

Committee	Dated:
Audit and Risk Management	06 11 2018
Subject: Deep Dive: CR21 Air Quality	Public
Report of: Director of Markets and Consumer Protection	For Information
Report author: Ruth Calderwood Air Quality Manager, Markets and Consumer Protection Dept.	

Summary

Like most of central London, the Square Mile suffers from poor air quality. Concentrations of nitrogen dioxide, a product of combustion, are unlikely to meet European Union (EU) health-based limit values until 2025 at the earliest. This is fifteen years after the original legal compliance date.

In February 2014 the European Commission began infraction proceedings against the United Kingdom (UK) for its failure to meet air quality limit values for nitrogen dioxide. In May 2018 the European Commission referred the UK to the European Court of Justice for its continued lack of action. It has been estimated that the fines for non-compliance with the limit values could be as much as £300 million per year.

The United Kingdom has voted to leave the EU, though at the time of writing this report the UK is still a member. Until a final agreement for leaving the Union is reached, it is unclear what will happen to enforcement action against the Government. For the purpose of this report, and in dealing with the City Corporation's risk in this area, it is assumed that the obligations will remain the same. This will be reviewed subject to further information.

The City Corporation currently has a statutory obligation to assist the Government to improve air quality. The Localism Act 2012 enables part of any fine levied by the European Commission to be passed down to local authorities, if it can be demonstrated that insufficient action has been taken by an individual authority. The widespread and sustained media coverage that air quality receives has led to a considerable increase in the expectation of robust action by responsible bodies.

A deep dive report was presented to this Committee in June 2016 outlining the measures being implemented to mitigate the risk of poor air quality. Since then significant action has been taken to improve air quality and raise awareness. Air quality has been embedded into the new Corporate Plan and other key strategies and policies. It now has very good cross departmental support. Extensive air quality monitoring across the City demonstrates that in most locations, air quality is improving. As a result, the risk rating has been downgraded from 'major' impact 'likely' likelihood to 'major' impact and 'possible' likelihood. This has changed the risk category from 'red' to 'amber'.

The City Corporation is more than fulfilling its statutory duties to improve air quality. Subject to Committee approval, the City Corporation will develop proposals, with London Councils, to provide adoptive powers for London local authorities to reduce emissions of pollutants in their area. A revised City of London Air Quality Strategy for 2019 will provide the framework for further action to be undertaken through to 2025. The impact of the actions will be measured using the extensive network of monitoring equipment already in place.

Improving air quality in the City is complex and, as such, involves officers working with a very wide range of external organisations. Air quality is now embedded across departments. It is essential that enough resources are made available so that the City Corporation can continue to deliver a wide-ranging programme of policies and action to ensure that air quality meets the health-based limits everywhere in the shortest possible time.

Recommendation

Members are asked to note the report.

Main Report

Background

1. Being located at the heart of London, the City experiences some of the highest levels of air pollution in the Country. Local air pollution is affected by emissions of pollutants both within the Square Mile and also beyond its boundary. It is also affected by the local topography and the weather. Currently, the main source of emissions of air pollutants in the Square Mile is diesel vehicles. As emissions from vehicles are being tackled, pollution from boilers, other combustion plant and construction activity is becoming more dominant. By 2020, the Greater London Authority has estimated that emissions from combustion plant will be significantly greater than that from road traffic in the Square Mile.
2. The impact of air pollution on health is both acute and chronic. Research into the health impacts is ongoing and it is being linked to a very wide range of diseases. Its main impact is on cardiovascular and cardiopulmonary disease, lung cancer and respiratory disease. It also affects lung development in children. Short term pollution episodes can lead to an increase in hospital admissions for vulnerable people. Exposure to current levels of air pollution in central London over the long term has been shown to reduce life expectancy across the whole population. A report commissioned by the Mayor of London puts the number of premature deaths from air pollution at over 9,000 per annum¹
3. EU Directives require Member States to measure air quality to ensure it meets health-based levels. These are known as limit values. If it does not, the Member

¹ Understanding the Health Impacts of Air Pollution in London, Kings College London, July 2015.
https://www.london.gov.uk/sites/default/files/HIAinLondon_KingsReport_14072015_final_0.pdf

State is required to take appropriate action to ensure that the air quality meets the limit values in a reasonable time period. Failure to do so could result in a fine.

4. Air quality in the UK meets the EU limits for all pollutants except nitrogen dioxide. In February 2014 the European Commission began infraction proceedings against the UK for its failure to meet air quality limit values for nitrogen dioxide. In May 2018 the European Commission referred the UK to the European Court of Justice for its continued lack of action. It has been estimated that the fines for non-compliance with the limit value could be as much as £300 million per year.
5. Until a final Brexit agreement is reached with the EU, much of what will happen to air quality limit values and enforcement following Brexit is unclear. The Government has however stated that, at present, it has no plans to change limit values and targets for air quality following Brexit. The Government's intention is that pursuant to the European Union (Withdrawal) Act 2018, law derived from the EU, including air quality legislation, would be converted into domestic law after Exit Day. Depending on the terms agreed of any future trading arrangements, the UK could then potentially amend air quality standards and review any deadlines for meeting them.
6. While the European Union (Withdrawal) Act 2018 will convert the current framework of air quality limit values, the role that EU institutions play in monitoring and enforcing these limits will be lost. There has been much debate over the loss of the role of EU institutions in monitoring and enforcing environmental law, including on air quality, and over the future of EU environmental principles. In response to concerns raised, the Government recently held a consultation on environmental principles and governance. It proposed the creation of a new statutory independent environmental watchdog to hold government to account on its environmental obligations; and options for establishing environmental principles in the UK. A draft Environmental Principles and Governance Bill is due to be published by the end of 2018. This will begin the legal process of putting this in place. The Bill is expected to provide the statutory basis for a number of specific air quality proposals which stem from the Government's draft Clean Air Strategy. The City Corporation provided comments on the draft strategy.
7. Fine particles (PM_{10} and $PM_{2.5}$) meet current EU limits, though they are higher than World Health Organisation Guidelines. It is considered that there is no safe level for $PM_{2.5}$ so Member States are required to reduce concentrations by 2020 relative to a 2010 baseline. In London concentrations must be reduced by 15% during this ten year period. The responsibility for this lies with national, not local, government. This is because it is classed as a 'regional pollutant' over which local authorities have very little control. Despite this, local authorities have a statutory obligation under the Health and Social Care Act 2012 to improve the public health of their population. One of the indicators used to assess performance is exposure of the population to $PM_{2.5}$ particle pollution
8. The main statutory obligation for local authorities in relation to air quality is detailed in the Environment Act 1995. In its local authority role, the City Corporation is required to act "in pursuit of the achievement" of air quality

standards. Ultimate responsibility for compliance with the limit values detailed in the Air Quality Directives lies with the government. However, if fines are levied on the UK for lack of action, the Localism Act 2012 enables part of the fine to be passed down to local authorities. This could take place if it can be demonstrated that they have not taken enough action 'in pursuit of the achievement' of air quality standards. The proportion of the fine would be decided by an independent advisory panel and the ultimate decision could be subject to judicial review by an aggrieved authority.

9. The opinion of the Comptroller and City Solicitor on this matter is that 'mere bare compliance with a statutory duty may not be sufficient (to avoid fines) if other steps could reasonably have been taken which were within the power of the (local) authority in question'. It is therefore essential that the City Corporation has robust plans and policies in place that go beyond its statutory obligation.
10. In addition to statutory obligations, of further relevance is that the parent of a London child, who died from acute respiratory failure and asthma, is fighting to open a new inquest into the child's death that will list air pollution as a causative factor on the death certificate. If this is successful, it will be the first time that air pollution has been explicitly linked to a named individual's death. This would have the potential to open the door for legal action against bodies deemed responsible.
11. Of additional importance is the wide spread and sustained media coverage that air quality receives. This has led to a greater understanding of the issues by the public, and a significant increase in the expectation of robust action by accountable bodies. This has had considerable impact on resources at the City Corporation which, to date has been covered by the existing departmental risk budget and external grant funding. However, going forward, additional budgetary provision will be required to meet the on-going increase in demand on officer time and ensure that all necessary action is taken to mitigate the City Corporation's risk in this area.

Current Position

12. Air quality monitoring currently takes place at over 100 locations across the Square Mile. The annual average limit value for nitrogen dioxide, which is set at $40\mu\text{g}/\text{m}^3$, is not being met in most areas of the City. However, levels have been falling over the past few years, particularly at 'background' locations (areas away from busy roads). As an example, the annual average concentration in the centre of the Barbican Estate is now $32\mu\text{g}/\text{m}^3$.
13. In 2017, the annual average level of nitrogen dioxide at Sir John Cass's Foundation Primary School was below the $40\mu\text{g}/\text{m}^3$ limit value for the first time since monitoring began in 2003. The City Corporation's long-term collaborative efforts to improve air quality at the school were recognised with a National Air Quality Award for the Best Local Authority Initiative 2018.
14. Unlike background locations, concentrations of nitrogen dioxide at busy roadsides remain high and can be over twice the limit value. Increased air quality monitoring has also revealed additional 'hot spot' areas not associated with

traffic. They are thought to be due to large combustion plant, particularly combined heat and power plant. The location of the Square Mile means that it is likely to be one of the last places in the United Kingdom to meet the limit values.

15. Air pollution is largely a central London problem and, therefore, the Mayor of London is introducing an Ultra-Low Emission Zone (ULEZ) in the existing Congestion Charge Zone from April 2019. Access will be restricted to the cleanest diesel and petrol vehicles. The Mayor of London intends to extend the boundary of the Ultra-Low Emission Zone to the north and south circular roads in 2021. This should lead to a measurable reduction in levels of air pollution at roadside in the City, but additional action will be required to ensure all areas meet the limit value for nitrogen dioxide in the shortest possible time.
16. As there is an option for vehicles to pay a daily charge to enter the ULEZ, rather than drive a vehicle that meets the required emission limits, the City Corporation is working closely with Transport for London to publicise the scheme and encourage drivers to move to cleaner vehicles. A local communications strategy for the ULEZ has been developed by officers and it is currently being implemented. To assist in risk mitigation, and to avoid reputational damage, it is important that the City's own fleet of vehicles meet the emission requirements of the ULEZ, rather than pay the daily charge.

Risk mitigation

17. In order to reduce the risk associated with poor air quality in the Square Mile, the City Corporation needs to demonstrate that it has taken, and will continue to take, a wide range of actions to bring about improvements to air quality. The City Corporation must also ensure that any action it takes does not result in an increase in levels of pollution, which could lead to the UK government receiving fines from the European Commission for non-compliance of air quality limit values.
18. The City Corporation has a very large air quality programme encompassing a wide range of actions. The specific actions which have been chosen to demonstrate risk mitigation and progress with each action, are summarised in Appendix A. Further detail on the actions is given below.

Air Quality Strategy

19. As levels of pollution do not meet health-based limits in the Square Mile, the City Corporation has produced an Air Quality Strategy 2015 – 2020 outlining action that will be taken to both improve air quality, and to help people reduce their exposure to the highest levels of air pollution. This is a statutory obligation. The Air Quality Strategy is being updated and a draft for consultation will be available early 2019. Progress with actions is reported to the Mayor of London and Government each year. These are statutory reports that are also presented to the Port Health & Environmental Services Committee.

20. Improving air quality has also been embedded into other corporate plans and strategies. The City Corporate Plan 2018–23 contains 12 outcomes. One of the outcomes is that we will have clean air, land and water and a thriving natural environment.
21. The City Corporation Responsible Business Strategy details a wide range of action that will be taken to 'lead by example' and reduce the impact of the City's activities on local air pollution. The strategy covers actions to reduce emissions from buildings, fleet and contractor's fleet, in addition to continuing to provide leadership for London.
22. The draft Transport Strategy, which has just been published for consultation, outlines action being considered to reduce air pollution associated with traffic including local Zero Emission Zones and electric vehicle charging infrastructure.

Communications

23. The City Corporation continues to provide a wide range of information about air quality to help people understand how they can reduce their own exposure to pollution. This helps to reduce the impact on the health of an individual. Action includes:
 - a. An air quality communications strategy
 - b. A free smart phone app, called CityAir, which provides information on current levels of pollution, air pollution forecasts and low pollution routes. There are currently over 25,000 subscribers
 - c. An active Twitter account 'CityAir' with over 2,500 followers
 - d. Regular features in local and regional news outlets
 - e. A bi-monthly e-newsletter
 - f. Regular workshops for City businesses

Reducing emissions from combustion plant

24. Air pollution is generated from many sources in London. There is a great deal of action underway to reduce emissions from road traffic but a lack of effective controls to deal with emissions from combustion plant (boilers, generators, non-road mobile machinery and combined heat and power plant). Data produced by the Greater London Authority indicates that emissions of NO_x (oxides of nitrogen) from combustion plant will far exceed that of traffic in the Square Mile by 2020.
25. The Clean Air Act 1993, which has historically been used by local authorities to deal with sources of air pollution other than road traffic, is outdated and not fit for today's fuels and technologies. It is still used in some parts of London to specify chimney heights for commercial sized boilers, but it offers very few additional powers that are of use today.

26. The City Corporation has drafted a set of London specific, focused proposals which would provide new adoptive powers for London local authorities to control emissions from combustion plant. Subject to Committee approval, the City intends to work with London Councils to develop the proposals to provide useful, much needed regulatory powers for London local authorities

Reducing emissions from diesel vehicles

27. The City Corporation has been piloting a range of measures to reduce emissions of pollutants as part of a Low Emission Neighbourhood programme. This is a 3-year programme part funded by the Mayor of London. Trials are currently underway of a range of electric vehicle charge points in Barbican Estate car parks and plans are being developed to pilot an ultra-low emission vehicle only street from April 2019. This would act as an incentive for drivers to switch to zero emission and be a fore runner to Zero Emission Zones are under consideration as part of the draft Transport Strategy.
28. The City Corporation is very active in dealing with emissions from idling vehicles engines and is currently holding a 'no engine idling action day' once per quarter. Due to its success, this initiative has been rolled out to 18 other London Boroughs and it has received publicity on domestic and international TV, radio and coverage in a range of local and national newspapers.
29. The City Corporation actively takes part in trials of a range of low and zero emission vehicles for its fleet. This includes a recent trial of an all-electric refuse vehicle.
30. Emission based on-street parking charges have recently been introduced. A higher charge is levied on the most polluting vehicles. The requirement for zero and low emission vehicles is incorporated into Corporate contracts such as the new Cleansing contract.

Risks and challenges

31. A number of issues make air quality improvements challenging in the City. Action is underway to try and address them, but many of the issues are outside the control of the City Corporation.
- a. There are on-going uncertainties around emissions from diesel vehicles. Emissions from the newest (Euro VI) heavy goods vehicles are low, but emissions from vans and cars still don't meet the required limits. This issue is being dealt with at a European level. Currently, there are only a small number of alternatives to diesel vans available on the market. This makes it challenging to introduce policies to restrict these vehicles. However, over the next few years the availability of zero emission vans is expected to increase.

- b. Due to its location, the Square Mile is heavily influenced by pollution generated across London. This is dealt with by the collaborative, London wide approach taken by officers in finding solutions
 - c. The population of London is increasing and will impact on local air quality.
 - d. The drive for decentralised energy is bringing electricity generation back into the centre of London, with the associated pollution. Combined heat and power plant are being installed in new developments. This plant emits much higher levels of oxides of nitrogen (NOx) than gas boilers and can result in very high localised levels of nitrogen dioxide. The City Corporation proposes to address this through new legislation for London
 - e. Organisations with large back-up generators are being asked to run them in times of peak energy demand in a process known as Short Term Operating Reserve (STOR). The generators were only designed for emergency use. The City Corporation proposes to address this through new legislation for London
 - f. Taxis and buses, which are responsible for much of the pollution in the Square Mile, are controlled and run by Transport for London. There are proposals in the draft Transport Strategy to urge TfL to prioritise zero emission buses on routes through the Square Mile.
32. Improving air quality is a key priority for the City Corporation and officers are increasingly being called upon to provide expertise and leadership on air quality across London and on a national basis. The City Corporation is recognised as the lead local authority for air quality policy across London.
33. Given the high profile of air quality, the amount of air quality monitoring in the Square Mile has significantly increased. To achieve the maximum potential improvement in air quality in the Square Mile, and to continue with the current level of monitoring, additional resources will be required to support current and future initiatives. Funding has been requested for an additional post to undertake the monitoring and data analysis, and to deliver aspects of the Responsible Business Strategy.

Corporate & Strategic Implications

34. The work on air quality supports two Corporate Plan outcomes:

People enjoy good health and wellbeing'
 'We have clean air, land and water.....'

35. Improving air quality is overseen by Port Health and Environmental Services Committee and is a priority for the Health and Wellbeing Board. It is also of interest to the Planning and Transportation and Streets and Walkways Committees.
36. Since the initial deep dive report was written, improving air quality has been further embedded into key policy areas across the organisation. It now has cross departmental support in recognition of the issue being a corporate risk.

Conclusion

37. Significant action has been taken since the initial deep dive report for this risk was presented to the Audit and Risk Management Committee on 14 June 2016.
38. The City Corporation is more than fulfilling its statutory duties to improve air quality. A revised Air Quality Strategy will provide the framework for further action to be undertaken to 2025, subject to sufficient resources being made available. The impact of the actions will be measured using the extensive network of monitoring equipment already in place.
39. Despite the above, levels of air pollution remain a problem. The introduction of the Ultra-Low Emission Zone will not be sufficient to meet limit values for nitrogen dioxide in the Square Mile within a reasonable time frame. Additional action is required. This has been recognised by the consideration of Zero Emission Zones in the draft Transport Strategy and by working with London Councils on proposals for new powers for London local authorities to control emissions from combustion plant.
40. In addition to local action, it is important that the City Corporation continues to support the Mayor of London and play a leading role in developing and implementing effective air quality policy and supporting air quality research across the Capital. It should also continue to ensure that all corporate policies reflect the need for better air quality.

Appendices

- Appendix 1 – Risk and Progress Summary for CR21:Air Quality

Background Papers – Committee report - Report to Audit and Risk Management Committee on Air Quality 14 June 2016

Ruth Calderwood

Air Quality Manager

T: 020 7332 1162

E: ruth.calderwood@cityoflondon.gov.uk