



Environmental targets

CIEH response to a DEFRA consultation

June 2022

About the Chartered Institute of Environmental Health (CIEH)

CIEH is the professional voice for environmental health representing over 7,000 members working in the public, private and third sectors, in 52 countries around the world. It ensures the highest standards of professional competence in its members, in the belief that through environmental health action people's health can be improved.

Environmental health has an important and unique contribution to make to improving public health and reducing health inequalities. CIEH campaigns to ensure that government policy addresses the needs of communities and business in achieving and maintaining improvements to health and health protection.

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Key points

We would like to see a long term target that is more ambitious and aims to meet the World Health Organisation guideline of 5µg/m³ by 2040. There is significant evidence that an interim target of 10µg/m³ is achievable by 2030, according to the Government's own analysis.

We welcome the target on the reduction in population exposure of PM_{2.5} and the intention of this target to apply to all areas, regardless of whether they meet the concentration target or not. However, the Government could be more ambitious and set the population exposure reduction target at a higher level than 35%.

We would have welcomed further information and detail about how these targets would be measured, including the total number of monitoring sites and their locations, to better assess whether these would be representative of the country as a whole.

We are disappointed that the Impact Assessment, presented alongside this consultation, did not consider any more ambitious options than the Government's preferred option and a 'do nothing' option.

Introduction

Air pollution is recognised by the UK Government to be the single largest environmental risk to public health in the UK. In 2019, the-then Health Secretary, Matt Hancock, warned of this growing national health emergency and said that: “[w]e cannot underestimate the very real impact that dirty air – this slow and deadly poison – is having on our lives, our health and our NHS.”

Particulate matter (PM_{2.5}) is small enough to pass through the lungs, into the bloodstream, and into the organs. The biggest impact is through cardiovascular disease, where breathing polluted air can increase the risk of developing heart and circulatory diseases. For people with existing health problems such as coronary heart disease, exposure to air pollution increases the risk of a heart attack or stroke. Toxic air also exacerbates respiratory illnesses, such as COPD, increases the risk that asthma attacks result in hospitalisation or worse, and can stunt the lung growth of children making them more susceptible to chronic illness as they grow up. It has been linked to cancer, increases in risk of [developing dementia](#) and there is increasing evidence suggesting impacts on cognitive development, including impairing children's ability to learn.¹

The Royal College of Physicians has estimated that the social cost of air pollution to individuals and the health service is over £20bn annually in the UK. Similarly, in June 2022 the Confederation of British Industry [estimates](#) that a £1.6bn annual economic benefit to the UK could be realised by reducing PM_{2.5} concentrations to within 10 µg/m³ , 1 as three

¹ Every breath we take: the lifelong impact of air pollution, Royal College of Physicians, 2016.

million working days are lost every year to air pollution. This is made up of £1bn per year from 40,000 additional 'working years', as the number of people retiring early due to ill-health decreases, and £600m per year from reduced sickness-related absences.

Do you agree or disagree with the level of ambition proposed for a PM2.5 concentration target? [Agree/Disagree/Don't know]

Disagree

[If disagree] What reasons can you provide for why the government should consider a different level of ambition?

The long-term target for air quality should be more ambitious: 5µg/m³ by 2040, with an interim binding target of 10µg/m³ by 2030. The longer term target would be in line with the latest World Health Organisation guideline level for PM2.5. However, we welcome the proposal to introduce five-yearly interim targets. Although these won't be legally binding, we consider these targets to be very useful in measuring progress against the longer term target.

There is strong evidence that 10µg/m³ by 2030 is achievable. Getting to this level much sooner than 2040 is likely to bring significant long-term health benefits to the whole population and contribute to savings for the NHS. Being a 'once in a generation' chance to set a pathway towards cleaner air for all, the 2021 Environment Act provides an opportunity for the UK to become a world leader in the fight against air pollution. Setting a low target to be achieved by 2040 is therefore unacceptable and shows a lack of ambition and a lack of urgency from the Government.

The Government's own analysis shows that reducing concentrations of PM2.5 to 10 µg/m³ is achievable long before 2040. Even under the less ambitious scenario for action that the government has chosen, 11 µg/m³ is 'likely' to be achieved by 2030, according to the modelling data presented alongside this consultation.

Furthermore, simply by meeting the existing legal emission reduction commitments means that it would be 'possible' to reduce PM2.5 concentrations to within 10 µg/m³ by 2030. In other words, the policies necessary to meet existing legal commitments would do most of the work towards meeting the target much earlier than what the UK Government is currently proposing. Despite this, the government's analysis suggests that policies needed to meet the new proposed target, do not include compliance with existing legal commitments, which is extremely concerning.

[Recent analysis](#) from Imperial College London commissioned by the Clean Air Fund has also shown that if the government implements planned and anticipated environmental, transport and clean air policies, air pollution could fall within 10 µg/m³ across 99.8% of the UK by 2030. Bringing the target forward by ten years would see an average of 388,000 fewer days of asthma symptoms flare ups a year in children; a fall in cases of coronary heart disease of over 3,000 cases per year, and a rise in average life expectancy of 9- 10 weeks across those born in 2018. It would also deliver economic benefits to the tune of £380bn between 2018

and 2134. This would also avoid the UK lagging behind other countries when it comes to PM2.5 legal protections.

Since 2012, the USA has already had a stronger [legal target](#) for PM2.5 set at 12 µg/m³ and the US EPA is currently considering recommendations from its Independent Particulate Matter Review Panel to lower this further to between [8 and 10 µg/m³](#). In the European Union, parallel legal air quality limits are also in the process of being revised and improved with proposals expected later in 2022. This is the time for the UK to step up to become a leader on clean air, rather than risk getting left behind.

In 2021, the urban background levels of PM2.5 in England were already 13 µg m³, having dropped from 20 µg m³ since 2011.² This shows that countrywide, we are already close to reaching the target of 10 µg m³ in urban background locations.

In terms of measurement and compliance, the target will be deemed to be met if it is achieved in three out of the four years preceding 2040. The rationale for proposing this loophole is to account for the impact of bad weather years and transient events such as Saharan dust on pollution levels. Whilst these factors can impact PM2.5 concentrations, the uncontrollable events have already been accounted for as part of its modelling to inform what it considered to be feasible. This was done by including a 1 µg/m³ buffer in its modelling of future target scenarios. Furthermore, this loophole is not specifically restricted to bad weather years or events outside the Government's control. If this loophole is allowed to remain in the regulations, it should be defined more tightly, such as 'a year with exceptional meteorological circumstances or an unexpected increase in international sources of pollutants'.

The evidence pack included with this consultation also lacks some key information to allow stakeholders to make an informed assessment of the Government's proposals. It does not provide detailed information on which specific initiatives and actions have been assumed in the proposed option. The Impact Assessment also presented only two options: the option to do nothing and the Government's preferred option. It is standard practice in other Government consultations to also consider a more ambitious option, in order to assess where the level of ambition should be set. Without any information about what a more ambitious option would look like and, most importantly, what the cost-benefit analysis for such an option would have been, it is difficult to see why the preferred option was chosen and what else has been considered by the Government.

The consultation also proposes that national modelling would not be used to determine target exceedances – this will be done only via monitoring. A substantial increase in monitoring will be required to provide appropriate information to be able to inform PM2.5 pollutant level changes. From the information presented in the consultation, we are uncertain what expansion of the Automatic Urban and Rural Network (AURN) network is planned. The network is currently made up of 171 locations, so it is unlikely PM2.5 monitoring network will extend to every local authority or can cover all near-source areas within local authorities.

² [Statistical data set. Table 6](#): Annual mean concentrations of PM10 in the UK, 1992 to 2021, DEFRA, April 2022

Do you agree or disagree with the level of ambition proposed for a population exposure reduction target? [Agree/Disagree/Don't know]

Disagree

[If disagree] What reasons can you provide for why the government should consider a different level of ambition?

We do not support the proposed population exposure reduction target of 35% by 2040 (based on 2018 levels), as this target is ambitious enough. Given that the WHO has made it clear that there is no safe level of PM2.5 for people to be exposed to, it is essential that the population reduction target aims for lower exposure to air pollution for people as quickly as possible.

We welcome the fact that the concentration target will not be an average but will instead need to be met at every AURN location. However, the current 171 sites across England may not be fully representative of pollution levels. The data provided in the evidence packs does not provide sufficient information regarding the methodology used for the population exposure reduction targets calculation used to allow further scrutiny of the calculations used. The consultation document indicates these details will be set out in the draft presented to parliament, suggesting they will not be subject to consultation. These include:

- The minimum number of monitoring sites
- The minimum number of representative measurements to assess compliance
- The requirements for the spread of monitoring sites over different areas
- The cap of the number of monitors needed for the largest population areas
- The extent to which monitoring requirements from the previous EU regime are being retained

We would like to encourage DEFRA consult with local authorities on possible locations and to what extent roadsides and high pollution locations should be included as part of the monitoring network. Local authorities have the best local knowledge of issues in their areas and should be fully involved in the process of expanding the monitoring network. The proposals do not provide information on who will be funding the set up and maintenance of the new monitoring stations. Local authorities also have their own monitoring locations. These will need to align with the national network to provide the best data for monitoring compliance with the new targets and existing legal obligations.