Executive summary

- Government should look at the issue of air pollution holistically and develop policies which consider climate change, air quality and health together. Government needs to be mindful of unintended negative consequence that can be the result of policies reacting to a single issue, for example, encouraging consumers to purchase diesel vehicles which reduce carbon dioxide emissions but emit air pollutants, such as noxious NO\textsubscript{x}.

- Air quality is not methodically measured and reported on. Government and Local Authorities should look to improve how air pollution is monitored in order to make targeted interventions to improve air quality.

- New real-world vehicle emissions tests have come into force and by 1 September 2019, all will have undergone the full RDE testing for both NO\textsubscript{x} and PN. However, the current transport fleet is not affected by the new regime. Government must continue to reduce the number of petrol and diesel cars in use that do not meet the NO\textsubscript{2} limit.

- Traffic reduction is the fastest and most effective way to cut air pollution and Government needs to invest in making public transport accessible and affordable across the UK.

- Government needs to introduce a more ambitious ban of diesel and petrol vehicles to encourage earlier and more widespread take-up of electric vehicles in order to stimulate growth in the low carbon technology industry in the UK as well as for health and environmental reasons.

- Moving to electric vehicles will cut tail pipe emissions; however, there is uncertainty around non-exhaust emissions and how they can be controlled. It is possible that non-exhaust emissions (i.e. brake wear, tyre wear and clutch wear) may not decrease concurrently with tail pipe emissions.

About us

1. Policy Connect is the go to cross-party think tank, successfully delivering new policy ideas through research, evidence, political meetings and sector engagement. With no set ideology, we recommend the best approach from facts and data, and help influence policy decisions and law-making. We find the common ground and build consensus to improve public policy.

2. We have a rich history of influencing cross-party policy for over two decades. With a unique reach into Parliament - and as a leader in research and engagement for a number of diverse policy areas - we support charities, academia, NGOs, public sector and private businesses to engage with Parliament and politicians. We lead
debates and seminars and have invited sector specialists to contribute to more than fifty different research inquires.

3. Policy Connect supports the All-Party Parliamentary Climate Change Group (APPCCG) Secretariat. The APPCCG is an official ‘All-Party Group’ and regularly engages Parliamentarians alongside the private and public sectors to drive forward the issues of climate change that are ever-present across the country. The APPCCG is open to all and has a broad membership of organisations from across business, academia, industry, the third and the public sectors. Members all share a keen interest in sustainability and climate change, and the desire to develop effective policy for the climate change agenda.

About this submission

4. The responses contained within this submission are informed by a meeting of the APPCCG entitled ‘Air pollution: vehicle emissions, the T-charge and evidence-based policy’ which took place on 19th October 2017. The meeting facilitated a discussion around air pollution, health and the environment and was run in conjunction with the Royal Meteorological Society, Imperial College London’s Grantham Institute and the All-Party Parliamentary Climate Change Group. The meeting was chaired by Stephen Doughy MP and speakers included:

- Prof. Paul Monks, Chair of the Defra Air Quality Expert Group and Professor in Atmospheric Chemistry and Earth Observation science at the University of Leicester
- Prof. Martin Williams, former Head of the Air and Environmental Quality Division at Defra and currently at King’s College London
- Prof. Helen ApSimon, Professor of Air Pollution Studies at Imperial College London
- Geraint Davies Labour MP, Vice-Chair of the APPG on Air Pollution and sponsor of the Clean Air Bill 2016-17
- Andrew Selous MP, Conservative MP and former MoJ Minister
- Baroness Jones of Moulsecoomb, former Deputy Mayor of London and Mayor’s Green Transport Advisor

5. While the views presented here are based on evidence gathered at this meeting, they do not necessarily reflect the views of the APPCCG or those of any of the attendees at this meeting, and are entirely Policy Connect’s alone. We hope that this submission proves valuable to the Inquiry.

How effectively do Government policies take into account the health and environmental impacts of poor air quality?

Unintended consequences

6. During the meeting, experts discussed how Government’s environmental policies were developed as reaction to single issues, without fully considering the other implications, especially for health. This has led to serious unintended consequences.
Encouraging the adoption of diesel cars was the most-often cited example. Diesel cars emit less carbon dioxide, a greenhouse gas contributing to climate change. However, diesel cars are now known to produce more air pollutants such as noxious \( \text{NO}_x \) and particulate matter than petrol cars. This is an example of a climate change policy having the unintended consequence of damaging health and contributing to poor air quality.

7. Other Government policies risk making the same error by focusing on a single issue. Biomass and biofuels are such an example. Again, as a lower emitter of \( \text{CO}_2 \) than coal, biomass is viewed by advocates as a replacement for the burning of fossil fuels. However, increasing the burning of wood could increase exposure to potentially harmful particulate matter (PM) air pollutants and cause further problems to air quality control. A high degree of wood burning could lead to a large increase in PM exposure with adverse effects on human health.

8. The advent of electric vehicles is very welcome. Electrification of the transport fleet is seen as essential to meeting future carbon budgets. New petrol and diesel-powered vehicles will be banned by the government in the UK by 2040. In addition to contributing to decarbonisation in the UK, electrical transport may also bring large benefits for urban \( \text{NO}_2 \). But the electrification of the transport fleet should be considered holistically. Moving to electric vehicles will cut tail pipe emissions; however, there is a big area of uncertainty around non-exhaust emissions and how they can be controlled. There is a risk that non-exhaust emissions (i.e. brake wear, tyre wear and clutch wear) may not decrease concurrently with tail pipe emissions.

9. Air quality policy should take into consideration displacement issues; for example, through focusing on harnessing and storing renewable energy as well as incentivising low-emission vehicles. Electric vehicles are only as clean as the power with which they are charged. If all vehicles were to become electrified without a simultaneous increase in the production and use of renewable energy, the issue of air pollution would be displaced from roadsides to power stations.

**Quality of information**

10. The quality of information that the Government has at its disposal jeopardises the effectiveness of its policies in relation to air quality. There is no regular testing of air quality. Monitors may not be well-positioned for their purpose or may be faulty. Policy makers require regular statistics to form a clear picture of the key problem areas and make targeted interventions in the right place.

11. Experts cited the work of Nick Molden, from Emissions Analytics, who has measured real-world vehicle emissions by attaching equipment to the exhaust pipes of vehicles driving around urban roads. Real-world vehicle emissions testing shows that emissions of \( \text{CO}_2 \) considerably exceed what the official figures are for most manufacturers. Two real-world vehicle emissions tests came into force in September 2017 for models registered in the UK. By 1 September 2018, all new cars on sale will have undergone WLTP testing and by 1 September 2019, all will have undergone the full RDE testing for both \( \text{NO}_x \) and PN. The new testing regime will not affect the
current transport fleet. Government must continue to use various policy levers to reduce the number of petrol and diesel vehicles on the road that do not meet the NO\(_2\) limit values and so contribute to the air quality problem.

**Recommendations**

12. **Government should evaluate the issue of air pollution holistically and develop policies which consider climate change, air quality and health together.**

13. **Government and Local Authorities should look to improve how air pollution is monitored in order to make targeted interventions to improve air quality.**

14. **Government must continue to use policy levers to disincentivise consumers from using those petrol and diesel vehicles that contribute to the air quality problem.**

**Do these plans set out effective and proportionate measures to achieve necessary emissions reductions as quickly as possible?**

**Traffic reduction**

15. At the meeting, Baroness Jones of Moulsecoomb spoke about traffic reduction as the fastest and most effective way to cut air pollution. Both petrol and diesel cars, when started from cold, produce high levels of NO\(_x\) emissions. It is important to bear in mind that, according to the Department for Transport, more than half of the car journeys nationally are less than 5 miles.\(^1\) Reducing the number of cars on the road has other benefits, such as reducing congestion and fewer road casualties.

16. There are creative ways to reduce traffic such as promoting car sharing and investing in public transport. In order to make public transport more accessible, we need to put in place the right infrastructure, as well as the right incentives and disincentives, to encourage alternative non-car transport means. Scrappage schemes shouldn’t be considered in terms of exchanging a car for a car, but as an opportunity to reduce traffic by providing alternatives e.g. car club membership or more affordable public transport.

**Hybrids / Liquid Petroleum Gas (LPG) vehicles**

17. The ultimate goal for a decarbonised transport fleet is hydrogen or renewably fuelled vehicles. However, it is important that an interim solution is developed quickly due to the immediate impacts upon human health. Further consideration and promotion of the role that LPG and hybrid vehicles can play a part in this.

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Recommendations

18. Government should increase investment in public transport in order to make it a viable alternative option to owning a car by improving infrastructure and making public transport more accessible across the UK.

19. Government should offer incentives for adopters of hybrid and LPG cars.

Are other nations or cities taking more effective action that the UK can learn from?

20. Emmanuel Macron has announced that France will ban diesel cars from 2024 and petrol cars from 2030. This is more ambitious that the UK Government commitment to ban all petrol and diesel cars by 2040. Industry experts say that by 2040, it is highly unlikely that there will be any non-hybrid cars still on the market. The ultra-low emission vehicle industry is growing. By banning diesel and petrol cars sooner, the UK can encourage faster turnover of the transport fleet and stimulate growth in this emerging sector, providing jobs and wealth in the UK.

21. Germany is spending a quarter of a billion euros on a scrappage and retrofit scheme for old diesel cars. A targeted scrappage scheme is necessary to remove the highest polluting vehicles from the road in the right areas.

Recommendations

22. Government should introduce a more ambitious ban of diesel and petrol cars to encourage earlier and more widespread take-up of electric cars. This should have economic, health and environmental benefits, reducing CO$_2$ and NO$_x$ emissions as well as stimulating growth in the low carbon technology industry in the UK.

23. Government should introduce a diesel scrappage scheme to compensate motorists and reduce the number of high emissions vehicles on the road.

Is there enough cross-government collaboration to set in place the right fiscal and policy incentives?

1. There are opportunities for air quality policies to be embedded into a wide range of policies across local planning, housing, transport, environment and health. For example, increasing the uptake of cycling as an alternative to driving is linked to improving road safety. Sensible town planning with accessible shops, police stations, schools etc. will increase the number of people who walk more rather than drive for short distances. This will promote healthy lifestyles concurrently.

2. In addition to cross-government work, the UK will need to continue to work internationally to tackle the problem of air quality. Particulate pollution can travel long distances in the air, and in the post-Brexit era the UK we will need to continue to work with other governments to deal with this issue.
3. Traffic may not always be the main contributor to poor air quality. For example, Government should begin considering how buildings contribute to air pollution.

Recommendations

4. Government and Local Authorities should consider how air quality benefits can be better linked to other policies across local planning, housing, transport environment and health.

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