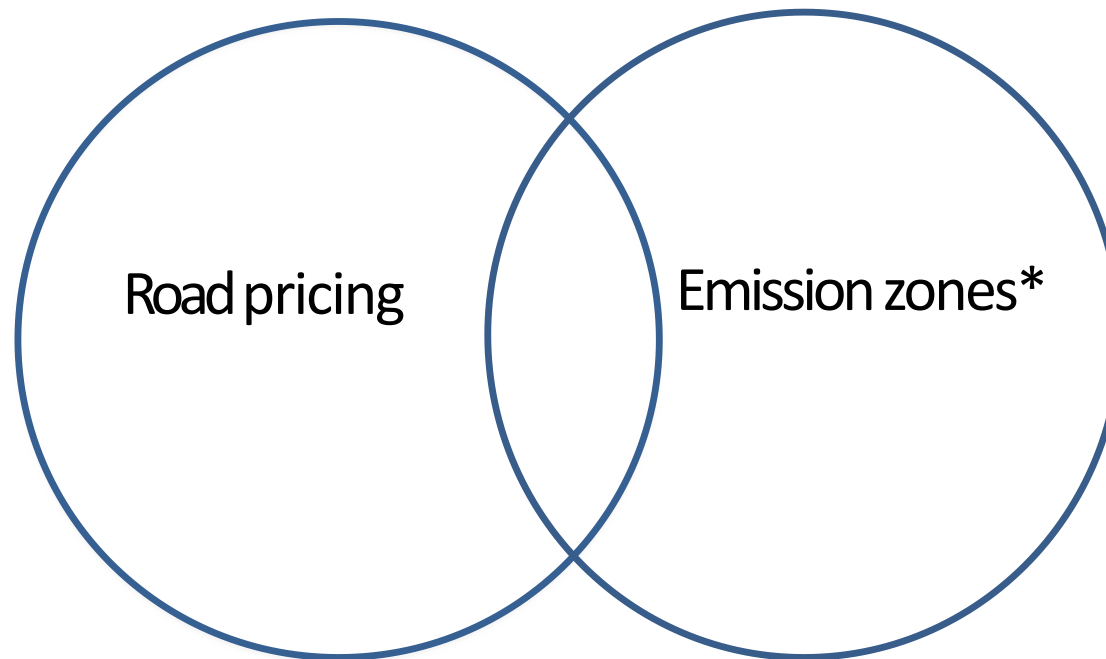
Diesel - NO₂ reduced by 2/3 near busy roads

Nine phases of low and ultra low emission zones in London

- **2009 (24 April):** Presentation to LAQN conference re Berlin LEZ
- **2011:** Publishes details of 1,147 schools near busy roads
- **2012:** IARC classifies diesel exhaust carcinogenic for humans
- **2013:** CAL publishes regulated pollutants for 41,000 London road links
- **2015:** Dieselgate – CASANZ keynote in Melbourne...
- **2017 (7 September):** Jaguar Land Rover’s Inaugural Tech Fest in London. “Diesel is the devil. We need to ban it”.
- Simon McCoy and BBC World News
- **2023:** Quoted in over 300 media articles in more than 19 countries.
“Big problems need big solutions. We know LEZs work.”

The London Circles

Transport measures address congestion and/or emissions



* 'Clean Air Zones': $\text{PM}_{2.5}$ \rightarrow NO_2 \rightarrow Zero tailpipe emissions

Media, social media and keynote presentations

- **20 August 2006:** Observer: ‘Chelsea choked by its tractors’
- **2009 (April):** LAQN presentation – Inner Low Emission Zone(s) for London
- **2012:** Pollution Suppressor: Public health fraud on an industrial scale.
- **2012:** Olympics. ‘Tipping point’ year. 1, 2, 3->20+ campaigners by year end
- **2014 – 2019 inclusive:** Evening Standard’s annual ‘Progress 1,000’ list
- **2015 (February):** Air pollution near Buckingham Palace is worst in UK
- **2015 (November):** CASANZ conference. ABC National radio in Melbourne
- **2017 (24 October):** Simon McCoy – “Oh, how are you going to get home?”
- **2019:** BBC World news – ULEZ launches in Central London
- **2023:** ULEZ expansion – Quoted in over 300 articles in 19 countries
- Social media: 42,500 followers on Twitter/X with 126,100 posts

London: 19 February 2013



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UNEP's Sixth Global Environment Outlook – GEO-6



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UNEP's Six Global Environment Outlook (GEO-6)

- High Level Inter-Government Stakeholder and Advisory Group
- Same 'right' to speak or veto decisions as Member States. CAL's red lines:
 - Urgency
 - 'One air' – alongside themes of Land, Fresh Water, Oceans and Biodiversity
 - Lifestyle changes – must be considered alongside technology solutions
 - Governance – recognising that there are different approaches in different places
- **The Way Forward** paragraph in the Summary for Policy Makers for GEO-6
The sixth Global Environmental Outlook has set out many of the challenges and opportunities faced by the world today, moving forward from today to 2030 and beyond that to 2050. The ongoing revolution in data and knowledge of all types at the local, national and multinational levels offers an opportunity to increase our capacity to address environmental and governance challenges and accelerate progress. Most important is the need to take bold, urgent, sustainable and inclusive action that integrates environmental, economic and social activity on pathways to achieve the Sustainable Development Goals, multilateral environmental agreements, internationally agreed environmental goals and other science-based targets
- Found that science-based targets existed only for 'air' i.e. WHO AQGs and 1.5°C

Knightsbridge Neighbourhood Plan 2018-2040

- Made (i.e. adopted) on 11 December 2018. First 'made' plan in City of Westminster
- 22 of 40 policies relate to health, environment or transport
- Every policy aligns to one or more of the UN SDGs
- Best practice guidance on:
 - Community engagement
 - Construction standards and procedures
 - Tree Management Plans
- Five-year review showed that the Plan has successfully influenced planning decisions
- Policy KBR34: Healthy Air
KBR34(B): Development shall comply with at least all minimum EU or UK environmental requirements in relation to air pollutants whichever is the more stringent.

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COP26 – Major reports with BBC Monitoring

- Commissioned reports from BBC Monitoring to identify climate change issues and negotiating priorities for each of the G20 countries and selected others ahead of COP26
- Three two-part reports:
 - **April 2021** – c100 pages
 - **July 2021** – c120 pages
 - **October 2021** – c145 pages
- Part One: Qualitative analysis. Part Two: Themes, People and Events
- Positive outcome at COP26: Lord Sharma ‘kept 1.5°C alive’
- **June 2022:** Six-month follow-up report showed little or no follow-through by G20 countries

Indoor air quality – Principles and lessons

1. Buildings may have ventilation, air conditioning or air filtration or none
2. Need 'air cleaning' i.e. removal of contaminants. 'Air treatment' (e.g. UV) may disinfect surfaces (or water tanks) but doesn't remove particles. Air filters can be used to remove particles and/or gases e.g. NO₂
3. Easy wins from mechanical ventilation with ePM₁ 80% filtration efficiency on supply and recirculated air. 5-10 air changes/hour. Use stand alone air cleaners if needed
4. Opening windows for ventilation can increase energy use in winter and summer (and can reduce air quality if outdoor air is polluted)
5. CMO's 'energy challenge' has been long-addressed by HVAC professionals
6. Comply with latest standards and maintain regularly e.g. ducts. Monitor results
7. Awaab's Law – What hazards addressed? Spores and other pollutants
8. Update all official guidance for latest (internationally recognised) standards annually. Not days before new standards are published

Indoor air standards

- WHO air quality guidelines (September 2021) apply indoors
- BS 40102-1:2023 – Aligns indoor air standards to new WHO AQGs
- BS EN 16798-3:2017 – Air filtration for clean indoor air
- BS EN ISO 16890:2016 – Particles
- BS EN ISO 10121-2:2013 – Gases – Testing
- BS EN ISO 10121-3:2023 – Gases – Classifications
- Eurovent 4-23 (Jan 22) – Selection of EN ISO 16890 rated air filters

Maintenance. Maintenance. Maintenance.

BS EN 15780:2011 – Duct cleaning, inspection intervals e.g. Table A.2

Guidance needing updating for COVID, WHO (2021) air quality guidelines and reference to current air filtration standards

- Update post-COVID guidance for Addenbrookes Hospital Study
RNA detected in both 1-4 μ M and >4 μ M particulate fractions
“Cleaner air will reduce the risk of airborne disease transmission”
- Awaab’s Law – Hazards should include ‘indoor air’ generally
- BB 101 – Ventilation, thermal comfort and indoor air quality in schools
- HTM 03-01(2021) – Specialised ventilation for healthcare premises (Parts A and B)
- Ventilation: Part F – Building regulation for ventilation requirements

CIBSE Guide B and TM40. BESA guidance. Newly refurbished or developed buildings per the Clean Air (Human Rights) Bill (as updated)

Important that clean indoor air is not compromised by energy standards (or vice versa)

Climate Change Committee wrote to CAL


21 December 2021

“Prior to the Sixth Carbon Budget, the CCC’s advice was already that Government should not support wood-burning stoves as part of climate policy, and that their use should be phased out over time. On that basis, the secretariat considered that the detailed recommendations on wood burning stoves from the Expert Advisory Group were already covered by the CCC’s existing position and did not require further discussion with the Committee, during a period when a large volume of matters were being considered to define our advice on the Sixth Carbon Budget.”

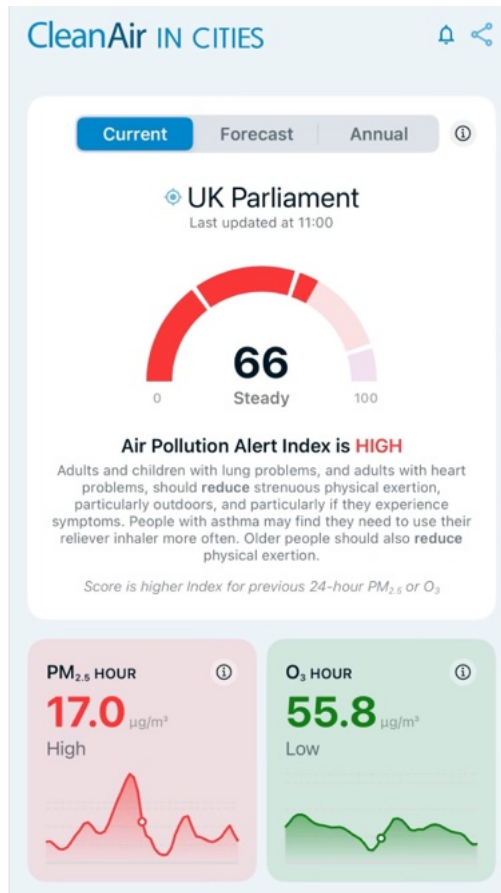
https://cleanair.london/app/uploads/CAL-429-CCC-covering-letter-reply-211221_EIR-UK-Health-Expert-Advisory-Group-Report.pdf

https://cleanair.london/app/uploads/CAL-429-CCC-letter-reply-211221_Annex-B_Health-inequalities-and-climate-change.pdf

Clean Air in Cities app

- Episode pollutants: PM_{2.5} and O₃ concentrations updated hourly
- Uses Clean Air in Cities index aligned to WHO 2021 air quality guidelines
- Graphs shows each of last and next 24 hours and max weekly for year
- Openweather data combines many sources. 500m-2km resolution
- Tap  in 'Home' tab to set daily or other forecast notifications
- Extreme 'alerts' at 12noon for top 5 and worst day forecasts in last 365
- Population-weighted PM_{2.5} and mortality estimates for England
- Free to download in the appropriate store
 - Android <https://tinyurl.com/CAICandroid>
 - Apple <https://tinyurl.com/CAICapple>
- Thousands of users from over 125 countries

Clean Air in Cities' app



New EU Ambient Air Quality Directive

- New limit values from 1 January 2030 for PM_{2.5}, NO₂ and others
- CAL's suggestions at EU Clean Air Forum:
 1. No unconditional time extensions e.g. to 2035 or 2040
 2. Pathway to new World Health Organisation air quality guidelines
 3. Continuity and tightening of earlier air quality laws
- Awaiting publication in the EU's Official Journal
- UK government's response?

Opportunity – Next five years to 2030

1. Labour - Align to new EU AAQD
2. Ella's Law: New Clean Air (Human Rights) Act must enshrine the human right to breathe clean air precisely and explicitly in UK law with pathway to new WHO AQGs
3. Air pollution warnings
4. Phase out wood burning by 2030. 70th anniversary of the Clean Air Act 1956
5. Zero air emission buildings. Ambitious indoor air quality standards and action
6. London should aim to be diesel-free by 2030
7. Plant-based by default menus in public institutions
8. Planning guidance – Limit values are 'objective' not 'subjective' standards
9. Submit FoI and EIR requests e.g. using WhatDoTheyKnow.com
10. Ambitious new Clean Air Strategy and EIP targets building on EAC inquiry (2023)
11. Ambitious new laws to reduce 'transboundary' air pollution e.g. EU and UNECE
12. Comply fully with air quality laws by 1 January 2030. NO₂ 20 µg/m³. PM_{2.5} 10 µg/m³

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