

27 June 2022

Dear Defra

Consultation on air quality targets

I am writing on behalf of Clean Air in London (CAL) in response to Defra's consultation on air quality targets to be set under the Environment Act 2021. This letter addresses the ambition level that should be set by the Government.

CAL's mission is to achieve, urgently and sustainably, full compliance with the World Health Organisation's (WHO's) air quality guidelines throughout London and elsewhere. Further details about CAL can be found at <https://cleanair.london>. It was founded in 2006.

CAL is independent of any government funding, has cross-party support and a large number of supporters, both individuals and organisations. CAL provides a channel for both public concern and expert opinion on air pollution.

Introduction

CAL calls for the Government to commit to achieve full compliance with the latest WHO air quality guidelines, including fine particles (PM_{2.5}), by 2028 with annual review and enforcement thereafter. This objective is necessary to protect public health and achievable. It should be seen in the context of commitments made in the City of London (Various Powers) Act 1954¹ which banned smoke from premises (from 1 October 1955), the Clean Air Act 1956 (which allowed seven years) and the UK's obligations under the Air Quality Standards Regulations for nitrogen dioxide (set in June 2008 to be achieved by 1 January 2010 with the possibility of a five year time extension subject to conditions).

Aiming to achieving the WHO's 2005 guideline for annual mean PM_{2.5} by 2040

Defra is proposing to set a target to achieve the WHO's 2005 annual mean guideline for PM_{2.5} of 10 micrograms per cubic metre (ug/m³) by 2040 i.e. 35 years after it was set. This is disappointing to say the least and suggests a lack of concern for public health. The WHO set new air quality guidelines on 21 September 2021² including an annual mean for PM_{2.5} of 5 ug/m³. The WHO said that "*these guidelines are expected to remain valid for a period of up to 10 years*". It has found no level of exposure below which it is 'risk-free' so further guidelines are likely to be lower.

The starting place for Defra's ambition level for PM_{2.5} should have been an annual mean concentration of 10 ug/m³ by 2030 which its own work shows is achievable. Imperial College London has reached similar conclusions for the Clean Air Fund³.

¹ https://cleanair.london/app/uploads/City-of-London_VP_Act-1954-1.pdf

² <https://cleanair.london/hot-topics/new-who-air-quality-guidelines/>

³ <https://www.cleanairfund.org/news-item/air-quality-in-the-uk-could-reach-who-safety-targets-by-2030-if-government-delivers-on-pledged-reforms/>

Achieving WHO's 2021 air quality guideline by 2028 is necessary and achievable

The Chairman of the Air Quality Expert Group stated on 18 November 2021:

*“Whilst 2020 was clearly a very unusual year for air pollution emissions due to the COVID-19 pandemic, an annual average PM_{2.5} limit value of 10 ug m⁻³ or higher would have been achieved across the UK, **including central London**. This would be valuable contextual information for decision-makers when set alongside the assessments based on different future emission scenarios.” **[CAL emphasis]***

While 2020 was an unusual year, it does not take account of ‘business as usual’ progress towards 2030:

1. the urgent need to reduce the UK’s greenhouse gas emissions by about one-third between 2020 and 2030 to meet its Net Zero commitment by 2050⁴.
2. expected technology improvements across all sectors e.g. resulting from a ban on petrol and diesel car sales from 2030 (with changes in manufacturing and purchasing behaviour well before that).
3. the UK’s obligations under the National Emissions Ceiling Regulations 2018 (and Gothenburg Protocol) to reduce emissions of ammonia (NH₃), oxides of nitrogen (NO_x) and PM_{2.5} by 10%, 35% and 13% respectively by 2030 **below the actual outcome in 2020**⁵ – with intermediate targets in 2025 and annually. Oddly, Defra has not assumed compliance with the NECR which would result in a reduction of **secondary** PM_{2.5} brought on by a reduction on other pollutants such as NH₃ and NO_x. The **secondary** component has not been properly addressed in Defra’s scenarios.
4. the Climate Change Committee’s “*advice to Government to not support any biomass for heat in urban areas*”⁶ and that “*Government should not support wood-burning stoves as part of climate policy and that their use should be phased out over time*”⁷. Its Expert Advisory Group on Health and Health Equity recommended ‘*Eliminate home installation of new woodburning stoves by 2030*’ and “*All urban wood burning stove[s] eliminated by 2050*” (July 2020)⁸.
5. “*Ammonia from farms being behind 60% of UK particulate matter*”⁹ and research showing that policies in the Netherlands and Denmark have led to reported emission reductions of 35% to 66% between 1990 and 2011. The underlying research says “*The main opportunities for NH₃ abatement concern agricultural sources for which abatement measures are relatively easy and inexpensive [e.g. subsidies for enhanced-efficiency fertilisers and fertiliser application machinery]*”. See ‘*Abating ammonia is more cost-effective than nitrogen oxides for mitigating PM_{2.5} air pollution*’ by Mark Sutton et al (5 November 2021).
6. Defra’s own statistics (and CAL’s three-part investigation into the wood burning stove industry) showing that “*domestic combustion [(i.e. open fires, wood stoves etc)] accounted for 25% of PM_{2.5} [primary] emissions in 2020*” (with “*domestic wood burning increasing by 35% between 2010 and 2010 to represent 17% of total PM_{2.5} [primary] emissions in 2020*”¹⁰). Combustion in the manufacturing and construction sector and industrial combustion and processes was responsible for 27% and 14% of PM_{2.5} **[primary]** emissions in 2020. Defra commented that “*recent increases to industrial combustion*” are “*most notable for biomass*”. See CAL’s website for details.

⁴ <https://www.carbonbrief.org/analysis-uk-is-now-halfway-to-meeting-its-net-zero-emissions-target/>

⁵ https://cleanair.london/app/uploads/CAL-458-UK-IIR-1990-to-2020_2203151456_GB_IIR_2022_Submission_v1.pdf

⁶ <https://cleanair.london/app/uploads/CAL-405-CCC-letter-to-CAL-June-21.pdf>

⁷ https://cleanair.london/app/uploads/CAL-429-CCC-covering-letter-reply-211221_EIR-UK-Health-Expert-Advisory-Group-Report.pdf

⁸ https://cleanair.london/app/uploads/CAL-429-CCC-letter-reply-211221_Annex-B_Health-inequalities-and-climate-change.pdf

⁹ <https://www.theguardian.com/environment/2021/nov/04/ammonia-from-farms-behind-60-of-uk-particulate-air-pollution-study>

¹⁰ <https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-particulate-matter-pm10-and-pm25>

7. the Mayor of London and London Councils, including the City of London Corporation, calling for new powers to control emissions from plant and equipment in areas of poor air quality. These non-transport sources of PM_{2.5} include: boilers; combined heat and power plant; cooking appliances used in restaurants, solid fuel burning in fireplaces and stoves; non-road mobile machinery; and static generators. Just one source, commercial cooking, produced more than half the PM_{2.5} **[primary]** emissions generated in central London in 2019¹¹. Emission limits need to be tightened and include zero emission standards for medium combustion plant over 1MW and in ecodesign rules. In CAL's opinion, existing controls over solid fuel and wood and biomass burning are not fit for purpose, should be reviewed and set deadlines to end the installation and use of all solid fuel and biomass burning appliances including wood. Such burning should be banned in urban areas.
8. lifestyle and behaviour changes. For example, to CAL's knowledge, no diesel cars were sold in car showrooms in London for up to two years before the introduction of the Ultra Low Emission Zone. When CAL refers to lifestyle changes, it means a range of measures and behaviours from: bans, charges and campaigns to build public understanding to incentives and adoption e.g. seat belts. Lifestyle measures to 2030 might include more walking and cycling and less red meat eating.

In CAL's considered judgement, action and support in the following areas:

- complying urgently with Net Zero obligations;
- requiring and supporting existing (and new) technology e.g. to replace petrol and diesel cars;
- full compliance with the NECR 2018 (and in particular steps to reduce ammonia by 10-20%);
- phasing out the burning of solid fuel and biomass (including wood) in urban areas; and
- giving Metro Mayors and local authorities the powers that they are calling for,

...could each reduce PM_{2.5} concentrations in London (and elsewhere) by 1-2 ug/m³ per year by 2028 if initiated in 2022. CAL appreciates that there would be some overlap between the above actions or measures. Such action is necessary and feasible and benefits are likely to far exceed costs.

This would be sufficient to achieve the new WHO air quality guideline for annual mean concentrations of PM_{2.5}. It would also drive innovation as similar action did after the Great Smog 70 years ago.

Baroness Jones' Clean Air (Human Rights) Bill¹², which topped the ballot in the House of Lords, would enshrine the human right to clean air precisely and explicitly in UK law and provide the necessary framework. It also proposes a sensible system of annual review, improvement and enforcement.

I would be pleased to discuss this letter with you.

Yours sincerely

Simon Birkett
Founder and Director

¹¹ <https://cleanair.london/app/uploads/CAL-458-LAEI-2019-Summary-Note-FINAL-V2.pdf>

¹² <https://bills.parliament.uk/bills/3161>