

Air Quality Strategy to Reduce Coronavirus Infection

All Party Parliamentary Group Air
Pollution

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Foreword

Covid-19 has stopped the world in its tracks. A global lockdown to suppress the virus and protect the public has transformed the way we have lived, worked and interacted with each other and, in that process, significantly reduced air pollution.

This is important for our public health and for research into how cleaner air improves health outcomes and reduces the risks from Covid-19. In turn, this underlines the importance of a comprehensive air quality strategy as we emerge from Lockdown.

Across Europe air pollution accounts for 470,000 premature deaths each year including 64,000 in the UK. It is therefore essential that governments focus on how we can reduce air pollution as we move into recovery through policies that deliver a sustainable future including ambitious air quality targets.

We know that people who have been exposed to ongoing high levels of air pollution have weakened lungs and hearts so are more vulnerable to infection. Various studies in the US, China and Europe have identified the strong correlation between areas of high air pollution and Covid-19 deaths.

In addition, emerging evidence suggests that short term exposure to air pollution increases the risk of coronavirus infection. This may be explained by pollution inflaming the lungs, making them more

susceptible to a respiratory virus. Separately, Queen Mary University of London research suggests an interaction between particulates and ACE2, the Covid-19 receptor. It shows that short term exposure to traffic-related PM2.5 pollution increases the amount of the receptor for SARS-COV-2 on airway cells suggesting a biological association between air pollution and Covid-19. This follows an earlier Tasmanian study into the interaction between smoking and ACE2 giving rise to greater virus infection.

Air pollution may also carry the virus further afield. A study published in the New England Journal of Medicine finds the virus can remain infectious and airborne for hours and explores how pollution may transport Coronavirus through the air.

It is therefore essential that the government ensures pollution remains low. All the proposals in the document focus on reducing pollution and Covid infection. Some can be introduced immediately and will help to ensure that a second peak does not overwhelm the NHS after lockdown. All will deliver cleaner air over subsequent years to help to ensure better public health, less strain on the NHS and greater resilience against future pandemics. The call for evidence that informed this document was sent to all MPs and the hundreds of APPG members and supporters, academics and businesses. I am grateful to all

those who submitted evidence and continue to work for Cleaner Air.

Geraint Davies
Chair of the APPG Air Pollution,

The APPG's Focus and principles

The APPG on Air Pollution has long worked on reducing damaging air pollution, but Covid-19 has increased the challenge and urgency. The primary focus of this report is to mitigate the impact of pollution on Covid-19 and future viruses based on the following principles:

SCIENCE-BASED : all proposals have been made in collaboration with scientists and on the basis of academic research.

HOLISTIC: this strategy aims to tackle air pollution wherever it is produced, from villages to cities; outdoors to indoors; and aviation to agriculture

INCLUSIVE: adaptations will need to be made with equality considerations so we can all feel the benefit of cleaner air.

REALISTIC: air pollution is the consequence of activity. We seek to mitigate the worst impacts of air pollution, while recognising air pollution will continue to exist.

Economic Benefits of Clean Air

The cost of poor health related to air pollution has been estimated at £20bn in the UK each year, which was calculated before Coronavirus, and is likely to be significantly higher.

Policies promoting Clean Air will both impact public health and create innovation, jobs and investment in sustainable industries forming an exports platform for the UK. Therefore, policies to improve air quality are part of a wider renaissance in greening the economy and will also improve local economies and individuals' spending power.

Proposal 1: Working

Lock-down has forced people to stay at home. It is crucial that people are encouraged and supported to continue to keep air pollution low and to reduce the pressure on public transport.

- Remote working where-ever possible with work re-engineered over time to encourage home working and to reduce travel.
- Increased digital connectivity and training plus investment in IT solutions for work.
- Stagger business and school hours.
- Flexible furlough so business can ease back into recovery
- Encourage businesses to create sustainable mobility plans
- Support construction and other industries to adopt less polluting machinery
- Offer furloughed workers training, from IT training to cycling proficiency, to supports green working and transport

Proposal 2: Cycling and pedestrianisation

Walking and cycling is the healthiest way to travel and so should be encouraged while observing social distancing.

- Repurpose traffic lanes and parking spaces for cycling and wider footways
- Invest in cycle lanes
- Promote greater pedestrianisation
- Promote children walking and cycling to school through the 'school streets approach'
- Extend bike sharing schemes
- Make cycling training courses available at learning institutions, libraries and businesses

Proposal 3: Public Transport

During the relaxation of lockdown, we must ensure public confidence when using shared services, keep transport workers safe and systematically increase support for green transport.

- Mark safe distances to ensure social distancing
- Increase service frequency to keep passenger density low
- Prioritise transport worker testing and testing at public transport entry points
- Disinfect public transport regularly
- Support for the conversion of bus fleets to electric/hydrogen
- Roll-out rail electrification and electric infrastructure for boat and ferry transport
- Improve connectivity in rural areas

Proposal 4: Private Transport

There is a risk that increased private transport as lockdown measures are reduced will increase pollution levels beyond pre-lockdown levels.

Government must provide a clear message that pollution should be reduced, whilst supporting greener transport with fiscal measures and giving local government the tools to help do the job

- Non-essential vehicle travel stopped during lockdown
- Extend the Low Emission Zone, Ultra Low Emission Zone and Congestion Zone in UK cities
- Accelerate electric vehicle rollouts and infrastructure
- Introduce vehicle scrappage schemes for the older vehicles
- Accelerate the electrification of diesel taxis
- Reduce or establish zero vehicle excise duty for electric or hydrogen vehicles
- Bring forward ban on new fossil fuel engines to 2030 at the latest
- Support greener air traffic
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Proposal 5: Face Masks

A growing body of evidence suggests that basic face masks can be effective in reducing the spread of the virus, by reducing the range and volume of exhaled water droplets containing SARS-CoV-2. It also can encourage public confidence when using public transport and for people to remain aware of the risks. Masks that filter out particulates will also help reduce harm from pollution.

- Masks and face coverings should be actively encouraged on public transport, shops and where people gather
- Instructions for how to make masks should be made available on the Government's website
- PM2.5 filtration masks should be produced on scale for those in the most polluted areas

Proposal 6: Wood & Coal Burning

Wood burning stoves & coal fires account for 38% of the UK's PM2.5 emissions and the government has made a move to ban the most polluting fuels but should go further.

- Accelerate bans on most polluting domestic fuels like coal and wet wood
- Phase out the use of burning stoves in domestic settings
- Introduce control of fireworks and bonfires

Proposal 7: Agriculture

Farmers and farm workers have helped to feed the nation during a time when Brexit has caused them uncertainty. While the government is devising a new framework for our food production it must include reducing air pollution.

- Include air quality targets in the Agriculture Bill
- Reduce emissions from agricultural machinery
- Withdraw subsidy on red diesel and provide grant for alternative machinery
- Analyse and reduce causes of secondary particulates, like ammonia in fertilizers
- Evaluate the emissions/carbon footprint of food imports

Proposal 8: Home Delivery Services

- Electrification of delivery vehicles
- Targets set for retailers to reduce emissions through clustering the timing of delivery along routes
- Support capacity for farms to deliver directly to consumers including to food charities
- Promote local production to reduce emissions

Proposal 9: Indoor Air quality

Normally we spend 90% of time indoors, but lockdown has forced us to spend even longer in our homes exposed to indoor air pollution from construction materials emitting volatile organic compounds and formaldehyde, lack of ventilation, use of cleaning and cosmetic products, candles, cooking, damp and mould which causes respiratory problems in particular when combined with outdoor air pollution. The government should ensure people know how to reduce and remove pollutants from their homes.

- An awareness campaign to help people reduce indoor pollution by opening windows and using extractor fans when cooking
- A review of chemicals that are included in products, including flame retardants
- A revision of public building regulation to incorporate indoor air pollution
- Reduce air pollution outside homes and restrict building near to busy roads

Proposal 10: Sustainable Industry

Government support for businesses and jobs should be designed to shape a greener economy so bailouts should factor in the businesses' plans to transition toward net-zero.

Proposal 11: Data Collection & Research

Dealing with this pandemic has given us a unique opportunity for analysis. Data could be affected by factors like weather conditions, behavioural change, demography which affect the level and impact of pollution and action should be revised in line with new evidence.

- Air pollution monitors in each local authority and data made publicly available
- Air quality controls for ports, waterways and airports

Proposal 12: The Environment Bill

The Environment Bill is the vehicle to enforce the government's Clean Air Strategy but fails to live up to a clear commitment to set ambitious, legally binding targets. The Bill should be an holistic response to how we improve our environment. The Coronavirus pandemic has highlighted the gaps in the government's approach and the reason why measures must be introduced to protect public health.

- World Health Organisation air quality standards to be included in the Environment Bill with the deadline of 2030
- Include Indoor Air Quality in the Bill

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