Written evidence submitted by Clean Air in London

Introduction

1. Clean Air in London ("CAL") submits this memorandum to the Environmental Audit Committee's ("EAC's") inquiry titled 'Outdoor and Indoor air quality targets' ("Air quality targets") which opened on 10 May 2023:

   https://committees.parliament.uk/work/7317/defra-recall-environmental-protection/

2. 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. CAL is a not for profit company limited by guarantee, registered in England and Wales, with number 7413769. Further details about CAL can be found at https://cleanair.london. It was founded in 2006.

3. 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.

Executive Summary

4. CAL welcomes this timely, broad and forward-looking inquiry and would be pleased to give oral evidence.

5. It is important to understand that 'one air' comprises local air pollution and greenhouse gases. In turn, local air pollution comprises particulate matter (such as $PM_{2.5}$ or PM_{10}) and gases (such as nitrogen dioxide ("NO_2")) with 'emissions' (i.e. inputs) mixing in the air to become 'primary' and 'secondary' sources of total 'concentrations' i.e. outputs.

6. Air pollution can be local, city, regional, national or transboundary. In a city like London, some 80-90% of $PM_{2.5}$ concentrations come from outside the city (with ammonia ("NH_3") and transboundary sources being significant sources of secondary $PM_{2.5}$). Near roads (and other strong pollution sources), air pollution can spike locally before dispersing. Smaller particles and gases travel further and faster. The source apportionment for $PM_{2.5}$ in Figures 7.4, 7.9 and 7.10 (or pages 85, 91 and 92 respectively) shows the relative contributions of different sources of emissions to measured concentrations of $PM_{2.5}$ in 2021. Secondary aerosols may be 'organic' or 'inorganic':

   https://uk-air.defra.gov.uk/assets/documents/reports/cat09/2303151632_2021_PCM_technical_report.pdf

   Other Figures show the relative contribution of other sources to other types of air pollution.

   "Fine Particulate Matter ($PM_{2.5}$) in the United Kingdom" is an excellent guide (published 2012):

   https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/69635/pb13837-aqeg-fine-particle-matter-20121220.pdf

7. It is deeply concerning that the Government's Retained EU Law Bill proposes to revoke the need for plans and consultations under the National Emission Ceilings Regulations 2018 ("NECR 2018") i.e. Regulations 9 and 10. The NECR 2018 set a ceiling on the UK's total tonnage of emissions of each of five key pollutants and are the main means of controlling their sources (i.e. inputs) in 2020 and 2030 (and between). Worse, Regulations 9 and 10 are the main 'remedy' for breaches of these emission ceilings. CAL identified three legal breaches of the NECR 2018 in

2022 and Defra admitted a further one for $PM_{2.5}$ on 22 February 2023. See Section 4 in the first link and CAL's letter supported by a legal opinion:

https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-background

https://cleanair.london/app/uploads/CAL-433-HG-letter-to-GLD-Defra-final-200122_Redacted.pdf

https://cleanair.london/app/uploads/CAL-433-Catherine-Dobson-advice-re-NECR_Final-171221.pdf

CAL is not aware of any duplicated identical annual duty on Defra and rejects its claim that it should be allowed to focus on delivering some unknown actions while bypassing normal conventions on the need for plans and consultations.

It was also deeply concerning that Defra held a 10-day only public consultation on its draft Revised Air Quality Strategy and has refused CAL's FOI request for information about private discussions that Defra held over some 16 months with selected stakeholders (between December 2021 and April 2023). Who did they meet? When? What did which stakeholders say?

CAL raised 60 concerns or questions about the draft AQS during the consultation which were not addressed in the final document. In fact, the final version still includes one or more 'gross errors' e.g. the national emission ceiling for ammonia between 2020 and 2029 (still showing as "2257" kilotonne on 25 May 2023):

https://cleanair.london/app/uploads/CAL-509-Response-to-Defra-draft-Revised-AQS_210423_Final.pdf

https://www.gov.uk/government/publications/the-air-quality-strategy-for-england/air-quality-strategy-framework-for-local-authority-delivery

8. CAL encourages the EAC to build on the excellent evidence and reports from its four previous inquiries into air quality. CAL is concerned that if the EAC were to simply repeat and not strengthen its recommendations when action has been refused or not taken by Government, that we will have lost 10 or 12 years for nothing.

9. For example, the EAC's report in March 2018 recommended "Introduce a Clean Air Act to improve existing legislation and enshrine the right to clean air in UK law". Baroness Jones of Moulsecoomb's 'Clean Air (Human Rights) Bill' ("the Bill") completed its passage through the House of Lords on 2 December 2022 after topping the ballot on 12 May 2022. The Bill is sponsored in the House of Commons as 'Ella's Law' by Caroline Lucas MP but needs Government support to proceed.

   Please repeat, strengthen and emphasise the urgency of your previous recommendation. Enshrining the human right to clean air precisely and explicitly in UK law would transform action on air pollution overnight by requiring every public body to consider the right to breathe clean air as they currently consider equalities. The Bill shows how this could be done (Section 1). It would also match EU proposals for the revision of the Air Quality Directives on $PM_{2.5}$ and NO_2 and set a pathway to comply with the WHO's new air quality guidelines (published on 21 September 2021).

   The Bill could be further improved by detailing more powers for local authorities, Metro Mayors and others. See:

https://cleanair.london/clean-air-act/

https://cleanair.london/app/uploads/Defra_Future-of-the-Clean-Air-Act_March-2012-2.pdf

https://cleanair.london/app/uploads/Defra-AEA-Report_Review-of-the-effectiveness-of-measures-in-the-Clean-Air-Act-1993_20-July-2012-2.pdf

https://cleanair.london/app/uploads/pb13819-red-tape-environment.pdf

10. CAL proposes a separate new Clean, Healthy and Sustainable Environment (Human Rights) Treaties Act to ensure that public authorities, courts and tribunals act in a way which is compatible with the duties in UN environmental treaties. A person who claimed that a public authority had acted in a way which was not compatible with UN environmental treaties would be able to bring proceedings under this Act, provisions of UN environmental treaties could be relied on in any legal proceedings and the Environment Act would be amended to give the Office for Environmental Protection the power to bring or intervene in proceedings. CAL has identified about 100 such treaties under the headings of Air, Biodiversity, Freshwater, Land, Oceans, Chemicals and Waste Management, Environmental Governance and Conservation and Resources Management. This is the most meaningful way to implement UN General Assembly resolution A/RES/76/300 in the UK:

    https://cleanair.london/app/uploads/CAL-455-UNGA-R2HE-resolution-adopted-280722.pdf

11. The Government is failing to comply with existing air pollution laws which were put in legislation as far back as 2008 or earlier e.g. based on the WHO's air quality guidelines 2005. New outdoor and indoor air quality targets should be science-based, based on the latest evidence and be achieved by 1 January 2028 with the possibility of a postponement per pollutant and per zone by up to five years where they cannot be achieved subject to strict conditions (as described in section 1 of the Clean Air (Human Rights) Bill (Bill 210 2022-23)). New NECR emission targets should be set for 2035 and 2040 and align to the EU's zero pollution trajectory by 2050.

12. CAL has answered all 11 of the EAC's questions and included recommendations at the start of each section. Please address the lack of Government plans to comply with existing laws for both emissions and concentrations and the need for new targets, plans and action for all air pollutants.

Previous Select Committee investigations

13. The EAC has held at least four inquiries into air quality in the last 15 years. These include and were ordered to be printed on:

    16 March 2010

    https://publications.parliament.uk/pa/cm200910/cmselect/cmenvaud/229/22902.htm

    26 October 2011

    https://publications.parliament.uk/pa/cm201012/cmselect/cmenvaud/1024/102402.htm

    8 February 2012

    https://publications.parliament.uk/pa/cm201012/cmselect/cmenvaud/1820/1820.pdf

    7 March 2018

    https://publications.parliament.uk/pa/cm201719/cmselect/cmenvfru/433/43305.htm

14. The Environment, Food and Rural Affairs Committee ("EFRACOM") held a narrower inquiry on the links between air quality and coronavirus that was ordered to be printed on 2 February 2021:

    https://publications.parliament.uk/pa/cm5801/cmselect/cmenvfru/468/46802.htm

15. The Public Accounts Committee ("PAC") held an inquiry on 'Tackling local air quality breaches' (i.e. breaches of targets and legal limits dating back primarily to Directive on ambient air quality and cleaner in Europe (2008/50/EC)) with a report ordered to be printed on 17 October 2022 and an ongoing inquiry titled 'Defra Recall: Environmental Protection' with a report awaited:

    https://committees.parliament.uk/work/6744/tackling-local-air-quality-breaches/publications/

    https://committees.parliament.uk/work/7317/defra-recall-environmental-protection/

16. CAL submitted written evidence to all but one of the above inquiries. Most recently:

    https://committees.parliament.uk/writtenevidence/120574/pdf/

Q1: What evidence exists of the extent of air pollution directly or indirectly impacting health of individuals or communities in England?

A1: Air pollution is the largest environmental health risk that affects everyone to some extent at every stage of their lives. There are decades of evidence to support urgent action now. Action must not be delayed while we wait for more research on smaller aspects of more specific problems e.g. black carbon. CAL would also like to see the contribution, if any, of ozone air pollution into the tragic deaths of soldiers on (or shortly after) endurance exercises to be investigated.

17. There is a vast amount of evidence that air pollution adversely impacts the health of all people in England. There is no need to delay urgent action based on existing evidence. The Precautionary Approach points to further action beyond that which is already justified.

18. Defra published "Guidance: Health matters: air pollution" on 14 November 2018 which emphasised that "poor air quality is the largest environmental risk to public health in the UK" and "Air pollution can affect everyone" "at every stage of life":

    https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution

19. Please refer also to the Clean Air Strategy 2019:

    https://www.gov.uk/government/publications/clean-air-strategy-2019

20. The WHO published new air quality guidelines on 21 September 2021 which halved the guideline for $PM_{2.5}$ and slashed the guideline for NO_2 from 40 ug/m^3 to 10 ug/m^3. On page Roman xx (i.e. Roman 20), it stated:

    The settings to which these guidelines apply

    The present guidelines are applicable to both outdoor and indoor environments globally. Thus, they cover all settings where people spend time. However, as in previous editions, these guidelines do not cover occupational settings, owing to the specific characteristics of the relevant exposures and risk reduction policies and to potential differences in population susceptibility of the adult workforce in comparison with the general population.

The WHO did not change and re-confirmed some previous guidelines and included 'Good practice statements' for the first time e.g. on ultrafines ($PM_{0.1}$). CAL believes that particle number concentrations (PNC) relate to particles in the size fraction between 10 and 800 nanometres and the ultrafine particle mass concentration relates to those between 10 and 100 nanometres in diameter.

21. An excellent report titled 'Research finding in support of the EU Air Quality Review' published on 30 January 2014 highlighted that:

"So far, it has not been possible to identify one or two components, which are primarily responsible for the harmful effects of PM [particulate matter]" (page 10) and "The air concentration of PM mass is the parameter that has been most closely linked to health effects" (page 11).

https://nora.nerc.ac.uk/id/eprint/504622/

Nearly 10 years later there is still speculation that some components of PM, such as ultrafines ($PM_{0.1}$), black carbon or traffic pollution, are more hazardous to health than others. However, partly through the lack of monitoring and long-term studies of cohorts of the population, long-term exposure to $PM_{2.5}$ is still recognised at the most reliable measure of the health risk from air pollution across populations. There is also some speculation about the relative dangers of 'indoor air' relative to 'outdoor air' but this may reflect the fact that there are often additional sources and types of air pollution indoors. However, the overarching message is that urgent action must be taken to reduce all pollutants indoors and outside to protect public health, the environment and the climate.

For the avoidance of doubt, none of the above is intended to dismiss the health effects of individual air pollutants under the broader umbrella of $PM_{2.5}$. Indeed, monitoring of all air pollutants is encouraged to inform cohort studies and future health advice. These may allow the WHO, for example, to move forward from good practice statements to guidelines for $PM_{0.1}$.

22. It is also important to recognise that "*the achievement of the guideline level for one pollutant should not be done with an increase of the other pollutant concentration above its guideline level"* as Professor Michal Krzyzanoswki explained to CAL in a letter dated 9 April 2007:

https://cleanair.london/sources/importance-of-individual-air-pollutants-confirmed/

23. Geraint Davies MP, Chairman of Parliament's influential APPG on Air Pollution, has asked valuable questions on this topic that have highlighted the health impacts of air pollution including relative to alcoholism, obesity, salt/diet and smoking (and road traffic accidents):

https://members.parliament.uk/member/155/writtenquestions

The answers to a number of his questions provide clear explanations on health effects e.g. the meaning and calculation of 'attributable deaths'. For example:

https://questions-statements.parliament.uk/written-questions/detail/2023-05-03/183644/

https://questions-statements.parliament.uk/written-questions/detail/2023-05-02/183301/

https://questions-statements.parliament.uk/written-questions/detail/2023-05-03/183643/

https://questions-statements.parliament.uk/written-questions/detail/2023-05-02/183300/

https://questions-statements.parliament.uk/written-questions/detail/2023-04-19/181818/

https://questions-statements.parliament.uk/written-questions/detail/2023-04-19/181816/

See also an answer to UIN 185729 tabled on 18 May 2023 from DHSC which provided links for a worked calculation for deaths attributable to NO_2:

https://questions-statements.parliament.uk/written-questions/detail/2023-05-18/185729/

24. Geraint Davies MP has had answers recently to further questions about the costs of air pollution including:

    UIN 185731 tabled on 18 May 2023 about DHSC methodologies to estimate the costs to the NHS for each of five risk factors including air pollution:

    https://questions-statements.parliament.uk/written-questions/detail/2023-05-18/185731/

    UIN 185730 tabled on 18 May 2023 to Defra about other types of (a) financial and (b) societal costs caused by air pollution:

    https://questions-statements.parliament.uk/written-questions/detail/2023-05-18/185730/

    UIN 185745 tabled on 18 May 2023 to DHSC about the information it holds on the extent of the air pollution (a) directly and (b) indirectly affecting the health of (i) individuals and (ii) communities in England:

    https://questions-statements.parliament.uk/written-questions/detail/2023-05-18/185745/

    This revealed a staggering prediction of 1,327,424 new cases of disease attributable to $PM_{2.5}$ and 1,140,018 new cases of disease attributable to NO_2 between 2017 and 2035.

25. CAL considers that the contribution, if any, of ozone and other pollution in the circumstances reported about the tragic deaths of soldiers on endurance exercises should be investigated.

    https://cleanair.london/health/clean-air-in-london-statement-in-relation-to-inquest-into-deaths-of-three-sas-soldiers/

    This includes:

    The deaths of three SAS selection soldiers (Lance Corporal Edward Maher, Lance Corporal Craig Roberts and Corporal James Dunsby) in the Brecon Beacons on 13 July 2013.

    https://www.bbc.co.uk/news/uk-wales-45557588

    See Defra air pollution data at that time:

    https://uk-air.defra.gov.uk/latest/measurement-summary-map?date=13%2F07%2F2013#summary

    https://uk-air.defra.gov.uk/latest/measurement-summary-map?date=12%2F07%2F2013#summary

    Corporal Joshua Hoole died in Brecon after a fitness test on 19 July 2016:

    https://www.bbc.co.uk/news/uk-wales-50179071

    See Defra air pollution data at that time:

https://uk-air.defra.gov.uk/latest/measurement-summary-map.php?date=19%2F07%2F2016&submit=Select#summary

Sapper Connor Morrison died in Suffolk after collapsing on 21 July 2022:

https://www.bbc.co.uk/news/uk-england-suffolk-62392083

See Defra air pollution data at that time:

https://uk-air.defra.gov.uk/latest/measurement-summary-map?date=19%2F07%2F2022#summary

https://uk-air.defra.gov.uk/latest/measurement-summary-map?date=20%2F07%2F2022#summary

https://uk-air.defra.gov.uk/latest/measurement-summary-map?date=21%2F07%2F2022#summary

26. CAL has separately published a 10 point 'Pollution protocol' to be considered by organisers of endurance sporting events (see item 4):

    https://cleanair.london/hot-topics/codeyellow-for-liverpool-marathon-and-great-manchester-run/

27. While scientists (understandably) (and those wanting to delay action) call for more research (by scientists) into more and more specific aspects of more and more forms of air pollution, the big picture message is loud and clear: we need 'zero air emissions' to protect health, the environment and the climate. Recent news about the likelihood of exceeding heating of 1.5c adds to urgency.

28. Wholly separately, please be wary of some disinformation being circulated about air pollution at the moment.

Q2: What evidence exists to demonstrate the impact of the Ultra Low Emission Zone, and other Clean Air Zones nationwide, on reducing public health risks or improving health outcomes within areas where they have been introduced?

A2: Low, ultra low and clean air zones have been important steps over the last 15 years on the path to banning diesel (and petrol) vehicles from cities and towns.

29. The WHO classified diesel exhaust as carcinogenic to humans on 12 June 2012:

    https://www.iarc.who.int/wp-content/uploads/2018/07/pr213_E.pdf

30. Please consider 'emission' and 'congestion' measures as two overlapping circles of road transport measures. Each aims to tackle a different problem but has a secondary benefit for the other e.g. measures to restrict the number of the most polluting vehicles will reduce congestion by a smaller amount.

31. It is also important to recognise that 'emission' measures may target particulate matter (PM) or gases (e.g. oxides of nitrogen). Reducing these emissions will reduce the amount of air pollution that is measured as 'concentrations' relative to WHO air quality guidelines or legal limits.

32. Early Low Emission Zones (LEZs) targeted PM. Some of the solutions to the PM problem increased NOx and NO_2 by burning off the particles at high temperature. The introduction of limit values for NO_2 on 1 January 2010 meant that emissions of NOx also had to be reduced. This led to the inclusion of NOx requirements in LEZs and then Ultra Low Emission Zones (ULEZs).

33. LEZs and ULEZs reduce emissions and therefore concentrations at roadsides. The benefits of these traffic measures should be assessed primarily at roadsides not averaged across much wider areas or populations.

34. Authoritative research titled 'Limited impact of diesel particle filters on road traffic emissions of ultrafine particles' was published in April 2023:

    https://doi.org/10.1016/j.envint.2023.107888

    It included data up to 2021 which showed that:

    Current concentrations at Marylebone Road exceed the [WHO's Good practice statement] threshold for "high" values by around a factor of two.

35. In CAL's view, the clearest benefit of the successive tightening and expanding of LEZs, ULEZs and CAZs has been in the collapse of sales and therefore first registrations of diesel passenger cars since 2015 or earlier:

    https://questions-statements.parliament.uk/written-questions/detail/2023-02-03/139131/

    https://questions-statements.parliament.uk/written-questions/detail/2023-05-02/183302/

    For example, these have collapsed in Greater London from 68,841 in 2016 to 4,225 in the nine months ended 30 September 2022 (and 7,595 in the whole of 2021). This trend was accelerated by the Dieselgate scandal in September 2015.

36. CAL also points to these studies:

    https://cleanair.london/app/uploads/Inner-London-ULEZ-One-Year-Report-final.pdf

    https://cleanair.london/app/uploads/Jacobs-IIA-May-2022_c7731c1b9dd3c304567a31d5b4816351_London-wide_ULEZ_Integrated_Impact_Assessment_ULEZ_Scheme_IIA_2.pdf

37. The DfT says "*It is not possible to make a direct comparison between different [Clean Air Zones]*" because of different timing, requirements etc:

    https://questions-statements.parliament.uk/written-questions/detail/2023-05-02/183296/

38. Defra has published other information:

    https://www.gov.uk/government/publications/air-quality-clean-air-zone-framework-for-england

    https://www.gov.uk/government/consultations/implementation-of-clean-air-zones-in-england

Q3: Are the current national targets for outdoor air pollution ambitious and wide-ranging enough to provide adequate protection for public health and the environment in a) rural and b) urban areas?

A3: No. There are many long-standing national targets for emissions and concentrations that are still being breached. The national ceiling for $PM_{2.5}$ was breached for the first time in 2021. Defra has set two new targets for 2040 to comply with the WHO's old air quality guidelines i.e. those set in 2005. The UK needs new targets for (i) emissions and (ii) concentrations that are based on the latest science, match or exceed EU ambitions and will protect public health, the environment and the climate. There also needs to be sharing of data and engagement again

with the European Environment Agency if the UK is to understand and reduce transboundary air pollution.

39. Please distinguish between ceilings, limit values, objectives and targets set under UK, former EU and international law. Some of these have little or no legal effect (such as targets) and others such as limit values must be attained and not exceeded once attained and be achieved irrespective of cost. Some control emissions (i.e. inputs) and some control concentrations (or population-weighted exposures) (i.e. outputs). Some apply everywhere and others are averaged across whole populations. Exposure reduction targets are opaque and can only be calculated by the Government.

40. Further, some obligations, such as NO_2 limit values had to be attained by 1 December 2010 (and continue to be breached) and others such as the NECR 2018 include binding legal targets in 2020 and 2030 with 'targets' in 2025.

41. Important legislation includes the Air Quality Standards Regulations 2010, the National Emission Ceilings Regulations 2018, the UNECE's Convention on Long-range Transboundary Air Pollution (which includes the Gothenburg Protocol) and the Environment Acts 1995 and 2021. CAL has published a more detailed description of the legal position and action needed on $PM_{2.5}$ here:

    https://cleanair.london/app/uploads/CAL-467-Achieving-WHO-AQGs-asap_080822.pdf

42. Important plans and strategies are intended to show how the Government will control these inputs and outputs. Examples include the National Air Pollution Control Programme, the Environmental Improvement Plan and the Revised Air Quality Strategy 2023. Some apply UK-wide and some apply only to England or other devolved administrations.

43. The National Audit Office published an excellent report in December 2009 on air quality which described the legal framework and delivery framework clearly (e.g. Figure 8 on page 28).

    https://www.nao.org.uk/wp-content/uploads/2010/01/Air_Quality.pdf

    Please note that the AQSR 2010 and NECR 2018 were published subsequently.

44. The National Audit Office published a further report titled 'Tackling local breaches of air quality' (17 June 2022) for the PAC inquiry in 2022 which described a number of these obligations:

    https://www.nao.org.uk/reports/tackling-local-breaches-of-air-quality/

    CAL's submission to the PAC encouraged the Committee to consider emissions from agriculture, commercial cooking and wood burning, not only transport and NO_2.

45. Much has changed since the PAC published its report on 26 October 2022 including:

    - The European Commission published its proposals for the revision of the Air Quality Directives.
    - Baroness Jones' Clean Air (Human Rights) Bill has cleared all legislative stages in the House of Lords on 2 December 2022 after topping the ballot. It is sponsored in the House of Commons by Caroline Lucas MP.
    - 5-9 December 2022 was the 70th anniversary of the Great Smog.
    - The Chief Medical Officer published his annual report which was on air pollution (8 December 2022).
    - Defra published its Environmental Improvement Plan on 31 January 2023.

- Defra published its National Air Pollution Control Programme on 9 February 2023.
- Defra published its annual publication covering the emissions of some important air pollutants on 22 February 2023. This included an admission in the Section titled 'Background – (4) Annual emission ceilings' which stated:

  For $PM_{2.5}$, there is a single annual ceiling of 80.8 thousand tonnes of emissions between 2020 and 2029 (set at a 30 per cent reduction from 2005 levels), applicable to both the NECR and the CLRTAP. In 2021, ***the UK was not compliant with this commitment****, with 83.2 thousand tonnes of $PM_{2.5}$ emissions.* **CAL emphasis.**

  https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-background

  https://www.gov.uk/government/statistics/emissions-of-air-pollutants

  In other words, Defra admitted breaching the legally binding national emission ceiling for $PM_{2.5}$ for the first time under the NECR 2018 and the Gothenburg Protocol to the UNECE Convention on Long Range Transboundary Air Pollution ("CLRTAP").

  The same statistical publication stated in the Section titled 'Particulate matter (PM_{10} and $PM_{2.5}$)' that:

  Emissions of $PM_{2.5}$ from domestic wood burning increased by 124 per cent between 2011 and 2021, to represent 21 per cent of total $PM_{2.5}$. emissions in 2021.

  Domestic combustion in total accounted for 27% of $PM_{2.5}$ [primary] emissions in 2021 – mostly from wood in closed stoves and open fires. This was the largest source of primary $PM_{2.5}$ emissions.

- Defra published its Air quality statistics – Annual update on concentrations of major pollutants in the UK on 27 April 2023:

  https://www.gov.uk/government/statistics/air-quality-statistics

- Defra published its Revised Air Quality Strategy on 28 April 2023 (for England).

46. At a recent air quality event attended by CAL, a Defra official admitted that the Department was interpreting literally Section 4 (2), *inter alia*, of the Environment Act 2021 which states:

    "Before making regulations under sections 1 to 3 which set or amend a target the Secretary of State must be satisfied that the target, or amended target, can be met."

    In other words, Defra will not protect anyone unless it is certain that everyone can be protected. This is the opposite of precautionary and plainly ridiculous.

47. Defra appears to have rejected the Climate Change Committee's long standing advice *"that Government should not support wood-burning stoves as part of climate policy, and that their use should be phased out over time":*

    See page 2 of CCC's letter to CAL dated 21 December 2021:

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

and another helpful letter on 8 June 2021:

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

See also:

https://cleanair.london/health/ban-domestic-wood-burning-in-urban-areas/

https://cleanair.london/health/implementation-of-ecodesign-regulations-from-1-january-2022-is-an-important-step-on-the-path-to-banning-wood-burning/

https://cleanair.london/hot-topics/clean-air-in-london-exposes-cosy-world-of-the-wood-stove-industry/

48. The current targets are based primarily on WHO air quality guidelines (published in 2006) and legal limits in the Air Quality Directive 2008, the National Emissions Ceilings Directive 2016 and international treaties. CAL's note explains the emissions rules in the NECR, NECD and Gothenburg Protocol etc.:

    https://cleanair.london/app/uploads/CAL-467-Achieving-WHO-AQGs-asap_080822.pdf

49. The revision of CLRTAP is underway:

    https://unece.org/environmental-policy/air/international-cooperation-air-pollution

    https://www.gov.uk/government/speeches/minister-pow-international-cooperation-on-air-pollution-speech

50. CAL commends the work of the European Environment Agency to the Committee. It is vital that the UK shares data again and engages with the EEA if it is to understand and reduce transboundary air pollution and keep abreast of best practices (e.g. in understanding the line of sight for secondary aerosols from agriculture, traffic and industrial sources to $PM_{2.5}$ concentrations). See:

    https://www.eea.europa.eu/en/topics/in-depth/air-pollution

51. We need a completely fresh approach to tackling air pollution which considers 'One air', understands the difference between primary and secondary types of air pollution (such as $PM_{2.5}$ and ozone) and looks through short-term 'disbenefits' (such as ozone rising in the centre of cities as NOx is reduced and increases in global temperature as the cooling effect of sulphate and nitrate particles from shipping emissions is reduced). Determination is needed therefore to achieve long-term objectives.

Q4: Are measures currently in place, and those proposed in the revised Air Quality Strategy for England, sufficient to achieve national targets?

A4: No. Ongoing and new breaches of existing air pollution laws show that current measures are inadequate to comply fully with long-standing air pollution laws. The Air Quality Strategy is a narrow document that is focused on the control of local concentrations and is titled "Framework for local authority delivery". Even the Environmental Improvement Plan and the National Air Pollution Control Programme are 'plans for plans by others' to reduce emissions. We need action to comply with current laws and new laws and plans to achieve new targets.

52. The Air Quality Strategy focuses narrowly on 'concentrations' and a 'framework for local authority delivery' rather than national or comprehensive action. It is a pale shadow of its 2007

predecessor. Section 6.4 National Emissions Ceilings Regulations includes at least one 'gross error' with the webpage showing (on 25 May 2023) the 2020 to 2029 ceiling in kilotonnes as "2257" (as an intermediate step between 279 (in 2005) and 235 (in 2030):

https://www.gov.uk/government/publications/the-air-quality-strategy-for-england/air-quality-strategy-framework-for-local-authority-delivery

53. The AQS is inadequate to achieve current targets, such as NO_2 limit values and national ceilings in the NECR 2018.

54. Defra admitted breaching the $PM_{2.5}$ ceiling in 2021 on 22 February 2023 after publishing a disappointing National Air Pollution Control Programme on 9 February 2023 (that failed to address inadequacies identified during its consultation):

https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-background

https://www.gov.uk/government/publications/air-quality-revised-uk-national-air-pollution-control-programme

55. Please see CAL's many submissions to Defra on this topic which included an authoritative legal opinion by the highly regarded Catherine Dobson:

https://cleanair.london/app/uploads/CAL-474-Response-to-Defra-on-NAPCP_030922.pdf

https://cleanair.london/app/uploads/CAL-433-HG-letter-to-GLD-Defra-final-200122_Redacted.pdf

https://cleanair.london/app/uploads/CAL-433-Catherine-Dobson-advice-re-NECR_Final-171221.pdf

56. Defra responded to a Parliamentary question from Geraint Davies MP on 25 May 2023 (UIN 185736 tabled 18 May 2023) asking what steps it would take to comply with the (a) National Emission Ceiling Regulations 2018, (b) Environmental Improvement Plan [which set new air quality targets for 2028 and 2040] and (c) Air Quality Standards Regulations 2010 stating that *"The Environmental Improvement Plan sets of the actions we will take to continue improving air quality and meet our legally binding targets"*:

https://questions-statements.parliament.uk/written-questions/detail/2023-05-18/185736/

57. Please ask the Government to produce coherent plans that will demonstrate how full compliance will be achieved with existing laws and set new science-based targets with deadlines.

Q5: What are the major barriers and challenges to achieving national targets on air quality?

A5: The largest barrier is a reluctance by every government for more than 15 years to warn the public and build political understanding about air pollution. Legacy industries and vested interests have also slowed or failed to take action. There is also a lack of understanding that deadlines drive innovation and that the estimated multipliers associated with green spending are about 2 to 7 times larger than those associated with non-eco-friendly expenditure (source: IMF).

58. The reluctance of every Government since 2009 (or earlier) to warn the public about air pollution is the principal hurdle. Please see two examples:

https://cleanair.london/health/one-of-the-worst-public-health-failings-or-cover-ups-in-modern-history/

https://cleanair.london/app/uploads/CAL-398-Ella-Roberta_Warning-the-public-about-air-pollution-episodes_210421.pdf

The number of deaths attributable to long-term exposure to air pollution ($PM_{2.5}$) was only published in December 2010 after the EAC highlighted evidence submitted by CAL to its inquiry.

59. The other main hurdle is the lack of ambition and understanding of air pollution and the benefits of reducing it by the government and others. For example. the IMF says:

https://www.gov.uk/research-for-development-outputs/building-back-better-how-big-are-green-spending-multipliers

"...we find that every dollar spent on key carbon-neutral or carbon-sink activities—from zero-emission power plants to the protection of wildlife and ecosystems—can generate more than a dollar's worth of economic activity. The estimated multipliers associated with green spending are about 2 to 7 times larger than those associated with non-eco-friendly expenditure, depending on sectors, technologies and horizons. These findings survive several robustness checks and suggest that 'building back better' could be a win-win for economies and the planet."

60. Action to reduce air pollution needs political leadership, technology and lifestyle changes. Most policy assessment considers only technology measures. Lifestyle measures range along a spectrum from: (i) bans, (ii) charges and (iii) campaigns to build public understanding to (iv) incentives and (v) adoption e.g. seat belts. The most effective politicians create the political 'space' to implement policies successfully. Often, however, it's simply down to leaders 'doing the right thing'.

61. On 25 May 2023, Defra replied briefly to a parliamentary question on this topic from Geraint Davies MP (UIN 185737 tabled on 18 May 2023):

To ask the Secretary of State…whether her department has made an assessment of the potential barriers to achieving national targets on air quality?

Answer: Defra assesses progress towards and barriers to achieving targets for air quality on an ongoing basis.

https://questions-statements.parliament.uk/written-questions/detail/2023-05-18/185737/

Q6: Does the Government provide sufficient funding and devolved powers to local authorities in England to improve local air quality? If not, what additional funding or devolved powers are required?

A6: No. Ongoing breaches of existing laws suggest that local resources and powers are inadequate. Indeed, local authorities are calling for more resources and more powers. The Government has rejected a call by the PAC to be more transparent about funding across government. CAL has proposed a detailed list of recommended new powers for local authorities below.

62. The Government rejected the PAC inquiry's recommendation that it provide greater transparency on spending within Government. This information is likely to show that action on some of the biggest sources of air pollution such as ammonia and wood burning has been derisory.

63. CAL offers six recommendations to reduce harmful emissions from the nation's buildings (given that these are responsible for producing approximately 78% of greenhouse gases emissions within a city like Greater London (reference London Plan paragraph 9.2.1 on page 343). These include:

63.1. giving local authorities and Metro Mayors new powers to control emissions from non-transport sources of pollution so that they can fulfil their new duties under the Environment Act 2021.

63.2. giving local authorities and Metro Mayors powers to require zero or ultra-low emission plant, machinery and appliances in areas of poor air quality e.g. Local Air Quality Management Areas and Smoke Control Areas. This includes:

- boilers fired by gaseous fuels which have a rated heat power output of less than 1 MW.
- combined heat and power plant.
- cooking appliances used in restaurants and food outlets.
- domestic cooking appliances.
- fireplaces and wood burning stoves.
- non-road mobile machinery i.e. construction equipment or so called 'yellow plant'.
- solid fuel boilers with a rated heat power of less than 1 MW.
- stationary generators with a rated thermal power output of less than 1MW.

The current controls for Smoke Control Areas were designed to deal with smoke and sulphur dioxide not NOx and PM and those for wood burning are no longer fit for purpose.

Even the City of London (Various Powers) Act 1954 said "No smoke should be emitted from premises…". On the spot fines for visible smoke should be a minimum step forward in 2023.

https://cleanair.london/app/uploads/City-of-London_VP_Act-1954-2.pdf

57.3 specifying maximum emission limits (which could be zero) for oxides of nitrogen (NOx) and particle mass and number concentrations for the above with limited exceptions during genuine emergencies.

This approach would have similarities with the 'exempt appliances' and 'approved fuel' framework already applied by local authorities. The limits should also be technology neutral i.e. a single emission limit should be set for each type of plant, equipment and appliance not looser emission limits for more polluting appliances. Two stage deadlines might be used e.g. 1 January 2028 and 1 January 2030.

Please also signal ending the sale of most new combustion plant, equipment and appliances by 2030 i.e. following the approach adopted with diesel and petrol cars.

57.4 updating relevant regulatory standards and close lacunas by:

- introducing zero emission limits for small boilers under the Ecodesign Regulations.
- closing the regulatory gap between the current Ecodesign and medium combustion plant regulations to tackle emissions in the 500kW to 1MW thermal input range.
- introducing tighter emission standards for medium combustion plant and generators.
- scrapping 'empty permits' so that local authorities and Metro Mayors can play a role with the Environment Agency now in reducing emissions from some of the most polluting sources.

57.5 supporting energy efficiency (with respect to regulated and non-regulated energy use in buildings) and the development and use of zero air emission technologies.

57.6 providing guidance and support and ensuring connections and approvals for electricity and other energy supply infrastructure for building owners and operators who are needing to take decisions in calendar 2023 (never mind future years) to replace ageing gas boilers (or CHP units) with zero air emission alternatives.

It is impossible to overstate the need for urgent action.

There is an opportunity for DLUHC, Defra and other departments to deliver these changes quickly through the planning system, building regulations and other levers. The proposals are not onerous and would provide a clear framework for ensuring that zero and ultra low emission plant and equipment is used and installed in areas of poor air quality.

Q7: What are the long-term health impacts of indoor air pollution?

A7: The WHO says that its new guidelines are applicable to both outdoor and indoor environments globally. Thus, they cover all settings where people spend time. The WHO also has long-standing guidance for other pollutants that tend to be emitted or problems indoors e.g. formaldehyde, carbon monoxide, damp and mould etc.

64. The WHO's present air quality guidelines are applicable to both outdoor and indoor environments globally (see Answer 1 above) in essence because people are biologically the same indoors and out.

65. See also WHO Housing and Health Guidelines from 2018 including pages 94 to 95:

https://cleanair.london/app/uploads/WHO-Housing-and-Health-guidelines_28-November-2018_Para-8-2-2-pages-94-to-95.pdf

66. The Chief Medical Officer's Annual Report on Air Pollution (8 December 2022) also highlighted the dangers of indoor air pollution.

67. The Department of Health and Social Care answered a Parliamentary question from Geraint Davies MP (UIN 185747 tabled on 18 May 2023) to confirm the internationally recognised guidelines and standards that are most effective at protecting public health from indoor air pollution:

https://members.parliament.uk/member/155/writtenquestions#expand-1628851

"The World Health Organization (WHO) has published guidelines for indoor air quality for selected chemicals commonly present in indoor air and provide a scientific basis for legally enforceable standards. The guidelines are available at the following link:

https://www.who.int/publications/i/item/9789289002134.

"The WHO have also produced guidelines for indoor air quality affected by dampness and mould, available at the following link:

https://www.who.int/publications/i/item/9789289041683

"and household fuel combustion, available at the following link:

https://www.who.int/publications/i/item/9789241548885.

"In 2020, National Institute for Health and Care Excellence produced guidance focused on interventions to change the structure of, ventilation of, and materials used in new and existing homes, as well as interventions to change people's behaviour to reduce their exposure to indoor air pollution at home. The guidance is available at the following link:

https://www.nice.org.uk/guidance/ng149".

68. There is more and more research into the sources and impacts of indoor air pollution (as there is with outdoor air pollution). However, it is likely to take many years before new research produces evidence and results in new guidance. We know enough already to be sure that indoor air pollution needs to be reduced and its sources better controlled.

69. The WHO's guidelines for outdoor and indoor air are the gold standard.

Q8: What steps can the Government take to improve indoor air quality?

A8: The CMO's recent report on air pollution included five recommendations on indoor air. CAL has made further recommendations below. President Biden is already implementing many measures to improve indoor air quality that the UK could copy.

70. The CMO's Annual Report on Air Pollution included five of 15 recommendations on indoor air.

71. CAL offers six recommendations to improve the nation's indoor air. These include:

- focusing on the outputs of 'clean air' and 'low energy use' and differentiating between buildings with mechanical HVAC systems and those without (where portable standalone air filters can be used).
- using the WHO's new air quality guidelines and good practice statements (e.g. for ultrafine particles) to define indoor air quality as 'acceptable', 'clean' or 'good'. New standards or testing protocols are not needed. Regrettably, most current guidelines still refer to the WHO's 2005 air quality guidelines (published in 2006).
- making the most of existing mechanical HVAC systems. This can be done by using three ePM_1 70% efficiency bag filters in a typical HVAC system filter configuration i.e. as described above. Carbon air filters can be added to eliminate gases such as NO_2 where there is an outdoor air pollution problem e.g. beside busy roads. Good bag air filters should each last 18 months to two years with the second one on the supply air side replacing the upstream one and a new one replacing the second one every nine to 12 months.
- updating all regulations and guidance for indoor air for the new WHO standards and the latest internationally recognised standards. Relevant regulations and guidance include: BB 101 (schools); building regulations (e.g. Ventilation, Part F); and HTM-03 (healthcare). Relevant standards include: BS EN 16798-3:2017 (which replaced EN 13779:2007 many years ago); BS EN ISO 16890:2016 (air filter performance standards for particle removal); BS EN ISO 10121-2:2014 (air filter performance standards for gas removal); and Eurovent 4-23 (updated January 2022) (which has recommendations for air filter applications). BS EN ISO 10121-3:2022 is the recognised standard for the classification of molecular gas filtration e.g. NO_2. It is important that internationally recognised test standards are used for testing and validation e.g. BSI ISO 15714:2019 for the use of UV-C technology. UV-C has many uses but does not remove particles or gases and creates ozone (O_3) when it reacts with oxygen in the air.
- insisting that there is a duty on the gas safe industry to test for carbon monoxide as standard practice including relighting gas appliances (where necessary). Otherwise, thousands of cases will continue to go undiagnosed because windows have been opened and gas dispersed before experts arrive.

- bearing in mind, when timeframes are set for landlords to fix reported health hazards, that Awaab Ishak died aged two i.e. three or four months is more appropriate for action than six.

For more detail, please see:

https://cleanair.london/app/uploads/CAL-499-Letter-to-DLUHC-re-buildings_140223-V4_edited.pdf

https://www.gov.uk/government/publications/building-bulletin-101-ventilation-for-school-buildings#history

https://www.gov.uk/government/publications/ventilation-approved-document-f

https://www.england.nhs.uk/estates/health-technical-memoranda/

https://cleanair.london/app/uploads/HVN-230321_Final.pdf

72. The British Standards Institute's new Code of Practice 'BS 40102-1:2023' titled 'Health and well-being and indoor environmental quality in buildings' aligns indoor air quality standards to the new WHO air quality guidelines. Please recommend that it is adopted widely:

    https://knowledge.bsigroup.com/products/health-and-well-being-and-indoor-environmental-quality-in-buildings-health-and-well-being-in-non-domestic-buildings-code-of-practice/standard

    DLUHC answered a Parliamentary question from Geraint Davies MP (UIN 185728 tabled on 18 May 2023) confirming that it is aware of BS 40102-1:2023 and that officials are currently reviewing the content:

    https://questions-statements.parliament.uk/written-questions/detail/2023-05-18/185728/

73. NHS England has published interim guidance on the application of standalone HEPA air filters and ultraviolet devices (which includes requirements on 'ozone'):

    https://www.england.nhs.uk/long-read/application-of-hepa-filter-devices-for-air-cleaning-in-healthcare-spaces-guidance-and-standards/

    https://www.england.nhs.uk/long-read/application-of-ultraviolet-uvc-devices-for-air-cleaning-in-occupied-healthcare-spaces-guidance-and-standards/

74. Geraint Davies MP has asked useful questions on this topic including:

    UIN 185874 tabled on 19 May 2023 about Health services (Ventilation) with an answer pending:

    https://questions-statements.parliament.uk/written-questions/detail/2023-05-19/185874/

    UIN 185868 tabled on 19 May 2023 about Schools: Air pollution which revealed that the Department for Education has no plans to update its guidance BB101:

    https://questions-statements.parliament.uk/written-questions/detail/2023-05-19/185868/

    UIN 185749 tabled on 18 May 2023 revealed positive action being taken by the Department for Health and Social Care to improve indoor air quality:

    https://questions-statements.parliament.uk/written-questions/detail/2023-05-18/185749/

75. President Biden has demonstrated the scale of action needed on indoor air:

    https://www.whitehouse.gov/ostp/news-updates/2022/12/08/clean-indoor-air-benefits-everyone/

    https://www.whitehouse.gov/ostp/news-updates/2022/12/08/fact-sheet-departments-and-agencies-commit-to-cleaner-indoor-air-across-the-nation/

76. In the UK, the Secretary of State for Levelling Up, Housing and Communities is leading the way on indoor air quality with his commitment to Awaab's Law. This should be broadened to include indoor air generally.

    https://www.gov.uk/government/news/government-to-deliver-awaabs-law

77. Other departments should match or exceed the pace of work being done by DLUHC and DHSC.

Q9: What are the differential impacts, geographically, and across socio-economic groups, of poor outdoor and indoor air quality? Are measures to address poor air quality appropriately targeted?

A9: There is long-standing evidence that there are big differences in air pollution across communities in England with deprived and ethnic minority areas the worst affected. Measures such as the Ultra Low Emission Zone that reduce emissions and concentrations most, closest to the most disadvantaged people (who tend to live closer to busier roads) are often the fairest.

78. A study by Imperial College London titled 'Associations between air pollution and socioeconomic characteristics, ethnicity and age profile of neighbourhoods in England and the Netherlands' (March 2015) found big differences in air pollution across communities in England with deprived and ethnic minority areas the worst affected:

    https://doi.org/10.1016/j.envpol.2014.12.014

    https://www.imperial.ac.uk/news/163408/ethnic-minorities-deprived-communities-hardest-pollution/

    See also a study in 2008 titled 'Environmental inequity in England'

    https://doi.org/10.1016/j.socscimed.2008.06.040

    See also 'Air Quality and Social Deprivation in the UK: an environmental inequalities analysis' published in June 2006:

    https://uk-air.defra.gov.uk/assets/documents/reports/cat09/0701110944_AQinequalitiesFNL_AEAT_0506.pdf

79. The Environment Agency published a "State of the environment: health, people and the environment" report (updated 26 January 2023) which highlighted that "Exposure to pollution and access to the natural environment are not equally distributed across society – people living in deprived areas often have poorer quality environments with less accessible space":

    https://www.gov.uk/government/publications/state-of-the-environment/state-of-the-environment-health-people-and-the-environment

Q10: How well is the Government spreading awareness of the impacts of poor air quality and promoting action being taken to tackle the issue?

A10: Badly. Every successive Government since 2008 or earlier has been reluctant to warn the public about the dangers of air pollution. CAL has documented evidence of this reluctance which included one senior official saying that 'they did not want to frighten people'. Similar excuses are likely to have been made about the dangers of smoking. We need a sincere Government campaign to warn people about the dangers of short and long term exposure to air pollution with advice for people on protecting themselves and reducing air pollution for themselves and others.

80. The Government needs to do more to warn the public about the dangers of air pollution and give them advice on protecting themselves (i.e. adaptation) and reducing air pollution for themselves and others (i.e. mitigation).

81. Please distinguish between short and long term effects of air pollution as the WHO air quality guidelines do. Here is a good example of the different scales used to warn of air pollution i.e. hourly and annual:

    https://londonair.org.uk/london/asp/publicbulletin.asp

    https://londonair.org.uk/london/asp/annualmaps.asp

    https://uk-air.defra.gov.uk/latest/measurement-summary-map

    Defra has still not updated its Daily Air Quality Index so that it aligns to the WHO's air quality guidelines published in 2021:

    https://uk-air.defra.gov.uk/air-pollution/daqi

    https://www.metoffice.gov.uk/weather/guides/air-quality-forecast

    See also:

    https://www.metoffice.gov.uk/weather/guides/air-quality

82. Examples of Defra's reluctance to warn the general public about air pollution include:

    a. Why has it taken Defra so long to update the Daily Air Quality Index following the publication of new WHO air quality guidelines on 21 September 2021?
    b. Who would look for or find a website called https://uk-air.defra.gov.uk/?
    c. The website hasn't shown the helpful four (or five) day air quality forecast on the homepage for many years https://twitter.com/cleanairlondon/status/1648750897739051009
    d. As far as CAL is aware, the last time Defra sent a 'media release' to environmental editors of media outlets or weather desks warning them about an air pollution episode was 20/21 April 2011. Since then, Defra has published 'Information bulletins' on an obscure webpage when legally required to do so e.g. when ozone exceeds an 'Information threshold' under Directive 2008/50/EC or the Air Quality Standards Regulations.

        https://uk-air.defra.gov.uk/news?view=149

        https://uk-air.defra.gov.uk/news

    e. CAL has found Defra reluctant to warn the public and published detailed evidence:

https://cleanair.london/app/uploads/CAL-398-Ella-Roberta_Warning-the-public-about-air-pollution-episodes_210421.pdf

f. Good luck to anyone trying to find this important summary from Defra's homepage:

https://uk-air.defra.gov.uk/latest/measurement-summary-map

g. There is no unique weblink for the 'Latest measured air quality map' on the homepage of the UK Air website: https://uk-air.defra.gov.uk/.

83. Defra published seven Air Quality Information bulletins when the ozone information threshold for ozone was exceeded in 2022, three in 2021 and nine in 2020, seven in 2019 and seven in 2018:

https://uk-air.defra.gov.uk/news

These are not media releases despite the obligations under Regulation 21 (and Schedule 5) of the AQSR 2010. They are more akin to statistical or information bulletins.

84. The Department of Health and Social Care responded (helpfully) to a Parliamentary question from Geraint Davies MP on 23 May 2023 (UIN 185733 tabled on 18 May 2023) confirming that it had only sent one media release to journalists or weather forecasters about air pollution in the last four years (in 2022) (Note: CAL is not aware of when it was sent in 2022):

https://questions-statements.parliament.uk/written-questions/detail/2023-05-18/185733/

85. Defra declined to answer the same question and pointed Geraint Davies MP to Defra's newsfeed (UIN 185734 tabled on 18 May 2023):

https://questions-statements.parliament.uk/written-questions/detail/2023-05-18/185734/

As mentioned above, CAL has found no obvious evidence that Defra has sent a media release to journalists or weather forecasters about air pollution since April 2011.

86. CAL would like to see Defra's responsibilities for warning the public about air pollution episodes taken over by the DHSC. Arguably and more generally, Defra's responsibilities should be limited to farming and rural affairs with its wider environmental responsibilities taken over by another Government department.

87. Please press Defra on its refusal to accept the PAC's recommendation for a national communications programme given the above. There is a reason why the Air Quality Directive 2008/50/EC put these obligations on member states at a national not local level. Put another way, the Government has greater access to the Met Office's supercomputer than local authorities.

Q11: How well is the Government co-ordinating measures between national and local actors to improve air quality both outdoors and indoors?

A11: Ongoing and new breaches of existing air pollution laws and the lack of plans to comply with them each year to 2030 (e.g. for the NECR 2018) show that the Government is failing to direct and co-ordinate action. Two new targets to comply with the WHO's old air quality guideline for $PM_{2.5}$ by 2040 are poorly constructed (e.g. based on a few monitors and tested in some not all years) and very disappointing. New targets, new plans and new action are needed.

88. Science-based targets to protect public health, the environment and the climate are the starting place for plans and measures.

89. Plans and consultations are then essential to prioritise and co-ordinate the most cost-effective action at the local, city, national, regional and international level to reduce air pollution and achieve science-based targets by deadlines.

90. The Government has not demonstrated or published plans showing how it will comply fully with its existing national and international obligations on national ceilings of emissions, the Air Quality Standards Regulations 2010, its new interim targets for $PM_{2.5}$ by 1 January 2028 or the national emission ceilings up to and including 2030 (and beyond). Relevant reports or publications demonstrating non-compliance include:

    https://naei.beis.gov.uk/reports/reports?report_id=1109

    https://uk-air.defra.gov.uk/library/annualreport/index

    https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-background

    https://www.gov.uk/government/statistics/emissions-of-air-pollutants

91. The government is also struggling to comply with the target values for nickel and benzo[a]pyrene and the long-term objective for ozone.

92. Defra replied to a Parliamentary question from Geraint Davies MP on 25 May 2023 (UIN 185738 tabled on 18 May 2023) asking what steps it is taking to improve co-ordination between national, regional and local authorities on improving (a) indoor and (b) outdoor air quality by saying:

    "The Government has put in place a range of measures to improve coordination of actions to improve air quality, including creating Air Quality Partners, specific public bodies who are required to contribute solutions to air quality problems within their control. This includes neighbouring local authorities, upper tier authorities in areas with both district and county councils, the Environment Agency and National Highways. We have published a new Air Quality Strategy setting out our expectations of how local authorities should deliver air quality improvement, and issued extensive policy and technical guidance for local authority practitioners. This year we will continue to offer training and guidance to local authority officers, including workshops and template enforcement materials, in addition to providing funding through our Local Air Quality Grant programme, enabling high-quality locally-led air quality improvement schemes.

    On indoor quality, we have set out ventilation requirements to maintain air quality as part of amendments to the Building Regulations. In our Air Quality Strategy, we highlighted guidance published by the UK Health Security Agency, in partnership with the National Institute of Clinical Excellence on indoor air quality and directed relevant local authority staff to this national guidance. We have also committed to reviewing our existing guidance on the health impacts of damp and mould in homes, and issuing new consolidated guidance tailored to the housing sector this year."

93. The Government needs to demonstrate how it will comply with existing obligations, which apply annually and to 2030, and set new science-based targets. Funding and powers are then needed for those required to take action e.g. Metro Mayors and local authorities.

May 2023