

Summary of the Consultation Document

Document - Draft plans to improve air quality in the UK - Tackling NO₂ in our towns and cities – UK overview document.

This document sets out the UK Government approach to meeting the NO₂ limit values set out in Ambient Air Quality Directive in the shortest possible time.

The challenges

The impact on health and the environment from NO₂ has strengthened substantially in recent years. As noted by the Committee on the Medical Effects of Air Pollutants (COMEAP) in March 2015. It is estimated that the effects of NO₂ on mortality are equivalent to 23,500 deaths annually in the UK. The figure for exposure of PM_{2.5} is 29,000 deaths. As both pollutants are from the same sources, it is difficult to ascertain the combined effect, as some double counting may occur.

It is noted that the air quality modelling is using new emission factors for Euro 6 vehicles which are based on a relatively small number of vehicles available and tested. However, within this small sample there was seen a significant variation on emissions performance amongst vehicles. This introduces uncertainty whether the measures will deliver the required reduction in the concentrations and therefore in the projections. Previous emission factors for earlier Euro vehicles have not produced the reductions in the ambient concentrations as predicted in modelling.

For some of the measures within the action plan any reduction in pollution cannot be quantified based on the current evidence.

There is a table showing the summary of 2013 exceedence of NO₂ limit values and the projected dates of compliance for the different zones and agglomeration in the UK.

Opportunities for action

The first paragraphs of the section outline the reduction of emissions of nitrogen oxides in the UK, through industry investment in cleaning up of their processes. This has resulted in a reduction of nitrogen oxides by 62% since 1970.

The Government is also claiming to be successful in reducing ambient concentrations of NO₂ since 1990. However, these have been achieved through stricter vehicle and tailpipe emissions regulations (Euro Standards) which have been effective for petrol vehicles but not diesel light duty vehicles. The Euro standards have been set by the European Directives and transposed into UK legislation through regulation.

There are several paragraphs regarding the Government dealing with the reduction of Carbon Dioxide (CO₂). The Government states that the most significant action to

benefit both air quality in the longer term, as well as reduce atmospheric carbon, is electrification of the vehicle fleet, alongside other ultra low emission technologies.

The Government wants to reduce traffic congestion by enhancing the road network to improve traffic flow, this will reduce vehicles idling and will provide improvement in air quality and deliver a more productive economy.

Individual action

The Government is thinking that access to data and information, is the key to the ability of individual's to make informed choices to tackle the sources of, and reduce exposure to, pollution.

The data presented by the Government the Daily Air Quality Information, which is helpful to vulnerable people with respiratory and circulatory diseases. This Authority promotes the AirText alert/information system, which is available to individuals by either email, text or telephone messages.

The Government has just launched the Directors of Public Health Toolkit which aims to encourage local authorities, elected officials and Directors of Public Health to take action to mitigate air pollution. Public Health for England (PHE) has developed a programme in to reduce mortality attributable to air pollution in England. This will be done by further developing and synthesising the evidence on the health effects of air pollutants. The PHE is focusing its efforts on promoting actions that can bring multiple health benefits.

Local action

The Government states that local authorities have a central role in achieving improvements in air quality. The Government acknowledge that local authorities have local knowledge and interaction with the communities that they serve. They state that local authorities are better able to know the issues on the ground in detail and the solutions that may be necessary or appropriate.

The document continues with the Governments recent consultation on the Local Air Quality Management (LAQM) framework with the emphasis on reducing the reporting burden to enable the authorities to take action to improve air quality in their area. The Government have promised to revise toolkits to assess the impact of NO₂ and other pollutants.

The inclusion of the air pollution indicator within the Public Health Outcomes Framework is intended to raise awareness of the impact of air pollution on public health and to allow Directors of Public Health to prioritise action on air quality in their local area. To assist the Directors the PHE publish estimates of the mortality burden attributable to particulate air pollution in local areas in the UK.

There is a paragraph in respect of London, Oxford, Norwich and York introducing Low Emission Zone to restrict the access of vehicles and to change the fleet mix in the cities depending on the local circumstances. The London LEZ covers buses, HGVs and vans, whereas the other three LEZ's focus on the use of cleaner buses.

There are several paragraphs detailing the actions of the Mayor of London in respect of air quality, which set a good example to the UK Government.

By contrast the section highlighting the responsibilities by devolved governments is very light for England, with the only suggestion being that a national framework for new Clean Air Zones is introduced.

Scotland

Scotland is developing an ambitious national Low Emission Strategy, which includes, a national Low Emission Zones framework, a national air quality modelling methodology and national communications strategy.

Wales

In 2012 the Welsh Government launched a grant scheme for local authority projects to improve air quality, noise and the provision of tranquil urban green space. In 2014 it was combined with a broader local environment quality grant scheme called Tidy Towns, and in 2015 Tidy Towns was combined with other funding streams to make a single local authority revenue grant for environment and sustainable development work. Work with this grant associated with air quality has to be beyond the statutory duties for local air quality management. In July 2015 the Welsh Government published a National Transport Finance Plan 2015 – 2020. The interventions identified seek to improve air quality by promoting a modal shift from private motor vehicle use to active travel and integrated public transport and to support highway schemes designed to reduce traffic congestion.

Northern Ireland

In Northern Ireland, there will be a comprehensive review of Northern Ireland's clean air and air quality policy and legislation in late 2015. The Regional Development Strategy for Northern Ireland 2035 provides a spatial development framework and includes the policy, "Reduce our carbon footprint and facilitate migration and adaptation to climate change whilst improving air quality". A New Approach to Regional Transportation Strategy 2012 – A Sustainable Transport Future includes the high level aim: "To reduce the environmental impact of Transport. The document's more explicit supporting objectives include "to reduce greenhouse gas emissions from transport, to protect biodiversity, and to reduce water, noise and air pollution".

European Commission

The Government is putting an argument forward that the exceedences are due to the NO_x emissions from diesel light duty vehicles (cars and vans) not delivering the expected emission reductions in use and that the European Union is responsible for on-the-road emission control.

The Euro 6 standard for heavy duty diesel vehicles appears to be delivering significant NO_x emissions reductions. The Commission is now proposing to replicate this for light duty diesel vehicles by introducing a new 'Real Driving Emissions' test

procedure. The new test procedure is due to be introduced for new models in 2017 and all cars in 2018. However this timetable has still to be agreed in Europe.

Overview of the measures

The long term aim of the UK Government of the electrification of the fleet will be the critical to the delivery of sustainable permanent improvement in air quality and the decoupling of economic growth from both CO₂ emissions and local air pollution. The Government's aim is for nearly every small vehicle to be a zero emission vehicle by 2050. To meet this aim the Government is incentivising ultra low emission vehicles, this is being led by the Office of Low Emission Vehicles (OLEV). OLEV is providing a package of funding for business, consumers and local authorities. The plan is highlighting the London Ultra Low Emission Zone and Government procurement by revising standards to encourage the purchase of ULEV where appropriate.

Examples from different local authority action plans are given, followed by a sections on infrastructure, land use planning, air quality grants, local greener transport initiatives, incentivising cycling, walking and shifts to cleaner modes of travel.

The Government is promoting Clean Air Zones (CAZ), which is a rebranded name for the previously named Low Emission Zones. They are promising a CAZ framework, which was also previously promised. The criteria for the English CAZ are based on the recent work done by the GLA. The Government also states that they will be examining how emissions limits could be applied to Non-Road Mobile Machinery, particularly construction equipment and mobile generators. The GLA have introduced a planning policy which was implemented on the 1st September 2015, so it is too early to ascertain the real impact on air quality this measure may achieve.

The next part is in connection with national and local road network, there is no mention of the Greater London area in these paragraphs.

Reducing emissions from buildings

Over the last decade the UK has introduced a range of energy efficiency measures for homes and buildings. The measures have included the progressive strengthening of the efficiency standards in national building regulations for new buildings and when boilers and windows are replaced in existing properties, domestic boiler scrappage schemes, the Warm Front scheme and the Energy Company Obligations. The Government has statutory targets to improve the energy efficiency of fuel poor homes.

It is stated that the roll-out of smart energy meters to all homes and small businesses by the end of 2020 is expected to lead improvements in air quality as a result in energy consumption

The Renewable Heat Incentive (RHI) pays participants in the scheme that generate heat and use renewable energy to heat their buildings. At the start of the RHI scheme there was no control on NO_x and PM₁₀ emissions. However, since October 2012 the incentives for renewable heat have been accompanied by NO_x and PM₁₀ emission limits for biomass burning appliances.

Reducing emissions from other sources

Local authorities have no formal powers to deal with emissions from the following sources: shipping, aviation, rail electrification, fleet and industry, but rely on the UK Government and European Commission to adequately control these sources.

Local authorities could enforce the requirements of NRMM on construction sites in their areas and ensure the provision of smoke-control areas, providing they have sufficient resources to.

The impact of the measures

The draft plan document concludes that action across a range of emission sources will help resolve the problem of NO₂ exceedences within the UK. As projections move forward towards 2020, they show the issues become much more localised in nature. It is not been possible to quantify the impacts of all the local, regional and national level measures on emissions and ambient concentrations within the national Pollution Climate Mapping (PCM) model.

For the eight zones projected to still have exceedences in 2020, the local authority actions are not enough to reach compliance with the 40µg.m⁻³ limit level. However the Government has modelled these areas assuming that access restrictions on the roads with exceedences as part of Clean Air Zones. This modelling has demonstrated that it is possible to deliver the level of change required to give compliance in the zones outside London by 2020, in London by 2025.

Document 2 - Draft Evidence Annex - Assessment of the plans to improve air quality in the UK

This document outlines the technical data used to show that the non-compliant areas, except London, could be compliant by 2020 by using the Clean Air Zone principle. The assessment has been made in line with agreed best practice as set out in the HM Treasury Green Book Guidance, including the recent updated evidence from COMEAP.

The modelling contractor has performed 'sensitive testing' due to the issues with the European vehicle test cycles not accurately reflecting real world performance and emissions. The results of this shows that should Euro 6 emissions standards have not been performed as modelled. This could result in up to 22 zones in the UK being non-compliant in 2020.

The assessment has shown that the impact on society of introducing Clean Air Zones in the localities predicted to exceed the values in 2020 would deliver a social benefit of £2.7 billion. The cost on the users of vehicles is around £1.2 billion. £565 million of the £1.2 billion will fall on businesses to ensure their fleets meet the new standards.

The evidence of the health impact and ambient NO₂ concentrations has strengthened significantly over recent years. However, there are a few uncertainties

still remaining on the evidence on the health impacts, the three main uncertainties are:-

- The figure assumes that there is no overlap in mortality impacts of PM and NO₂.
- Any potential threshold effect for impact of NO₂ is not considered.
- The extent to which the association between long-term average concentrations of NO₂ and mortality is casual, there is likely to be more uncertainty in applying the coefficient to assess the health benefit of measures that are specific for a reduction in NO₂ compared to interventions that reduce range whole mixture of air pollutants.

Document 3 – Draft Air Quality Plan for the achievement of EU air quality limit value for nitrogen dioxide (NO₂) in Greater London Urban Area (UK001)

This document gives the general information in respect of the Greater London Urban area agglomeration zone, the extent of the NO₂ exceedences within the agglomeration zone and details of local air quality measures that have, will, or are being considered to be implemented in the agglomeration zone. The agglomeration zone air quality action plan should be read with UK overview document. The modelling of the local and UK measures predict that the agglomeration zone will be complaint by 2025.

The document lists the measures in the London Mayor's Air Quality Strategy and all the measures contained within the various local authorities within the agglomeration zone.