



Draft Clean Air Strategy Consultation

Royal College of Physicians' response

July 2018

CHAPTER ONE - Understanding the problem

Summary: Air pollution comes from many sources. Pollutants can travel long distances and combine with each other to create different pollutants. Emissions from distant and local sources can build up into high local concentrations of pollution. The UK has set stringent targets to cut emissions by 2020 and 2030. The goal is to reduce the harm to human health from air pollution by half. A robust evidence base, backed by the most up to date science is essential to help us achieve this.

Actions:

- We are investing £10m in improving our modelling, data and analytical tools to give a more precise picture of current air quality and the impact of policies on it in future.
- We will increase transparency by bringing local and national monitoring data together into a single accessible portal for information on air quality monitoring and modelling, catalysing public engagement through citizen science.

Questions:

1. What do you think about the actions put forward in the understanding the problem chapter? Please provide evidence in support of your answer if possible.
2. How can we improve the accessibility of evidence on air quality, so that it meets the wide-ranging needs of the public, the science community, and other interested parties?

RCP response:

- The RCP welcomes this focus on improving research on air pollution and welcomes extra funding into research to develop new technologies to improve air pollution monitoring. We welcome plans for a single accessible portal for air quality information but recommend that more collaboration needs to occur between the health sector, industry and academic community, as well as national and local government, to ensure the quality, consistency and interoperability of data and that appropriate governance are in place. Furthermore, data on the portal, and accessibility to health professionals and academics, should be accessible enough to maximise the effectiveness of responses to emerging health threats. The RCP calls for a summary of the most recent air pollution data to be released monthly, as a statutory requirement of the portal akin to the notifiable diseases (NOIDs) updates published by Public

Health England. Wherever possible, live data should be available or at the highest frequency accessible.

- As we are still understanding the magnitude of the health impacts of many air pollutants, including NO_x and PM and the health effects resulting from their interrelation, it is imperative that air quality and health scientists and health practitioners are at the forefront of and have access to the latest data collection and analysis. Key areas of future research necessary to understand the full health impact of air pollution include¹:
 - The systemic effects of longer-term exposure to air pollution, including obesity, diabetes, changes linked to dementia, and cancer, as well as effects in early childhood and on the developing foetus.
 - Funding is also needed to be able to quantify the relationship between indoor air pollution and health, including the key risk factors and effects of poor air quality in our homes, workplaces and schools.
 - The health outcomes and pollution over an individual's lifetime needs to be quantified, as well as the health impacts of the pollution levels proposed in this strategy.
 - The relative impacts of different sources of emissions on human health (e.g. road transport, farming, non-road mobile machinery, shipping etc.), to understand how different sectors are affecting public health.
- Public engagement with air pollution is a vital ingredient to catalyse change². Despite the evidence of the harm that air pollution causes public awareness of the importance of this issue remains disappointingly low³. Accessible, updated and evidence based information is critical to mobilising and empowering local communities. Monitoring initiatives can greatly improve the accessibility of evidence on air quality⁴. We need more accurate and wider-ranging monitoring programmes to adequately track population-level exposure to air pollution. However, we note that personal air pollution monitors vary in accuracy and more development is required to ensure they meet high standards of specificity. In addition, the RCP recommends that adaptable monitoring techniques are developed and deployed that better measure emerging pollutants, known pollutants that occur below current concentration limits, and their interrelation. Furthermore, practical technology – such as wearable 'smart' monitors – can be useful in empowering individuals to check their exposure and take action to protect their health and mitigate the problem, by, for example, foregoing vehicle use

¹ Royal College of Physicians (2018) Reducing air pollution in the UK: Progress report 2018, London. <https://bit.ly/2IMZg0g>

² Chatterton, T. (2017) Air pollution: Putting people at the heart of the issues. *Environmental Scientist*, 26 (2). <http://eprints.uwe.ac.uk/31825>

³ Royal College of Physicians (2018) Reducing air pollution in the UK: Progress report 2018, London. <https://bit.ly/2IMZg0g>

⁴ Oltra, C., Sala, R., Boso, À. et al. *Environ Monit Assess* (2017) 189: 296. <https://doi.org/10.1007/s10661-017-6011-6>

or re-planning travel routes to lower exposure. The RCP supports the provision of air pollution monitoring technology to health professionals to gain greater insights into the air pollution of acute cases, much like a blood pressure monitor used for patients with high blood pressure.

- The RCP calls for support to be given to local authorities and private providers (e.g. CityMapper) to develop journey planner applications (apps) that include live air pollution data within journey planner functionality, including signposting users to low air pollution transport options. All sources of information can play a role in communicating key information on air pollution, including through broadcast and social media, on bus stops, and in schools and workplaces. Local communities in areas of air quality standard exceedances should be encouraged to apply for ring-fenced funding for hyper-local air quality monitoring (e.g. around school entrances).
- Every day, UK healthcare professionals see thousands of patients, many of whom have conditions that predispose them to the negative health consequences of air pollution and, particularly in urban environments, are exposed to high levels of air pollution. It is crucial that healthcare professionals are given adequate support in educating patients on the risks of air pollution exposure and the measures that can be taken to ameliorate those risks. These efforts should come in conjunction with measures to include air pollution and its implications into medical and nursing curricula. Health practitioners should have access to easily interpretable data and evidence on air pollution exposure and health impacts. Central and local government should work with the healthcare community to use this evidence to develop guidelines for practitioners in providing advice to their patients. At the local level, this should include measures to develop easy-to-use advice for patients in the form of accessible fact-sheets that can be given to the patient that provide advice on how to reduce personal air pollution exposure. The RCP would like to see this information tailored to the patient's needs regarding air pollution - e.g. information on the dangers of air pollution given a particular health condition, or local air pollution levels.
- There is a paradox that needs to be considered and addressed in policy creation. While some information on pollution can make the public want to stay indoors to avoid it, the long-term goal should of course be for the public and for organisations to understand how they can act to aid its reduction (e.g. by changing to walking and cycling and reducing use of motorised vehicles). Therefore, any information on air pollution needs to emphasize the acknowledged net gain from physical activity in both rural and urban environments⁵.

⁵ Marko Tainio, Audrey J. de Nazelle, Thomas Götschi, Sonja Kahlmeier, David Rojas-Rueda, Mark J. Nieuwenhuijsen, Thiago Hérick de Sá, Paul Kelly, James Woodcock, (2016) Can air pollution negate the health benefits of cycling and walking?, *Preventive Medicine*, 87, (233-236)

CHAPTER TWO - Protecting the nation's health

Summary: Air quality is the largest environmental health risk in the UK. It shortens lives and contributes to chronic illness. Health can be affected both by short-term, high-pollution episodes and by long term exposure to lower levels of pollution. There are small things we can all do that will make a big difference to emissions locally and nationally. Effective communication of health messages about air pollution can save lives and improve quality of life for many.

Actions:

- We will progressively cut public exposure to particulate matter pollution as suggested by the World Health Organisation. We will halve the population living in areas with concentrations of fine particulate matter above WHO guideline levels (10 µg/m³) by 2025.
- We will provide a personal air quality messaging system to inform the public, particularly those who are vulnerable to air pollution, about the air quality forecast, providing clearer information on air pollution episodes and accessible health advice.
- We will work with media outlets to improve public access to the air quality forecast.
- We will work to improve air quality by helping individuals and organisations understand how they could reduce their contribution to air pollution, showing how this can help them protect their families, colleagues and neighbours.
- We will publish updated appraisal tools and accompanying guidance this summer to enable the health impacts of air pollution to be considered in every relevant policy decision that is made.

Questions:

1. What do you think of the package of actions put forward in the health chapter? Please provide evidence in support of your answer if possible.
2. How can we improve the way we communicate with the public about poor air quality and what people can do?

RCP response:

- The RCP welcomes action to significantly reduce air pollution exposure across the population. Currently, 44 out of 51 major UK cities exceeded the recommended limit for PM_{2.5} in the World Health Organization's 2016 ambient air pollution database.⁶ 37 of the 43 major urban areas in the UK were above legal limits for NO₂ in 2016.⁷ As noted in the RCP's landmark report on air pollution:

⁶ Lancet Countdown and the Royal College of Physicians [2017] Lancet Countdown 2017 Report: Briefing for UK Policymakers. <https://bit.ly/2hd4sub>

⁷ 4 DEFRA and DfT [2017] UK Plan for tackling roadside nitrogen dioxide concentrations, Crown Copyright. <https://bit.ly/2vILIZQ>

- 40,000 deaths a year are attributable to exposure to outdoor air pollution
- The damage to health caused by air pollution is evident throughout a person's life, affecting all those who are exposed
- Air pollution is linked to a plethora of health conditions, including COPD, stroke and heart disease, diabetes, dementia, obesity, cancer and asthma - with vulnerable groups (including children and deprived communities) most at risk
- Air pollution has an estimated total social cost of £22.6 billion annually
- Air pollution causes over 20,200 respiratory and cardiovascular hospital admissions a year, and over 6 million sick days⁸
- The RCP would like to draw attention to the fact that large numbers of people who are no longer economically active due to the effects of their health condition. (71% of the UK working age population are economically active)⁹. The public should understand that supporting people who are unable to work due to the effects of pollution is a large cost to the economy and to taxpayers. Furthermore, many people require increasing amounts of social care, for conditions attributable to pollution.
- As recognised by the draft Clean Air Strategy, no levels of air pollution exposure are safe. As such, the RCP recommends that the ultimate aim of the government's air pollution policy should be to minimise the health impact of air pollution by seeking to reduce concentration levels to as close to zero as possible in the shortest amount of time. The government's commitment and duty to reduce air pollution and protect population health should be enshrined in law through a new Clean Air Act. Such an act should include:
 - Legally-enforced air quality standards that at least meet WHO recommended limits, with a plan to steadily decrease the legal exposure limit over time.¹⁰
 - A new independent statutory body should be established as soon as possible to enforce these limits; either a new body, potentially called 'Air Quality UK', holding the UK government, local authorities and devolved administrations to account, or a new

⁸ Royal College of Physicians (2018) Reducing air pollution in the UK: Progress report 2018, London. <https://bit.ly/2IMZg0g>

⁹ The UK Labour Market: June 2018 (2018) Office for National Statistics <https://bit.ly/2tN8gJn>

¹⁰ World Health Organisation (2018) Ambient (outdoor) air quality and health <https://bit.ly/2tblhek>

overall environmental watchdog endowed with full powers of oversight and enforcement.¹¹

- Powers to and resources for local and regional authorities to tackle all sources of air pollution (including Clean Air Zones, which are discussed in further detail in chapter 5).
 - Empower local authorities to protect public health when air pollution levels are high. When these limits are exceeded, local authorities should have the power to close or divert roads to reduce the volume of traffic, especially near schools.
 - Require national agencies and local authorities to protect those most at risk and to reduce exposure to air pollution among vulnerable groups such as children, older people and those with pre-existing health conditions¹².
 - Adequate resources need to be provided to these bodies as a matter of priority so that measures to reduce exposure and protect population health do not come at the cost of providing other local services. Local authorities have undergone approximately a 50% reduction in budgets since 2010¹³. More funding is therefore needed to adequately protect populations against the risk of air pollution at the local level.
- The RCP supports any initiative that improves public understanding of air pollution, and we are encouraged to see the draft Clean Air Strategy focuses on those who are vulnerable to air pollution. While the Strategy is right to identify children, the elderly and individuals with pre-existing cardiovascular and respiratory conditions as particularly vulnerable to air pollution, it does not focus enough on the socio-economic differences that contribute to vulnerability. Our most deprived communities are exposed to some of the worst outdoor and indoor air quality, contributing to the gap in life expectancy of nearly 10 years between the most and the least affluent communities. As the Chief Medical Officer has concluded, socio-economically deprived groups face 'Triple Jeopardy' with 'first, increased risks from social and behavioural determinants of health; second, higher risks from high ambient pollution exposure; and, third, an effect modification that makes exposure to ambient pollutants exert disproportionately large health effects on them compared with advantaged groups'¹⁴. Health inequalities cost the NHS an estimated £20 billion per year¹⁵ and so are rightly a priority for health policy in the UK. This priority should be extended to air pollution. DEFRA, DfT, DHSC, local authorities and the devolved administrations should be required to present plans to a statutory enforcement body

¹¹ The RCP view on the government's currently proposed watchdog shall be submitted for the consultation on the proposed Environmental Principles and Governance Bill.

¹² Royal College of Physicians (2018) Reducing air pollution in the UK: Progress report 2018, London. <https://bit.ly/2IMZg0g>

¹³ Financial sustainability of local authorities (2018) National audit Office. <https://bit.ly/2oQ6wwl>

¹⁴ Jerrett et al. (2001) Environment and Planning A, 33 (955-973)

¹⁵ Challenging Health Inequalities: Support for CCGs (2017) NHS England. <https://bit.ly/2AyhgV3>

(e.g. Air Quality UK, as suggested above) for progressively reducing the impact of air pollution on socio-economically deprived groups, alongside its plans to reduce air pollution impacts on the population in general and vulnerable groups in particular¹⁶.

- Furthermore, the evidence of the links between health inequalities and air pollution is limited for a number of reasons. This includes the prevailing use of area level data rather than individual level. While area level data can be helpful, combining data, including pollution exposures, health outcomes and socio-demographic data will help develop a better understanding of the relationship between health inequalities and air pollution. Therefore, as part of its plans to reduce air pollution impacts on socio-economically deprived groups, the government should ensure investment in air pollution monitoring and research to support understanding the relationship between health, socio-economic position and air pollution. As one example, those who live in social housing close to factories are particularly vulnerable to high levels of air pollution exposure. Additionally, different messages should be tailored to specific audiences. Some members of the public are influenced by the unfairness of health inequalities for example, while the burden of spending on health and social care may be a more powerful argument for others.
- While we welcome the government's commitment to provide the public with a personal air quality messaging system, the proposed strategy does not give sufficient detail on how this would be done in practice. The method of communication must be one that everyone can access, and must have sufficient funding to advertise its launch. We would encourage the government to explore an 'opt out system', by which every UK citizen received updates on air quality in their local area unless they actively chose not to.
- It is essential that any communication with the public on the dangers of air pollution must be co-created with healthcare professionals and that any advice given to the public must always be developed and approved by the latest scientific understanding. Furthermore, any advice for healthcare professionals must be easy to deliver to patients, as workload stresses limit the ability of professionals to disseminate this important advice. Furthermore, any advice for the public should include:
 - Car use reduction: in most urban environments benefits of physical activity outweigh the risks of air pollution. If cycling were to replace driving, the trade-off would be even more beneficial.¹⁷

¹⁶ 5 Davies S C et al. (2018) Annual Report of the Chief Medical Officer 2017, Health Impacts of All Pollution – what do we know? HM Government. <https://bit.ly/2IN0oRE> (18)

¹⁷ Marko Tainio, Audrey J. de Nazelle, Thomas Götschi, Sonja Kahlmeier, David Rojas-Rueda, Mark J. Nieuwenhuijsen, Thiago Hérick de Sá, Paul Kelly, James Woodcock, (2016) Can air pollution negate the health benefits of cycling and walking?, *Preventive Medicine*, 87, (233-236)

- Encouragement of walking and cycling, as a way to improve health and with the co-benefit of reducing personal air pollution contribution.
 - Switching engines off when stationary
 - Use of pick up points for deliveries – and encourage people to walk to them
 - Limit wood burning stove use: only buying a government approved stove and using low emissions fuel
 - Use of quieter streets and route planning, using apps and web tools where possible
 - Ventilation of homes: to avoid air pollution from cleaning products, cooking and other indoor sources
- The RCP supports the government’s plans to work with media outlets to improve public access to the air quality forecasts as long as information is disseminated through all forms of media - both online and off - to reach as many communities as possible. This information must be catered to the needs of audiences, including and in particular socioeconomically deprived groups and other groups who are at more risk of and have higher exposure to air pollution, and who can find it difficult to access such information and platforms through which it is disseminated.
 - The RCP recommends that real-world emission values of vehicles should be available to consumers in a readily understandable way e.g. similar to the energy efficiency rating system used in housing. This would allow a consumer to make a decision based not just on fuel efficiency but also on the basis of social responsibility. Given recent scandals in vehicle emissions measurement, the RCP urges the government to consider how to make this recording robust and untamperable.

CHAPTER THREE - Protecting the environment

Summary: This strategy is a key part of delivering our 25 Year Environment Plan. Air pollution has direct impacts on the natural environment, contributing to climate change, reducing crop yields and polluting oceans. Cleaner air will directly benefit animals and habitats as well as creating a better environment for everyone to live, work and thrive in.

Actions:

- We will monitor the impacts of air pollution on natural habitats and report annually so that we can chart progress as we reduce the harm air pollution does to the environment.
- Later this year we will provide guidance for local authorities explaining how cumulative impacts of nitrogen deposition on natural habitats should be mitigated and assessed through the planning system.

Questions:

1. What do you think of the actions put forward in the environment chapter? Please

provide evidence in support of your answer if possible.

2. What further action do you think can be taken to reduce the impact of air pollution on the natural environment? Where possible, please include evidence of the potential effectiveness of suggestions.

RCP response

- We welcome the government's proposal to comprehensively monitor the impacts of air pollution of the environment and to make efforts to better understand these impacts and their relation to human health. We are keen to see further details on how the monitoring will take place - the scientific indicators that will be used and details on how the monitoring will be processed.
- The RCP would like to stress that the greatest environmental protection issue is the need to adequately respond to climate and other environmental change so as to protect and promote good health.¹⁸ Climate change is increasingly disrupting the ability to grow enough nutritious food, increasing extreme weather events, including droughts and storms, and is leading to sea level rise – all of which pose major threats to health. The negative health impacts of climate change include direct effects, such as the impact of extreme weather events on physical and mental health, and indirect effects, such as the impact of repeated droughts on nutrition and livelihoods, which erode the conditions upon which good health can occur. Those in poverty or experiencing discrimination are often the most vulnerable to these health impacts - a reality which applies to the UK. In turn, climate change mitigation policies have co-benefits which can help prevent thousands of premature deaths, sickness absence and keep people healthy over longer periods. The social and economic benefits of realising the large health benefits of those actions needed to decarbonise, including large reduction in car use and attendant increases in physical activity, are profound.¹⁹
- The RCP notes that there is a positive correlation between higher incidence of green space and population health, with benefits to physical and mental health resulting from greening urban environments, for example.²⁰ These benefits can include reductions in air pollution.^{21,22} For example, installation of green infrastructure (e.g. green walls, living walls, hedges) has been found to reduce pollutant concentrations in

¹⁸ Lancet Countdown and the Royal College of Physicians (2017) Lancet Countdown 2017 Report: Briefing for UK Policymakers. <https://bit.ly/2hd4sub>

¹⁹ Haines, A., McMichael, A. J., Smith, K. R., Roberts, I., Woodcock, J., Markandya, A., ... & Bruce, N. (2009) Public health benefits of strategies to reduce greenhouse-gas emissions: overview and implications for policy makers, *The Lancet*, 374(9707), (2104-2114)

²⁰ Kondo, M.C., Fluehr, J.M., McKeon, T. and Branas, C.C., (2018) Urban green space and its impact on human health. *International journal of environmental research and public health*, 15(3), (445)

²¹ World Health Organisation, (2017) Urban Green Spaces: A Brief for Action <https://bit.ly/2sQnLjT>

²² Buck D. (2016) Gardens and health: implications for policy and practice. The King's Fund. <https://bit.ly/2KOWI3X>

street canyons and could be applied to most urban settings. It also has health and wellbeing benefits.²³²⁴ However, greening policies can also contribute to negative socioeconomic outcomes, including increased gentrification in urban areas, and may have unintended health consequences, such as through the planting of allergenic trees.²⁵ As such, the RCP supports initiatives that promote the greening of cities alongside research into the most effective and health maximising methods of doing so.

CHAPTER FOUR - Securing clean growth and innovation

Summary: This strategy contributes to the Government's action on clean growth. Action to clean up the air will boost productivity and economic growth. We will make the UK a world leader in the development, use and export of goods and services focused on tackling air pollution.

Actions:

- In partnership with UKRI, we will seek ways to support further investment in Clean Air innovation to enable the development of novel technologies and solutions that tackle emissions from industry, vehicles, products, combustion and agriculture and support both improvements in air quality and decarbonisation.
- We will make the UK a world leader in goods and services focused on tackling air pollution.
- Future energy, heat and industrial policies will together improve air quality and tackle climate change. Phasing out coalfired power stations, improving energy efficiency, and shifting to cleaner power sources will reduce emissions of air pollution as well as carbon. As we phase out oil and coal heating, we will ensure this transition improves air quality wherever possible and cost effective to do so. In addition, the government will conduct a cross-departmental review into the role of biomass in future policy for low carbon electricity and heat, focusing on the air quality impacts. The proposed way forward will be set out in the final Clean Air Strategy.
- We will minimise the air quality impacts of the Renewable Heat Incentive Scheme, for example by tackling non-compliance and consulting on excluding biomass from the RHI if installed in urban areas which are on the gas grid. We will work across central and local government to put a plan in place. In addition, we will consult on making coal to biomass conversions ineligible for future allocation rounds of the contracts for

²³ Abhijth PK et al. Air pollution abatement performances of green infrastructure in open road and built-up street canyon environments -A review. Atmospheric Environment. 2017, 162: 71–86; Forest Research, 2010.

²⁴ Ubido, J and Scott-Samuel, A. Rapid Evidence Review Series: Local interventions to tackle outdoor air pollution with demonstrable impacts on health and health service use. LPHO Report Series, number 101, 2015. Produced on behalf of the Merseyside Directors of Public Health. <https://bit.ly/2md7LUE>

²⁵ Cole, H.V., Lamarca, M.G., Connolly, J.J. and Anguelovski, I. (2017) Are green cities healthy and equitable? Unpacking the relationship between health, green space and gentrification, J Epidemiol Community Health, pp.jech-2017.

difference scheme.

- We are seeking evidence on the uses of non-road diesel, mainly in urban areas, considering the air quality impacts and the potential for market distortion. The Treasury has also announced it will review how alternative fuel rates line up with rates of petrol and diesel ahead of Budget 2018.
- We will cut emissions from non-road mobile machinery and give local authorities tough new powers to control the use of such machinery where it is causing an air pollution problem.
- Green Great Britain Week, starting in autumn 2018, will engage the public on air quality, alongside climate change, and highlight the economic opportunities it offers for the UK.

Questions:

1. What do you think of the package of actions put forward in the clean growth and innovation chapter? Please provide evidence in support of your answer if possible.
2. In what areas of the air quality industry is there potential for UK leadership?
3. In your view, what are the barriers to the take-up of existing technologies which can help tackle air pollution? How can these barriers be overcome?
4. In your view, are the priorities identified for innovation funding the right ones?

RCP response

- The RCP supports efforts to ensure the UK is a world leader in goods and services that help tackle air pollution. In a post-Brexit world, we believe it is key that support is provided to businesses to enable clean transport technology innovation - an integral part of the government's transport, clean growth and industrial strategies - as a means to reduce air pollution and improve health. These efforts should be supported by implementation of a ban on the sale of diesel and petrol vehicles by 2030, as described in the next section.
- Action on air pollution will help mitigate climate change, associated health issues and other environmental impacts. Air quality policies, climate change mitigation and health must be viewed holistically. Climate change mitigation policies can deliver large health benefits by reducing air pollution, with fulfilment of the 2008 Climate Change Act commitment of an 80% reduction in GHG emissions by mid-century expected to reduce air pollution by over a half across the UK.²⁶ However, certain mitigation policies could also increase air pollution, with, for example, an increase in biomass burning having a potential negative impact on health through an increase in particulate matter pollution - though, done right, climate change mitigation is fully compatible with rapid reduction in air pollution. As such, the RCP recommends that

²⁶ Williams M. L. et al. (2018) The Lancet Countdown on health benefits from the UK Climate Change Act: a modelling study for Great Britain, Lancet Planetary Health, 2(5), (e202-e213) <https://bit.ly/2r5ocFK>

the government include, in its Carbon Budgets, an explanation of how any potential tensions between rapid climate change mitigation and air pollution reductions are resolved. Within this, the RCP notes the importance of modelling studies to assess the public health impacts of climate change interventions and to inform decisions on optimal policy choices. The UK government and relevant authorities should work with the EU to reduce the impact of continental European air pollution and other transboundary effects on the UK. Furthermore, the government should continue to work with the EU where possible and relevant to harmonise UK legislation with EU legislation on vehicles testing and other major mechanisms affecting UK air pollution levels through trade in goods. The arrangements for doing this are as yet unclear due to the continued uncertainty as to the UK's ongoing relationship with the EU.

- We are particularly supportive of the government's commitment to phase out coal by 2025, and the RCP called for the phase out in 2016. We are pleased the government is showing leadership in this important policy area, which has the potential to address two major health challenges: air pollution and climate change. Ending UK coal use is an important piece of public health policy and could annually prevent:²⁷
 - 1,600 premature deaths
 - 68,000 additional days of medication
 - 363,266 lost working days
 - Over one million incidents of lower respiratory infection
 - Up to £3.1 billion of costs incurred
- Events such as 'Green Great Britain Week' are important opportunities to highlight the economic benefits of decarbonisation. The RCP encourages government to include the health benefits of air pollution reduction and climate change mitigation in any public engagement and link these with efforts to make these subjects relatable and accessible for the public. We would welcome the opportunity to work with BEIS and other departments to help realise this.
- The Government's commitment to 'the development of novel technologies and solutions that tackle emissions from industry, vehicles, products, combustion and agriculture' is commendable. This commitment should be manifest in a review of the decision to enable test drilling for hydraulic fracturing without planning permission in England and to classify drilling sites as nationally significant infrastructure. The latter means the decision on the application will be taken by Government rather than local authorities and locally accountable councillors. This contrasts markedly with the Government's current position on wind-farm applications which is to give 'local people a final say on such applications' and requires local planning authorities to grant

²⁷ Huscher J, Jensen G. (2013) What does coal cost health in the United Kingdom? Health and Environment Alliance

permission only once ‘following consultation, it can be demonstrated that the planning impacts identified by affected local communities have been fully addressed and therefore the proposal has their backing’. Although the scale of harm that shale gas production will bring to local communities and the immediate environment is uncertain, the evidence that it will exacerbate climate change is more than compelling.²⁸

- There are many other initiatives that are both an economic opportunity and emission reducing. Local government could also be encouraged and enabled to promote “car-free days” on the most polluting streets through Traffic Regulation Orders. Local communities and residents’ groups could be enabled to close roads to reduce pollution concentrations and encourage street play and street events. It is important that local authorities are able, wherever possible, to evidence the cost-benefit of proposed interventions. This should include the business benefits of increased footfall in more-pedestrian friendly environments²⁹ and improved productivity and reduced workplace absenteeism³⁰ as well as the overall cost savings associated with reductions in air pollution related morbidity and mortality³¹.

CHAPTER FIVE - Action to reduce emissions from transport

Summary: Transport is a significant source of emissions of air pollution. The immediate air quality challenge is to reduce emissions of nitrogen oxides in the areas where concentrations of these harmful gases currently exceed legal limits. The government has already committed £3.5bn to tackle poor air quality through cleaner road transport and is working closely with local authorities and Local Economic Partnerships to make progress. Alongside this, the government is committed to cutting air pollution from all forms of transport.

Actions:

- In 2018, we will set out our ambitious plans to drive down emissions from shipping and aviation.
- We will end the sale of new conventional petrol and diesel cars and vans by 2040. We will position the UK as the best place in the world to develop, manufacture and use zero exhaust emissions vehicles and, during the transition, we will ensure that the cleanest conventional vehicles are driven on our roads.
- We will work with international partners to research and develop new standards for tyres and brakes to enable us to address toxic non-exhaust emissions of microplastics

²⁸ McCoy D and Saunders PJ. Fracking and Health BMJ 2018;361:k2397

²⁹ Chauduri A and Zieff SG. Do open streets initiatives impact local businesses? The case of Sunday Streets in San Francisco, California. Journal of Transport and Health. 2015, 2(4): 529–539.

³⁰ Riccardo-AEA. Valuing the Impacts of Air Quality on Productivity Final Report. Didcot 2014.

³¹ Royal College of Physicians (2018) Reducing air pollution in the UK: Progress report 2018, London.

<https://bit.ly/2IMZg0g>

from vehicles which can pollute air and water.

- New legislation will enable the Transport Secretary to compel manufacturers to recall vehicles and machinery for any failures in their emissions control system, and make tampering with an emissions control system a legal offence.
- We will reduce emissions from rail and reduce passenger and worker exposure to air pollution. By the autumn, the rail industry will produce plans to phase out diesel-only trains by 2040.
- All major English ports should produce air quality strategies setting out their plans to reduce emissions. These plans will be reviewed periodically to establish if the measures are effective or whether government action is required.
- We will review policy on aviation-related emissions to improve air quality.

Questions:

1. What do you think of the package of actions put forward in the transport chapter? Please provide evidence in support of your answer if possible.
2. Do you feel that the approaches proposed for reducing emissions from NonRoad Mobile Machinery are appropriate or not? Why?

RCP response

- The RCP welcomes the government's commitment to drive down emissions from shipping and aviation, as these sectors are major contributors to the air pollution problem. In addition, the RCP notes that road transport is one of the major determinants of poor air quality, particularly in urban centres, and so we welcome actions to reduce air pollution from road transport. In doing so, the RCP continues to advocate for a UK-wide framework for the expansion of Clean Air Zones in towns and cities, providing local authorities with the powers to charge vehicles and the funding to ensure effective implementation.³² Clean Air Zones should also cover key interchanges for other modes of transport, including schools, ports and airports.
- Alongside policies to dis-incentivise the use of polluting vehicles, the RCP believes there is urgent need to expand policies and funding to support the mass adoption of zero emission transport, reductions in the use of vehicles in general, and increases in active and shared transport modes. As such, the RCP recommends the implementation of a 'National Mobility Scheme', which should provide funding to households and businesses to incentivise them to move away from polluting vehicles to more sustainable alternatives and a reduction in vehicle use in general, providing discounts on car club schemes, subsidised zero emission vehicles and access to bikes and support to engage in physical activity - as opposed to grants to buy new vehicles, as has typified diesel scrappage policies of the past. The Scheme should seek to realise

³² Royal College of Physicians (2018) Reducing air pollution in the UK: Progress report 2018, London. <https://bit.ly/2IMZg0g>

three goals, as it encourages decreases in polluting vehicle use:

- Rapid increases in physical activity, in particular walking and cycling
 - Large scale adoption of car sharing schemes
 - Targeted support for socioeconomically deprived groups, small businesses and those who find it hardest to move beyond (polluting) vehicle use
- Action to increase physical activity is particularly important, as increases in physical activity can crowd out the use of dirty vehicles and realise large health benefits across the population. People who are physically active reduce their risk of developing major chronic diseases such as coronary heart disease, stroke, Type 2 diabetes, osteoporosis, depression, dementia and cancer by up to a half, and physically active people reduce their risk of premature death by up to 30%.³³
 - All levels of air pollution exposure are likely to have an impact on health and even electric vehicles may produce air pollution, including through tyre wear-and-tear, breaking and particle resuspension while driving. The RCP welcomes the government's intention to work with international partners to research and develop new standards for tyres and brakes, as major contributors to particulate matter.
 - Therefore, while the RCP also welcomes the commitment 'to encouraging more sustainable modes of transport like cycling, walking and public transport, and shifting freight from road to rail', it is disappointing that no specific additional actions or investment to achieve this has been identified in the proposed actions. The commitment of £1.2 bn for walking and cycling 2016-2021 is hugely reliant on investment by local authorities and Local Enterprise Partnerships as the Government has only committed £316m. This figure is well below the recommendation of the parliamentary Get Britain Cycling report of £10 per person annually (compared to the <£2 currently spent), rising to £20, in order to boost cycle use to 10% of trips by 2025, and to 25% by 2050.³⁴ The RCP is strongly of the view that spending on active travel is an investment not a subsidy and should be seen as such. There is solid evidence, accepted by the Department of Transport (DfT), to support this. DfT's robust mechanism for calculating return on investment has consistently demonstrated that walking and cycling schemes show much better value for money than most motor transport schemes.³⁵ An analysis by Sustrans has shown that the average benefit-to-cost ratio of a traffic-free walking and cycling route is 26:1, with the majority of benefit coming from improved health.³⁶ This is well in excess of the DfT's own

³³ Ellinas T (2012) Healthy Transport = Healthy Lives, British Medical Association. <https://bit.ly/2IKCxCi>

³⁴ All Party Parliamentary Group on Cycling (2013) Get Britain Cycling - Summary and Recommendations. <https://bit.ly/1TqKOna>

³⁵ Department for Transport. Claiming the Health Dividend: A summary and discussion of value for money estimates from studies of investment in walking and cycling. 2014. <http://bit.ly/1GuHF3p>

³⁶ Sustrans. The National Cycle Network Route User Monitoring Report – To end 2008. <http://bit.ly/25c28Jc>

benchmark for valuing 'very highly' any scheme which returns more than £4 for every £1 invested'³⁷. It is also clear that the public strongly values active travel and supports investment to increase it. In a survey of seven UK cities 75% of respondents supported increased investment in cycling and considered that Government should be investing an average of £26 per head per year.³⁸

- The Government should take steps to tackle the major disincentives to walking and cycling. Most people do not cycle because they perceive it as dangerous. No new road scheme or housing development should be permitted without additional infrastructure for active travel. At present, schemes to retro-fit cycle lanes or traffic calming into towns are often defeated by Councils or residents who do not wish to lose parking places or have traffic calming in their area. Attention should be paid to: potholes, re-training of drivers, having codes of conduct for drivers on work business, imposition of sanctions for those who drive dangerously around bicycles, etc.
- Fiscal policy needs to address that currently, even with Vehicle Excise Duty (VED) and tax paid on fuel, the costs to society greatly outweigh the costs paid by drivers.³⁹ In addition while the costs of car use are low the costs of public transport journeys are high. Addressing this imbalance requires encouraging more people not to drive. Furthermore, the RCP recommends the provision of infrastructure to increase public transport use, cycling and walking and the promotion of safer road design. Measures could include cycle training in schools, expanded cycle networks or incentives to get commuters out of their car.⁴⁰
- As an extension of the above, the RCP does not think that 2040 is an acceptable time to end the sale of petrol, diesel and some hybrid cars and vans, with many countries across the world seeking to phase out these vehicles quicker; Norway has pledged to implement this ban in 2032, Norway 2025, and India 2030. Air pollution from road transport is a major threat to health and must be reduced as quickly as possible. As such, the RCP recommends the ban should be brought forward to 2030. Bringing forward the ban could simultaneously improve public health and boost British manufacturing, reinstating the UK as the global leader on this issue.

³⁷ Department for Transport. Claiming the Health Dividend: A summary and discussion of value for money estimates from studies of investment in walking and cycling. 2014. <http://bit.ly/1GuHF3p>

³⁸ Sustrans. What does bike life mean to you? [ICM Bike Life Household research 2015 on behalf of Sustrans]. 2015. <http://bit.ly/1jSN9xy>

³⁹ Technische Universität Dresden. The True Costs of Automobility: External Costs of Cars Overview on existing estimates in EU-27, Dresden 2012

⁴⁰ Royal College of Physicians (2018) Reducing air pollution in the UK: Progress report 2018, London. <https://bit.ly/2IMZg0g>

- The NHS has an important role to play in reducing emissions from transport. The NHS accounts for 5% of all road traffic in England⁴¹ and accounts for up to 18% of the NHS carbon footprint in England⁴². The NHS should play its part in reducing air pollution, leading by example. Moving to more sustainable modes of transport can reduce carbon emissions and improve convenience and safety, as well as saving time and money.⁴³ In turn, this action will reduce the burden of air-pollution-related illness on the NHS. As such, the RCP recommends that the Department of Health and Social Care, NHS England and the devolved administrations give commissioners and providers incentives to reduce their emissions, and protect their employees and patients from dangerous pollutants. This should include guidance on how to use procurement rules to require the adoption of low and zero emission vehicles by those companies and providers using transport on NHS business.⁴⁴ However, NHS leadership can only occur if adequate resources are provided. As such, the RCP recommends the creation of an explicit ‘NHS Clean Air Fund’ to support the adoption of low and zero emission vehicles for the NHS and to support in the rollout of electric vehicles charging infrastructure. Crucially, resources from the Fund must not be taken from core NHS and social care budgets, to protect money for frontline care.
- Large fleets belonging to business have a key role to play in any action to reduce emission from transport. Royal Mail, for example, operated a fleet of 47,000 vehicles in 2017⁴⁵. There must be support given to large fleets to rapidly turnover to ultra-low emissions vehicles, in particular for those organisations that provide delivery services. In London, 85% of goods are transported by road and freight makes up 17% of London's road traffic⁴⁶. The RCP recommends that incentives are put in place for consumers to have items delivered to local consolidation centres, and there is a levy put on home delivery for singular items.
- Training of motorists is urgently needed to reinforce the Highway Code stipulations about vulnerable road users. Sanctions should be reinforced. For example, many motorists do not know that they should not overtake and then turn left, nor that a good margin should be given when overtaking a cyclist. Initiatives such as ‘The Addison Lean’ (opening a car door with the opposite hand to encourage looking for cyclists) ‘stop close pass’ should be supported. It will take multiple actions on many fronts to encourage normal Britons to cycle. Many other European countries have

⁴¹ NHS Confederation and NEF (2007) Taking the Temperature-Towards an NHS response to Global Warming, London

⁴² Sustainable Development Unit (2014) Low Carbon Travel, Transport and Access. Sustainable Development Unit, New Strategy, <https://bit.ly/2t6PI6q>

⁴³ NHS Confederation and NEF (2007) Taking the Temperature-Towards an NHS response to Global Warming, London

⁴⁴ Tomson C. (2015) Reducing the carbon footprint of hospital-based care, *Future Hosp J* (2) (57–62)

⁴⁵ Horses to horsepower - 120 years of motorised mail deliveries (2017) Royal Mail Group <https://bit.ly/2L7HzZV>

⁴⁶ TfL launches freight programme to deliver improved air quality (2016) Transport for London <https://bit.ly/2uhei5i>

managed this.

- Furthermore, the RCP welcomes legislation to make tampering with emissions controls a legal offence and supports measures to ensure any manufacturer found tampering with their emissions receive a large fine, as a 'polluter pays' mechanism. Polluters must be required to take responsibility for harming health and that fines must be of a level that deters future behaviour.⁴⁷
- As diesel is a major polluter, we welcome any reduction to phase out diesel-only trains. As no level of air pollution is safe, the RCP would encourage the government to consider bringing forward the ban on diesel trains to 2030. We support a review of policy on aviation-related emissions to improve air quality.
- Buses outside of London should be given equal priority for retrofit programmes, especially those that are Euro 3 or older. These buses still make up a considerable proportion of the bus fleet given their contribution to emissions on heavily trafficked urban streets and the deregulated environment they currently operate in.⁴⁸

CHAPTER SIX - Action to reduce emissions at home

Summary: Many people are unaware that emissions in the home increase personal exposure to pollutants and contribute significantly to our overall national emissions. Burning solid fuel in open fires and stoves makes up 38% of the UK's primary emissions of fine particulate matter (PM2.5). Harmful sulphur dioxide (SO₂) is emitted by coal burned in open fires. Non-methane volatile organic compounds (NMVOCs) from a wide variety of chemicals that are found in carpets, upholstery, paint, cleaning, fragrance, and personal care products are another significant source of pollution.

Actions:

- We will legislate to prohibit the sale of the most polluting fuels.
- We will ensure only the cleanest stoves are available for sale by 2022.
- We will update outmoded legislation on 'dark smoke' from chimneys and underused provisions on Smoke Control Areas to bring these into the 21st century with more flexible, proportionate enforcement powers for local government.
- The government will work with industry, retailers, health experts and consumer groups to reduce emissions of NMVOCs from consumer products, develop options to promote product innovation and encourage the use of low emissions alternatives.

Questions:

⁴⁷ Royal College of Physicians (2018) Reducing air pollution in the UK: Progress report 2018, London.

<https://bit.ly/2IMZg0g>

⁴⁸ The Low-Emission Bus Guide (2016) Low Carbon Vehicle Partnership. <https://bit.ly/2ufVfs3>

1. What do you think of the package of actions put forward to reduce the impact of domestic combustion? Please provide evidence in support of your answer if possible.
2. Which of the following measures to provide information on a product's non-methane volatile organic compound content would you find most helpful for informing your choice of household and personal care products, and please would you briefly explain your answer?
 - "A B C" label on product packaging (a categorised product rating for relevant domestic products, similar to other labels such as food traffic light labels)
 - information on manufacturer website
 - leaflet at the point of sale
 - inclusion in advertising campaigns
 - other option
3. What further actions do you think can be taken to reduce human exposure from indoor air pollution?

RCP response:

- The RCP welcomes the actions put forward in this chapter, in particular the emphasis of the inclusion of health experts in the reduction of emissions of NMVOCs in consumer products. Indoor air pollution is a major threat to health. Indoor pollutants potential health impacts include asthma, chronic obstructive pulmonary disease (COPD), respiratory irritation, effects on the heart, as well as symptoms such as headache, tiredness and loss of concentration.⁴⁹
- In addition to the measures listed, the RCP recommends the implementation of an advertising campaign to educate the public about the causes and significance of indoor air pollution. This could include a labelling system, as described in the strategy that provides an easily-understandable measure of the risk of a particular product, akin to labelling systems for other health issues, such as nutritional content in food. The labelling system should be developed in conjunction with health professionals.
- A more systematic approach to the quantifying the effects of indoor air pollution is required to strengthen our understanding of the relationship between indoor air pollution and health, including the key risk factors and effects of poor air quality in our homes, schools and workplaces.
- Increasing awareness of the risks of air pollution both indoors and outdoors can

⁴⁹ Royal College of Physicians (2016) Every breath we take : 2018, London. <https://bit.ly/2lMZg0g>

empower citizens to take actions to reduce their own exposure. We have discussed the benefits to this in our answers in section two, and believe that any information provided to citizens must be co-created with healthcare professionals, and developed in such a way that their delivery is not a burden to our already overstretched healthcare profession.

CHAPTER SEVEN - Action to reduce emissions from farming

Summary: The agriculture sector accounts for 88% of UK emissions of ammonia, which is emitted during storage and spreading of manures, slurries and from application of inorganic fertilisers. Ammonia damages sensitive natural habitats and contributes to smog in urban areas. Action by farmers can make a big difference to ammonia emissions. The government is already acting to help farmers by funding the necessary equipment.

Actions:

- We will provide a national code of good agricultural practice to control ammonia emissions.
- We will require and support farmers to make investments in the farm infrastructure and equipment that will reduce emissions.
- A future environmental land management system will fund targeted action to protect habitats impacted by ammonia.
- We will continue to work with the agriculture sector to ensure the ammonia inventory reflects existing farming practice and the latest evidence on emissions.
- We will regulate to reduce ammonia emissions from farming and are seeking views on 3 possible approaches to regulation.

Questions:

1. What do you think of the package of actions put forward in the farming chapter? Please provide evidence in support of your answer if possible.
2. What are your preferences in relation to the 3 regulatory approaches outlined and the timeframe for their implementation:
 - (1) introduction of nitrogen (or fertiliser) limits;
 - (2) extension of permitting to large dairy farms;
 - (3) rules on specific emissions-reducing practices? Please provide evidence in support of your views if possible.
3. Should future anaerobic digestion (AD) supported by government schemes be required to use best practice low emissions spreading techniques through certification? If not, what other short-term strategies to reduce ammonia emissions from AD should be implemented? Please provide any evidence you have to support your suggestions.

RCP response:



- We welcome that the strategy recognises the importance of farming practices to air quality, and advocate for healthcare professionals and scientists to be at the forefront of developing solutions. We are encouraged to see a requirement to spread urea-based fertilisers in conjunction with urease inhibitors, unless applied by injection on appropriate land by 2020. The RCP recommends that the government considers the introduction of a rating system on food to flag environmental impact to the consumer, outlining any planetary boundaries that the making of the food contributed to (CO2 emissions, soil impact, air pollution etc.).

CHAPTER EIGHT - Action to reduce emissions from industry

Summary: Industrial processes, including energy generation to power our businesses and homes and the manufacture of goods and food, can all create pollution. For many decades, the UK has been at the forefront of reducing industrial pollution, and significant progress has already been made. We will continue to build on that progress by increasing standards to reflect international best practice.

Actions:

- We will maintain our longstanding policy of continuous improvement in relation to industrial emissions, building on existing good practice to deliver a stable and predictable regulatory environment for business as part of a world-leading clean green economy.
- We will work with industrial sectors to review improvements to date, and to explore opportunities to go further through a series of sector roadmaps that set ambitious standards – moving beyond a focus on minimum standards to make UK industry world leaders in clean technology and secure further emissions reductions.
- We will close the regulatory gap between the current Ecodesign and medium combustion plant regulations to tackle emissions from plants in the 500kW to 1MW thermal input range. As legislation on medium combustion plants and generators comes into force, we will consider the case for tighter emissions standards on this source of emissions.

Questions:

1. What do you think of the package of actions put forward in the industry chapter? Please provide evidence in support of your answer if possible.
2. We have committed to applying Best Available Techniques to drive continuous improvement in reducing emissions from industrial sites. What other actions would be effective in promoting industrial emission reductions?
3. Is there scope to strengthen the current regulatory framework in a proportionate manner for smaller industrial sites to further reduce emissions? If so, how?
4. What further action, if any, should government take to tackle emissions from medium plants and generators? Please provide evidence in support of your suggestions where

possible.

5. How should we tackle emissions from combustion plants in the 500kW-1MW thermal input range? Please provide evidence you might have to support your proposals if possible.
6. Do you agree or disagree with the proposal to exempt generators used for research and development from emission controls? Please provide evidence where possible.

- The RCP would like to draw attention to the fact that the NHS is one of the biggest carbon polluters in the UK. It contributes to pollution with combustion of single-use items and a huge amount of soiled and pharmaceutical waste. Much of this pollution could be reduced. There have been some piecemeal initiatives, but a more comprehensive strategy to reduce NHS emissions need to be developed, to maximise the potential of the NHS to be a leader in decarbonisation.⁵⁰

CHAPTER NINE - Leadership at all levels (local to international)

Summary: Emissions from abroad, across the UK and local sources all contribute to the pollution that people and the environment are exposed to. Effective action is needed at all levels to clean up our air. This strategy sets out our commitment to cut our national emissions to reduce population exposure. As part of this we will make it easier to take action at local level. Alongside this, the UK will continue to play an active, leading role in international action to improve air quality.

Our international air quality commitments have been agreed at a UK level. However, air quality is a substantially devolved policy area. Scotland and Northern Ireland have both already produced their own Air Quality Strategies and Wales is currently in the process of producing one (further details of these are set out in Chapter 9).

Actions:

- We are consulting on a new, independent statutory body to hold government to account on environmental commitments following EU exit. Ensuring that there is transparency and accountability in how we achieve our clean air ambitions will be a priority in this work.
- We will bring forward new clean air legislation at the earliest opportunity. This will bring long-standing frameworks for local and national action on air pollution into the 21st century with stronger powers and clearer accountability.
- To ensure that local action to reduce air pollution remains robust and relevant, we will transform existing structures to increase transparency and back this up with stronger statutory powers to tackle local air pollution.

⁵⁰ Associations of Surgeons of Great Britain and Ireland (2012) Consensus statement on cost-effective surgery. <https://bit.ly/2maoW9g>

- The UK government will work in partnership with the governments of Scotland, Wales and Northern Ireland to develop a detailed National Air Pollution Control Programme as required under the National Emissions Ceilings Directive for publication in 2019.

Questions:

1. What do you think of the package of actions put forward in the leadership chapter? Please provide evidence in support of your answer if possible.
2. What are your views on the England wide legislative package set out in section 9.2.2? Please explain, with evidence where possible.
3. Are there gaps in the powers available to local government for tackling local air problems? If so, what are they?
4. What are the benefits of making changes to the balance of responsibility for clean local air between lower and upper tier authorities? What are the risks?
5. What improvements should be made to the Local Air Quality Management (LAQM) system? How can we minimise the bureaucracy and reporting burdens associated with LAQM?

RCP response:

- As discussed in chapter two, the RCP calls for a new independent statutory body (Air Quality UK) to be established as soon as possible to enforce our air pollution limits proposed by the government.
- We believe that local Councils are varied in their uptake of greening of towns and support for active travel instead of motorised vehicles. The RCP believes that section 9.2.2 does not go far enough, and that there should be stronger legislation to permit facilities for active travel, akin to the Active Travel Act in Wales.
- The UK government and relevant authorities should work with the EU to reduce the impact of continental European air pollution and other transboundary effects on the UK. Furthermore, the government should continue to work with the EU where possible and relevant to harmonise UK legislation with EU legislation on vehicles testing and other major mechanisms affecting UK air pollution levels through trade in goods. The arrangements for doing this are as yet unclear due to the continued uncertainty as to the UK's ongoing relationship with the EU.
- Finally, the RCP notes that there is a place for leadership on health and sustainability across the public sector - in the NHS, fire service, police, military, local authorities and local central government buildings. A coordinated ambassador scheme with the right materials, training and time to both monitor and encourage others to act could accelerate action across the public sector.

About the Royal College of Physicians

The RCP plays a leading role in the delivery of high quality patient care by setting standards of medical practice and promoting clinical excellence. We provide physicians in the United Kingdom and overseas with education, training and support throughout their careers. As an independent body representing over 35,000 Fellows and Members worldwide, we advise and work with government, the public, patients and other professions to improve health and healthcare. The RCP is a founding member of the [UK Health Alliance on Climate Change](#) (UKHACC) which brings together doctors, nurses and other health professionals to advocate for responses to climate change that protect and promote public health. The RCP strongly endorses the UKHACC's response to this consultation.