

The Association of Directors of Public Health Consultation Response Revised National Air Quality Strategy

Objectives and Scope

The Air Quality Strategy sets out the actions the Government expects local authorities (LAs) to take in support of achieving its long-term air quality goals, including its new PM_{2.5} targets. It provides a framework to enable LAs to make use of their powers and deliver for their communities. This consultation seeks views on the revised draft Air Quality Strategy which will be published later this year.

About ADPH

ADPH is the representative body for Directors of Public Health (DsPH), and is a collaborative organisation, working in partnership with others to strengthen the voice for public health, with a heritage which dates back over 160 years. ADPH works closely with a range of Government departments, including UKHSA and OHID as well as the four CMOs, NHS, devolved administrations, LAs and national organisations across all sectors to minimise the use of resources as well as maximise our voice.

ADPH aims to improve and protect the health of the population by:

- Representing the views of DsPH on public health policy.
- Advising on public health policy and legislation at a local, regional, national and international level.
- Providing a support network for DsPH to share ideas and good practice.
- Identifying and providing professional development opportunities for DsPH.

ADPH Position

Air pollution causes a considerable burden of death and disability and costs the UK economy £22.6 billion every year.¹ In the UK, 40,000 deaths a year are attributed to exposure to outdoor air pollution through increased risk of diseases such as heart disease, stroke, respiratory diseases and cancer. The World Health Organisation (WHO) has called air pollution (both indoor and outdoor): "the biggest environmental risk to health, carrying responsibility for about one in every nine deaths annually".² It is therefore timely for the Government to review its National Air Quality Strategy.

While we welcome the consultation, we are disappointed that we have only been given nine working days to respond to such an important issue. The consultation has a lot of focus on the role of local government, without any specific indication of funding, and little on the role of national government. It is not clear how the initiatives proposed in the strategy could be adequately funded and how this could make a real and significant difference to air quality, as has been seen in other countries.

LAs should be supported with resources, adequate staffing and additional inspection capacity to enforce

restrictions and reduce pollution. Large industries have made it expensive for LAs to prosecute, and so the national Government plays an important role in supporting LAs in enforcing regulations. Dedicated funding should be provided to LAs to raise awareness and increase enforcement capacity. Enforceable restrictions should also be imposed within the existing regulatory framework. The Government should also provide consistent messaging regarding air pollution.

Chapter four: Framework for action

Q5: To what extent do you agree or disagree with our commitment to better align air quality reporting zones with local government boundaries?

Strongly agree. In any given local area, much of the air pollution will derive from local sources, in particular road transport, creating significant scope for local action. Aligning air quality reporting zones with local government boundaries would facilitate more effective data analysis, sharing and reporting in local areas.

LAs have a central role in achieving improvements in air quality. They have opportunities to improve air quality for the protection of public health and the environment through their decisions on local land use planning, environmental health, Smoke Control Areas, roads, highways, environmental permitting and local air quality management. Their local knowledge and interaction with the communities that they serve mean that they know the issues on the ground in detail.³ They are best placed to work with partners to implement appropriate solutions for local transport, smoke control, planning and public health.

The impact transboundary emissions have on the PM_{2.5} environment has been taken into account when considering the target values and compliance dates. However, it is important to understand what contribution local anthropogenic emissions make towards the measured concentrations compared to natural and transboundary sources and what proportion of these are within the LAs' powers to mitigate, as much of the action needed to meet these lower concentrations may be outside of the LA control.

DsPH have a crucial role to play as leaders and influencers, shaping how local approaches can help clean up air in their area most effectively. Aligning air quality reporting zones with local government boundaries would facilitate coordinated action between key partners across LA boundaries (including transport, planning, health and education) to reduce the health impact, mortality and health inequalities associated with air pollution.

Comprehensive, accessible air quality data within local government boundaries is important to facilitate an evidence-based approach to reducing air pollution. It would lead to an improved understanding of the trends and factors which influence air pollutants within local areas. It would also lead to a better assessment of the impact of public health interventions to tackle air pollution. This would add to the evidence base of high impact interventions which are likely to have the greatest co-benefits for both air quality and health. Actions to address the health impacts of air pollution can also play a critical role in supporting other local priorities, such as active travel, health inequalities and community engagement, sustainability and growth and regeneration.

Chapter five: Summary of powers available to local authorities

Domestic Burning

Q6: What more could local authorities do within the existing regulatory framework to reduce pollution from inappropriate domestic burning?

LAs should be supported with resources and adequate staffing to enforce restrictions and reduce pollution from inappropriate domestic burning. Large industries have made it expensive for LAs to prosecute, and so the national Government plays an important role in supporting LAs in enforcing regulations. More restrictions should also be imposed within the existing regulatory framework to outlaw the more polluting wood burners in urban areas. Increased regulation for the installation of solid fuel burners, such as minimum chimney height and installation only of Eco-design burners, to reduce impacts and local air quality impacts should be considered.

The enforcement of legislation around smoke emissions from domestic properties is problematic for LAs due to the large scale of burning taking place and reduced resources available to deal with offending properties. Realistically LAs cannot effectively control what people burn on their stoves and lengthy prosecutions for offences will not likely affect demand for appliances. Whilst the new powers to issue fixed penalties for clean air act offences are welcomed, the significant scale of domestic solid fuel burning requires action at a national level to control the fuel and stoves which are available. It should also be made easier for LAs to declare smoke control areas. More focus should be provided for targeted messaging to influence behaviour change to reduce the update of solid fuel burning through informed choices by the public, eg health/environment themed campaigns.

We would welcome the proposed ban on retailers selling coal for domestic burning and the phasing out of smoky coal considering that 40% of UK emissions come from households. We would also welcome tougher emission standards and policies to incentivise a shift towards newer appliances. Trading Standards play a key role in enforcing emission standards.

Although the mandatory certification scheme does help to indicate that wood being sold is deemed 'dry', more could be done to encourage the use of more modern burning stoves and less polluting wood.

The Government should also provide initiatives to cut heat demand through insulation. There is strong evidence of poor insulation in many rented properties.⁴ The energy crisis in 2022/2023 and the resulted fuel poverty also led to an increase in demand for cheap but polluting firewood and wood-burning stoves.⁵ Continued funding and commitment from the Government is key to addressing fuel poverty and achieving improved energy efficiency and ventilation in all properties across the UK to prevent pollutants concentrating indoors and air quality worsening. However, the current funding of £3.4 billion falls short of the £104 billion required for this mass retrofit.

Industrial Emissions

Q7: How do you feel local authorities can most effectively reduce pollution from industrial sources they are responsible for?

LAs should be supported with resources, adequate staffing and additional inspection capacity to enforce restrictions and reduce industrial emissions. Large industries have made it expensive for LAs to prosecute, and so the national Government plays an important role in supporting LAs in enforcing regulations. Only with sufficient funding can LAs effectively undertake enforcement activity to reduce pollution from industrial sources.

We welcome the Government's commitment to consider how it could boost LA regulatory capacity and capability including exploring how the fees and charges system can be improved to provide better cost recovery. The central government plays a key role in joining up the work of different departments at local, regional and national levels to enable a more robust regulation framework. The central government should

provide a country wide perspective to support and inform advice, guidance, and regulations' enforcement at local level.

Regulation is becoming increasingly relaxed in relation to the smaller industrial processes which are most likely to be LA regulated. The Government should consider altering current guidance for LAs to increase the frequency of inspections to LA regulated premises and additional resources should be provided to ensure LAs have sufficient capacity to undertake inspections.

Discovery of premises which require permitting is an issue with businesses often unaware of the fact that permitting and control of their emissions is required. More resources are required to support LAs to undertake regular survey of their area to identify unregulated premises.

Apart from industrial processes, transportation associated with industrial activities also has an impact on air quality. The Government should incentivise less polluting means of transportation and delivery. Incentives can also be provided to encourage workers to cycle or use public transport. Policies should also be in place to encourage workplaces to start at different times in order to reduce peak congestion at peak times.

Transport

Q8: How do you feel local authorities can most effectively reduce pollution from transport and non-road mobile machinery (NRMM)?

LAs should be supported with resources and adequate staffing to enforce restrictions and reduce emissions from transportation. Only with sufficient funding can LAs effectively undertake enforcement activity to reduce pollution from transportation.

We welcome the continuous investment from the Government on active and sustainable travel, including the local Capacity fund to better enable LAs to deliver active travel schemes. 81.2% of DsPH prioritise active travel in terms of transport policy and investment decisions. Improvements to air quality can be achieved through making walking, cycling and use of public transport accessible so that it becomes the preferred form of mobility.

The Government should provide consistent and positive messaging about the benefits and need for using public transport as well as active and sustainable travel. More investment should be allocated to support walking, cycling and use of public transport (for example through wider pavements, cycling infrastructure, planting trees, and street furniture between footpaths and roads). Public transport should also be made more affordable and accessible. Road systems which encourage continual traffic flow rather than stopping and starting can help to mitigate the impact of diesel and heavy goods vehicles. The adoption of 20mph speed limits and phased traffic lighting, where appropriate, also have positive effects such as reducing air pollution, noise pollution and road traffic injuries. This makes it safer for children to engage in more physical activity outside while supporting greater community cohesion and the viability of local businesses.⁶ Furthermore, local initiatives can encourage a shift away from car use through road layout changes, parking restrictions and public realm improvements.

Private car travel remains dominant across the country overall, this is both a cause and effect of how transport modelling and appraisals are designed and implemented. The benefits of active travel should be properly reflected in appraisal and modelling strategies. More focus should be given to improve how the overall benefits of cycling are appraised, especially the health benefits, so this can be better reflected in

investment decisions.

The strategy fails to consider the importance of promoting the use of low-emission vehicles in reducing pollution from transport. The Government should incentivise the use of low-emission vehicles and require housing developments to install infrastructure fit for new technological vehicles (including plug-in technology for hybrid/electric vehicles). The Government should also encourage commercial fleet operators to use more environmentally friendly fuels. Other recommended measures include committing to a cost-benefit analysis of a national diesel scrappage scheme and raising vehicle excise duty to reflect the impact diesel vehicles have on atmospheric levels of nitrogen dioxide. These measures would ensure greater strides are made towards cleaner vehicles and air.

Agriculture

Q9: How do you feel local authorities can most effectively reduce pollution from agriculture?

We agree that LAs have a role to play in reducing pollution from agriculture and we support the proposed Government actions on the continued investment in slurry storage infrastructure to reduce ammonia emissions. Moreover, we are delighted to see the proposal to consult on bringing dairy and intensive beef farms within scope of environmental permitting as well as a proposed consultation on new restrictions for lower emission techniques for slurry and digestate spreading and storage.

Indoor Air Quality

Q10: How do you feel local authorities can most effectively improve indoor air quality?

LAs improve indoor air quality through addressing multiple factors including domestic burning, smoking, outdoor air quality, ventilation exchange rates and the design and condition of the building.⁷ Research is needed to provide clarity on the effective interventions required to address the health impact of indoor air pollution in order to produce appropriate guidance for the sector.

Indoor air pollution is a concern, as an average person spends around 80% of their time indoors.⁸ The Government should provide consistent messaging to influence behaviour change and reduce exposure to sources of indoor pollution. For example, the Government should deliver strong public health messages so that the public could make informed choices on domestic burning and reduce the use of solid fuel burning. The Government should also consider mandating Volatile Organic Compound (VOC) containing household products to include messages on the health impacts of VOC exposure in their product labels. Resources should be provided to support LAs for public messaging and enforcing regulations.

We welcome the Government's commitment to develop new guidance on mould and damp for the housing sector. There are striking health inequalities associated with air pollution, as people with low incomes are more likely to have existing medical conditions, live in areas with poorer outdoor and indoor environments (for example, near to industry or busy roads), and have worse access to good quality housing and green spaces.⁹ ¹⁰ The Air Quality Strategy should take into consideration the impact of health inequalities in its proposals.

The Government should support households to improve insulation to prevent mould from forming in the first place. The Government should also update the Housing Health and Safety Rating System (HHSRS) risk assessment which has been identified by the Government as a priority. This risk assessment framework enables property inspections to identify where damp and mould is likely to adversely affect residents. In

addition, the Government should provide continued support for addressing fuel poverty and allocate more resources (eg grant) to support LAs to improve sub-standard housing.

Ventilation in all settings should follow appropriate standards, therefore ensuring professionals are more familiar with the best practice on indoor air quality including ventilation is a step in the right direction. It is vital to ensure housing has adequate ventilation and better insulation to prevent pollutants concentrating indoors and air quality worsening.

Smoking tobacco products also contributes to indoor air pollution and is a significant driver of health inequalities, with half of the difference in life expectancy between the least deprived and the most deprived areas being caused by smoking.¹¹ The Government should ensure all social housing in communal buildings is smoke-free, making stop-smoking a norm and protecting non-smoker populations from the harms of second-hand smoke. The results from our 2019 Policy survey among DsPH showed that 88% of respondents thought the ban on smoking should be extended to include the immediate vicinity of schools and colleges. 80% thought the ban should cover parks and playgrounds, and 88% thought the ban should include sports and leisure facilities. A consensus has been developing amongst DsPH that nicotine vapourisers can be used in some settings to enable them to become smoke-free. Smoke free places are not the responsibility of Enforcement Officers alone. Housing, fire, social services and the NHS must all play a part in protecting our communities from second-hand smoke.

In addition to the factors outlined above (smoking, ventilation, mould and damp), domestic burning and outdoor air quality also affect indoor air quality. Measures should be taken to restrict the use of polluting wood and promote sustainable transportation. Please refer to question six and eight for more detailed explanation.

Communicating air quality information

Q11: How do you feel local authorities can most effectively communicate air quality information?

Engaging the public is important if we are to achieve the national air quality targets as outlined in the air quality strategy, as it allows businesses, industries, and the public to understand how their choices can impact on others and the wider environment.

Whilst it is important for LAs to share air quality information with their communities, it is also vital that this is backed up with strong and consistent national messaging relaying the detrimental impact of air pollution. LAs should be supported in ongoing information provision around air quality monitoring and issues to allow the public to be suitably informed. More research should also be done to determine what innovative approaches would be effective in engaging groups most susceptible to poor air quality.

Currently, communication of air quality information is often not prioritised and air quality information is often only available via webpages and social media. Most people are not aware of this information and as a result it has not been able to achieve a wide audience. We welcome the provision and distribution of information on air quality through social media and we agree that more work is required to communicate this information to the public.

The most vulnerable members of society and health care professionals should know where to obtain information of local air quality. They should be regularly notified, particular when incidents or occasions of poor air quality take place. More work could be carried out with schools so that people are aware of the sources of poor air quality. Work could also be carried out with local businesses on delivery and

commuting time to avoid high concentration of air pollutants during rush hours.

Additional powers & support

Q12: Do you feel that there are additional powers relating to air quality which should be available to local authorities?

Yes. LAs should be supported with resources, adequate staffing and additional inspection capacity to enforce restrictions and reduce pollution. Large industries have made it expensive for LAs to prosecute, and so the national Government plays an important role in supporting LAs in enforcing regulations. Enforceable restrictions should also be imposed within the existing regulatory framework. The Government should also provide consistent messaging regarding air pollution.

The Government could consider adopting the Polluter Pays Principle and fund LA interventions with fees and charges from the industry.

Q13: What further support could Government provide to help with actions taken locally to tackle air quality?

Guidance, face to face teach ins, virtual teach ins, enforcement pro-formas/templates, sharing space/ website and knowledge hub are all useful. However, unless the Government can provide strong central messaging and enforceable regulations (not just guidance), with funded capacity for enforcement, these measures will have limited effectiveness.

Additional funding is also required for enforcement and education. The Government should provide more resources to place/environmental teams in LAs. More funding could also be allocated via an Air Quality Grant.

More public health funding is also needed to reduce harm and mortality caused by air pollution. In England, local authorities' public health funding has suffered a 26% cut (in real terms on a per person basis) since 2015/16. It is estimated that £0.9 billion will be needed annually to restore funding to 2015/16 levels.¹² Although DsPH have been acting to manage these cuts they have reached the limit of available efficiencies. In the UK, 40,000 deaths a year are attributed to exposure to outdoor air pollution through increased risk of diseases such as heart disease, stroke, respiratory diseases and cancer. Public health needs to be funded sustainably and adequately in line with local population health need.

PM_{2.5} Target Implementation

Q14: To what extent do you agree or disagree that a new approach needs to be employed to promote consideration of the PM_{2.5} targets in the planning system?

Strongly agree. It is crucial to develop a new approach to promote consideration of the PM_{2.5} targets in the planning system to reduce the health impact of air pollution.

 $PM_{2.5}$ has the strongest epidemiological link to health outcomes and is used for the Public Health Outcomes Framework indicator 3.01. At this size the particles can be inhaled deep into the lungs. The very smallest particles, ultrafine $PM_{0.1}$, (the smallest fraction of PM2.5) are nano-particles smaller than 0.1 microns and are thought, once inhaled, to be able to pass directly into the bloodstream. ^{13 14}

Planning policies have a huge impact on the emission and concentration of PM_{2.5}. Much of the PM in urban

environments, particularly those close to roads, can come from traffic sources and comprises soot, part burnt diesel and petrol compounds that form benzene-based carcinogens, heavy metals, silica, bitumen, rubber and organic and other waste matter from road surfaces. PM_{2.5} can also be composed of particles from combustion products, products from abrasion of engine components, brakes and tyres on road surfaces, generated during construction and agricultural processes, as well as components generated by chemical reactions in the air. These are all factors that could be affected by planning. A new approach should therefore be developed to promote consideration of the PM_{2.5} targets in the planning system to reduce the health impact of air pollution.

Concerningly, the WHO Air quality guidelines 2021 have not been mentioned in the consultation. The targets set in the consultation (an annual mean concentration of 10 μ g/m3 or below and a reduction in average population exposure by 35% by 2040, compared to a 2018 baseline) do not align with WHO target for PM_{2.5} (an annual mean concentration of 5 μ g/m3 or below). It is also less ambitious than the Clean Air Plan in Wales which states- 'Our aim is for concentrations across Wales to be below the WHO guideline for PM2.5 where it is possible, and lower still where there is sufficient potential and there is high public exposure or risk to sensitive receptor groups'¹⁵. The Government should set a more ambitious target to reduce the health harm of PM_{2.5}.

In addition, training should be provided to air quality specialists within LAs in relation to modelling of $PM_{2.5}$ levels to ensure that the impacts of new development are fully reviewed and assessed. National guidance should provide clarity as to what level of development requires potential impacts from $PM_{2.5}$ to be formally assessed.

Health is an important asset for economic productivity.¹⁶ Given the health impact of $PM_{2.5}$, it is important to promote the consideration of $PM_{2.5}$ in the planning system. Most importantly, public health should be placed at the centre of future national planning policy to improve population health and wellbeing, reduce the social cost of poor health and deliver on the levelling up mission.

Q15: What do you think are the merits or drawbacks of a design-stage emission prevention approach as set out in this chapter?

Influencing the design of a scheme at an early stage can ensure that considerations of the environmental and health impacts of emissions are placed at the heart of planning policies. It could also enable the involvement of Planning Directorate/ OHID at an early stage. Nonetheless, further measures should be taken to ensure that final planning decisions can minimise the amount of pollution and its associated health impact. For example, there should be mechanisms to ensure that measures to curb air pollution proposed at the initial stage of a project are followed through at the end. There should also be consequences for not implementing the proposed measures (eg fiscal penalties).

Air quality modelling and impact assessments that are provided in support of planning applications are welcomed as they allow LAs to review and consider impacts when making decisions. However, there should be clarity on how important the consideration of P.M_{2.5} impacts is when making planning decisions. LAs should be supported with sufficient resources and training to enable rigorous review of planning applications and

technical modelling provided in support of major developments where PM_{2.5} impacts may occur.

Q16: Are there any additional assessment approaches or points we should consider when developing proposals to integrate the PM_{2.5} targets in the planning system?

The Government should adopt a Health in All Policies approach and consider the impact of planning decisions on public health and health inequalities. The use of a health impact assessment should be encouraged in the planning system to ensure that considerations of health, wellbeing and disparities can inform planning decisions.

While many of the complexities to local plan preparation are not within the scope of public health, they nevertheless frame public health involvement in the plan-making process. It is therefore crucial to ensure that the planning system enables public health professionals to have a say in the planning process, so that local public health and other health strategies can influence the planning processes and address identified health and wellbeing needs and priorities.

There are striking health inequalities associated with air pollution, as people with low incomes are more likely to have existing medical conditions, live in areas with poorer outdoor and indoor environments (for example, near to industry or busy roads), and have worse access to good quality housing and green spaces.^{17 18} Smoking tobacco products is also a significant driver of health inequalities, with half of the difference in life expectancy between the least deprived and the most deprived areas being caused by smoking.¹⁹

It is important that the planning system, its operators and users acknowledge and take proactive steps to support, not undermine, people's ability and desire to look after their health and wellbeing. This includes taking consideration of population physical and mental health outcomes in planning. This also includes ensuring that planning decisions will not disadvantage certain population groups or geographical areas over others, thereby exacerbating existing health inequalities. Having strong and explicit policies supporting actions on health improvement and reducing health inequalities will continue to be an important foundation for planning for health.

We believe health should be at the heart of levelling up as neither economic success nor wellbeing can be achieved in isolation.

References

¹ Royal College of Physicians, Reducing air pollution in the UK: Progress report 2018. 2018. <u>https://www.rcplondon.ac.uk/news/reducing-air-pollution-uk-progress-report-2018</u> [Accessed March 2023].

² World Health Organisation, Ambient air pollution: a global assessment of exposure and burden of disease. 2016. <u>https://apps.who.int/iris/bitstream/handle/10665/250141/9789241511353-eng.pdf?sequence=1</u> [Accessed March 2023].

³ Department for Environment, Food and Rural Affairs, Public Health England & Local Government Association, Air Quality – A Briefing for Directors of Public Health. 2017.

https://www.local.gov.uk/sites/default/files/documents/6.3091 DEFRA AirQualityGuide 9web 0.pdf [Accessed April 2023].

⁴ EDF Energy, Insulation age of homes revealed to be at least 46 years old. 2022. <u>https://www.edfenergy.com/media-centre/news-releases/insulation-age-homes-revealed-be-least-46-years-old</u> [Accessed April 2023].

⁵ New Scientist, UK energy crisis sparks rush for firewood despite air pollution fears. 2022.

https://www.newscientist.com/article/2336109-uk-energy-crisis-sparks-rush-for-firewood-despite-air-pollution-fears/ [Accessed April 2023]

⁶ Jones S. J, & Brunt H, Twenty miles per hour speed limits: a sustainable solution to public health problems in Wales, *Journal of Epidemiology and Community Health*, 2017, 71, 699-706.

⁷ Royal College of Physicians, Every breath we take: the lifelong impact of air pollution. 2016.

https://www.rcplondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution [Accessed March 2023].

⁸ Office of Health Improvement & Disparities, Air pollution: applying All Our Health. 2022.

https://www.gov.uk/government/publications/air-pollution-applying-all-our-health/air-pollution-applying-all-our-health [Accessed March 2023].

⁹ Public Health England, Health matters: air pollution. 2018. <u>https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution</u> [Accessed March 2023].

¹⁰ University College London, Systemic inequalities driving exposure to high indoor air pollution in London.
 2021. <u>https://www.ucl.ac.uk/news/2021/may/systemic-inequalities-driving-exposure-high-indoor-air-pollution-london</u> [Accessed March 2023].

¹¹ Hopkinson N.S, Stokes-Lampard H, Dixon J, Rae M, Bauld L, Woolnough S, et al, Open letter to the prime minister and secretary of state on the second anniversary of England's announcement that it would be smoke-free by 2030. 2021. <u>https://www.bmj.com/content/374/bmj.n1839</u> [Accessed March 2023].

¹² The Health Foundation, Public Health Grant. 2023. <u>https://www.health.org.uk/news-and-comment/charts-and-infographics/public-health-grant-what-it-is-and-why-greater-investment-is-needed</u> [Accessed April 2023]

¹³ Public Health England, Mortality effects of long-term exposure to air pollution in the UK. 2018.

<u>https://www.gov.uk/government/publications/comeap-mortality-effects-of-long-term-exposure-to-particulate-air-pollution-in-the-uk</u> [Accessed April 2023]

¹⁴ Brook et al., Particulate Matter Air Pollution and Cardiovascular Disease. 2010.

https://www.ahajournals.org/doi/full/10.1161/cir.0b013e3181dbece1 [Accessed April 2023]

¹⁵ Welsh Government, The Clean Air Plan for Wales. 2020.

https://www.gov.wales/sites/default/files/publications/2020-08/clean-air-plan-for-wales-healthy-air-healthy-

wales.pdf#:~:text=The%20aim%20of%20the%20Clean%20Air%20Plan%20for,out%20a%2010-

year%20pathway%20to%20achieving%20cleaner%20air. [Accessed April 2023]

¹⁶Chief Medical Officer, Chief Medical Officer's Annual Report 2021 Health in Coastal

Communities. 2021. <u>https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/</u> file/1005216/cmo-annual report-2021-health-in-coastal-communities-accessible.pdf [Accessed February 2023]

¹⁷ Public Health England, Health matters: air pollution. 2018. <u>https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution</u> [Accessed March 2023].

¹⁸University College London, Systemic inequalities driving exposure to high indoor air pollution in London.
2021. <u>https://www.ucl.ac.uk/news/2021/may/systemic-inequalities-driving-exposure-high-indoor-air-pollution-london</u> [Accessed March 2023].

¹⁹ Hopkinson N.S, Stokes-Lampard H, Dixon J, Rae M, Bauld L, Woolnough S, et al, Open letter to the prime minister and secretary of state on the second anniversary of England's announcement that it would be smoke-free by

2030. 2021. https://www.bmj.com/content/374/bmj.n1839 [Accessed March 2023].