



Joint Air Quality Unit
Department for Environment, Food and Rural Affairs /
Department for Transport
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15 June 2017

Dear Sir/Madam,

Consultation on “Improving air quality: national plan for tackling nitrogen dioxide in our towns and cities”

We are writing in response to the above consultation. Environmental Protection UK has considered the consultation document and welcomes the opportunity to comment. These comments represent an overview of the Air Quality Committee, but do not necessarily reflect the views and opinions of individual Environmental Protection UK members.

About Environmental Protection UK

Environmental Protection UK is a national charity that provides expert policy analysis and advice on air quality, land quality, waste and noise and their effects on people and communities in terms of a wide range of issues including public health, planning, transport, energy and climate.

We offer clear and critical analysis of UK government and European Union policy proposals through a range of high-quality publications and expert-led events, as well as up-to-date regulatory information through our comprehensive guide to UK and EU environment legislation.

Environmental Protection UK works with UK national and devolved governments, local authorities, business, academics, NGOs and the general public, and with relevant EU institutions.

Response to Consultation

Summary

- The proposed National Plan for nitrogen dioxide (NO₂) is inadequate. We are not confident the National Plan will achieve the NO₂ limit values soon enough, it does not address the judgment of the High Court to demonstrate a pathway to compliance at the earliest possible date, nor does it address the public health impacts from extended exposure to poor air quality.
- Air quality causes major public health impacts, Defra statistics indicate that the effects of exposure to nitrogen dioxide on mortality is equivalent to 23,500 deaths annually in the United

Kingdom; that is, on average, more than 64 deaths each day of the year. Other pollutants increase these impacts further. Air pollution is estimated to cost at least £20 billion a year in the UK (and more if the total morbidity costs are included). There is a clear need for large-scale and ambitious actions to deal with the NO₂ problem and these need to extend beyond EU limit value compliance to health protection.

- When comparing the proposed National Plan against the scale of the problem, it is clear that the National Plan has to go further, in more places, with a wider focus, and with greater ambition and faster implementation, in order to protect human health and ensure that compliance is not just possible, but likely.
- The National Plan must be based on clear strategic thinking and be led by central Government, especially Defra, DfT and the Department for Health, and supported by 10 Downing Street and HMT. Taking action in just a few cities will not solve the problem.
- There are also concerns that the assumptions that the National Plan relies upon does not adequately reflect the impact of population growth within urban areas, which will increase pressures on road traffic, public transport, infrastructure and heat and energy demands.
- Any National Air Quality Plan should also take into account other pollutants, especially particulates, primary nitrogen dioxide emissions, ozone and carbon dioxide. To exclude these will compromise its effectiveness in the longer term, and decrease the health benefits.
- The National Plan needs direct action by the national government. The sheer number of cities, towns, and even villages, with air pollution problems shows that this is a local manifestation of a national problem. It needs focussed national action to improve air quality and public health.
- In addition to the missing “air quality” measures, there are a wide range of other Government initiatives which affect air quality. These must be optimized to improve air quality, by targeting areas of high pollution, and addressing and relocating work with negative impacts. This includes land use planning and transport planning work, the National Productivity Investment Fund, energy efficiency and renewable energy programmes, and ultra low emission vehicle schemes.
- The draft plan states: “It is for local authorities to develop local proposals likely to achieve the air quality limits within the shortest time possible”, even though responsibility for compliance with the EU directive is a matter for national, not local, government. An effective national plan must include actions from all levels of government, including national, regional and local; and all these parties must work together to identify and implement the most effective way to achieve the limit values to protect human health in as short a time as possible.
- In essence, a non-charging Clean Air Zone (CAZ) is what all local authorities have been trying to do through the Local Air Quality Management (LAQM) system for years, yet NO₂ is still above the Directive's limit value. Calling the same measures a CAZ as opposed to an 'air quality action plan' is still not going to improve air quality without further steps, funding and support.
- The scope of the proposed National Plan is too narrow to be effective. Although road transport is a major source of pollution, it is far from the only source causing or contributing to problems of poor air quality and associated health impacts in urban areas. Other sources include stationary sources, such as boilers, CHP, and stand-by power sources; industrial sources; construction; other forms of transport and agriculture. These must be included in any National Plan which aims to effectively improve air quality.

- More commitment is needed for substantial government funding and for support for local authorities to take more action, in both the mandated areas and elsewhere. The local measures set out in the National Plan need funding, at a time when local authorities are under massive financial pressure. A CAZ is an expensive and resource intensive system to set up. Even the non-charging CAZ, based on LAQM, requires adequate expert staff and money to implement.
- The government needs to ensure that clean air is a political priority at all levels of government. There should be a clear national narrative for action to protect and enhance human health through clean air, which is supported with further targeted work at a local level.
- The National Plan only lists the worst polluted areas as determined in their national modelling, but this does not (and is not designed to) identify or quantify all major local hotspots of pollution. It cannot be assumed that areas which are not specifically mentioned in the national plan and associated reports do not have air pollution problems and the associated devastating impacts on health, and therefore do not need to take action. This is not adequately communicated or addressed in the National Plan.
- EPUK has already suggested to Government that the establishment of an Air Quality Commission to look at effective development and delivery of clean air might be one way to address the problems faced by the UK. Although at that time, the minister did not accept this view, on the grounds that Government was “working well on air quality issues”. We feel that the Plan as presented for consultation demonstrates the limitations of Government’s thinking and would urge that such a Commission be established as a matter of urgency.

Consultation Questions

1. How satisfied are you that the proposed measures set out in this consultation will address the problem of nitrogen dioxide as quickly as possible?

Level of Ambition

The proposed National Plan for NO₂ is inadequate. We are not confident the National Plan will achieve the NO₂ limit values in as short as possible time, nor address the public health impacts from extended exposure to poor air quality. It does not address the judgment of the High Court to demonstrate a pathway to compliance.

When comparing the proposed National Plan against the scale of the problem, it is clear that the National Plan has to go further, in more places, with a wider focus, and with greater ambition and faster implementation, in order to protect human health and ensure that compliance is not just possible, but likely.

It must be based on clear strategic thinking and be led by central Government, especially Defra, DfT and the Department for Health, and supported by 10 Downing Street and HMT.

In addition the Plan lacks the 'wow factor', it lacks direction, ambition and narrative. It also lacks adequate mechanisms and support to undertake and coordinate this task at both national, regional and local levels. Instead it includes some measures which will have almost no impact on air quality, and it has been described elsewhere as “a plan to have a plan”.

The Plan could have been the basis for a new Clean Air Act and included a sound strategic focus as well as commitments on involvement from all relevant departments, including the Department of Health, as clean air is a major public health issue.

The Government should not just be looking at bare compliance. It should be facing up head on to the shocking challenge of the amount of ill health and death that is being caused by poor air quality (as well as the damage to trees and plant life highlighted by recent reports). It should refer to the global situation, and the need for concerted international action, given the impact of transboundary pollution. It should take account of the recent reports that the UK 's air quality ranks very low compared to many other countries.

The Government should be aiming to tackle all forms of air pollution, not just NO₂. It should be referring to all the principal sources of pollution and setting out a national Government-led strategy for reducing or eliminating them across the whole country, not just in a few CAZs. It should be linking this to a national strategy for promoting cleaner vehicles and phasing out the most polluting vehicles, with appropriate fiscal incentives to accelerate the changes needed.

It should be revisiting the idea of a high level Commission to drive this programme forward in an integrated and determined way, and helping to co-ordinate the efforts of government and local authorities.

Existing EU Directives aimed at protecting the environment have played a major role in cleaning up the air we all have to breathe, either through the Air Quality Directives themselves or through others like IPPC and Euro VI emission standards that have better controlled releases. There is still much more to be done but Brexit must not be used as an excuse to relax standards. This Plan should implement and enforce the existing legislation effectively over the next few years, and link to the development of a stringent new Clean Air Act to enhance our environment and protect human health for years to come.

Scope

The National Plan must take into account all major sources of urban air pollution, not just road transport, if it is to effectively improve air quality. Other key sources include stationary sources, such as boilers, CHP, and stand-by power sources; industrial sources; construction, especially Non-Road Mobile Machinery (NRMM); other forms of transport; and agriculture.

This Plan is titled “Improving air quality in the UK: tackling nitrogen dioxide in our towns and cities” and has been driven by the need to comply with the EU Directive annual average limit value for NO₂. However, it must be recognised that to improve air quality in the UK, we must look wider than nitrogen dioxide and our towns and cities. Any National Air Quality Plan must also take into account other pollutants, especially particulates, ozone, primary nitrogen dioxide emissions and ideally carbon dioxide. To exclude these will compromise the effectiveness in the longer term, potentially lead to unintended consequences, and substantially decrease the public health benefits.

Particulate matter, is a key concern. PM₁₀ and PM_{2.5} are regulated pollutants which have major health impacts, and are emitted from many of the same sources as NO₂, although there are trade-offs in some cases; these must be identified and addressed. The health evidence suggests very strongly that there is no safe concentration for particles and this is reflected in the exposure reduction target for PM_{2.5}. A significant proportion of PM_{2.5} is a secondary pollutant generated from other pollutant emissions, and also from tyre and brake-wear which is not being addressed and is an issue even from ultra low emission vehicles.

Ultrafine particles are not currently a regulated pollutant, however the evidence is growing of their role in a number of health conditions including dementia. As this evidence shows not only the potential involvement of ultrafines but also the pathways and mechanisms by which such effects can

occur we feel that it is imperative that attention is given to these pollutants. In light of the lack of current regulation, it would be useful to require an assessment of the impact of ultrafine particles when developing measures. We recommend the government looks again at new and important pollutants, such as ultrafine particles in any future legislation.

Comparison with the previous draft National Plan

The previous draft National Plan was judged to be inadequate by the High Court. The judge stated:

‘...that the Secretary of State must aim to achieve compliance by the soonest date possible, that she must choose a route to that objective which reduces exposure as quickly as possible, and that she must take steps which mean meeting the value limits is not just possible, but likely’¹

In some ways the revised Plan is a retrograde step, as actual dates towards compliance are now absent. The plan should include the air quality status of the time, identify the gaps in scientific knowledge and set out a strategy and timetable to improve air quality. Where action is required outside central government, it should include clear information on how that will be supported, funded and enforced. Central government should provide a strong national narrative for clean air, support for improving air quality, and cooperative forums for sharing information between the local authorities (and other stakeholders if necessary).

The proposed National Plan appears to pass the task down to Local Authorities without being clear on how they will be supported and/or funded, but making it very clear that they will be penalised if they fail. Local authorities can only tackle part of the problem, and that their efforts will be unavailing without the comprehensive national strategy that is needed. There needs to be far more national action, coordination, and adequate support, to truly be a “National Plan”.

It is very disappointing that many of the points we are making now, have been included in our responses to the previous National Plan, CAZ Guidance, and the LAQM consultations. EPUK provides constructive criticism to aid better policy making and more effective action, and takes pride in the expert advice it offers.

The Need for National Action

The plan does not include any actual direct action by national government. In addition to the missing “air quality” measures, there are a wide range of other Government initiatives which affect air quality, which must be optimized to improve air quality, by targeting areas of high pollution, and addressing and relocating work with negative impacts.

As the National Plans are a whole government plan, it was disappointing that there were so many missed opportunities for air quality improvements from departments outside the joint Defra/DfT team. There are a wide range of other Government initiatives which affect air quality. The National Plan fail to adequately harness the potential for air quality benefits (and focus these where most needed) from other government initiatives, such as BEIS’s National Productivity Investment Fund and energy efficiency programme, DfT’s low emission vehicle programmes, DCLG’s planning policies, including ‘permitted development’ rights, and HMT’s vehicle taxes, as well as the normal mechanisms that are available such as building regulations, development control and local transport plans.

It is also essential that, at the very least, all government initiatives which could also influence air pollution or its sources should be properly assessed for air quality impacts. Any unintended

¹ <https://www.judiciary.gov.uk/wp-content/uploads/2016/11/clientearth-v-ssenviron-food-rural-affairs-judgment-021116.pdf>

consequences would then be identified at an early stage, and addressed (ideally redesigned, otherwise mitigated and/or not implemented in Air Quality Management Areas (AQMAS)).

For example, the beneficial VED rate for diesels over petrol, which was originally introduced to address climate change (although its climate impact has been small) has caused major problems for local air quality and health over the last decade. We are pleased that the government will now be reconsidering this programme.

We welcome the commitment that that innovative solutions to improve air quality on the UK's motorway and trunk road network will be developed by Highways England, as traffic on these roads plays no small part in contributing to the emissions and pollutant concentrations found in many city centres.

Role of local authorities

This statement in the draft plan sums up the government's approach to air quality: "It is for local authorities to develop local proposals likely to achieve the air quality limits within the shortest time possible." There is, however, no indication of how the government will encourage or support local authorities to take more action (beyond the private discussions with the five mandated cities and London).

Local Authorities will need new powers and adequate resources to achieve such aims. However, the new plans have a huge amount in common with the LAQM framework, which has not been effective, especially in recent times of austerity. In essence, a non-charging CAZ is what all local authorities have been trying to do through the LAQM system for years, yet NO₂ is still above the Directive's limit value. Calling the same measures a CAZ as opposed to an 'air quality action plan' is still not going to improve air quality without further steps.

It would be useful to consider why LAQM has not delivered all we hoped it would (such as lack of expert staff and funding, lack of political support, lack of support from those controlling sources, such as transport and planning teams). For example, NO₂ exceedence areas are generally close to busy roads, but local authorities have next to no control over the amount or type of traffic on their roads (short of a charging CAZ).

Failure of national and EU legislation to deliver real world vehicle emission reductions was also a factor, and one that should have been addressed much earlier, given all the available evidence. This needs continued lobbying to ensure future standards are more effective (without loopholes, such as those on thermal windows and weak conformity factors).

The government must ensure Local Authorities have adequate expertise, staff and financial resources, training and other support. Understanding the issues and expert professional judgement will be a key factor in the effectiveness of a local CAZ and associated measures, and many local authorities have experienced a massive reduction in relevant skills over the last few years due to financial pressures.

We would like the government to consider including a requirement for accredited staff to work on air quality management, including CAZ, similar to the need for a 'competent person' in waste management. For example, options for a minimum requirement could be based on full membership of the Institute of Air Quality Management (which includes an assessment of skills), having received appropriate training from the Chartered Institute of Environmental Health, or equivalent.

Many local authorities have air pollution problems, as indicated by the extensive lists of AQMAs. These areas, and even those not identified as non-compliant, have a lot to gain from action. Recent studies (REVIHAPP & WHO) have identified the potential for substantial health benefits even below the standards. Air quality causes major public health impacts and is estimated to cost at least £20 billion a year in the UK. Addressing just a few cities will not solve this problem in its totality.

The National Plan only lists the worst polluted areas as determined in their national modelling, but this does not (and is not designed to) identify or quantify all major local hotspots of pollution. It cannot be assumed that areas which are not specifically mentioned in the national plan and associated reports do not have air pollution problems and the associated devastating impacts on health, and therefore do not need to take action. This is not adequately communicated or addressed in the National Plan.

The current narrative also increases the risk that air quality will be dismissed as an issue in areas where a CAZ is not mandated and that are not explicitly listed in Table 1 of the Consultation Document, even where there is a declared AQMA. There are early indications that this is already happening. Local political support has reduced in previously active local authorities and fleet operators in the region are talking about reallocating their cleanest vehicles to the mandated zones. There needs to be more support and incentives for CAZ, and a clearer narrative for areas which are not mandated but still have air pollution problems.

Even within mandated local authorities, there are issues caused by the use of national modelling without regard to local assessment. For example, the limit value exceedences in Leeds are on a ring road with limited (or no) exposure. The AQMA based on local monitoring and modelling, is in the city centre where there is also high public exposure (and where no limit value exceedences are picked up in the national modelling). It is crucial that these points are picked up and addressed in the local assessment, as there is otherwise a danger that trying to solely achieve the nationally modelled limit values will damage the AQMA work, either by diverting traffic in the wrong direction, or by simply expending the limited resources to achieve limit value compliance (with arguably limited health benefits in some cases).

Government must provide support not just to individual mandated Local Authorities, but to support dissemination, sharing information and co-development of similar schemes in different areas, through forums, interest groups, and other communication and working groups. This should be open to all Local Authorities. This can provide an efficient way to develop innovative measures and share best practice.

We also have concerns that the assumptions that the National Plan relies on do not adequately reflect the impact of population growth within urban areas, which will increase pressures on road traffic, public transport, infrastructure and heat and energy demands. This can be included in local assessments, but this is then too late to feed into the identification of priority areas and major funding decisions. There is also evidence that pressure to provide new affordable housing, many on existing greenbelt land, does not take into account the impact of increased vehicles on air quality.

For example, this is going to be a significant issue for London where air quality is worst, based on the GLA's short-term migration scenario² the total population of Greater London is projected to rise by 2.35 million between 2014 and 2041 to reach 10.89 million, and the growth is concentrated in certain parts of London, resulting in even higher impacts on population, infrastructure and air pollution there.

² <https://www.london.gov.uk/what-we-do/research-and-analysis/people-and-communities/population-projections>

2. What do you consider to be the most appropriate way for local authorities in England to determine the arrangements for a Clean Air Zone, and the measures that should apply within it?

What factors should local authorities consider when assessing impacts on businesses?

Defra and the local authorities should build any CAZ on the work carried out under LAQM, which it largely duplicates, and which includes a robust assessment of the magnitude, location and source of local air pollution problems.

Local authorities can build on LAQM work to identify the most appropriate and effective measure for their area, but central government must provide the political narrative and support and the financial backing to enable local authorities take sufficiently ambitious and effective action. They must also ensure adequate skills and resourcing are available within local authorities to support this and any additional work required to meet the NO₂ limit values in a short a time as possible, and protect human health.

We support the use of a hierarchy to reduce air pollution and its damage to health.

1. Non-Low Emission Zone (LEZ) measures - to reduce traffic, promote mode shift to more sustainable modes of travel (walking, cycling, public transport), promote cleaner vehicles, discourage the most polluting vehicles, use planning policies and development control to reduce emissions and exposure to pollution, business and community engagement and action, etc..
2. Emission controls on vehicles, including taxis and buses, and voluntary LEZ adopted by eg local businesses.
3. Charging LEZ

This hierarchy gives all local authorities the opportunity (although not the funding or resources) to identify the most effective action on air quality, engaging with local businesses and communities, finding easier ways to address vehicle fleets under local authority control, and putting measures in place which can help facilitate more aggressive actions such as a charging zone, which are very expensive and historically seen as politically undesirable.

Working through this hierarchy also gives local authorities the opportunity to identify how far up the hierarchy they need to proceed to solve their air quality problems. This hierarchy has been based on experience of local authorities in the LAQM system.

However, the use of this hierarchy, which can build on an authority's LAQM work, should be balanced against the need to take action as soon as possible. The Technical Report concluded that only a charging LEZ is likely to make a significant impact on air pollution, and any delay in implementing this needs to be justified, otherwise the evidence implies that they should be implemented right away. Given the evidence from LAQM, asking local authorities to prove that the non-charging measures are insufficient to address the local problem will only cause delay.

One example of this is that while carrying out a Low Emission Zone feasibility study, other options can be considered. For example, York found that converting city centre buses to pure electric had a larger impact than a charging LEZ for buses, coaches and HGVs.

It is also worth considering the London LAQM methodology, which uses a prioritisation system for a wide range of measures.

Robust third party guidance can also assist Local Authorities in developing effective plans. Examples include:

- EPUK and IAQM's guidance on 'Land-Use Planning and Development Control: Planning for Air Quality';
- EPUK's guidance on 'Air Quality and Climate Change: Integrating Policy Within Local Authorities'³; and
- the LowCVP's Local Measures for Encouraging the Uptake of Low Emission Vehicles.

The Low Emission Neighbourhood concept, as developed by Transport for London, also contains some useful ideas for the non-charging elements of a CAZ. This is an area-based scheme that uses a package of measures focused on reducing emissions (and promoting sustainable living).

Any work should include a full assessment of the impacts on communities, individuals, including vulnerable groups (such as children, the elderly and the ill), businesses (both large and small), public health and equalities.

Effective Implementation

It is not clear what the government is doing to ensure that the non-charging elements of a CAZ will be any more effective than the LAQM work it resembles. Many LAQM Action Plans are weak and ineffective due to a lack of political will, inadequate funding, and weak links between the LAQM system and the control over key sources, such as transport and land use. For example, while NO₂ exceedance areas are generally close to busy roads, local authorities have next to no control over the amount or type of traffic on their roads (short of a charging CAZ).

It should be noted that several measures included in the National Plan would have very little impact on air pollution.

Also some measures include very little ambition. For example, Figure 5.7 of the Technical Report seems to envisage a take up for ULEV of about 2 vehicles per 10,000. This is such a small achievement that an examination of the graph showing the effect of this appears to show no difference even at full magnification.

Links with LAQM

It was disappointing to see that, given the focus on local action, the LAQM system was not given a larger role and additional support. This system should help Local authorities deliver air quality benefits but needs more support through enforcement of responsibilities at local authority, county (and unitary authority transport and planning departments), Highways England, Public Health England and others. It needs to be given higher political priority to ensure adequate staff, resources and influence are available at local authority level.

It must be made absolutely clear that land use and transport planners are required to play an important role in air quality action, especially where upper-tier authorities exist, and the National Plan must set out this requirement explicitly.

"Value for money"

The National Plan (paragraph 72) states: "In order to receive government approval and funding, local authorities are required prepare CAZ which meet NO₂ levels in the area within the shortest time possible and demonstrate value for money".

³ http://www.environmental-protection.org.uk/wp-content/uploads/2013/07/aq_and_cc_guidance.pdf

“Value for money” assessments must reflect all costs. If properly measured the true cost of the ill health and other damage caused by the present levels of pollution is very high and that the benefits of determined efforts to reduce it will be immense, even where the implementation costs are also quite high. The damage cost of other pollutants, such as particulate matter and carbon dioxide, should also be included where these are affected. Many air pollution measures have climate change benefits, and these should be included to estimate the higher damage costs.

The High Court judgement was clear that the NO₂ limit values must be met as soon as possible, and that value for money was very much a secondary consideration. To be effective, the National Plan must reflect that speed of improvement is a higher priority than implementation cost, to gain public health improvement and reduce the cost of pollution on our society and economy.

The argument for addressing air pollution is a public health one, and can be viewed as analogous to the passive smoking debate. We have all come to accept the restrictions on individuals smoking in public place because of the damage that the smokers do to others. We should be casting the argument against driving high emitting vehicles (including high emitting diesel cars) similar terms. There must be restrictions on driving such vehicles because of the damage they do to others.

Mandated, listed and non-listed Local Authorities

Some local authorities with air quality problems and declared AQMAs have already reported that air quality is now considered a low priority as they are not a “mandated city”. This has led to reduced funding and resourcing within those areas, and also to fleet operators indicating they will be using lower spec vehicles in that local authority area, as their cleaner newer vehicles are needed on the mandated city routes.

It should be strongly recognised that the National Plan does not identify all local authorities with air pollution problems. Using national modelling only and no local assessment would have devastating consequences for local air quality and therefore public health.

Local assessments take into account a level of local detail that is not, and realistically cannot be, considered within the national assessment, and as such, are able to identify and quantify local hotspots of pollution. This has led to the declaration of many AQMAs that are not identified within the national assessment.

Sources other than Road Transport

While road transport is generally the largest local source of urban air pollution, other sources can be major contributors to poor air quality and health, and cause their own hotspots of pollution. These sources must be included in any National Plan which aims to effectively improve air quality. Key sources are:

- stationary sources, including biomass burners, boilers, CHP, STOR and other back-up generators;
- construction sites;
- industrial sources (both A and B) and gas turbines;
- non-road traffic, such as shipping, rail, river services, and other red diesel users; and
- agriculture.

Action needs to be taken to address small scale energy generation in urban areas. This includes biomass boilers and Short Term Operating Reserves (STOR) plants. These are hard to address or manage through the planning process and can significantly increase local NO_x emissions. We strongly welcome the inclusion of some of these type of plant in the recent consultation on reducing

emissions from Medium Combustion Plants and Generators to improve air quality. We would urge government to develop and enforce measures to ensure stationary sources (of all sizes) do not cause or significantly contribute to air quality problems.

The National Plan could include minimum standards, for the whole of the country, or for all CAZ or AQMA. Examples of minimum standards could include: all gas boilers are required to be low or ultra low NO_x; all NRMM (including construction and street works equipment and other portable generators) would need to meet the latest emission standard criteria; and CHP plants must not be run under conditions where the heat is dumped. There could also be a requirement for operators to commit to using them responsibly (for example, appropriate siting, and not testing all backup generators at the same time, causing short term exceedences).

A CAZ should address emissions (and dust) from construction and demolition sites, including NRMM, as these can have a significant impact on air quality both within and around the site. The London 'Planning Practice Guidance on the Control of Dust and Emissions from Construction and Demolition' includes best practice and emission standards for NRMM, and could be adopted as part of the National Plan.

Most Industrial sources are regulated as Part A processes through the Environment Agency, or smaller Part B processes through the Local Authority. The regulations and approach can work effectively, although there have been reports of less frequent checks and enforcement, under the pressures of reduced government funding. There are also occasionally issues with illegal industrial processes.

Shipping, diesel rail, and river services, can all contribute to poor air quality, and associated impacts on health. Other users of red diesel can also be an issue. Options for addressing these types of sources include encouraging or requiring the use of shore side electrical power at ports (and ensuring adequate power is available) or the use of electrical port machinery, electrification of railway lines, river boat emission standards, and replacing red diesel fuelled plant and vehicles with electric powered. These types of transport can sometimes be addressed locally, if it is a local issue, but often need national action and support to tackle effectively.

Agriculture plays a key role in air pollution, as a major source of emissions, including pre-cursor emissions for secondary pollutants. It contributes to regional background levels both primary pollutants and secondary pollutants, such as PM_{2.5}. It also has a significant impact on the environment, including eutrophication and climate change.

The Role of Planning

The EPUK/IAQM guidance 'Land-Use Planning and Development Control: Planning for Air Quality', 2015 sets out best practice for planning policy and in ensuring planning applications have adequately addressed air quality and exposure. Although this is not official government guidance it has been compiled by experienced professionals and we feel that the current advice to disregard such non-Governmental advice is counter-productive and that independent guidance should be assessed for use on a case-by-case basis.

There are also issues with new planning policies, such as the government's policy on permitted development, especially with regard to the conversion of offices to residential. This is having the unintended consequence of introducing new residential development in areas of high levels of air pollution, without any opportunity for the local authority to be involved in the decision, or request mitigation of emissions or exposure for the new residents.

Other Government Departments

The local plans lack information on non-air quality schemes which have an impact on air quality, such as planning, energy efficiency and traffic management schemes, investment funds, and others which address climate change, congestion, and active travel. If even some of these schemes were optimised for air quality (and focused on non-compliant areas), they would have significant benefits (and avoid unwanted increases in pollution).

As the National Plan is a whole government plan, they need to harness the opportunities for air quality improvements for departments other than Defra. If these initiatives and programmes were optimised to deliver air quality benefits too (and focused on non-compliant areas), there would be major environmental and health benefits. At the very least, all government initiatives which could also influence air pollution or its sources should be properly assessed for air quality impacts. It is disappointing to note that this opportunity was not included in the National Plan.

These initiatives include (but are not limited to):

- BEIS – The National Productivity Investment Fund will provide funding to relieve congestion and upgrade roads and public transport networks, including pinch points - air quality could be a key criteria for identifying priority areas for funding; it also provides funding for low emission buses and taxis and to support the ULEV charging infrastructure; £9.2m Industrial Energy Efficiency Accelerator programme; other energy efficiency or climate change programmes;
- DfT (& Highways England) – OLEV low emission vehicle schemes, including Low Emission Bus scheme, Low Emission Freight and Logistics trial, Hydrogen for Transport Advancement Programme, and charging infrastructure schemes; Local Transport Plans and their associated guidance need to have air quality as a major priority; Cycling and walking Investment Strategy (CWIS);
- DCLG – planning guidance and planning decisions (air quality needs to be more than a material consideration when limit values are/may be breached, development planners have a legal duty with respect to limit values that isn't currently being delivered); a stronger emphasis is needed on the National Planning Policy Framework (NPPF) and the appropriate paragraphs that point to the importance of planning policies in helping to deliver cleaner air (para 124 and 35 for sustainable transport); Building Regulations could be used to address air quality more effectively, measures which could be included are that all boilers should be low-NO_x and all houses should have a vehicle electric charging point; the EPUK/IAQM planning guidance outlines best practice planning policies; Permitted Development policy, which allows developers to convert offices to residential use without planning consent, thereby introducing new residential development in areas of high levels of air pollution, without any opportunity for the local authority to be involved in the decision, or request mitigation for the new residents.
- HMT – diesel needs to be de incentivised immediately (the incentives to encourage dieselisation of the road transport fleet to reduce CO₂ have contributed significantly to worsening air quality); low emissions vehicles (both air pollution and climate change) need to be incentivised; many of the other air quality measures, especially local authority actions, need Treasury support to make them as effective as possible;
- DoH (& PHE) – air quality needs to be given a high priority for public health work, and directly for Directors of Public Health, as pollution and its impacts are a major public health issue; limited public advice has been published or is given regularly to the public; notification systems such as

AirText and AirAlert have not been supported or promoted; these could be better linked to help people take action to improve both the health impacts and the local air quality;

- Scottish Government - energy and heat efficiency programmes (including insulation);
- Others include regional authorities and county council programmes which influence transport, active travel or stationary sources, for example, local industrial boilers and residential gas heaters.

3. How can Government best target any funding to support local communities to cut air pollution? What options should the Government consider further, and what criteria should it use to assess them?

Are there other measures which could be implemented at a local level, represent value for money, and that could have a direct and rapid impact on air quality? Examples could include targeted investment in local infrastructure projects.

How can Government best target any funding to mitigate the impact of certain measures to improve air quality, on local businesses, residents and those travelling into towns and cities to work? Examples could include targeted scrappage schemes, for both cars and vans, as well as support for retrofitting initiatives.

How could mitigation schemes be designed in order to maximise value for money, target support where it is most needed, reduce complexity and minimise scope for fraud?

Focused national funding

One of the most effective ways for Government to target funding is by making air quality a criteria in existing funding pots. There are a wide range of other Government initiatives which affect air quality. These must be optimized to improve air quality, by targeting areas of high pollution, and so harness the potential for air quality benefits (and focus these where most needed) from other government initiatives, such as BEIS's National Productivity Investment Fund and energy efficiency programme; DfT's low emission vehicle programmes; DCLG's planning policies; and HMT's vehicle taxes; as well as the normal mechanisms that are available such as building regulations, development control and local transport plans.

There are restrictions on funding due to EU State Aid rules. The government must work directly, and with local authorities, to deliver that the most effective use of funding within the limits of these rules, and to assist local authorities to understand these. Where appropriate, the government should lobby for more effective funding rules for environmental measures.

Support for local action (expertise, funding, political support)

The government needs to commit to providing substantially more funding and support for local authorities to take more action, in both the mandated areas and elsewhere. The local measures set out in the National Plan need funding, at a time when local authorities are under massive financial pressure. A CAZ is an expensive and resource intensive system to set up (and requires substantial administrative capacity to operate it). Even the non-charging CAZ, based on LAQM, requires adequate expert staff and money to implement.

The High Court judgement was clear that the NO₂ limit values must be met as soon as possible. To be effective, the National Plan must reflect that speed of improvement is a higher priority than

implementation cost, to gain public health improvement and reduce the cost of pollution on our society and economy.

The CAZ Framework guidance lacks adequate detail on support for local action. For example, it states that a CAZ “will give an additional advantage to an authority bidding for competitive central government funding where air quality is one of the stated assessment criteria for that fund, unless stated otherwise”. However without information on how much extra credit and which funds have air quality as a consideration (and without both of these being substantial), this is probably far too little to influence local authority decisions.

The government must ensure Local Authorities have adequate expertise, staff and financial resources, training and other support, to allow them to develop effective local measures. There has been a dramatic loss in relevant skills over the last few years. We would like the government to consider including a requirement for accredited staff to work on air quality management and CAZ, similar to the need for a ‘competent person’ in waste management.

The government needs to ensure that clean air is a political priority at all levels of government and, to at least some extent, of all departments. There should be a clear national narrative for action to protect and enhance human health through clean air, which is supported with further targeted work at a local level.

Communication around the problem is also critical. The aims of a charging CAZ is not to charge users of more polluting vehicles, as though this was a tax, but to reduce their use in CAZs. We also find the term CAZ difficult, as we should be awarding the least polluted places the accolade of being clean, but the proposed CAZs will be the most polluted places in the UK. Great effort has been expended in London to get people to understand what an LEZ is. It would be wise to build on this work rather than try to invent something new.

In addition to the strong need for funding for the development of appropriate and adequate measures, and their implementation by local authorities and others, funding must be available for businesses and residents where appropriate. The National Plan states (in paragraph 36): “action to improve air quality must not be done at the expense of local businesses and residents”. It should be noted, however, that where businesses and residents are a major source of pollution and do not use best practice, this statement is in conflict with the Polluter Pays Principle.

The Need for National Technical Support

It is disappointing that the revised National Plan does not commit to all the additional national work that is needed to support a national framework for CAZ, particularly the charging element. Without this data and process support, it is extremely difficult and costly for local authorities to operate a charging CAZ, and for operators to comply. The national work required includes:

- a national database on vehicles and their emission standards which would need to be freely available to local authorities,
- a national agreement on which vehicles should be exempt and associated database; and
- a common system (which could be run by the local authorities, or centrally, with monies being passed to the local authorities) for registering and paying a daily charge for entering the zone (or whatever approach is agreed for occasional users).

It should be noted that a national accreditation scheme for retrofitted emissions abatement technologies is currently under development, which should allow local authorities to be confident that vehicles are compliant and allow operators to understand if their vehicles meet the requirements of all schemes.

Other Guidance

The current Government Buying Standards are focused primarily on reducing carbon emissions but later this year the Government will publish revised standards with the intention of encouraging the purchase of Ultra Low Emission Vehicles where appropriate. This will drive buying choices in favour of low NO₂, as well as low carbon, for around 3,000 new cars procured each year by central government. It is vital that this includes criteria based on real world emissions, not just Euro standards. We strongly recommend the use of real driving emissions information for this, which can be found in the EQUA index.

Robust third party guidance can also assist Local Authorities in developing effective plans. Examples include:

- EPUK and IAQM's guidance on 'Land-Use Planning and Development Control: Planning for Air Quality'⁴;
- EPUK's guidance on 'Air Quality and Climate Change: Integrating Policy Within Local Authorities'⁵; and
- the LowCVP's "Local Measures for Encouraging the Uptake of Low Emission Vehicles"⁶.

Financial 'incentives' can play an important role. For example, Islington imposed a significant surcharge for diesels when residents apply for a parking permit. This was initially unpopular, but following additional communication on the air quality benefits, this reaction appears reduced.

Sharing Best Practice

Government must provide support not just to individual mandated Local Authorities, but to support dissemination, sharing information and co-development of similar schemes in different areas, through forums, interest groups, and other communication and working groups. This can provide an efficient way to develop innovative measures and share best practice. However it must be recognised there will be some specific local issues, caused by local variations in e.g. vehicle fleets, provision of public transport and planning policies.

Vulnerable Users

Wherever physically possible, vehicles should comply with the limits or pay the charge. However it should be noted that many disabled people and blue badge holders are under financial pressure due to austerity measures, and therefore these vulnerable users should get additional government assistance to improve their vehicles.

Similarly residents and SMEs should also comply wherever possible, with a minimal sunset period. If too many vehicles are exempt from the CAZ measures, this risks undermining its effectiveness.

Implications for mandated, listed and non-listed LAs

There needs to be more support and incentives for CAZ, and a clearer narrative for areas which are not mandated but still have air pollution problems. Local political support has reduced in previously active local authorities and fleet operators in the region are talking about reallocating their vehicles to the mandated zones.

⁴ http://www.environmental-protection.org.uk/wp-content/uploads/2013/07/air-quality-planning-guidance_Jan17.pdf

⁵ http://www.environmental-protection.org.uk/wp-content/uploads/2013/07/aq_and_cc_guidance.pdf

⁶ www.lowcvp.org.uk/assets/reports/LEVs.pdf

4. How best can governments work with local communities to monitor local interventions and evaluate their impact?

The Government and the devolved administrations are committed to an evidence-based approach to policy delivery and will closely monitor the implementation of the plan and evaluate the progress on delivering its objective.

The revised LAQM system contains processes for evaluating and monitoring implementation of measures. Local Authorities should use these processes, and Defra should enforce the submission of robust assessments, and appraise and share their findings. This information can be used to promote best practice and provide an evidence base to further refine future measures.

Air quality monitoring is required to assess real world delivery, as models and their underlying assumptions can be flawed. The Automatic Urban and Rural Network of monitoring sites should be maintained, and expanded if necessary, to ensure that local authorities have adequate evidence to tailor effective action.

Monitoring and evaluating the project can go beyond that required for funders and other local authorities. There have been some excellent examples of using monitoring to boost scheme engagement, such as the Citizen Science projects in the City of London, where the local authority is supporting businesses with ambient air quality outside their premises, and supporting residents and workers to undertake personal exposure monitoring so they can understand how to minimise their exposure to air pollution on a daily basis.

It is also important to share data on both air pollution and the impact of projects with interested members of the public and vulnerable individuals. There are a number of alert schemes, such as AirText, AirAlert and CityAir, which provide pollution forecasts, and associated support material.

5. Which vehicles should be prioritised for government-funded retrofit schemes?

We welcome views from stakeholders as to how a future scheme could support new technologies and innovative solutions for other vehicle types, and would welcome evidence from stakeholders on emerging technologies. We currently anticipate that this funding could support modifications to buses, coaches, HGVs, vans and black cabs.

Some of the issues to take into consideration include the following:

- Which type of vehicle operate exclusively within AQMAs or cover the most distance in areas with an air quality problem?
- How long is the vehicle operational for, and is it expensive to replace?
- Which vehicle types have the largest improvement following retrofit?
- Within the categories identified above, which vehicles fleets are easiest to retrofit, in terms of captive fleets, or local authority owned on contracted vehicles? And which vehicles can be used as a pilot to encourage local uptake of the technology?
- The amount offered per vehicle needs to be realistic if it is to be effective.

Any retrofit needs to be affordable and reliable for all vehicles, and there needs to be an enforcement system to ensure both vehicle and retrofit technology is adequately maintained to ensure it works.

6. What type of environmental and other information should be made available to help consumers choose which cars to buy?

It would be useful to include both the Euro standard of the car, and its conformity factor (the factor by which the car meets or exceeds the Euro standard under real world conditions) in information made available to help consumers choose which cars to buy. This information can be found on the publicly available EQUA index (see Question 7 for more information).

If a vehicle's conformity factor (the real world emissions/Euro standard emissions) is taken into account in procurement or as an emissions criteria, this would be a major incentive to manufacturers to meet and go beyond the Euro standards in under real world conditions. A minimum conformity factor is mandated once Euro 6c and 6d come into force, however the actual conformity factor could still be used to differentiate between acceptable, good and excellent vehicles. This could be included in any schemes which use emission factors as criteria, and in the car labelling scheme.

7. How could the Government further support innovative technological solutions and localised measures to improve air quality?

Vehicle Standards and Conformity Factors

Government must push for stringent emission controls and enforcement. If a CAZ (or procurement policy, etc.) is to be effective, the emission criteria must be sufficiently stringent to deliver real improvements. This can be based on Euro 6 for heavy duty vehicles. However, the difference between Euro standards, especially pre-Euro 6 for heavy duty vehicles and all diesel cars and vans, and their real world emissions must be taken into account.

We would welcome use of robust real world emission data for cars and vans. At present this is not available from the government, but is available in the private sector, e.g. from the EQUA index⁷. The EQUA index provides free real-world emissions testing data of diesel cars and vans, using regulatory grade PEMS, over a 4 hour road cycle. Some 1400 vehicles have been examined since 2011 (90% of car models, by sales). Real world emission factors for Euro 6 cars are on average five to seven times the legal limit, with some much higher (up to a factor of 22 times the Euro 6 emission standard). However, the cleanest 5% of diesel models are as clean as petrol vehicles.

If a vehicle's conformity factor (the real world emissions/Euro standard emissions) is taken into account in procurement or as an emissions criteria, this would be a major incentive to manufacturers to meet and go beyond the Euro standards in under real world conditions.

The EQUA index could be of use in both emissions criteria for CAZ, and other direct measures, and also through procurement policies, including the central government procurement policy which is due to be updated this year.

We would urge the government to strongly enforce the delivery of Euro 6 Real Driving Emission (RDE) standards, once these are applicable.

⁷ www.equaindex.com

Exploring new technologies

Government must take the lead on actions which are best addressed at a national level. For example, how can local authorities, acting either separately or together, be expected to “explore new technologies, retrofitting existing vehicles, alternative fuels, low emission vehicles etc.”. New vehicles, in particular, are produced by huge multinational corporations, responding to standards set by international bodies, e.g. the EU. Local authorities have no power to influence these decisions, but national government do. Likewise assessment of retrofitted technologies is best done through a national accreditation system, not at a local level.

There is clearly a role for local authorities, in developing local infrastructure, through land use policies, engaging with local businesses and influencing communities. But this must be as part of a wider strategy led at a national level, and in partnership with national government and government agencies.

Other measures which are better led at a national level include initiatives which need a wide strategic approach, for example, infrastructure for alternative fuels; and providing targeted funding for research and development (especially in light of the potential loss of EU funding). Funding could also be made available for smaller companies to develop solutions; we support the idea of a national Government supported air quality prize for innovation.

8. Do you have any other comments on the draft UK Air Quality Plan for tackling nitrogen dioxide?

Technical Issues

Regarding the modelling, there are several areas for criticism and comments.

- Firstly the final model has not yet run. This seems incredible given the size of the health problem and also the scale of the societal investment that we are being consulted on. UK wide-modelling clearly needs review to ensure that policy makers have usable tool for scenario analysis.
- The scope of the model is also insufficient given that it misses out local authority controlled roads. The insufficient coverage doesn't negate the findings on the need for action but many NO₂ hotspots are not reflected in national modelling and they risk being over looked and ignored. There should be mechanism for local assessments to be included in the national plan.
- Regarding the conformity factors, the updated COPERT emission factors used here appear much more realistic than those in the previous plan, however, there is no information or sensitivity testing on primary NO₂ emissions which is critical for roadside NO₂ prediction.
- We were very pleased to see some of the stratification by social-economic status and the level of data used in the Fleet Adjustment Model.

In terms of the assessment of measures, we have the following points.

- It is unclear why motorway speed limits would take so long to implement when these can be installed very rapidly when there are roadworks for instance.
- The assessed impact of the scrappage scheme is small but does this reflect the size of the scheme, and if so, what is the potential impact of a larger scheme?
- The multi-criteria analysis places "driving down shorter journeys" in the top three measures but this is not fully explored in the technical appraisal.
- Greater priority should be given to active travel because of co-benefits in tackling climate change and urban noise along with those that come from increased exercise in the population.

Please do not hesitate to contact us if you would any further information on any of these points. We would be very happy to discuss this further.

Yours sincerely

A handwritten signature in black ink, appearing to read "Sarah Legge". The signature is written in a cursive style with a long, sweeping underline.

Sarah Legge
Chair of the Air Quality Committee

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