

Title: Review of Local Air Quality Management (LAQM) Lead department or agency: Defra Other departments or agencies: N/A	Impact Assessment (IA)
	Date: November 2015
	Stage: Consultation stage
	Source of intervention: Domestic
	Type of measure: Secondary legislation
	Contact for enquiries: LAQMReview@defra.gsi.gov.uk
Summary: Intervention and Options	RPC Opinion: N/A

Cost of Preferred (or more likely) Option			
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANCB 2014 prices; 2015 PV)	In scope of One- Measure In, Three-Out? as
£8.84m	0	0	NO N/A

What is the problem under consideration? Why is government intervention necessary?
 Since Local Air Quality Management (LAQM) was introduced, local authorities have been required to review and assess air quality within their geographical areas. The process is designed to identify any pollution exceedances and potential measure which could be used to reduce pollution. The need for government intervention is reflected at local level with LAs having declared a large number of areas where national pollution objectives have not been met. Given the significant human health and environmental impacts, there is a need to improve the management of the negative externalities associated with poor air quality. Independent assessment conducted by LAs has concluded that LAQM can be improved to ensure that local action is focused on what is necessary to support air quality improvements to benefit public health.

What are the policy objectives and the intended effects?
 The objective and intended effect is to transform local air quality management so that local authorities focus more on actions to improve current air quality problems and to achieve better public health and environmental outcomes. This entails, amongst other things, clarifying roles and responsibilities for action; aligning new public health outcomes by encouraging LAs to reduce PM_{2.5} concentrations, reducing reporting burdens and providing local authorities with access to evidence on best practice measures to improve air quality.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)
 The options considered are: **Option 0: Business As Usual; Option 1: Improve delivery of LAQM:** (i) remove obstacles to joint working by clarifying roles and responsibilities; (ii) streamline current reporting requirements to reduce the unnecessary burden on LAs and encourage them to focus on implementation of measures. Also introduce a fast-track option to speed up declaration of Air Quality Management Areas (AQMA); (iii) introduce a PM_{2.5} role in statutory guidance to enable LAs to put in place measures to reduce pollution; (iv) remove the reporting requirements of four pollutants; (v) revise current Defra guidance to introduce real-life examples of improvement measures and best practices. **Option 1** is the preferred option because public health benefits will arise from better action planning and quicker implementation of measures to improve air quality.

Will the policy be reviewed? It will not be reviewed. If applicable, set review date: Month/Year					
Does implementation go beyond minimum EU requirements?			No		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	Micro No	< 20 No	Small No	Medium No	Large No
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)			Traded: N/A		Non-traded: N/A

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible SELECT SIGNATORY: _____ Date: _____

Description: Improve delivery of LAQM

Price Base Year 2015	PV Base Year 2015	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: 5.4	High: 12.2	Best Estimate: 8.84

COSTS (£m)	Total (Constant Price)	Transition Years	Average (excl. Transition)	Annual (Constant)	Total (Present Value)	Cost
Low	N/A	N/A	0.69			5.9
High	N/A		0.93			8.0
Best Estimate	N/A		0.81			6.9

Description and scale of key monetised costs by ‘main affected groups’

We estimate that the additional cost of producing an Annual Status Report (ASR) will be around £2,000 per year per LA. As part of this report LAs will be required to indicate how they have chosen to address PM_{2.5} and how much progress has been made to reduce pollution. The cost will vary depending on local circumstances but the central estimate represents a scenario where screening assessment is needed but dispersion modelling isn't. There will also be a small one-off cost to Defra for creating a consistent template which is aimed to provide a simplified and more consistent way of reporting.

Other key non-monetised costs by ‘main affected groups’

Local Authorities may incur additional costs as they may take additional practical measures to reduce PM_{2.5} emissions. The impacts are non-monetised as it will be for LAs to decide how they wish to address PM_{2.5} (they are not obliged to take a particular approach) and the range of interventions that they could take is considerable. There will be a small one-off cost to local authorities from having to assimilate new guidance. However, the impact on costs is expected to be negligible.

BENEFITS (£m)	Total (Constant Price)	Transition Years	Average (excl. Transition)	Annual (Constant)	Total (Present Value)	Benefit
Low	N/A	N/A	1.56			13.4
High	N/A		2.11			18.1
Best Estimate	N/A		1.83			15.8

Description and scale of key monetised benefits by ‘main affected groups’

Streamlining reporting requirements will result in cost savings as less time and resources will be spent producing lengthy reports. We estimate that the present value benefit to LAs from no longer carrying out Updating and Screening Assessments; Detailed Assessments and Progress Reports will be around £9.75m; £1.56m; and £4.29m respectively. The benefit estimates also capture cost savings to Defra equal to £0.18m (over the whole appraisal period) as fewer documents will need to be appraised. The total present value benefit is therefore around £15.78m, corresponding to annual average benefit equal to £1.83m.

Other key non-monetised benefits by ‘main affected groups’

LAs will have simpler reporting requirements with less bureaucracy and more time to concentrate on actions to improve air quality and public health. The fast-track AQMA option will also enable quicker implementation of measures and, together with the new guidance on the four pollutants, will reduce the administrative burden placed on LAs. Non-monetised impacts also include benefits arising from improved service as a result of enhanced relationship between two tier local authorities and more clearly defined roles and responsibilities.

Key assumptions/sensitivities/risks

Discount rate (%) 3.5%

Assumptions around the cost of producing each report are based on feedback from LAs and have been tested during previous consultations. Sensitivities (+/- 15%) have been applied to illustrate uncertainty around our central estimates.

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:	In scope of Measure qualifies
Costs: 0	No
Benefits: 0	N/A
Net: 0	

Executive Summary

Air Pollution is an environmental externality that can have a significant impact on human health and wellbeing. The LAQM system has been in place for over a decade and was introduced to require local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where exceedances are considered likely, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives. Whilst it has been very good at diagnosing air pollution more is needed to help LAs focus on actions that can be taken on the ground to tackle air quality problems and address the public health impacts. This impact assessment explores a baseline option of do nothing and a further, preferred option which consists of the following elements:

- i) **Clarifying roles and responsibilities:** We have updated policy guidance to make it clearer what obligations reside with local authorities in relation to LAQM.
- ii) **Streamlining of reporting requirements:** We have developed a new Annual Status Report template to replace the current reporting requirements, including Updating and Screening Assessment; Detailed Assessment; and Progress Report. The Government is introducing an Air Quality Action Plan template, which it recommends that local authorities make use of as a means to reduce administrative burdens and to ensure greater consistency in the type and level of information provided. A Fast-Track option for declaring new AQMA is also introduced as a means to further reduce current LAQM reporting burdens and enable action to be taken more quickly.
- iii) **LAs to work towards reducing PM_{2.5} concentrations:** Alongside LA measures to tackle other pollutants, LAs should consider what action is necessary to address PM_{2.5} issues in their area. The key function of the PM_{2.5} role is to improve public health through collaboration between air quality specialists and Directors of Public Health, and between upper and lower tier authorities.
- iv) **Removing reporting requirements on four pollutants (Benzene, 1,3-butadiene, Carbon Monoxide, and Lead):** Guidance has been updated to indicate that, unless local circumstances change, national monitoring of these pollutants will be considered sufficient review and assessment of these pollutants.
- v) **Revision of policy and technical guidance:** Guidance has been reviewed in line with smarter guidance principles and to reflect latest evidence and good practice.

The costs and benefits of the proposed changes are summarised in the table 1 below. Streamlining of the LA reporting processes will simplify the regulatory landscape and lead to Present Value cost savings in the order of £15.6m. Additional costs savings of £0.18m would be incurred by Defra as fewer documents would need to be appraised. However the cost to LAs from having to produce annual reports has been estimated at around £6.9m over the appraisal period.

Table 1: Summary table of PV cost and benefit to LAs and Defra, appraised over 10 years.

£m, 2015	Costs	Benefits
Central	6.9	15.8
Low	5.9	13.4
High	8.0	18.1

Non-monetised benefits are expected to arise as public health outcomes would be improved through quicker implementation of air quality action plan measures and greater focus on problematic pollutants.

Evidence Base

1. Introduction

This impact assessment accompanies the final consultation on Local Air Quality Management (LAQM) in England and sets out proposed changes to the statutory guidance and reporting systems for LAQM. This impact assessment is therefore also the third of a series of three^{1,2}

The Government introduced Local Air Quality Management in the Environment Act 1995. This required local authorities to periodically review and assess local air quality against national objectives and where it did not meet these objectives local authorities would declare an air quality management area and put in place measures to reduce pollution in pursuance of relevant national objectives.

The most significant pollutants of concern today are nitrogen dioxide (NO₂), particulate matter (PM) and ozone. Measures to reduce emissions of NO₂ and PM have been agreed at EU level especially with respect to industrial sources and transport sources. At national level the UK Government has implemented measures to incentivise reductions in emissions through, for example, promoting ultra-low emission vehicles (such as hybrid and electric cars) or promoting the uptake of newer vehicles that have higher emission standards (or Euro standards). We are also consulting on Draft Air Quality Plans which set out the action taken, being implemented and planned at local, regional and national levels to meet the annual and hourly EU NO₂ limit values in the shortest possible time³.

The overall business need for reviewing LAQM is to enhance the current system so that it is streamlined and local action is focused on what is necessary to support air quality improvement to benefit public health and to work towards national and EU air quality standards. Defra has conducted two public consultations since 2013 on the review of LAQM. This impact assessment reflects feedback from both consultations and this third consultation is the final one. It draws together views received from earlier consultations and updates detailed statutory policy and technical guidance.

2. Problem under consideration

Whilst there have been significant improvements in air quality over many decades poor air quality continues to impact upon public health and the environment, acting as an externality resulting in far more pollution than is socially desirable. The evidence associating NO₂ with health effects has strengthened substantially in recent years as noted by the Committee on the Medical Effects of Air Pollutants (COMEAP)⁴. It is estimated that the effects of NO₂ on mortality are equivalent to 23,500 deaths annually in the UK⁵. Many of the sources of NO_x (NO₂ and NO) are also sources of particulate matter (PM). The impact of exposure to particulate matter pollution (PM_{2.5}) is estimated to have an effect on mortality equivalent to nearly 29,000 deaths in the UK⁶. The combined impact of these two pollutants represents a significant public health challenge.

¹ https://consult.defra.gov.uk/communications/laqm-review-next-steps/supporting_documents/LAQM%20Impact%20Assessment_final.pdf

² https://consult.defra.gov.uk/communications/https-consult-defra-gov-uk-laqm_review/supporting_documents/Impact%20Assessment%20.pdf

³ Draft Air Quality Plans (2015), <https://consult.defra.gov.uk/airquality/draft-aq-plans>

⁴ Statement on the evidence for the effects of nitrogen oxide on health (March 2015), <https://www.gov.uk/government/publications/nitrogen-dioxide-health-effects-of-exposure>

⁵ Defra analysis using interim recommendations from COMEAP's working group on NO₂. The working group made an interim recommendation for a coefficient to reflect the relationship between mortality and NO₂ concentrations (per µg/m³). COMEAP has not yet made any estimates of the effects of NO₂ on mortality. Any analysis will be subject to change following further analysis by the working group and consultation with the full committee.

⁶ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/304641/COMEAP_mortality_effects_of_long_term_exposure.pdf

Despite measures to improve air quality, the UK, like many other Member States, is having problems meeting EU Air Quality standards. One of the main reasons for not meeting EU limits is that the introduction of increasingly strict standards for NO_x emissions from diesel light duty vehicles has not delivered the expected emission reductions in real world use. Diesel light duty vehicles have emitted more in practice than under test conditions. This disparity has meant the expected reductions from the introduction of stricter Euro emission standards have not materialised. In 2013, 38 out of the 43 UK zones were assessed to be exceeding the maximum annual limit⁷ for NO₂, together with one zone exceeding the hourly limit.

At present we face significant challenges and are facing infringement in relation to nitrogen dioxide and continue to experience health impacts from particulate matter pollution. This is despite significant reductions achieved from national measures to reduce transport emissions and emissions from other sources.

The challenge in meeting EU air quality limits is reflected at local level with local authorities having declared a large number of local air quality management areas where national objectives, especially for NO₂, have not been met almost entirely as a result of road transport pollution. Past reviews of local air quality management have concluded that local authorities are very effective at diagnosing air quality hot spots but have been less effective at implementing measures to improve air quality. Given the health impacts linked to air pollution and the scale of challenge we face in meeting EU pollution limits, it is important that resources are focused on taking actions to improve air quality and reduce the public health impacts of poor air quality.

The UK recently launched a consultation on its NO₂ Plans⁸ to demonstrate how it can meet the EU air quality standards within the shortest time possible. Local authorities have a central role in achieving improvements in air quality. Their local knowledge and interaction with the communities that they serve mean that they are better able to identify the issues on the ground in detail and the solutions that may be necessary or appropriate. Within the UK, there are over 400 local authorities, including 33 London Boroughs. As zones and agglomerations move closer towards and into compliance, the problem areas are likely to become more isolated and local action will be key to addressing them.

The Environment Act 1995 and the National Air Quality Strategy (2007) require Local Authorities to periodically assess a number of pollutants. Some of these, such as NO₂ and PM₁₀ form part of ongoing EU requirements and there are currently over 700 Air Quality Management Areas (AQMAs) across the UK (nearly 600 of which are in England) established to deal with these pollutants.

The World Health Organisation has indicated that there is no recognised safe level for exposure to PM_{2.5} as its fine particles can penetrate deep into the human respiratory system. Local public health authorities have a Public Health Outcome Indicator for air quality and public health based on the impact of particulate matter (PM_{2.5}) on mortality, enabling Local Directors of Public Health to prioritise action on air quality in their local area to help reduce the health burden from this air pollution. The National Air Quality Strategy 2007 requires national Government to take action in relation to PM_{2.5}, based on EU targets, but not Local Authorities. In view of the public health risk, there was clear support in the last consultation for there to be a role for Local Authorities in addressing PM_{2.5}.

Consultation responses in 2013 implied that differences in responsibilities between different tiers of authorities can mean that environmental health officers, who are responsible for air quality, are reliant on other agencies and authorities to take appropriate action, especially in relation to transport matters. This has been raised as a particular issue in two-tier authorities. This has meant that

⁷In 2013 7 of these zones which exceeded the 40 µg/m³ had a valid time extension. The UK has been granted a time extension for compliance with the NO₂ annual mean limit values in 12 zones and agglomerations. Where a time extension applies the UK is required to provide the Commission with data indicating that the annual mean NO₂ concentrations in these zones have remained below the annual limit value plus the maximum margin of tolerance of 60 µg/m³.

⁸ Consultation on draft plans to improve air quality (2015), Department for Environment, Food and Rural Affairs (Defra)

delivering improvements is made more challenging and the relevant powers available are not used to best effect. Discussions with local authorities and their representatives have highlighted the challenges of working together effectively to improve air quality. Unitary Authorities can experience this split internally, with air quality practitioners and transport and planning departments often appearing to work against each other's interests because of different priorities or poor communications.

Defra has provided guidance and tools to support local authorities so that they are able to produce detailed and comprehensive reports on local air quality. However consultation responses implied that the guidance and tools currently available are located within a range of different documents or websites of government departments and other organisations, and this makes them difficult to find and maintain. Local authorities would also like to see more examples of the implementation of air quality improvement measures that explain how the measures were established and provide information as to how successful they have been in terms of reducing emissions or improving ambient air quality.

3. Rationale for intervention

There is a need for government intervention at local level as national pollution objectives have not been met by local authorities in a large number of areas. There is an overarching market failure resulting from the presence of negative environmental externality associated with air quality with a significant impact on health and well-being. Given that there is a generally good understanding of local air quality, the existing reporting requirements divert resources away from LAs that could be spent on mitigation measures and taking more strategic action to improve air quality and to work towards compliance with national and EU obligations.

There are significant health benefits to be gained from achieving national and EU obligations and also valuable local environmental and amenity benefits from having better air quality in our towns and cities. There is therefore a need to reinvigorate and refocus local air quality management; to clarify its role alongside other actions to improve air quality; and to highlight what local authorities can do through working together to improve air quality.

We want to ensure that people work strategically and that those with a key role to improve air quality understand their responsibilities and take appropriate action with others to reduce pollution. This would encourage local authorities to pool expertise and resources to deliver effective local area based strategies to improve air quality rather than focus on hot spots only.

4. Policy objective

The objective of this consultation is to develop options for improving LAQM delivery whereby:

- Local action is focused on what is necessary to support air quality improvements to benefit public health, local air quality and support EU air quality obligations, where practical.
- Local government and other stakeholders are clear on their roles and responsibilities and work together to improve air quality.
- Local authorities have simple reporting requirements with less bureaucracy and more time and resources to concentrate on actions to improve air quality and public health.
- Local authorities have access to information about evidence based measures to improve air quality including on transport and communications.

5. Outcomes of the 2014 consultation

The Government responses to the 2014 consultation are available online at <https://consult.defra.gov.uk/communications/laqm-review-next-steps>

The main change is that we have amended the approach to removing the requirement on local authorities to reporting on benzene, 1,3-butadiene, lead and carbon monoxide by implementing the change through amendments to guidance rather than regulations. This is on the basis that national monitoring is considered sufficient for review and assessment purposes for these pollutants as there have been no issues with them for several years. Retaining the objectives in regulation, however, gives greater flexibility for individual local authorities to report on these if levels begin to rise or local circumstances change. Whilst for most local authorities the four pollutants proposed for removal are not a burden in terms of monitoring and reporting (hence no cost savings are estimated) their removal is a signal that LAs need to focus more of their resources on reducing key pollutants such as NO₂ and PM.

In addition we have given local authorities the opportunity to move to declaring AQMAs more quickly than is currently the case and have provided a template for Action Plan reporting, to reduce administrative burdens and ensure greater consistency of information on measures. The latter is consistent with the approach being taken by London in its review of Local Air Quality Management and builds on views to the consultation that local authorities would like to understand what successful actions other local authorities are taking more easily by enabling comparisons to be made more easily.

The impact assessment accompanying the second consultation contained a high sensitivity scenario showing reductions in costs relating to local authority monitoring. This was a hypothetical scenario intended to capture a possible outcome whereby LAs would decide to reduce the monitoring due to streamlining of reporting. As decisions on monitoring and levels of monitoring are for local authorities, this is simply a possible outcome and not a proposal for reduced monitoring. The responses to the consultation indicating that such a scenario is unlikely has been fed into the development of this impact assessment to accompany the statutory policy and technical guidance consultation.

6. Description of options considered

Option 0 – Business as usual (BAU)

Business As Usual (BAU) is included in this Impact Assessment, against which the preferred option is compared. Under this option the only direct streamlining of reporting will be the removal of Further Assessments as set out in the Deregulation Act 2015⁹. We will also make some minor improvements to technical guidance and air quality support tools over 2015 and beyond as specific needs arise. In essence, though, the BAU option means that the LAQM problems will remain.

Option 1 – Improve delivery of LAQM

The overarching aim of this option is to enhance the current Local Air Quality Management system so that it is better focused on delivering actions to improve air quality and as a result ensure that measures focus on what is necessary to deliver health benefits and national and EU obligations. Responses collected at both the 2013 and 2014 consultation stage have helped us refine our proposals.

Option 1 is a combination of the following: (i) clarifying roles and responsibilities; (ii) streamlining reporting requirements; (iii) introducing a PM_{2.5} role in statutory guidance; (iv) removing the requirement to report on four pollutants (benzene, 1,3-butadiene, lead and carbon monoxide) and (v) revision of official guidance. The costs and benefits have been explored in section 7 below and the preferred option is to implement all of them.

⁹ Removal of duty to conduct further air quality assessment, Deregulation Act 2015:
<http://www.legislation.gov.uk/ukpga/2015/20/schedule/13/part/4/enacted>

(i) Clarifying roles and responsibilities

Throughout all stages of the LAQM review process, and before that, many stakeholders raised concerns about poor engagement and joint working between the various local authority departments that can have an impact on air quality. This problem was particularly acute in two-tier authorities (County and District) where the lower tier had responsibility for air quality but the upper tier had control over many of the aspects responsible for poor air quality, notably transport.

Government has updated its Policy guidance to make it clear that both county and district councils have obligations under Part IV of the Environment Act 1995, for example, in the joint development (and ownership) of Air Quality Action Plans.

Key function of clarified roles and responsibilities:

- To improve accountability and responsibility on all local authority departments that can impact on air quality - thus delivering improvements to local health and wellbeing.
- To ensure that all relevant local authority departments work together to address air quality in their local area.

(ii) Streamlining of reporting requirements

Annual Status Report (ASR)

Government is introducing an ASR for England, which includes a public facing executive summary. Local Authorities will be expected to complete all sections of the ASR including the public facing component for each calendar year from 2016 onwards. The current reporting cycle starts April 30 which is the completion date for submitting standard reports; we will aim to start the new system at the same time. In its first year we will invite feedback from air quality practitioners as to how well it is working.

Key functions of the ASR:

- To provide for a public-facing summary of the local air quality situation and main measures being taken
- To highlight progress on actions being taken by local authorities
- To form the technical supporting component of the annual report – including information on monitoring/modelling/assessment of the main pollutants NO₂, PM₁₀ and SO
- To provide for detailed or extra analysis where this has taken place, including information on AQMAs, updates on Action Plan measures and links with transport, planning and public health
- To facilitate reporting on the new PM_{2.5} role
- To permit identification of “hot spots” and new AQMAs

In the last consultation most local authority respondents agreed that moving to single annual report would be much simpler than the existing reporting system, which was repetitive, caused unnecessary delays and did not focus on actions necessary to achieve objectives. A number of stakeholders, however, cautioned that in streamlining care should be taken not to lose the need for robust information to enable the identification of exceedances and local hotspots.

Air Quality Action Plan Template

Separate AQAPs are still required under the new streamlined system. Currently, there is no single format for an AQAP and this has resulted in documents of different lengths, formats and degrees of information. The new Guidance we are consulting on is introducing a voluntary template for AQAPs which should help reduce burdens and provide consistency in the way actions and measures are inputted and described. Such an approach should help make read-across from local actions in one authority to actions in another much more transparent. The measure description within the plans should be, as far as possible, consistent with those submitted to the EU for compliance reporting

purposes, making it much easier for local authorities and the public to see how actions at the local level are contributing towards and improving not only local but national air quality

Fast-Track Air Quality Management Areas (AQMAs)

Local authorities now have a much better understanding of air quality in their areas than they did when LAQM was first launched in 1997. Despite this the process for declaring an AQMA has remained report-heavy, requiring, in the past, preparation of a Detailed Assessment over 12 months, leading to provisional declaration of an AQMA, followed by a Further Assessment 12 months later verifying the conclusions of the Detailed Assessment – all before developing an Air Quality Action Plan (AQAP). The streamlining process will inevitably speed up declaration of future AQMAs but there is scope to improve the process even more without sacrificing sufficient rigour of information. Through revisions to Policy Guidance, Government is encouraging local authorities to move immediately to declaring an AQMA where normal annual monitoring and local intelligence shows a persistent exceedance (or risk of exceedance) of a pollutant objective. Authorities still have the flexibility to carry out additional assessments in parallel with establishing an AQMA, but with the focus on doing this to help develop effective and proportionate AQAP. The authority should only carry out additional assessments before moving to establish an AQMA if they have reasonable doubt about the validity of the information/data obtained. The decision process for establishing an AQMA should be covered briefly in the ASR.

The possibility of allowing for fast-track AQMAs as well as developing a standard template for Air Quality Action Plans (AQAPs) was not covered in the 2014 consultation, but we recognise the potential in both measures for further reducing current LAQM reporting burdens and enabling action to be taken more quickly.

(iii) Local Authorities have a role to work towards reducing concentrations of PM_{2.5} (in statutory guidance)

Government has introduced a role in statutory guidance for local authorities to work towards reductions in PM_{2.5}. In fulfilling this role local authorities will be able to make use of national monitoring and modelling but may choose also to carry out their own local assessment. Local authorities are free to determine their chosen approach based on local circumstances and priorities but must describe how they are tackling PM_{2.5} in their ASR. Guidance has been expanded to provide a standardised list of possible measures to reduce emissions of PM_{2.5} from local sources and their expected impacts and benefits.

Public Health England has published estimates of mortality burdens attributable to particulate air pollution (as PM_{2.5}) in local authority areas in ‘Estimating Local Mortality Burdens Associated with Particulate Air Pollution’¹⁰ and publishes estimates of the fraction of mortality attributable to particulate pollution as one of the indicators in the Public Health Outcomes Framework for England¹¹.

Key function of a PM_{2.5} role:

- To improve collaboration between air quality specialists and Directors of Public Health, and between upper and lower tier authorities
- To remove any ambiguity as to the need to address PM_{2.5} as both an air quality and public health issue.

¹⁰ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/332854/PHE_CRCE_010.pdf

¹¹ <http://www.phoutcomes.info/public-health-outcomes-framework#gid/1000043>

(iv) Removing the requirement to report on four pollutants (benzene, 1-3 butadiene, lead and carbon monoxide)

In the previous consultation it was our intention to amend the Air Quality (England) Regulations 2000 (2002, as amended), in order to remove four redundant pollutant objectives for reporting purposes – these were: benzene, 1,3-butadiene, carbon monoxide and lead. In light of the response received to that consultation Government has determined that changes to LAQM Guidance, rather than Regulations, are sufficient to achieve the desired objective. The revised Guidance for consultation makes clear that Government does not expect local authorities to report annually on these four pollutants as objectives for these have been met for several years and are well below limit values. This is on the basis that we accept that (in the absence of any particular concerns in a local area that may drive further investigation at a local level) national monitoring and modelling is currently providing a sufficient basis for the review of these emissions under LAQM. Local Authorities are therefore expected to report only on NO₂, PM and SO₂ within their ASRs as explained in chapter two of the revised LAQM Policy Guidance. However should local circumstances change, this approach gives the flexibility for local authorities to choose to report on one or all of the four pollutants should they choose to.

(v) Revision of official guidance

The guidance has been updated as follows:

- Updated changes in wider Government policies that affect air quality;
- Taken on board the principles of smarter guidance to make the document easier to understand and follow;
- Added a matrix of measures with a RAG status to help local authorities prioritise which measures to take and understand the cost-benefits;
- Updated to reflect other changes in this consultation: streamlined reporting; PM_{2.5} role; clarified roles and responsibilities

7. Monetised and non-monetised costs and benefits under option 1

The section below outlines the costs and benefits to Local Authorities and Defra for each element considered under option 1. Impacts are assessed over a 10-year appraisal period and all underlying assumptions are outlined in section 8 below.

(i) Clarifying roles and responsibilities

The policy guidance recognises the benefits from close working and cooperation across departments within local authorities and between local authorities who may share similar issues. Clarifying roles and responsibilities may change the way that local authorities operate with respect to air quality. Where this occurs it is possible that the enhanced relationships will give rise to non-monetised benefits arising from improved service and responsiveness to issues. There could be costs associated with this however these have not been monetised because it is up to LAs to decide if and how they react.

(ii) Streamlining roles and responsibilities

Annual Status Report (ASR)

Removing the requirements to prepare multiple reports would result in less time being spent by officers in producing them. The overall reduction in LAs admin burden is estimated to be between 30-40%, with a high end range of 60%. The cost to Defra would also be reduced as fewer documents would need to be appraised.. The estimates presented in table 1 below capture lower labour costs and consultancy spent for 310 LAs. As the general size of the ASR will be significantly lower compared to the combined size of all individual report, officers will need less time to complete them and will subsequently free up resources to focus on action implementation.

The cost of producing a single ASR depends on local circumstances and may vary depending on the complexity of the report and whether screening assessments and dispersion modelling is required. For the purpose of this impact assessment, we estimated that the central cost of producing a single Annual Status Report is around £2,000 per year, assuming that screening assessment is required but dispersion modelling isn't. However in cases where there haven't been any changes to local emissions sources, the cost could be as low as £1,000 pa because screening assessment would not be necessary. Dispersion modelling would be required where a LA previously had to deal with a Detailed Assessment (DA). The additional cost could be between £2,000 - £6,000 depending on the complexity of the modelling and extent of the model domain.

There is also a small one-off cost to Defra for producing a new ASR template. However it is anticipated that the new version will be simplified and more accessible to members of the public. Time savings would be realised due to the clearer and more consistent reporting process and the elimination of repetitive text. Costs and cost savings for Local Authorities and Defra are set out in Table 1 below. Further explanation of assumptions and how the figures were derived is provided in Table 3 (section 8).

Table 2: Costs and cost savings to Local Authorities and Defra (negative values imply costs)

£m, 2015 prices (2015 PV base year)		Annual cost savings (undiscounted)	PV cost saving
Local Authority	Updating and Screening Assessment (USA)	1.133	9.75
Local Authority	Progress Report (PR)	0.498	4.29
Local Authority	Detailed Assessment (DA)	0.181	1.56
Local Authority	Annual Status Report (ASR)	- 0.806	- 6.94
Defra	Report appraisal	0.021	0.18
	Net Benefit	1.027	8.84

The present value cost to LAs is estimated at £6.94m, while the total benefit is equivalent to £15.78m over the whole appraisal period. Overall, the net present value is expected to be around £8.84m. The low and high scenarios presented on the front pages capture a set of possible outcomes. Given the uncertainty with collecting the analysis we have generally assumed +/-15% as sensitivity around the estimates. This reflects expert judgement on the level of uncertainty around the central cost and benefit estimates.

In addition, local authorities would no longer be required to carry out Further Assessments as set out in the Deregulation Act 2015. However, as this proposal has already been agreed and consulted on costs savings have been attributed to our baseline option.

Air Quality Action Plan (AQAP) template

Having a simple template will reduce the time spent in producing AQAP, resulting in reduced costs. We estimate a maximum of 10% reduction in LAs time/resources but it could be less as some information previously included within Further Assessments may need to be detailed in the AP report depending on local circumstances. Using a matrix of action, which sets out potential measures for different types of air quality issues, alongside the AQAP should help ensure less time is spent on evaluating measures before implementation. The standardisation afforded by using a template would make it easier to upload onto the Report Submission Website (RSW), thus providing for a central repository of Action Plans for the first time. The template would make it easier to scrutinise and audit progress against action plans.

The general view from the consultation suggested that the requirement to produce the reports would only be justified if the information they supplied translated into effective strategies to reduce pollution. However, previous experience has shown that doing numerous lengthy assessments before moving to implementation of action plans has provided limited benefits. By streamlining reporting requirements we would expect non-monetised benefits from greater focus on action planning and implementation of measures to improve air quality and health outcomes.

Fast-Track - Air Quality Management Areas (AQMAs)

A fast-track option will speed up progress towards compliance by developing measures to remediate the exceedance(s) more quickly. This is based on greater knowledge of local air quality that has been developed over the many years of LAQM. We would expect authorities to consult on Action Plans within 12 months following declaration of the AQMA. Fewer costs will be spent on monitoring and evaluation to identify the parameters of the AQMA (under the current system, an AQMA is only declared after approx. 12 months' worth of subsequent data gathering, thus delaying development and implementation of Action Plan measures). We recognise that additional information may need to be gathered in parallel to the declaration but this would be focused on identifying measures for the Action Plan. Local Authorities can also still gather further evidence in advance of declaration of an AQMA where they think there is sufficient doubt surrounding an exceedance.

The overall time spent on monitoring/evaluation will be shortened, saving costs/ resources. The shift in emphasis towards identifying sources and measures for use in the Action Plan will speed up compliance with National and EU limit values/objectives and therefore benefits for public health.

(iii) Local Authorities have a role to work towards reducing concentrations of PM_{2.5} (in statutory guidance)

While improvements to air quality and the resulting public health outcomes are policy objectives, local authorities will have the freedom to decide how they tackle the problem. Having this flexibility around what measures are put in place will result in differences in how each LA reduces pollution (in line with different local conditions and local costs/benefits). Therefore the impact of such behavioural change on air quality has not been estimated at this stage and is non-monetised.

Many of the actions that LAs can take to address PM_{2.5} are also those that can be used to address PM₁₀ and other AQ issues, therefore while it is not possible to monetise the air quality impacts of this proposal in relation to PM_{2.5} specifically, it should lead to air quality benefits and strengthen the overall case for taking action to address local air quality.

While it is difficult to quantify the impact that any action that LAs might take to address PM_{2.5} will have on health, the impact assessment for the Public Health Outcomes Framework indicates that part of the criterion for choosing any indicator, including the Air Pollution indicator, were that improvements in the measure would lead to improvements in health related quality of life, help reduce inequalities in health and help lead to improvements in healthy life expectancy. It is expected that LAs will conduct assessments of the impact of any measures they are considering implementing, considering both the possible costs and benefits, and that only measures that have a clear benefit would be implemented.

Not only is it uncertain whether incorporating PM_{2.5} would lead to any additional action by LAs, it is also uncertain what actions they would decide to take. There are a wide variety of actions that can improve concentrations of PM_{2.5} and these will have very different potential costs and benefits. Some examples of actions include greater emphasis on promoting sustainable transport by investing more heavily in options that would reduce the number of car journeys and increase other alternatives, such as cycling and walking. Reductions in pollution could also be achieved by focusing on air quality forecasting and warning systems to inform the public and improve their awareness of air quality issues and less polluting means of travel. The UK government provides grants to LAs to implement these measures and individual departments, such as DfT have

conducted further studies which provide more information on best practices. Box 1 below sets out an example of one possible measure that Local Authorities could take and its potential benefits.

Box 1: Increased uptake of cleaner buses

Although buses have achieved improvements with respect to emissions, they still continue to account for a high proportion of NO_x emissions. There is significant scope to improve air quality by increasing the uptake of cleaner vehicles. One way to reduce pollution and improve human health would be to retrofit diesel engine buses to meet higher Euro standards. Fitting a Selective Catalytic Reduction (SCR) system to the exhaust of a single bus costs £15k. Assuming that approximately 10 buses are needed to operate a hypothetical bus route, we estimated a total expenditure of £150k. Despite the initial cost, retrofit programmes can lead to significant improvements in emissions. The table below shows the current bus emission factors sourced from the National Atmospheric Emissions Inventory (NAEI). Note that emissions on the road may differ from these standards as previous experience has shown that vehicles emit more in practice than under test conditions.

Table 3: NO_x Emission Factors from buses (g/km) based on 15-18 tonne vehicles.

Euro Standard	Average speed for all vehicle types		
	10kph	30kph	50kph
Euro V (SCR)	13.73	6.08	2.80
Euro IV	9.48	5.45	4.18
Euro III	18.75	8.43	6.04
Euro II	17.80	9.99	7.83
Euro I	16.19	9.29	7.39

A hypothetical 10km bus route operating on regular basis (150 journeys per day) would result in a total distance travelled of 547,500km per year. The table above shows that retrofitting a Euro III bus would decrease NO_x levels by 2.34g/km (based on an average speed of 30kph). Following from this information we estimated a total emission reduction of 1.28tonnes per year. Assuming that a bus outside of London has a residual life of 5 year gives a total health benefit of around £173k over the whole appraisal period.

It can be inferred from the table that measures which increase bus speed in urban areas can reduce emissions relatively more. In order to maximise the benefits, LAs could combine the above measure with additional traffic management measures. Building intelligent transport systems by providing real time information on traffic and parking availability could alleviate the pressure on busy roads and improve air quality. Noticeable economic benefits would be delivered through reduced journey times and managed traffic flows.

(iv) Removing the requirement to report on four pollutants (benzene, 1,3-butadiene, lead and carbon monoxide)

In theory removal of the four pollutants will result in costs savings because LAs will no longer be expected to send officer out to put up monitoring tubes each month. However, in practise, many LAs already minimise their direct costs and avoid spending their limited resources on assessing and reporting on pollutants for which there are no problems. In light of consultation responses, we expect savings to be negligible since only one LA specifically indicated unquantified staff time saved dedicated to these pollutants. However removal of redundant pollutants will signal that LAs need to focus their scarce resources on priority pollutants that are showing exceedances (NO₂ and PM₁₀). There are therefore likely to be some non-monetised benefits from clarifying the pollutants of concern and removing the ambiguity of having objectives related to pollutants that are no longer a concern.

(v) Revision of official guidance

There have been some one-off and ongoing costs to Defra from having to revise guidance and consult on it but these are considered to be negligible. There would be some one-off and ongoing costs to local authorities from having to assimilate new guidance. It is not proportionate to monetise the impacts as none of these obligations are new and changes are expected to result in minor impacts. Further, it has not been possible to monetise the costs and benefits due to the lack of certainty and firm quantitative data.

8. Risks and Assumptions

Risks

The proposals in this IA are only intended to encourage greater focus on reducing air pollution and LAs will have flexibility to decide what measures, if any, are implemented. One key uncertainty is around the extent to which Local Authorities will use resource savings to work on taking action to improve air quality, rather than using the financial savings for other purposes. Additional risks include:

- Greater costs might be incurred by Defra from having to take more significant national action to improve air quality should local authorities no longer prioritise this issue.

Assumptions

For the purpose of this impact assessment, it was necessary to make a number of assumptions. Reporting costs are based on expert knowledge within Defra and survey feedback provided by a different range of LAs. Our estimates have been revised following consultation responses and more accurate information gathered from a wider range of sources, including the London LAQM impact assessment¹².

The proportion of LAs using consultants to prepare their LAQM reports was increased to reflect new data. We estimated that the proportion of USA, PRs and DAs contracted out is around 20%, 15%, and 100% respectively. These percentages will depend on the complexity of modelling carried out but it is expected that LAs will also need to review and analyse work produced by consultants, resulting in additional officer time. The consultancy cost per USA and PR were also revised down following feedback that our previous estimates were over-estimated.

We used the 2011 Annual Survey of Hours and Earnings to estimate Local Authority officials' salaries based on the mean-full time salary for comparable job titles. We established the baseline cost of LAQM associated with local authority officer's work by applying costs in a manner consistent with the Standard Cost Model. We apply the standard 30% uplift for non-wage costs.

Table 4: Consultancy and direct costs to Local Authorities (central scenario)

£k, 2015 prices	Type of report	USA	PR	DA	ASR
	Number of authorities	310	310	42	310
Direct costs to LAs (officer time)	Cost per report	2.701	1.153	1.252	2
	Total cost	1089	465	68	806
Consultancy costs	Cost per report	2.0	1.0	2.5	0
	Total cost	44.3	33.2	112.5	0
Total average annual undiscounted cost		1133	498	181	806

¹² Impact Assessment – New Bespoke System for London Local Air Quality Management, July 2015: <https://www.london.gov.uk/sites/default/files/Impact%20Assessment.pdf>

* Updating and Screening Assessments (USAs) are carried out every three years, with Progress Reports (PRs) in the remaining years.

The total cost savings to LAs from no longer having to carry out USAs; PRs; DAs are estimated at £1,812k per year, while the additional cost saving to Defra is expected to be around £21k pa. The total annual benefit is estimated at £1,833k per year and the cost is around £806k per annum. The net annual benefit is therefore expected to be approximately £1,027k (£1.027m as presented in table 1).

9. Direct costs and benefits to business calculations (following OITO methodology)

There are no direct costs or benefits to businesses as LAs will only implement voluntary measures. The impact is on LAs and Defra only. If reformed LAQM drives new policies or approaches, costs to business could be incurred, depending on what LAs choose to do. For example, they might choose to implement a measure which increases traffic flows and hence increases business delivery efficiency. However possible measures could also entail a compliance cost to business. We expect LAs to assess the impacts of actions and only implement the options where there is a clear case, taking into account possible impacts on business. The proposals in this IA do not require LAs to take additional actions, but are intended to encourage further action or improve actions that would otherwise have been taken. It will be up to LAs to decide what, if any, actions they take. As such any impacts on business occurring as a result of any LA action are considered second-round impacts, and consequently the impacts are out of scope of OITO.

10. Wider economic, social and environmental impacts

This is a consultation impact assessment and concerns policy which impacts on local authorities only. It is not expected to have any wider impacts upon business, competition or the economy. As indicated above there may be health benefits arising from better air quality but these benefits are not monetised. Measures to improve air quality can also benefit climate change and noise. It is therefore possible that increased action to improve air quality might lead to secondary benefits in these two areas. The preferred option is not expected to have environmental impacts beyond this.