



ENVIRONMENT POLICY DEVELOPMENT AND SCRUTINY PANEL

AIR QUALITY IN WEST LOTHIAN

REPORT BY HEAD OF PLANNING, ECONOMIC DEVELOPMENT & REGENERATION

A. PURPOSE OF REPORT

The purpose of this report is to advise the panel that air quality in West Lothian met statutory objectives across the district in 2018 and that the statutory Annual Progress Report has been submitted to, and approved by, the Scottish Government.

B. RECOMMENDATION

It is recommended that the panel:

- consider the content of this report and the Annual Progress Report and comment on the issues which have been highlighted;
- note that the improvements outlined in the Annual Progress Report, submitted in relation to air quality monitoring in West Lothian, have received satisfactory feedback from both the Scottish Environment Protection Agency (SEPA) and the Scottish Government;
- note that the Annual Progress Report has been approved by the Scottish Government for publication; and
- note that the Scottish Government requires justification to be provided for any continued existence of Air Quality Management Areas.

C. SUMMARY OF IMPLICATIONS

I	Council Values	Focusing on our customers` needs; being honest, open and accountable; providing equality of opportunities; making best use of our resources; and working in partnership
II	Policy and Legal (including Strategic Environmental Assessment, Equality Issues, Health or Risk Assessment)	Environment Act 1995 (Part IV) Scottish Local Air Quality Management Policy Guidance LAQM PG(S)(16) Technical Guidance LAQM.TG(16) The terms of the report do not raise any equality or risk assessment issues and no strategic environmental assessment is required. The Annual Progress Report is a statutory requirement.
III	Implications for	None.

Scheme of Delegations to Officers

IV	Impact on performance and performance Indicators	EH046_9b.1a reports the levels of particulate matter per cubic metre of air measured at the Broxburn monitoring unit as a 3 year average.
V	Relevance to Single Outcome Agreement	<p>We live longer, healthier lives and have reduced health inequalities.</p> <p>We make the most efficient and effective use of resources by minimising our impact on the built and natural environment</p>
VI	Resources - (Financial, Staffing and Property)	Monitoring is carried out using existing resources. External funding bids are sought from the Scottish Government for equipment, additional studies or action plans.
VII	Consideration at PDSP	This is the first report to the PDSP in 2019.
VIII	Other consultations	Annual reports on air quality are submitted to the Scottish Government and are subject to review by their appointed consultants and by the Scottish Environment Protection Agency (SEPA). Development Management. Development Planning. Transportation.

D. TERMS OF REPORT

D1 Background

The purpose and focus of this report is to update the panel on air quality in West Lothian. However, the report also provides some further information to allow an understanding of the impact issues in a wider context.

Prolonged exposure to poor quality air has a detrimental impact on health and has been shown to increase mortality. 2018 saw continuing improvements in public awareness and knowledge in such matters. It has also resulted in changes in public perception and the introduction of the first Low Emissions Zone in Scotland.

2018 was again notable for the number of reports and publications relating to air quality, its causes and impacts. The most notable of these are:

- the widespread acceptance that a 'climate change emergency' exists;
- the UN Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services issued a warning about the damage human beings are causing to the planet. It finds that the drivers of damage have accelerated over the past 50 years.
- The Court of Appeal upheld a planning permission refusal on air quality grounds for 330 homes in the UK, making it the first time a planning appeal has been refused due to concerns over air pollution and public health.

Particular themes emerging are that:

- Measures intended to reduce CO₂ emissions for climate change mitigation can have adverse effects on local air quality. Climate change mitigation and air quality improvement need to be considered together and suitability of measures may vary from one situation to another. However, the climate change emergency is likely to accelerate climate change mitigation measures;
- a similar degree of urgency is required to tackle air quality problems; and
- a 'basket' of measures and behaviour changes are required to make the difference, with no individual measures in isolation able to achieve the necessary improvements.

Further information on the emerging picture is given in Appendix 1.

D2 2019 Annual Progress Report – Air Quality In West Lothian

The Air Quality (Scotland) Regulations 2000, as amended, lay down standards and objectives to be achieved by specified dates for eight priority pollutants. Previous reports have identified that only Nitrogen dioxide (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) need to be monitored therefore reporting is limited to these pollutants.

The report uses a template provided by the UK Government and is highly technical in nature. In view of this, an accompanying non-technical summary has been produced, available on the council's web site at <http://www.westlothian.gov.uk/article/2216/Air-Pollution>.

The full report, along with preceding reports, is available from the same web page. It gives more detail of the standards, objectives, and measured pollution levels in West Lothian. SEPA has provided satisfactory feedback on the report, although it is noted that the status of each of AQMA is being reviewed, in line with commitments given in 2017. The Scottish Government's consultant has approved the report for publication.

The report confirms that:

- The 2018 monitoring data at all three continuous air quality monitoring stations has shown that the NO₂ and PM₁₀ long term average air quality objectives have been met.
- Levels of PM₁₀ in Linlithgow increased slightly in 2018 compared with 2017 while NO₂ decreased slightly.
- 2018 levels of PM₁₀ and NO₂ in Broxburn on average showed a slight decrease compared to 2017 and have met objective levels for many years.
- Newton's PM₁₀ and NO₂ annual average levels decreased in 2018 compared to 2017 for each pollutant.
- The short term PM₁₀ and NO₂ air quality objectives were all met during 2018.

None of the NO_x passive diffusion tubes located throughout West Lothian have shown any exceedances in 2018.

Air quality in West Lothian in 2018 was within the relevant Air Quality Objectives (AQO) (standards). Levels of pollutants have generally continued to decline, except in Linlithgow for PM₁₀ where they have risen slightly but are still meeting air quality objectives.

Measured pollutant levels may vary depending on prevailing wind direction, ambient temperatures, traffic volume and flows and external environmental events.

The next Annual Progress Report will be submitted by the end of June 2020. The outcomes will be reported to the PDSP in autumn 2020 following receipt of feedback from SEPA and the Scottish Government.

It is expected that the report will require completion of a screening exercise under the [National Low Emissions Framework](#) (NLEF) to determine whether a Low Emissions Zone (LEZ) is an appropriate measure for any of the existing three Air Quality Management Areas (AQMAs).

D3 Monitoring Arrangements

Monitoring will continue with the existing real time monitoring cabinets located in Broxburn, Linlithgow and Newton. Data from these can be viewed in near real time on www.scottishairquality.co.uk. In addition, a network of passive diffusion tubes is used to monitor NO₂ levels throughout West Lothian.

In common with other local authorities and agencies carrying out air quality monitoring, measured levels of particulate matter have declined following replacement of the existing approved monitors with new approved equipment capable of measuring both PM₁₀ and PM_{2.5}. This matter has been reviewed at a UK level, the findings of which are awaited.

D4 Progress with West Lothian Air Quality Management Areas (AQMA)

Broxburn AQMA

West Lothian Council previously approved and finalised the [Broxburn Air Quality Action Plan \(AQAP\)](#).

Linlithgow AQMA

The final Linlithgow Air Quality Action Plan (AQAP) is currently paused pending the outcome of a Detailed Assessment, but will have a number of measures which aim to reduce levels of PM₁₀ and NO₂ in each Air Quality Management Area (AQMA). The draft AQAP was consulted on in early 2018.

Newton AQMA

The final Newton Air Quality Action Plan (AQAP) is currently paused pending the outcome of a Detailed Assessment, but will have a number of measures which aim to reduce levels of PM₁₀ and NO₂ in each Air Quality Management Area (AQMA). The draft AQAP was consulted on in early 2018.

D5 Other related work

The actions taken in 2018 to improve air quality within West Lothian include the following:

- Securing a Bikeability Officer, who has delivered cycle training at schools throughout West Lothian. This helps promote active travel and reduce journeys by car.
- A contract has been set up to deliver the ECOstars fleet recognition scheme in West Lothian, which will be taken forward as a project through the vehicle emissions partnership this year. This is aimed at delivering less polluting fleet on our roads.
- The Air Quality Supplementary Planning Guidance was adopted as planning guidance in April 2019. The planning guidance can be found at https://www.westlothian.gov.uk/media/33857/Air-Quality-PG/pdf/Air_Quality_-_Planning_Guidance.pdf
- Temporary provision of electric pool cars for council staff in Linlithgow helping reduce the use of petrol vehicles.

D6 Review of Air Quality Management Areas

Levels of pollution should be as low as possible. As pollutant levels within each of the AQMAs are and have been below the 'limit' air quality objectives for the last three years, 'Detailed Assessments' have been commissioned to inform whether the AQMAs should be revoked. The Detailed Assessments take into account land allocated for development and detail whether there will be any potential future exceedances of pollutants at relevant receptors. When finalised, these will provide firm evidential basis for making strategic decisions.

As the status of the Air Quality Management Areas is being reviewed, the final Air Quality Action plans for Linlithgow and Newton will not be further progressed until the outcomes of the Detailed Assessments are known.

E. CONCLUSION

Air quality remains generally good throughout West Lothian. Pollutants are largely associated with vehicle traffic, although domestic solid fuel combustion plays a significant role in Newton. Measured pollutants continue, in broad terms, to decline. As pollutant levels in the three AQMAs are below the required limits, assessments are being carried out to determine whether these will be revoked or remain.

F. BACKGROUND REFERENCES

Report to Environment PDSP – Air Quality in West Lothian, 4 September 2018.

Appendices/Attachments: One

Appendix1 The Emerging Air Quality Picture

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Appendix 1: The emerging air quality picture

1 Significant Developments

- [UK Clean Air Strategy](#), published by DEFRA in January 2019 (which, labelled a UK Strategy, principally proposed a range of new England-wide arrangements and initiatives, new and local powers and controls and Clean Air Zones in England.) Much of what is proposed in Chapter 7 aligns with Scotland for transport and industrial issues. Proposed actions for agriculture and domestic combustion are of particular interest to the Scottish context, including permitting the dairy and beef sectors, controls on manure application, further codes of practice for “low emission farming”, ammonia management and guidance on fertiliser use. For domestic burning, new enforcement powers for local government as well as actions on Ecodesign of stoves and fuel quality controls were proposed;
- initial stages of implementation of Glasgow LEZ in December 2018, principally seeking to transform the bus fleet and enhance streetscapes;
- Modelling pilot report for Aberdeen, modelling development projects for LEZs proposed for the four cities and CAFS National Modelling Framework Report;
- Fleet changes (new Euro VI vehicles) for Scotland's private bus fleet;
- Progressive electrification of central Scotland's rail network during 2018 and 2019;
- The Scottish Parliament's [Environment, Climate Change and Land Reform Committee Inquiry on Air Quality](#) during 2017/2018;
- Following the VW/"DieselGate" incident and the US EPA's notice of violation of the US Clean Air Act against VW in September 2015, progress has been considerable. A range of consequential changes in engine management and design, data availability and actual emissions performance measurement and reporting etc. as well as a shift for passenger vehicles away from diesel engines has continued to flow from this origin;
- Reorganisation of public health bodies in Scotland towards the creation of Public Health Scotland;
- The next EU Environment Action Programme, due to run from 2020, is likely to consider progress on air pollution across Europe, including taking account of the findings of the EU Court of Auditors;
- Recent progress and announcements on climate change, notably the declaration of a “climate emergency” by the Scottish Government; and
- Uncertainties exist around the UK's exit from the EU remain at the time of writing. The Scottish Government has committed to remaining aligned with EU environmental regulation in any circumstances.

2 Health Effects

The international epidemiological evidence convincingly shows that ambient air pollution causes serious damage to both respiratory and cardiovascular health

worldwide, with wide-ranging effects including earlier death. There is no agreed level of the key pollutants (fine particulates (PM_{2.5}), O₃ and NO₂) at which adverse effects can be said with confidence, not to occur. As noted by WHO in 2013, the evidence of effects of both short-term and long-term exposure continues to grow, with the greatest public health effects being associated with long-term exposures. These findings have for many years formed the basis of air pollution control internationally, as endorsed for example by WHO, The UK Committee on Medical Effects of Air Pollutants (COMEAP) in the UK, the EU, US EPA and many other expert groups.

The evidence relating to long-term impacts associated with particulate pollution is notably strong, especially for PM_{2.5}, for which there is no agreed threshold level at which adverse effects stop occurring for the population as a whole. Reducing ambient PM levels below international health-based standards must therefore remain a high priority, alongside efforts to reduce nitrogen oxides and other preventable pollutants.

There is some uncertainty from international studies about the scale of health effects associated with low pollutant concentrations typical of the average seen in Scotland now. The specifically Scottish literature, while small, has repeatedly demonstrated impacts of pollutants on respiratory illness that are consistent with international evidence. Studies in Scotland differ from the international evidence however, in not showing effects of pollution on cardiovascular (CV) disease outcomes for reasons that are unknown. The extent to which future policy making in Scotland is based on the international evidence and takes account of the specifically Scottish studies, has implications on the advice that can be given on what additional proportionate action is needed to further reduce the harm due to air pollution at current levels.

There is growing evidence from other countries showing associations of air pollution with other important health conditions including dementia, diabetes, and adverse pregnancy outcomes (low birth weight and prematurity). Collectively this constitutes good evidence that air pollution, even at the low concentrations found in much of Scotland, is linked to excess ill health that should be preventable by reducing pollution further.

The fundamental message, based on available evidence, is that air pollution is harmful to human health and the wider environment. Although difficult to predict or measure, further reductions in ambient manmade air pollution will be likely to bring additional public health gains, especially in terms of reduced long-term health impacts across a range of preventable adverse health outcomes.

3 Policy Development

Late last year the Scottish Government decided to undertake a review of its air quality strategy 'Cleaner Air for Scotland – The Road to a Healthier Future' (CAFS) which was published in November 2015. The review was a commitment in the 2018/19 Programme for Government and was launched by the Cabinet Secretary for the Environment, Climate Change and Land Reform on 6 November 2018. A Steering Group and an independent chair were appointed and tasked with reviewing the progress of the CAFS Strategy to date, assessing the current state of Scotland's air quality and possible future trajectories, identifying evidence and activity gaps and finally, providing advice and recommendations on priorities for further action.

CAFS was described as a national cross-government strategy setting out "*how the Scottish Government, working together with partner organisations across the public*

and private sectors, will deliver cleaner air across Scotland, in order to help create and maintain a strong, healthy and fair society that is capable of living within environmental limits.” Its ambition was to achieve integration and coherence across government. It stated “*Scotland’s air quality will be the best in Europe*”.

A number of general recommendations arose from the Review:

1. **A Precautionary Approach.** The health evidence reviewed justifies adopting a precautionary public health approach to air pollution reduction. As a minimum, compliance is required with international air quality limits, including the WHO guideline standard for PM_{2.5}, and practical efforts to reduce preventable air pollution further should continue.
2. **Integrated Thematic and Organisational Strategies.** Where strategies, policies and plans are being devised at national and local levels for climate change mitigation and adaptation and related purposes such as noise reduction, they should be closely co-ordinated and aligned with air quality action plans and with each other in order to maximise co-benefits. It is also clear that local government, which has major Local Air Quality Management (LAQM), transport delivery as well as planning, public health and regulatory roles must act in a more coherent manner to ensure strategies and plans fit together and cross-professional and functional effort is strongly aligned. Similar integration is needed within central government too.
3. **Impacts of New Developments.** To protect against future health and environmental impacts generally, consideration should be given to a presumption that any major new development (e.g. a new road or housing development) must not lead to a net increase in carbon emissions, must not worsen air quality, and must not exacerbate existing health inequalities.
4. **Better Data.** The quality and coverage of data available on transport, environmental emissions and conditions, as well as on health all require consideration. Continuous and detailed traffic data would allow better modelling and management arrangements and appropriate interventions. Similarly high quality, reliable, well distributed, located and managed monitoring data on emissions and air quality across Scotland, available to all and in close to real time would allow not just good public information but good modelling, reporting and interventions on important issues. Health data also require careful consideration so that Scotland-specific interpretations, plans and interventions are strengthened.
5. **Behavioural Research.** Research is needed to provide clear contemporary Scottish evidence drawn from population representative information on levels of knowledge, attitudes, and levels of concern related to air pollution, as well as on willingness to change air pollution related behaviours. Behavioural insights around car use in particular continue to be vital if significant reduction is to be achieved.
6. **Environmental Regulation.** In relation to current and future environmental regulation, the requirements of European Union (EU) legislation on industrial and other relevant emissions control which have been transposed and implemented into domestic legislation should be retained and new EU requirements should continue to be implemented to provide as high a level of protection of Scotland’s environment as possible. High levels of compliance are to be expected and should be consistently achieved. It may also be beneficial to review whether all relevant sectors are subject to regulation and at the right level and in the right way to address air pollution

pressures.

7. **Tackling Under-regulated Areas: Domestic Burning and Agriculture** are two sectors not considered in the 2015 CAFS strategy, but which this review has found, based on the evidence, to be significant contributors to air pollution in Scotland. Further developments of CAFS should include an appropriate Scotland-wide set of plans to improve the arrangements for regulating and managing domestic and agriculture sector emissions. Performance of domestic fires and stoves, appropriate fuel attributes and local authority powers to permit and control these issues as well as the management of farm fertilisers and manures, etc. have the potential to deliver significant improvements in air pollution beyond current regulatory and management approaches. Practical proposals are presented for these two areas in the recent DEFRA Clean Air strategy, which the review has concluded could provide a sound basis on which to build in Scotland.
8. **Shifting to More Sustainable Transport Modes.** It appears key to progress on transport emissions that modal shift to sustainable means is achieved. Efforts need therefore to be focussed generally on demand management, reducing personal private vehicle use as a priority. This will require strong leadership and clear understanding of demand management and behaviour change issues and the most effective interventions. It should also mean that, although not solely relying on technological solutions, we embrace new technologies, better public provision and constraints upon private use, especially in urban centres where pollution and congestion are most acute. Managing down aspects of traditional supply is necessary, as it is strongly suspected that new road building signals the acceptability of, and provides the opportunities for expanded use. Managing demand will therefore have to run alongside investment connected with safety, maintenance and modal accommodations, especially in rural areas. It is important too that existing complementary transport strategies, on cycling, walking, “Switched On Scotland”, etc. as well as plans for the freight sector are meaningfully integrated with proposals and plans for the bus and other sectors. Scottish Government and Transport Scotland should ensure appropriate leadership and an integrated approach to strategy are provided through the completion and delivery of a genuinely broad and transformative second National Transport Strategy, aligned with this review, and a set of Delivery Plans and Investment Programmes that reflect its spirit and detail into implementation.
9. **Governance, Accountability and Delivery.** Simple and effective governance arrangements and a real focus on practical joined-up delivery is imperative. The mission of further improving air quality is complex, involves many delivery and stakeholder bodies and affects all of us. With relatively scarce resources and separate delivery bodies it is essential that the final agreed implementation strategy for the next stage of CAFS makes it clear who is doing what, who is leading, who is supporting and who is ultimately responsible. Specific encouragement as well as supportive arrangements will be essential if a coherent integrated and successful strategy is to be delivered and seen to be delivered.
10. **Further Progress Review.** A review of progress on air pollution should be conducted no more than 5 years hence. This should occur prior to the end of 2024/25, in order to track and consolidate LEZ progress and general compliance in Scotland as well as allowing Scotland to keep abreast of changes in both societal attitudes, sector performance and technology. Remaining challenges and actions should be identified.

4 Low Emissions Zones

In September 2017, the Scottish Government in their Programme for Government, committed to the introduction of Low Emission Zones (LEZs) into Scotland's four biggest cities (Glasgow, Edinburgh, Aberdeen and Dundee) by 2020 and into all other Air Quality Management Areas (AQMAs) by 2023 where National Low Emissions Framework appraisals advocate such mitigation.

In October 2017, it was announced that an LEZ would be introduced in Glasgow in 2018. A LEZ is a defined geographical area in which vehicle entry is restricted, based on the level of engine emissions. They are aimed at reducing levels of particulate matter and nitrogen dioxide, the latter being particularly associated with local vehicle exhaust emissions. The means by which an LEZ is typically enforced is through number plate recognition cameras which allow for fixed penalty notices to be issued for non-compliant vehicles. There are many LEZs in use across Europe, with one of the largest covering much of London (introduced in 2008).

The Glasgow LEZ is now in place, concentrating initially on ensuring only lower emissions buses enter the city centre.

5 Further References

[Air Quality \(PM_{2.5} particulate air pollution\) and Mortality in Scotland](#) (April 2014)

[Cleaner Air for Scotland, the Road to a healthier Future' \(CAFS\)](#) (November 2015), and [Annual Progress Report 2016](#) (June 2017)

[Air pollution: outdoor air quality and health](#) (NICE / CIEH, June 2017)

[UK Plan for tackling Roadside Nitrogen dioxide Concentrations](#) (July 2017)

[Ecostars fleet recognition scheme](#)

[Environment Act 1995 \(Part IV\)](#)

[Every Breath We Take](#), The Royal College of Physicians published 2016

[Local Air Quality Management Technical Guidance LAQM.TG\(16\)](#)

[Lothian Joint Health Protection Plan](#)

[Scottish Local Air Quality Management Policy Guidance LAQM PG\(S\)\(16\)](#)

[UK Clean Air Strategy](#) (DEFRA, January 2019)

www.airqualitynews.com