Transport and Environment Committee

10.00am, Thursday, 5 October 2017

Air Quality Update

Item number	7.3
Report number	
Executive/Routine	Routine
Wards	All
Council Commitments	C18

Executive Summary

This report provides an update on air quality monitoring data collected in 2016, data trends, emerging issues and progress on air quality actions.

Long term trends show concentrations are going down for both Nitrogen Dioxide (NO_2) and particles ($PM_{2.5}$ and PM_{10}), although there continues to be hot-spot areas where legal standards are breached.

A new Air Quality Management Area was declared for PM_{10} in Salamander Street in January 2017. Work is underway to develop an Action Plan to address the issue. An update to the current Action Plan (for NO_2) will also be undertaken.

Engagement with the Scottish Government and associated partners, Transport Scotland and Scottish Environmental Protection Agency (SEPA) is ongoing, with the practical details of taking forward a Low Emission Zone in Edinburgh under discussion. A report on the development of Low Emission Zones will be considered at the next Transport and Environment Committee in December.

EDINBVRGH
THE CITY OF EDINBURGH COUNCIL

Report

Air Quality Update

1. Recommendations

1.1 It is recommended that the Committee notes the contents of this report.

2. Background

2.1 Under the Environment Act 1995 and the associated Local Air Quality Management (LAQM) framework, all local authorities are duty bound to review and assess air quality in their areas against national pollution objectives. When a pollutant fails to comply with an objective an Air Quality Management Area (AQMA) must be declared and an Action Plan prepared, detailing measures which will be implemented to improve air quality within the designated area.

2.2 Edinburgh has declared six Air Quality Management Areas (AQMAs) - five for the pollutant nitrogen dioxide (NO_2) and one for fine particulates (PM_{10}).

2.3 Within the City's AQMAs for NO_2 the source pollutant contribution from each vehicle class is variable. In some locations buses are a significant contributor, in others cars are a dominant source. Therefore, in order to improve air quality, it will be necessary to keep all motor vehicle types under review. The Council's current Air Quality Action Plan for NO_2, will be revised to reflect national and local policy direction and investigate new measures.

2.4 The PM_{10} AQMA at Salamander Street was declared in January 2017. A stakeholder steering group has convened with the aim of developing actions for consideration in an Air Quality Action Plan for this pollutant. The Group will ensure there is an engagement process with local businesses, community groups, the public and other interested parties to take the process forward.

2.5 The Council produces an Annual Progress Report (APR) under the terms of the aforementioned Act which contains monitoring data, data trends, emerging issues and an update on progress which has been made with respect to implementation of air quality actions. The report, described herein, is undertaken in accordance with the Technical Guidance (TG16) issued by the Department of Environment Food and Rural Affairs (DEFRA) and approved by the Scottish Government following peer reviewed by DEFRA and Scottish Environment Protection Agency (SEPA).

2.6 The Cleaner Air for Scotland – The Road to a Healthier Future (CAfS) is a national cross-government strategy that sets out how the Scottish Government and its partner organisations propose to reduce air pollution further to protect human health and fulfil Scotland's legal responsibilities as soon as possible. A series of actions

across a range of policy areas are outlined, a summary of which is available at the link below. Progress by the Council against relevant actions within this strategy is also demonstrated in the Annual Progress Report.

2.7 Two key actions in CAfS are the National Modelling Framework (NMF) and the National Low Emission Framework (NLEF).

2.8 The NMF will provide a consistent approach to modelling air quality at local and regional levels across Scotland and will help support decisions on transport and planning scenarios. Four Scottish cities, including Edinburgh will be modelled. Work is ongoing with SEPA in respect to the Edinburgh model and it is expected to be complete later this year.

2.9 The NLEF will be designed to assist local authorities appraise, justify and implement a range of transport related air quality improvement options, including Low Emission Zones (LEZ). The appraisal guidance is expected to be available later this year.

2.10 The Scottish Government has also pledged, with the help of local authorities, to introduce four LEZs into Scotland's four biggest cities between 2018 and 2020. The Council wrote to the Scottish Government affirming Edinburgh's position that it would like to be selected to implement Scotland's first LEZ, subject to funding and resources. Officials continue to be engaged with Government and its associated partners such as Transport Scotland and SEPA, on the practical details of taking forward a low emission zone in Edinburgh. A report on the development of Low Emission Zones will be considered at the next Transport and Environment Committee in December.

2.11 In July 2017, the Scottish Parliament's Environment, Climate Change and Land Reform launched an inquiry into air quality in Scotland which will consider whether existing policy and guidance is robust enough to tackle the problems. The Committee will take oral evidence at Committee meetings in the autumn of 2017 and then publish a report of its views before the end of the year. A copy of the Council's written evidence is attached in Appendix 1.

3. Main report

Monitoring Regime

3.1 Nitrogen Dioxide (NO_2) and Particulate Matter PM_{10}, are typically the pollutants of concern in most urban areas in the UK. Edinburgh has a well-established monitoring regime for these pollutants. Measurement is by approved automated analysers housed in air quality stations, which are located at roadside and background sites. Additional NO_2 monitoring is carried out across the city using 127 passive diffusion samplers. The majority of the samplers are located at or close to residential building facades on radial transport routes in and around the city and reflect worst case exposure.

3.2 In April 2016, it became a statutory requirement for Scottish local authorities to review and assess the smaller fraction of particles $PM_{2.5}$ and to facilitate this, the Scottish Government, in conjunction with local authorities is establishing a $PM_{2.5}$ monitoring network. Edinburgh secured funding from the Scottish Government to purchase equipment which measures both fractions of particles. In November 2016 one was installed at St John's Road. The first full year of data will be reported in the 2018 Annual Progress Report. Another site is being sought in or near the newly declared Salamander Street AQMA.

3.3 In conjunction with DEFRA a new station is set to commence monitoring from autumn 2017 on Nicolson Street. This will form part of the national Automatic Urban and Rural Network (AURN) and monitor NO_2 and PM_{10}.

Monitoring Data

3.4 Improvements in air quality are assessed by analysis of long term trend data. Short term results are influenced by weather and temporary events such as local traffic diversions and road works.

3.5 In 2016, NO_2 monitoring data shows that all of the AQMAs are still relevant, however long term trends show concentrations are going down. NO_2 trend data is shown in Appendix 2. Appendix 3 details the legal standards for NO_2 (and particles).

3.6 A summary of locations where 2016 monitoring results of NO_2 are at or exceed the annual mean nitrogen dioxide objective is illustrated in Appendix 4.

3.7 The concentration of NO_2 at one site, outwith the AQMAs, was above the objective (Queensferry Road 44µg/m^3). This is a very localised issue, considering results from adjacent monitoring, particularly that on residential properties which show that the objective is being met (31µg/m^3). Further investigation into the specific circumstances at this site will be undertake as part of the CAfS modelling work 2017/18.

3.8 Scotland has set tighter standards for particulates (PM_{10} and $PM_{2.5}$) compared with the rest of the UK and Europe, as shown in Appendix 3.

3.9 In respect to PM_{10}, data from all monitoring locations in 2016 meets the UK National Objectives. For the first time since monitoring began in 2009, concentrations at Salamander Street met the tighter Scottish objectives. It is considered that relocation of industry is one reason why concentrations meet at this location. The Council is in the process of developing an Action Plan in conjunction with SEPA, Forth Ports and relevant stakeholders to review and assess the different processes and mechanisms to ensure that the continuing degree of improvement is sustained, especially since residential development is proposed in the area.

3.10 The annual mean concentration of PM_{10} at Queensferry Road was just over the tighter Scottish objective (19µg/m^3) however data capture at the site was poor, so this result needs to be considered with caution. Monitoring will continue at this site. All other sites meet the Scottish objectives.

3.11 PM_{10} and $PM_{2.5}$ (background) long term trends from measured data show a decrease in concentrations with time as shown in Appendix 5.

Progress with actions

3.12 The main actions in the current NO_2 Air Quality Action Plan and Local Transport Strategy to improve air quality are based on;

- promoting cleaner transport, especially buses via a voluntary means,
- adoption of a fleet recognition efficiency scheme for reducing emissions from heavy goods vehicles,
- improving traffic flow and easing congestion by use of intelligent traffic signalling, and;
- promoting model shift away from car use by means of an Active Travel Action Plan, provision of Park and Rides, controlled parking and priority parking zones.

3.13 All bus companies operating in Edinburgh continue to improve their fleet, however it is recognised that substantial financial support is needed to deliver continued improvement. The Green Bus Fund and Bus Operators Grant are currently being revised.

3.14 Lothian Buses (Transport for Edinburgh) is the largest bus service provider in the city and is committed to reducing the emissions of their fleet and investing in low emission vehicles as a part of their fleet replacement strategy.

3.15 Currently 68% of the fleet is Euro V or better. By the end of 2017, 75% of the main service bus fleet will be Euro V or better. The bus company deploys their highest Euro Standard vehicles on high frequency services and those routes which transit AQMAs e.g. Airlink 100 and Service 22 which both pass through the Central AQMA and, St John's Road and Great Junction Street AQMAs respectively.

3.16 Lothian Buses introduced 30 Euro VI standard double deck vehicles into the fleet in July 2017 for route 26. NO_x emissions savings are calculated at 98% and particulates 75% compared with the existing fleet. Carbon emissions savings are 25%. The company is also in the process of installing electric charging infrastructure to support the operation of electric buses in the City.

3.17 All other major bus companies operating in Edinburgh have practically eradicated Euro III vehicles from their fleets. Seventy three percent of First West Lothian's bus fleet are of a Euro V standard or better. These buses from Livingston and Falkirk pass along the A8 though the Glasgow Road AQMA and St John's Road AQMA.

3.18 There are 60 buses in the Stagecoach fleet operating on services into the centre of Edinburgh. These services pass through the Queensferry Road corridor and St John's Road AQMA; and the 747 Airport services from Fife goes along the Glasgow Road AQMA. The majority (83%) of the Stagecoach fleet into Edinburgh are now Euro V or better. Euro IV vehicles have been significantly reduced.

3.19 City-link operate several inter-city type coach services between destinations across Scotland, by subcontracting to a range of different bus operators. In 2016 there were 51 buses operating on services entering Edinburgh, the majority (86%) were Euro V standard or better. An update was not available in 2017.

3.20 ECOSTARS is a voluntary, free to join fleet recognition scheme that provides bespoke guidance on environmental best practice to operators of goods vehicles, buses and coaches whose fleets regularly serve the Edinburgh area. The scheme was launched in January 2012 and to date 154 operators have joined with a total of 7,061 vehicles. Most members are goods vehicle operators (128), followed by passenger transport (21) and public sector fleets (5). The freight sector is traditionally a more demanding group for local authorities to co-ordinate. Funding for the ECOSTARS scheme to continue during 2017/2018 has been secured from the Scottish Government Air Quality Action Plan grant.

3.21 The Council is committed to leading by example through the acquisition of lower emission vehicles for our own fleet. 75% of the operational fleet is Euro V or better and 3% is full electric.

3.22 A number of electric charging points have been installed in Edinburgh from 2012, see progress below. All public accessible charging sites can be found on the website http://chargeyourcar.org.uk .

Table: Electric Vehicle (EV) charging infrastructure progress from 2012 to 2017

EV Infrastructure	2012	2013	2014	2015	2016	2017
No. of charging heads	8	14	58	89	141	148
No. of site locations	5	9	26	38	60	61

3.23 The Council is in receipt of £99,000 of grant funding from Transport Scotland to invest in additional public EV infrastructure during 2017 and replace a number of older chargers. A site has been identified at South Queensferry (Transport Scotland Offices), which will install seven charging heads during 2017.

3.24 The Council is developing an Electric Vehicle Framework. This will ensure that there is a co-ordinated approach to advance a network of rapid and fast electric charging points and guarantee that appropriate mechanisms are in place for procurement, governance, asset ownership, and maintenance.

3.25 Improving traffic flow and reducing idling time are also measures which help to improve air quality. Split Cycle Offset Optimisation Technique (SCOOT) systems are automatically responsive to traffic flows and demand and therefore help ease congestion by providing more effective control of traffic signals. SCOOT infrastructure is in place on many road networks in the city. However, due to ongoing utility works and road improvements, many of the inductive loops have been damaged and require repair and in several locations, the system requires validation. Work will now be undertaken over this financial year.

3.26 SCOOT installation and validation at Bernard Street/Shore/Constitution Street/ Salamander Street/Seafield Place was completed in June 2017.

3.27 A new traffic signalling system (Microprocessor Optimised Vehicle Actuation) became fully operational at Newbridge Roundabout in April 2016. There has been a significant reduction in waiting time on the A8 westbound corridor and NO_2 concentrations measured at the junction area show overall improvement.

3.28 Transport Scotland are currently re-designing lane integration from the M9 off-slip at this junction. Recommendations have been made to carry out an air quality impact assessment in relation to the proposals to ensure there is no adverse impact on air quality.

3.29 The Council's updated Active Travel Action Plan (2015) aims to deliver significant increases in the number of pedestrian and cycling journeys travelled within Edinburgh. As well as bringing health benefits the Active Travel Action Plan will assist in encouraging modal shift away from car use. The Plan has set targets of 35% for walking and 10% for cycling for all trips in the City by 2020.

3.30 Edinburgh University is currently exploring whether modifictions can be made to the Combined Heat and Power plant at the Pleasance, so it operates to a low NO_x specification. The Council has commenced monitoring of NO_2, in January 2017 by installing a number of passive diffusion sites in the area. A full annual data set will be reported in the Annual Progress report 2018.

Cleaner Air for Scotland (CAfS) Strategy

3.31 In conjunction with the Council, Transport Scotland undertook a mass traffic data collection operation in the City in November 2016. Further assessment is being undertaken at a number of sites that were problematic. The data will support development of the local air quality model that is currently being progressed by SEPA through the National Modelling Framework (CAfS). This work should be completed by November 2017.

3.32 Outputs from the model will inform appraisal for a low emission zone(s) by comparing different fleet scenarios. Further modelling (of traffic) may also have to be considered to fully understand the impact of such zones.

Local Priorities and Challenges

3.33 Continuing economic growth in the city and wider region presents a challenge for air quality. It has been estimated from the recent Census figures that if the recent trend continues Edinburgh's population would grow by 28.2% to reach 619,000 at 2037. Consequently, there will be an inevitable demand for all modes of transport and supported infrastructure.

3.34 The 2016 Edinburgh Local Development Plan (LDP) details a number of aims in assisting with meeting these challenges. Infrastructure is key to the delivery of these aims and the strategies of the LDP. An Action Programme to support the Plan sets out how the infrastructure, and services required for the growth of the city, will be delivered.

3.35 Priorities for the Council in terms of air quality in 2017/18, will be;

- Revise the current Air Quality Action Plan (2008) in conjunction with a review of the Local Transport Strategy and CAfS,
- Work towards the implementation of an LEZ should Edinburgh be selected as an early adopter by the Scottish Government,
- Produce an Air Quality Action Plan for Salamander Street AQMA with relevant stakeholders, and;
- Work with the Council's partners and neighbouring local authorities, in a holistic and multi-disciplinary way, to ensure sustainable economic growth which supports the Cleaner Air for Scotland Strategy and has the best outcome for local air quality.

4. Measures of success

4.1 An improvement in air quality based on long term trend data within each of the AQMAs.

5. Financial impact

5.1 The report has no direct financial impacts.

6. Risk, policy, compliance and governance impact

6.1 The European Commission launched infraction proceedings against the UK Government (Member State) for breach of nitrogen dioxide Limit Values under the EU Air Quality Directive. The European Commission allowed an extension until 1 January 2015 for compliance of the Edinburgh Urban area. However, the Scottish Government has indicated that it would not seek to pass on any fines to Local Authorities which are imposed by the EU on the UK Government

7. Equalities impact

7.1 This report is a statement of facts regarding the results of ambient air quality monitoring and improvements achieved to date regarding progress with actions. Therefore, a full equalities impact assessment is not required.

7.2 The contents have no negative impacts on the Public Sector Equality Duty of the Equality Act 2010.

8. Sustainability impact

8.1 The content of this report is a statement of facts and does not in itself promote any environmental impact.

9. Consultation and engagement

9.1 The Annual Progress Report 2017 reports is published on the Council's website.

9.2 Formal public consultation and engagement will be undertaken for development of Action Plans for NO_2 and PM_{10}.

10. Background reading/external references

10.1 2017 Air Quality Annual Progress Report (APR) for City of Edinburgh Council July 2017
http://www.edinburgh.gov.uk/downloads/download/117/local_air_quality_management_reports

10.2 The maps of the AQMAs are available online at;
http://www.edinburgh.gov.uk/airquality

10.3 Cleaner Air for Scotland Strategy Actions
http://www.gov.scot/Publications/2015/11/5671/17

Paul Lawrence

Executive Director Place

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E-mail: david.leslie@edinburgh.gov.uk Tel: 0131 529 3948

11. Appendices

Appendix 1 – Letter to Environment, Climate Change and Land Reform Committee
Appendix 2 – Summary of NO_2 Trend Data.
Appendix 3– Locations where 2016 monitoring results for NO_2 are at or exceed the Standards
Appendix 4 – Particle PM_{10} and $PM_{2.5}$ Trends
Appendix 5 – Particle PM_{10} and $PM_{2.5}$ Standards

APPENDIX 1

Letter to Environment, Climate Change and Land Reform Committee

Environment, Climate Change and Land Reform Committee
Room T3.40
The Scottish Parliament
Edinburgh
EH99 1SP

airquality@parliament.scot

Date 24th August 2017

Your ref

Our ref Spatial.Policy

To whom it may concern,

CALL FOR VIEWS - INQUIRY INTO AIR QUALITY IN SCOTLAND

Thank you for your email of 4th July 2017 asking for views on air quality in Scotland. These are detailed herein, under the template questions (in bold).

Does Scotland have the right polices (Cleaner Air for Scotland Strategy), support and incentives in place to adequately tackle air pollution? Are the policies sufficiently ambitious?

Cleaner Air for Scotland Strategy is the driving force to improve air quality by bringing relevant stakeholders together and providing a mechanism for other benefits e.g. Climate Change and Place-Making. It involves multi-disciplinary working and a governance structure is in place to assist delivery.

However, it is considered that more of an emphasis is required to align Transport and Planning strategies, for example the National Transport Strategy and the National Planning Framework. Care needs to be taken to ensure that economic growth is delivered in the most sustainable, strategic way and that there is sufficient infrastructure to support the level of development. At regional level, there is also a strong requirement for spatial planning decision-making to be undertaken holistically.

The Switched-On Scotland Roadmap is very ambitious. It sets out a vision that by 2050 Scottish towns, cities and communities will be free from the damaging effects of petrol and diesel fuelled vehicles. It builds on the Scottish Government's existing commitment to the almost complete decarbonisation of road transport by 2050 and establishes the ambition that, from 2040 almost all new vehicles sold will be near zero emission at the tailpipe, and that by 2030 half of all fossil-fuelled vehicles will be phased-out of urban environments across Scotland.

However, the City of Edinburgh Council has had to develop an Electric Vehicle Framework in addition to this policy. The local framework aims to ensure that there is co-ordinated approach to advance a network of rapid and fast electric charging points and guarantee that appropriate mechanisms are in place for procurement, governance, asset ownership, and maintenance.

The Clean Air Act 1994 is outdated and does not deal effectively with emissions from smaller combustion process for example, wood burning stoves, biomass boilers (both domestic and commercial units). A review of this legislation has been under consideration for several years now, little progress has been made in taking it forward.

Decentralisation of energy plants into urban environments requires more robust regulation, as these installations are often smaller and therefore not regulated by SEPA, and can impact on local air quality for example, biomass boilers.

Are the policies and delivery mechanisms (support and incentives) being effectively implemented and successful in addressing the issues.

Good, efficient public transport is regarded as one of the main solutions to congestion and therefore will improve air quality. Investment in public transport and park and ride facilities to encourage model shift away from private car use is therefore needed.

More funding should be available to bus companies to incentivise the purchase of cleaner vehicles and to develop the charging infrastructure. The Council has had some success in working with Lothian Buses to operate a cleaner fleet of vehicles in the city, and for them to use their cleanest vehicles for the most frequent services in areas of air quality concern.

Scottish Government provides funding for (Local Air Quality Management) Action Planning for those Local Authorities with Air Quality Management Areas (AQMAs). This sum has not increased since the inception of LAQM, although the number of AQMA has increased. Should funding be redirected to national policies, such as LEZs, local Action Plan delivery could suffer.

The freight sector is a more demanding group for local authorities to co-ordinate. Local action through ECOSTARS Edinburgh has been persuading freight operators to voluntary reduce their emissions (currently funded through the above-mentioned scheme). CAfS identifies the need for Freight Quality Partnerships.

A clear and focused message is required on the health impacts of air pollution, which should be the centrepiece of a national co-ordinated communication campaign.

The UK Government should reverse the tax incentives for purchasing diesel vehicles and provide a more robust vehicle testing system.

There are other policies and mechanisms listed below, which assist with addressing the air quality issue;

- Parking policy is important in controlling commuter travel into city, e.g. residential parking zones, Development Management parking standards, Park and Rides and workplace parking levy (legislative changes are needed);
- Active Travel Action Planning - encourages modal shift,
- Traffic management – ensuring efficient flow of vehicles; and;
- Vehicle licensing regimes e.g. taxi licensing or bus route registration.

Conflicts - Are there conflicts in policies or barriers to successful delivery of the air quality objectives?

A holistic approach needs to be taken to address air quality and achieve wider outcomes in respect to Placemaking.

There are issues around diesel fuelled cars and biomass (as a fuel) to support climate change policies, as they have a detrimental effect on air quality.

With regards to developing Low Emission Zones (LEZs), lessons should be learned from other cities, for example London, where by law, net revenue from congestion charging must be spent on further improvements to transport across London.

The Council has had success in cooperative working with Lothian Buses with regards to reducing engine emissions and this model would benefit other cities.

More emphasis needs to be made on modal shift away from the private car. E.g. preference for electric vehicles will still result in PM_{10} emissions from brake dust and tyre wear. On-street charging infrastructure for these vehicles needs to be carefully located with respect to public realm and minimising street clutter.

The tighter Scottish Government targets for particles ($PM_{10/2.5}$), (compared with the UK targets and EU Limit Values) are not recognised in the enforcement regimes of other statutory frameworks, e.g.

- Emissions from PPC (Pollution Prevention and Control) permitting processes which are regulated by SEPA, and;
- UK Renewable Heat Incentive (RHI) emission factor standards (for biomass).

How does the Scottish policy fit with the UK and EU policy on air quality?

In respect to the main local air quality pollutants, Scotland has tighter standards for fine particles (PM_{10} and $PM_{2.5}$) in comparison to the UK. The standards are more in keeping with the World Health Organisations and are valued nationally. However different national targets across the UK make for complex management.

The assessment of pollutants is different. The UK Local Air Quality Management framework identifies localised pollution hot-spots where there is population exposure, whereas the EU assessment criteria can result in non-compliance areas, where there is no population exposure.

The impact of British EU exit is difficult to judge as it will depend on how EU environmental law will be dealt with at UK level. The effect on air quality is likely to be detrimental if EU targets are not transferred across.

Are the powers and resources of Local Authorities and SEPA to address air pollution adequate?

Edinburgh has put itself forward to become an early adopter of a LEZ in Scotland. However, this is dependent on the availability of resources and support. Centralised procurement to deliver LEZ enforcement in Scotland would be welcome.

Workplace parking levies are a valuable tool that makes new public transport projects possible and supports existing services and infrastructure as well as helping to reduce congestion. This has been shown in Nottingham[1].

[1] No regrets: Nottingham backs benefits of pioneering workplace parking levy, IN Local Transport Today, No 664 23 Jan-5 Feb 2015, p6

Is Scotland on target to have a pilot low emission zone (LEZ) in place by 2018 and should there be more than one LEZ pilot?

The time-scale to introduce an LEZ in Scotland by 2018 is very challenging. In Edinburgh, all vehicle types will need to be considered. Work has shown that the NO_2 contribution from each vehicle class is different within the AQMAs. For example, cars were shown to contribute the most at Glasgow Road AQMA, buses have the largest impact along some routes in the Central AQMA (London Road, Princes Street, Gorgie Road) and HGVs have a significant impact at Bernard Street.

Funding and resourcing of the LEZ programme needs to be clarified.

Car owners need time to plan alternatives and commercial/bus fleet operators also need time to change and accelerate vehicle replacement strategies.

The process of amending controls over the transport network such as through the use of Traffic Regulation Orders can be time-consuming.

More than one city with a LEZ will enable exploration of different scenarios e.g. problems with displacement of traffic. The benefit of multiple LEZs will be to reduce the possibility of more polluting vehicles (e.g. buses, taxis) being transferred out of controlled areas to ones that have no controls.

It is likely that a phased approach to the LEZ programme will be necessary.

How should the improvement of air quality be prioritised in areas where there have been persistent breaches of NO_2 limit values?

Work with the National Low Emission Framework and associated National Modelling Framework in the Cleaner Air for Scotland Strategy.

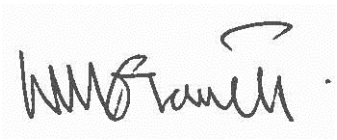
Air quality cannot be addressed in isolation. Actions should be imbedded in Locality Improvement Plans, Local Development Plans (e.g. Town Centre plans) etc.

Is adequate consideration given to air pollution from agriculture?

More robust agricultural policies to reduce ammonia emissions which lead to secondary PM_{10} formation are required.

If you have any further enquiries, please telephone Will Garrett on (0131) 469 3636 (direct dial) or email Will.Garrett@edinburgh.gov.uk.

Yours sincerely,



Will Garrett

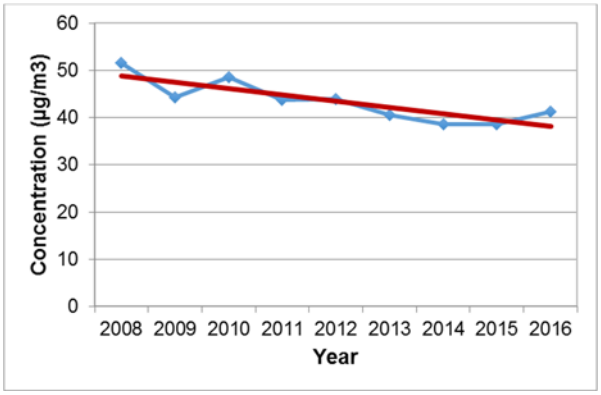
Spatial Policy Manager

APPENDIX 2

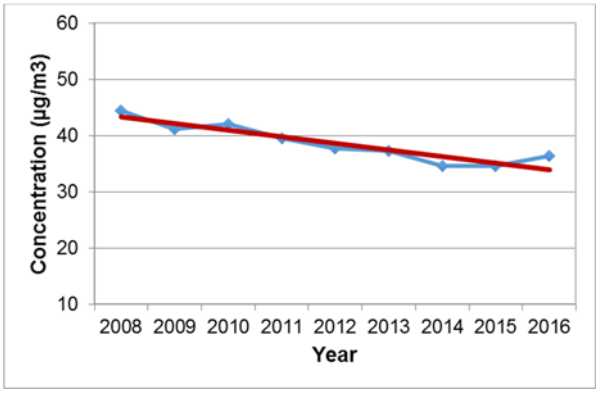
Summary of NO_2 Trend data

Nitrogen Dioxide Trends within the Air Quality Management Areas (AQMAs)

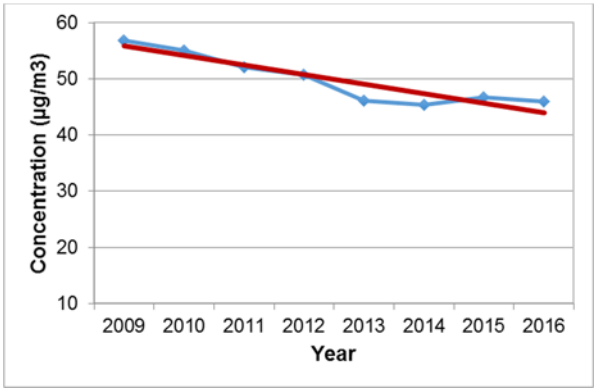
Central AQMA



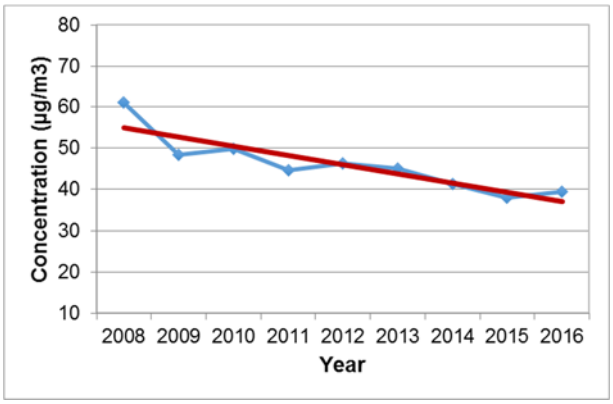
Great Junction Street AQMA



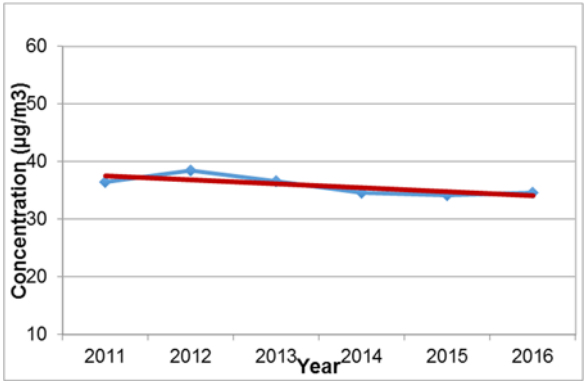
Glasgow Road AQMA



St John's Road AQMA



Inverleith Row AQMA



Data is presented from Passive Diffusion Tubes analysis

APPENDIX 3

Legal Standards for

Nitrogen Dioxide (NO_2), Particles PM_{10} and $PM_{2.5}$

Pollutant	Status	Concentration in Ambient air	Measured as	To be achieved by
Nitrogen Dioxide (NO_2)	Statutory UK Objective and EU limit value	200 µg/m^3 not to be exceeded more than 18 times a year	1-hour mean	2005
	Statutory UK Objective and EU limit value	40 µg/m^3	Annual Mean	2005
Particulate Matter (PM_{10})	Scottish Statutory Air Quality Objective	18 µg/m^3 50 µg/m^3 not to be exceeded more than 7 times a year	Annual mean Daily mean	2010 2010
	Statutory UK Objective and EU limit values	40 µg/m^3 50 µg/m^3 not to be exceeded more than 35 times a year	Annual mean Daily mean	2004 2004
Particulate Matter ($PM_{2.5}$)	Scottish Local Authorities	10 µg/m^3	Annual mean	2020
	Statutory UK Objective and EU limit values	25 µg/m^3 15% reduction in urban background	Annual mean -	2020 2010-2020

APPENDIX 4

Locations where 2016 monitoring results are at or exceed the Annual Mean Nitrogen Dioxide Objective (40µg/m^3)

Site ID	Site address	Data Capture (%)	Annual mean concentration µg/m^3 *
Central AQMA			
76b	Angle Park Terrace 74	100	**44**
76	Angle Pk/Harrison Rd	92	**43**
48c	Cowgate Blackfriars	92	**40**
48e	Cowgatehead 2	58	**41**
25	Easter Road/CH Shop	42	**46**
37a	Grassmarket 41	71	**53**
HT1	Haymarket Terrace	75	**42**
74g	Leith Street 35	100	**59**
21	Leith Walk/Brunswick Rd	75	**40**
20	Leith Walk/McDonald Rd	92	**40**
67	London Rd/Earlston Pl	100	**41**
81	London Rd/E. Norton Pl	83	**57**
70	London Rd/Wolseley Terr	100	**40**
135	Nicolson Street 69	92	**46**
27	North Bridge – South	92	**53**
47	Princes Street Eastbound	100	**48**
24	Princes Street/Mound	75	**42**
144	South Bridge 59	83	**50**
3b	Torphichen Place 1	100	**44**
3	Torphichen Place CH	92	**50**
2	West Maitland Street	100	**42**
28d	West Port 42	75	**51**
28b	West Port 62	50	**59**
28c	West Port Opposite 50	75	**44**
Glasgow Road AQMA			
58	Glasgow Rd Newbridge	100	**41**
15	Glasgow Rd Newbridge	83	**40**
Inverleith Row AQMA			
55	Inverleith Row	92	**41**
Great Junction Street AQMA			
9d	Commercial Street	100	**42**
30	Great Junction St/FV	92	**42**
30c	Gt Junction Street 14	75	**40**
St John's Road AQMA			
1d	St John's Road 131	100	**45**
ID5	St John's (automatic data)	97	**53**
Outwith any AQMA			
64	Queensferry Road 550	100	**44**

** Bias Adjustment Factor for Passive Diffusion Tube data = 0.77*

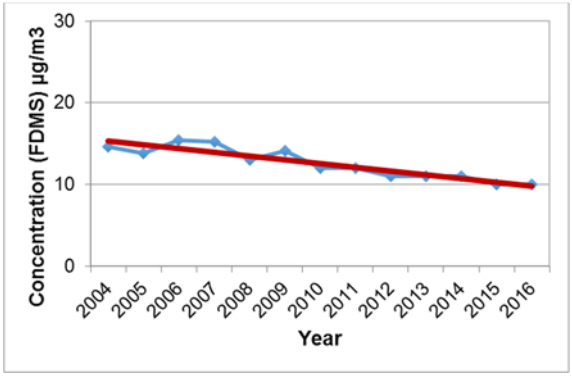
APPENDIX 5

Particle Trends

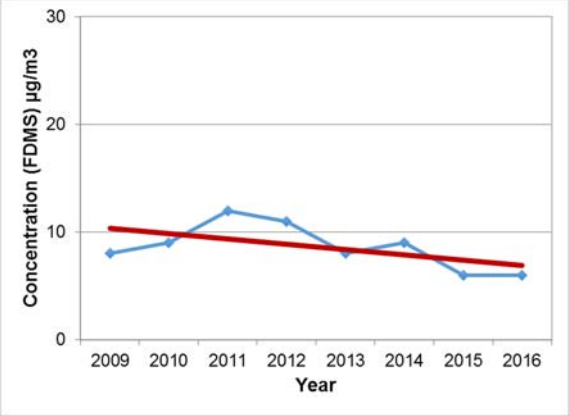
PM_{10} & $PM_{2.5}$ Trends at the Air Quality Monitoring Stations

Background Monitoring locations

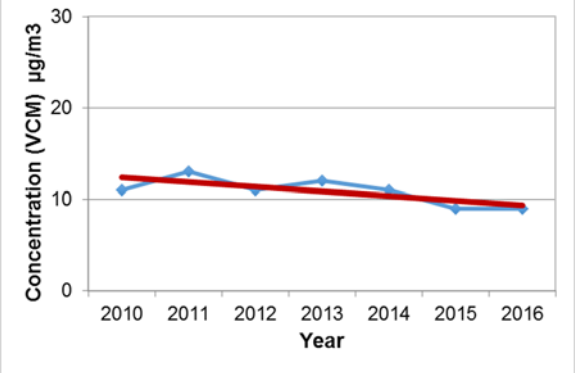
PM_{10} St Leonards



$PM_{2.5}$ St Leonards

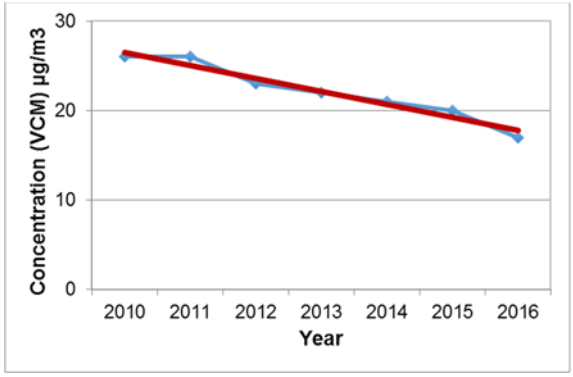


PM_{10} Currie



Other monitoring locations

PM_{10} Salamader Street



PM_{10} Queensferry Road