Annual Progress Report (APR)

2024 Air Quality Annual Progress Report (APR) for North Lanarkshire Council

In fulfilment of Part IV of the Environment Act 1995, as amended by the Environment Act 2021

Local Air Quality Management

July 2024

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Executive Summary: Air Quality in Our Area

Air Quality in North Lanarkshire

North Lanarkshire Council is Scotland's fourth (by population) local authority, situated in Central Scotland. Traditionally an area associated with heavy industry, this has significantly declined in recent years and the economy of the area now focuses on commerce and light industry. Due to its geographical location many of Scotland's trunk roads pass through North Lanarkshire, including the M8/A8, M74, M73 and M80/A80. There is also substantial cross-boundary travel with neighbouring local authority areas, particularly Glasgow, South Lanarkshire, Falkirk and West Lothian, for employment, education and leisure activities. The main source of air pollution within North Lanarkshire is road traffic emissions, with a small element attributable to small-scale quarrying activities.

North Lanarkshire Council operate a wide-reaching network of air monitoring equipment and in 2023 this comprised ten real-time automatic monitoring stations measuring Nitrogen Dioxide (NO_2) and fine Particulate Matter (PM_{10} and $PM_{2.5}$) as well as a comprehensive network of 81 passive diffusion tubes monitoring NO_2. The locations of our air monitoring equipment, both automatic and diffusion tubes are reviewed on a regular basis to ensure we target the most appropriate locations in terms of air pollution sources and the potential for receptor exposure. During the reporting period of 2023 measured concentrations of NO_2 across monitoring sites, both automatic and diffusion tube monitoring all complied comfortably with the annual mean statutory objective. In addition, no exceedances of the short-term NO_2 objective were noted. Similarly, for PM_{10} and $PM_{2.5}$ all statutory air quality objectives were met at the automatic monitoring sites in 2023. Measured concentrations of all three pollutants (NO_2, PM_{10}, and $PM_{2.5}$) remained broadly consistent with measured concentrations from 2022, and comfortably below the statutory air quality objectives.

In 2023 we have been reviewing the extent of our monitoring network and have commissioned a new automatic air monitoring site in Gartcosh. This part of North Lanarkshire has seen extensive growth in recent years, which is ongoing and so it is felt that air monitoring using automatic monitoring equipment would provide valuable air monitoring data for before, during and after development. The Gartcosh automatic monitoring station will be fully operational in mid 2024.

In addition to this new automatic air station we have undertaken a review of the NO_2 diffusion tube sites operating in North Lanarkshire. A number of these sites have been returning very low levels of NO_2 thus for operational reasons we have decommissioned several diffusion tube sites and in 2024 we will reduce the number of sites from 81 to 50. These will be targeted at the most appropriate sites, with two new sites being set up, at Whifflet close to a large school campus, and also at Moffat Mills close to the proposed site of the new Monklands Replacement Hospital.

Following discussions with the Scottish Government and SEPA, in 2023/24 we will be revoking both the Chapelhall and Coatbridge Air Quality Management Areas (AQMAs) in their entirety for both PM_{10} and NO_2. This follows a number of years of compliance with the statutory air quality objectives for both pollutants in both AQMAs. The Motherwell AQMA will remain in place, but under review, due to the ongoing road infrastructure changes to accommodate the ongoing development of the nationally important Ravenscraig site.

Following the success of the Eco Stars fleet and taxi schemes in North Lanarkshire in 2023, these schemes will continue to run and attract new members in 2024, subject to ongoing funding from the Scottish Government air quality projects grant.

North Lanarkshire Council manages and leads a partnership which includes South Lanarkshire Council and East Dunbartonshire Council to focus on reducing Vehicle Emissions and Vehicle Idling offences. This work is funded via the Scottish Government Air Quality Projects grant and in the past financial year (2023/24) North Lanarkshire has conducted 8 Vehicle Emission Testing days with Police Scotland and partners including SEPA. This saw approximately 1600 vehicles tested and awareness raised with drivers around ensuring vehicles are serviced regularly and engines maintained. In addition, 2023/24 saw over 193 Vehicle Idling Patrols carried out at locations across North Lanarkshire where vehicle idling was considered to be contributing to poorer air quality at certain times, including schools at drop off and pick up times, taxi ranks, bus terminals and general idling hotspots identified from complaints made to the department. 237 warnings to drivers were issued during these patrols where the driver was requested to turn their vehicle engine off and subsequently did so.

As has been highlighted in previous reports there are several major developments planning in the North Lanarkshire Council area over the coming years which could have an impact on local air quality. These include City Deal projects including the Pal Lan access to Ravenscraig route, the East Airdrie Link Road, and also the New Monklands Hospital. We

will continue to strive to ensure air quality is considered at the earliest possible stage in both major and smaller scale developments.

Actions to Improve Air Quality

A number of air quality projects aimed at improving air quality in North Lanarkshire were undertaken in the reporting year of 2023.

- Our ongoing programme of air quality monitoring was continued in 2023, with a high data capture rate at all ten automatic monitoring sites. One new automatic air monitoring station is in the process of being commissioned, at Gartcosh, to reflect significant ongoing development in the area. The automatic air monitoring station at Croy is being decommissioned and equipment moved to the new Gartcosh site. Work began on this in 2023, and will be completed in 2024.
- A comprehensive review of all diffusion tube monitoring sites was undertaken in 2023/24 and this saw a reduction in diffusion tubes from 81 to 50 sites, with the sites showing the lowest levels of NO_2 (generally around 10 µg/m^3) being decommissioned. Two new sites have been set up – one in Whifflet close to a large school campus, and the other close to the area earmarked for the future East Airdrie Link Road.
- Building on the interest and success of previous workshops we held two Eco Stars events for taxi operators in order to encourage membership of the Council's Eco Stars scheme. These events were held in conjunction with South Lanarkshire Council.
- The extension to the regional air quality dispersion modelling study was carried out to cover the remainder of the North Lanarkshire area not already covered in previous studies. This information will be invaluable in indicating the pollution levels across North Lanarkshire.
- A necessary equipment upgrade was carried out on the FIDAS particulate analyser within the Chapelhall AQMA, ensuring its optimum accuracy and high levels of data capture.
- Utilising Scottish Government air quality grant funding, and complementing work carried out in previous years, in 2023 two cycle repair and pump stands were purchased and installed in two of the Council's Country Parks. Training was also provided for staff involved in the bicycle hire fleet in order that they are proficient in dealing with e-bikes which will shortly be added to the hire fleet. An accessible bike to be added to the fleet was also purchased.

- Scottish Government air quality grant funding was also used to pay half the costs of creating a new shared use (cycling/walking) route that links with the National Cycle Route (NCR) network.
- North Lanarkshire Council manages and leads a partnership which includes South Lanarkshire Council and East Dunbartonshire Council to focus on reducing Vehicle Emissions and Vehicle Idling offences. This work is funded via the Scottish Government Air Quality Projects grant and in the past financial year (2023/24) North Lanarkshire has conducted 8 Vehicle Emission Testing days with Police Scotland and partners including SEPA. This saw approximately 1600 vehicles tested and awareness raised with drivers around ensuring vehicles are serviced regularly and engines maintained. In addition, 2023/24 saw over 193 Vehicle Idling Patrols carried out at locations across North Lanarkshire where vehicle idling was considered to be contributing to poorer air quality at certain times, including schools at drop off and pick up times, taxi ranks, bus terminals and general idling hotspots identified from complaints made to the service. 237 warnings to drivers were issued during these patrols where the driver was requested to turn their vehicle engine off and subsequently did so immediately.

Local Priorities and Challenges

In 2024 North Lanarkshire Council expects to prioritise work in the following areas.

- The AQMAs at Chapelhall and Coatbridge will be revoked in their entirety for both NO_2 and PM_{10}. This follows a number of years of compliance with the national air quality objectives for both pollutants. Air quality monitoring will continue at both sites for a period of time until the sites are ultimately decommissioned.
- The new automatic air monitoring station at Gartcosh will become operational in 2024, with the Croy automatic air station being decommissioned.
- We will undertake the necessary optics replacement on four of our FIDAS particulate analysers in 2024.
- The review of diffusion tube monitoring sites will be concluded and the new reduced number of sites (81 down to 50) will take effect in Spring 2024.
- We will continue to run the two Eco Stars schemes in North Lanarkshire, for fleet and taxi operators, subject to Scottish Government funding.

- As part of our ongoing commitment to air quality awareness-raising initiatives we will undertake a school project for Clean Air Day in 2024, and any take part other air quality awareness raising opportunities that arise.
- We will update and relaunch the Strathclyde Park Treasure Trail competition with South Lanarkshire Council in order to promote walking and cycling in both Council areas.

How to Get Involved

Further information on air quality in North Lanarkshire can be found on the Council's website at http://www.northlanarkshire.gov.uk/pests-and-pollultion/pollution/air-pollution or by contacting (01236) 856300 or kildonanPS@northlan.gov.uk

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1 Local Air Quality Management

This report provides an overview of air quality in North Lanarkshire during 2023. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), and the relevant Policy and Technical Guidance documents.

The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether the air quality objectives are likely to be achieved. Where an exceedance is considered likely the local authority must 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. This Annual Progress Report (APR) summarises the work being undertaken by North Lanarkshire Council to improve air quality and any progress that has been made.

Table 1.1 – Summary of Air Quality Objectives in Scotland

Pollutant	Air Quality Objective Concentration	Air Quality Objective Measured as	Date to be Achieved by
Nitrogen dioxide (NO_2)	200 µg/m^3 not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
Nitrogen dioxide (NO_2)	40 µg/m^3	Annual mean	31.12.2005
Particulate Matter (PM_{10})	50 µg/m^3, not to be exceeded more than 7 times a year	24-hour mean	31.12.2010
Particulate Matter (PM_{10})	18 µg/m^3	Annual mean	31.12.2010
Particulate Matter ($PM_{2.5}$)	10 µg/m^3	Annual mean	31.12.2021
Sulphur dioxide (SO_2)	350 µg/m^3, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
Sulphur dioxide (SO_2)	125 µg/m^3, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
Sulphur dioxide (SO_2)	266 µg/m^3, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005
Benzene	3.25 µg/m^3	Running annual mean	31.12.2010
1,3 Butadiene	2.25 µg/m^3	Running annual mean	31.12.2003
Carbon Monoxide	10.0 mg/m^3	Running 8-Hour mean	31.12.2003

2 Actions to Improve Air Quality

2.1 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority must prepare publish and implement an Air Quality Action Plan (AQAP) within the shortest possible time and no later than 12 months of the date of AQMA Designation Order. The AQAP must set out measures the local authority intends to put in place in pursuit of the objectives within the shortest possible time Measures should be provided with milestones and a final date for completion. The action plan itself should have a timescale for completion and for revocation of the AQMA. Where measures to reduce air pollution may require a longer timescale an action plan shall be reviewed and republished within five years of initial publication and then five-yearly thereafter.

A summary of AQMAs declared by North Lanarkshire Council can be found in Table 2.1 . Further information related to declared or revoked AQMAs, including maps of AQMA boundaries are available online at https://www.northlanarkshire.gov.uk/pests-and-pollution/pollution/air-quality/air-quality-management-areas

In line with the recommendations of the 2023 Annual Progress Report we are in the process of revoking the Chapelhall and Coatbridge AQMAs (see monitoring section).

Table 2.1 – Declared Air Quality Management Areas

AQMA Name	Pollutants and Air Quality Objectives	City / Town	Description	Action Plan
Chapelhall AQMA	NO_2 Annual Mean PM_{10} Annual Mean	Chapelhall	An area encompassing a number of properties at the junction of Main Street and Lauchope Street	http://www.northlanarkshire.gov.uk/pests-and-pollution/pollution/air-quality/air-quality-management-areas
Coatbridge AQMA	NO_2 Annual Mean PM_{10} Annual Mean	Coatbridge	Whifflet Street stretching from roundabout at McDonalds to Shawhead junction. Extended in 2015 to include Kirkshaws Road	http://www.northlanarkshire.gov.uk/pests-and-pollution/pollution/air-quality/air-quality-management-areas
Motherwell AQMA	PM_{10} Annual Mean	Motherwell	An area encompassing part of Motherwell Town Centre	http://www.northlanarkshire.gov.uk/pests-and-pollution/pollution/air-quality/air-quality-management-areas

2.2 Cleaner Air for Scotland 2

Cleaner Air for Scotland 2 – Towards a Better Place for Everyone (CAFS2) is Scotland's second air quality strategy. CAFS2 sets out how the Scottish Government and its partner organisations propose to further reduce air pollution to protect human health and fulfil Scotland's legal responsibilities over the period 2021 – 2026. CAFS2 was published in July 2021 and replaces Cleaner Air for Scotland – The Road to a Healthier Future (CAFS), which was published in 2015. CAFS2 aims to achieve the ambitious vision for Scotland "to have the best air quality in Europe". A series of actions across a range of policy areas are outlined, a summary of which is available on the Scottish Government's website.

Progress by North Lanarkshire Council against relevant actions for which local authorities are the lead delivery bodies within this strategy is demonstrated below.

2.2.1 Placemaking – Plans and Policies

Local authorities with support from the Scottish Government will assess how effectively air quality is embedded in plans, policies, City Deals and other initiatives, and more generally in cross departmental working, identifying and addressing evidence, skills, awareness and operational gaps.

North Lanarkshire Council's Local Development Plan (LDP) was adopted and implemented in July 2022. This is the land use planning strategy for the coming 5-10 years and it focuses on Promoting Development Locations and Protecting Assets. Air Quality is specifically mentioned in the LDP in the section on Placemaking Environment and Design Qualities (EDQ) for Development Category. Category EDQ2 includes air quality as a Special Feature for Consideration for proposed development. Also, within EDQ3 Policy section of the LDP there is reference to air quality as one of a number of considerations in relation to planned development. Note is made of proposed development within or adjacent to AQMAs which are detailed in the LDP's Protect Map. The Policies are written in such a way as to apply to any AQMA the Council designates in the future during the lifetime of the LDP.

National Planning Framework 4 (NPF4) was adopted in 2023 and is part of the Development Plan for North Lanarkshire. Within NPF4 Policy 23 Health and Safety makes specific reference to air quality in branch d. This policy provision has additional requirements for consideration and should be read in conjunction with policies EDQ2 and EDQ3 of the LDP. Where there is deemed to be conflict between policies in NPF4 and the LDP, NPF4 will take precedence as the more recently adopted element of the Development Plan.

The Council is currently preparing its Evidence Report as it works towards delivery of its next LDP. Evidence on the presence and management of AQMA will be incorporated in any site selection methodology, as appropriate and consideration will be given to the adequacy of NPF4 policy for local circumstances and whether any additional policy provisions may be required in NLLDP2.

2.2.2 Transport – Low Emission Zones

Local authorities working with Transport Scotland and SEPA will look at opportunities to promote zero-carbon city centres within the existing LEZs structure.

North Lanarkshire Council has previously conducted a National Low Emission Framework Stage/Screening Appraisal and concluded that Low Emission Zones would not be appropriate for any of the AQMAs at that time. As there has not been a substantial change to the circumstances of the AQMAs a further LEZ assessment is not deemed necessary at this time.

2.2.3 Transport – Active Travel Strategy

North Lanarkshire Council Active Travel Strategy 2021-2031 aims to create a wide range of (transport) connections across North Lanarkshire which can be used for everyday journeys such as travelling to access employment, education or meeting essential needs in addition to recreational purposes. Key targets of the Active Travel Strategy includes increasing the number of cycle parking spaces at local amenities, employment centres, transport links and Town and Community Hubs, and introducing additional walking, wheeling and cycling connections to key destinations and local community hubs.

2.2.4 Air Quality and Climate Change

North Lanarkshire Council has a statutory duty to reduce carbon emissions, adapt to climate change and act sustainably. In recognition of the threat of increased global temperatures, the Council has declared a climate emergency and is developing a new pathway to net zero. The Council's response to climate change is set out in the document Climate Plan - Action on Climate Together (2030) supported by a list of multi-service actions. The plan will be revised in line with the new pathway.

2.3 Implementation of Air Quality Action Plan(s) and/or measures to address air quality

In order to ensure that local authorities implement the measures within an action plan by the timescales stated within that plan, the Scottish Government expects authorities to submit updates on progress through the APR process. North Lanarkshire Council has taken forward a number of measures within the action plan during the current reporting year of 2023 in pursuit of improving local air quality and meeting the air quality objectives within the shortest possible time. Details of all measures completed, in progress or planned are set out in Table 2.2. More detail on these measures can be found in the North Lanarkshire Council Air Quality Action Plan which can be viewed on the council website at https://www.northlanarkshire.gov.uk/pests-and-pollution/pollution/air-quality/air-quality-management-areas

Key completed measures for this reporting year are:

- A comprehensive review of all Diffusion Tubes monitoring sites was undertaken and will take effect in Spring 2024. In this review the number of diffusion tubes was reduced from 81 to 50 with sites showing the lowest levels of Nitrogen Dioxide being removed. Two new sites were set up – one in Whifflet close to a large school campus, and the other in the area which has been earmarked for the future East Airdrie Link Road.
- Building on the interest and success of previous workshops we held two Eco Stars events for taxi operators in order to encourage membership of the North Lanarkshire Eco Stars Taxi scheme. These events were held in conjunction with South Lanarkshire Council.
- The extension to the regional air quality dispersion modelling study was carried out. This was to cover the remainder of the NLC area not covered in previous dispersion modelling studies carried out. The information will be invaluable in indicating the pollution levels across North Lanarkshire.
- A necessary equipment upgrage was carried out on the FIDAS particulate analyser within the Chapelhall AQMA, ensuring its optimum accuracy and high levels of data capture.
- Using Scottish Government air quality grant funding the council was able to continue with its ongoing Vehicle Emission Testing and Vehicle Idling programmes. In 2023

we undertook 193 idling patrols resulting in over 237 warnings issued to drivers idling who were required to turn their engines off and immediately did so.

- Utilising Scottish Government air quality grant funding, and complementing work carried out in previous years, in 2023 we purchased and installed two cycle repair and pump stands in two of the council's country parks. We also provided training for staff involved in the bicycle hire fleet in order that they are proficient in dealing with e-bikes which will shortly be added to the hire fleet. An accessible bike to be added to the bicycle hire fleet was also purchased.
- Air quality grant funding was also used to pay half the costs of creating a new shared use (cycle/walking) route that links with the National Cycle Route (NCR) network.

Progress on the following measures has been slower than expected due to competing workload priorities.

- The revocation of the NO_2 element of the Chapelhall and Coatbridge AQMAs was not completed in 2023. This work began late 2023 and will be prioritised in 2024. Following discussion, it will comprise the full revocation of both AQMAs for NO_2 and PM_{10} in line with the instruction from the Scottish Government and SEPA.
- It was not possible to fully decommission the Croy air monitoring station in 2023. This was due to competing workload demands and also delays in the setting up of the new air monitoring station at Gartcosh which the monitoring equipment from Croy will be moved to. This will be done in 2024.
- No Eco Stars Bus Operators workshops were held in 2023 due to the lack of retrofitting grant funding available for bus operators.

North Lanarkshire Council expects the following measures to be completed over the course of the next reporting year:

- We will revoke the Air Quality Management Areas (AQMAs) at Chapelhall and Coatbridge, following a number of years of compliance with the air quality objectives.
- We will conclude the review of our monitoring sites in North Lanarkshire and introduce the changes. This will involve decommissioning the Croy and Kenilworth automatic air stations, and the setting up of a new automatic air monitoring station at Gartcosh. Our Diffusion Tube sites will be reduced from 81 sites to 50 sites, with two new diffusion tube sites being set up at Whifflet/Kirkshaws and at Moffat Mills.

- We will undertake the optics replacement on four of our FIDAS particulate air monitors.
- We will continue to run the two North Lanarkshire Eco Stars schemes for fleet and taxi operators in the area.
- We will undertake a school air quality project for Clean Air Day, and continue with any relevant air quality awareness opportunities that we can be involved in.
- We will update and relaunch the Strathclyde Country Park Treasure Trail competition in conjunction with South Lanarkshire Council.

Table 2.2 – Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Expected/Actual Completion year	Measure Status	Funding Status	Key Milestones	Progress	Barriers to implementation
1	**Facilitate modal shift from private car use to active travel and public transport, including:** **(a) Input to the Local Transport Strategy (LTS)** **(b) Pre- and post-implementation monitoring of strategic active travel infrastructure projects, including traffic counts, speed and air quality will be undertaken** **(c) Complete an audit of public transport across North Lanarkshire, looking at things such as key commuter routes to main centres of employment, out of hours provision and age of fleet**	Alternatives to private vehicle use	(a) 2024 (b)2024-26 (c)2024-25	(a)Planned for Summer 2024 (b) Planned (c)Planned	(a)No extra funding required (b)Variety of funding sources. (c)Funding will be sought for consultant to undertake this work	(a)Publication of LTS (b)Collation of evidence from one key active travel intervention (c)Completion of initial study and thereafter determine what action may be required	(a) Work will begin on updating the LTS in Summer 2024. (b)Cycling Scotland will be undertaking cycling counts in May 2024 at six locations throughout North Lanarkshire. The focus during 2024/25 will be on developing a portfolio of detailed design projects, some of which will be taken to construction in 25/26 (funding dependent). preconstruction monitoring surveys will be undertaken as appropriate. (c)Planned, but awaiting details of SPT plans for bus provision reform	Subject to availability of funding

2	**Investigate air quality around schools in North Lanarkshire with particular focus on drop-off and pick-up times** **(a) Review of existing monitoring network and deployment of additional monitoring equipment where necessary** **(b) Establish Air Quality Champion Schools in each of our AQMAs, and other relevant behaviour change campaigns to encourage sustainable travel to/from school for both pupils and staff working at the school**	Promoting Travel Alternatives	2023-28	(a)In progress (b)Planned	(a)Scottish Government Air Quality grant and other funding sources (b)Funding may be required for projects within the wider brief eg School Travel Planning	Initial review of existing monitoring network Further milestones defined after initial review Review Completion Monitoring before and after interventions to test effectiveness on local air quality	(a)Due to be completed Spring 2024 (b)Schools to be identified in 2024/25	
3	**Improving Active Travel Options to North Lanarkshire Community Hubs** **(a) Audit existing infrastructure** **(b) Publicity campaigns to promote options**	Promoting travel alternatives	2023-28	Planned	(a)Funding to be confirmed by project lead (b)No funding required for publicity campaigns	(a)Report on provision and recommendations for improvements (b)Publicity campaign undertaken and thereafter completion of campaign	Project timeline still to be finalised	
4	**Lead by example in taking measures to reduce air pollution in North Lanarkshire** **(a) In line with the council's approved Leadership/Operating Model we will support home working and the use of hubs in addition to fixed**	Promoting travel alternatives	2023 – 2028	Ongoing	N/A	Ongoing provision of hubs and home working	Ongoing	

	work locations to reduce workplace travel **(b) We will enhance the digital delivery of services to reduce the need for employees and customers to travel to council buildings** **(c) We will continue to offer and promote the Cycle to Works scheme for employees of North Lanarkshire. We will also look to introduce a lease scheme for Electric/Low Emission Vehicles for Council employees**							
5	**Review of Monitoring Network to optimise resources and coverage across North Lanarkshire**	Policy guidance and control	2023-25	Planned	Scottish Government air quality grant	Initial review in 2023 for data collection in 2024. Annually reviewed during preparation of APR	In progress and will be completed and implemented in 2024	
6	**Ensure air quality and climate change policy actions in North Lanarkshire enjoy a relationship with co-benefits for both areas.** **(a) We will work towards the decarbonisation of the NLC fleet** **(b) We will increase EV charging infrastructure within council new-build development** **(c) We will increase EV charging infrastructure across North Lanarkshire**	Policy guidance and control	2023-28 and beyond	In progress	NLC Capital Funding bid and other sources	(a)Proportion of fleet decarbonised reported annually (b)Number of council houses built with EV included reported annually (c)Increase in public EV points reported annually	(a)Recent procurement included 16 hybrid cars. Purchased a further 10 electric vans, previously leased. Considering alternative funding options to accelerate the decarbonisation programme. (b)We have installed 24 (twin connection) communal EV charging pillars located within parking courts of our new build housing	(a)This will require significant expenditure and accordingly the rate at which the fleet will move away from existing petrol and diesel vehicles will be determined by the level or internal funding and the funding available from any external source. Currently working with partner local authorities within Glasgow City Region to look at possibility of partnership

							developments. Additionally, in 2021 we committed to installing individual charging points on each new build home that has a private driveway associated with the dwelling. So far we have installed 171 individual charging points directly to these homes. (c)Committee approval received to enter into collaboration agreement with Glasgow City Region local authorities, with delegated authority to Deputy Chief Executive. Draft Collaboration agreement compiled and under review.	approach with private sector to accelerate number of charging points available across region. Communal EV charging points being installed within parking courts are subject to network capacity within the national grid. Infrastructure and overall construction costs are very high at the moment and supply chain is very limited.
7	**We will ensure air quality has greater importance in NLC's procurement and contract processes in terms of the sustainable procurement duty requirement as outlined in Section 9 of the Procurement Reform (Scotland) Act 2014.**	Policy guidance and control	2023-2028 and beyond	In progress	No budget implications	NA	Ongoing	
8	**Aligning Planning and Air Quality Guidance and Placemaking Targets outlined in CAFS2** **(a) We will continue to ensure that air quality is a material consideration in development management**	Policy guidance and control	2023-28 and beyond	Ongoing	No funding required	Planning and AQ information reported on annual basis in APR	Ongoing	No known barriers to implementation

	decisions and where appropriate will promote best practice to realise air quality improvements such as connectivity to active travel/public transport **(b) We will ensure air quality is included in any revisions to the Local Development Plan and take due cognisance of air quality requirements that are included in National Planning Framework 4**							
9	**Revoke the NO_2 element of the Chapelhall and Coatbridge AQMAs**		2024	Ongoing	No funding required	Revocation to be completed in 2024	In progress	
10	**Continuation, expansion and promotion of the Eco Stars Environmental Fleet recognition scheme** **(a) An Eco Stars taxi operator scheme will be set up in North Lanarkshire in addition to the Eco Stars Fleet Scheme** **(b) We will promote the NLC Eco Stars scheme to Council contractors and endeavour to ensure they are members**	Promoting vehicle efficiency	2023	Ongoing	Scottish Government air quality grant	Annual membership increase in both fleet and taxi schemes	Ongoing	Continuation of both schemes is dependent on funding from Scot Gov Air Quality Grant
11	**Raising awareness including through Clean Air Day, Vehicle Emission Testing and Idling campaigns**	Public information	Ongoing	Ongoing	Scottish Government air quality grant	CAD held annually	Ongoing	Dependent on Scottish Government air quality funding
12	**Continue our ongoing engagement with the Enterprise Projects Team to ensure that air quality is given appropriate consideration in City Deal Projects**	Transport planning and infrastructure	2023-28	In progress	NA	Delivery of City Deal projects with relevant air quality input	Ongoing	

3 Air Quality Monitoring Data and Comparison with Air Quality Objectives

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

This section sets out what monitoring has taken place and how local concentrations of the main air pollutants compare with the objectives.

North Lanarkshire Council undertook automatic (continuous) monitoring at 10 sites during 2023. Table A.1 in Appendix A shows the details of the sites. National monitoring results are available at www.scottishairquality.scot

A map showing the location of the monitoring sites is provided in Figure 3.1 Due to the number of monitoring sites in North Lanarkshire Figure 3.1 is an overview of the sites. More detailed information on both the automatic and diffusion tube monitoring locations can be found on the website www.scottishairquality.scot/latest Further detail on how the monitors are calibrated and how the data has been adjusted are included in Appendix C.

3.1.2 Non-Automatic Monitoring Sites

North Lanarkshire Council undertook non- automatic (passive) monitoring of NO_2 at 81 sites during 2023. Table A.2 in Appendix A shows the details of the sites.

A map showing the location of the monitoring sites are provided in Figure 3.1 and at www.scottishairquality.scot/latest Further details on Quality Assurance/Quality Control (QA/QC) and bias adjustment for the diffusion tubes are included in Appendix C.

3.1.3 Other Monitoring Activities

No other monitoring activities have been undertaken by North Lanarkshire Council in the reporting year of 2023.

3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for annualisation and bias. Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO_2)

Monitoring of NO_2 was carried out at 10 automatic monitoring stations in North Lanarkshire in 2023 and results indicate that there were no exceedances of the annual mean Air Quality Objectives (AQOs) at any of the automatic monitoring sites. The highest measured NO_2 concentration in 2023 was at the Chapelhall automatic monitoring site, which measured annual mean of 18.2 µg/m^3 well below the AQO of 40 µg/m^3. All monitoring sites showed a minimal increase in measured NO_2 concentrations from 2022 levels, apart from two sites – Kenilworth Drive, Airdrie and Whifflet Cross A725, which remained the same as in 2022. Table A.3 in Appendix A compares the ratified monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40 µg/m^3 at automatic monitoring sites.

Graphs in Figures A1 to A6 in Appendix A show the trend in annual mean NO_2 concentrations at continuous monitoring sites within the AQMAs.

In addition to automatic monitoring of NO_2 North Lanarkshire Council also monitored NO_2 through its network of 81 passive diffusion tubes. The full dataset of monthly mean values is provided in Appendix B. All diffusion tube monitoring results for 2023 comply comfortably with the annual mean statutory objective of 40 µg/m^3. The vast majority of diffusion tubes either stayed the same or were reduced on 2022 levels, with only 5 diffusion tubes increasing on 2022 monitored levels. The highest diffusion tube result was 19.8 µg/m^3 annual mean at Deedes Street, Airdrie however this is still well below the annual mean AQO for NO_2.

Table A.4a in Appendix A compares the adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40 µg/m^3 at non automatic monitoring sites.

For diffusion tubes, the full 2023 dataset of monthly mean values is provided in Appendix B.

Table A.5 in Appendix A compares the ratified continuous monitored NO_2 hourly mean concentrations for the past five years with the air quality objective of 200µg/m^3, not to be exceeded more than 18 times per year. There were no exceedances of the short-term

statutory air quality objective for NO_2 hourly mean at any of the automatic monitoring stations in 2023.

3.2.2 Particulate Matter (PM_{10})

Measured concentrations of PM_{10} at all automatic monitoring stations in North Lanarkshire all comfortably complied with the AQO of 18 µg/m^3 in 2023. The highest reading was New Edinburgh Road, Uddingston which measured an annual mean average of 10.4 µg/m^3. All sites were relatively consistent with measured concentrations from 2022, with the exception of CM13 Ravenscraig, which showed a slight increase in measured concentrations of annual mean PM_{10} but still remaining well below the annual mean AQO.

Table A.6 in Appendix A shows the annual mean PM_{10} monitoring results for all automatic air stations in 2023.

In terms of the short-term statutory objective for PM_{10} the monitoring results indicated that there were no exceedances of the objective for 24-hour mean PM_{10} (50 µg/m^3 not to be exceeded more than seven times/year). Table A.7 in Appendix A compares the ratified continuous monitored PM_{10} daily mean concentrations for the past five years with the air quality objective of 50 µg/m^3.

3.2.3 Particulate Matter ($PM_{2.5}$)

$PM_{2.5}$ was monitored at nine automatic monitoring sites in North Lanarkshire in 2023. Measured concentrations of $PM_{2.5}$ at all monitoring sites in 2023 comfortably complied with the 10 µg/m^3 statutory objective. All sites measured within the range of 4.3 µg/m^3 and 5.0 µg/m^3 annual mean.

3.2.4 Sulphur Dioxide (SO_2)

Following several years with no measured exceedances of SO_2 and with the agreement of the Scottish Government the monitoring of SO_2 in North Lanarkshire ceased at the beginning of 2018.

3.2.5 Carbon Monoxide, Lead and 1,3-Butadiene

Historically, CO monitoring was undertaken at one site, Croy, where measured concentrations were substantially below the CO objectives, with no exceedances of the air

quality objectives noted. Monitoring was discontinued at the end of 2017. No monitoring was undertaken for Lead or 1,2-Butadiene concentrations within the council area in 2023. No significant sources of these pollutants have been identified in the previous round of review and assessment. Should any sources become known to the council then discussions around the monitoring of these pollutants would be undertaken to determine the most appropriate course of action.

Figure 3.1 – Air Quality Monitoring Sites (dark green automatic stations, light green diffusion tube sites).

4 New Local Developments

4.1 Road Traffic Sources

North Lanarkshire Council Roads and Transportation Team were consulted in relation to changes in traffic flows on roads within North Lanarkshire in 2023 and the following information was reported.

- Narrow congested streets with residential properties close to the kerb – there are no new roads that meet this criteria
- Busy streets where people may spend one hour or more close to traffic – there are no new roads that meet this criteria
- Roads with a high flow of buses or HGVs – there are no new roads that meet this criteria
- Junctions – Dundyvan Street/Station Road, Wishaw.
- New roads constructed or proposed – there are no new roads that meet this criteria
- Roads with significantly changed traffic flows – there are no new roads that meet this criteria
- Roads with new/changed layout – Alexander Street, Station Road and Dundyvan Street, Wishaw. Further information on this is provided below.
- Bus or coach stations – there are no altered/new bus or coach stations.

In addition to the above information the following projects are of interest in terms of air quality in North Lanarkshire.

During 2023 the Alexander Street, Wishaw Road Safety and Active Travel Improvements project was constructed, providing an active travel link from Wishaw Rail Station to Wishaw General Hospital. Through this project footways were widened to become shared use paths on Alexander Street, Dundyvan Street and Station Road. A mini roundabout was installed at the junction of Dundyvan Street and Station Road, and an uncontrolled pedestrian crossing installed on Dundyvan Street. Toucan crossings were installed on Netherton Street, Alexander Street and Station Road as part of this project, together with a number of uncontrolled crossings with pedestrian refuge islands.

City Deal Road Infrastructure Projects Update

Glasgow City Region Deal is an agreement between the UK Government, Scottish Government and 8 local authorities, including North Lanarkshire Council. The City Deal consists of a £1.13 billion Infrastructure Fund to create economic growth by improving transport and regenerating or developing sites over the next 20 years. In North Lanarkshire, City Deal investment will provide major road infrastructure to support the redevelopment of Ravenscraig, as this is a nationally important development site. The main focus will be to deliver the Pan Lanarkshire Orbital Transport Corridor, or Pan Lan as it is known. The Pan Lan will link the M74 in the south with the M80 on a route through the Ravenscraig site. The Pan Lan will create new and upgraded transport infrastructure in North Lanarkshire. Pan Lan now comprises:

Motherwell Town Centre Transport Interchange

- Providing a new station access road, with new taxi rank, to serve the redeveloped Motherwell Rail Station along with improvements to bus stop capacity, new and expanded footways and public realm improvements including street trees, to ease road traffic congestion on Muir Street in Motherwell town centre and to create more attractive and accessible public transport facilities.
- The infrastructure works were completed during 2023 with the new facilities now operational and in use.
- The new infrastructure will help to improve Air Quality within the Motherwell AQMA by relieving road congestion and encouraging modal shift to public transport for short, local journeys, commuting and leisure trips.

East Airdrie Link Road

- Creating a new link road between Chapelhall and Riggend (south of Cumbernauld) which will reduce traffic congestion on the A73 through Chapelhall and Airdrie.
- Will contribute towards improving air quality in the Chapelhall by relieving congestion along the A73.
- The road will have limited connections to the local road network to optimise traffic flow. It will be a single carriageway road link from north of the M8 (A723/Newhouse Interchange) to the A73, north of Riggend.
- Following a rigorous options appraisal process a preferred route has been selected. The next stage of the project is underway to develop the preliminary designs for the route alignment and prepare a planning application for submission in 2025 including

mitigation plans for potential impacts on the environment, local access forestry and existing properties.

- An Outline Business Case will be submitted for approval to the Glasgow City Region Cabinet in August 2024.

Ravenscraig Access Infrastructure South

- Creating a new road link and pedestrian and cycle paths into Ravenscraig from Airbles Road, under the new West Coast Main Line Crossing and continuing to the Ravenscraig Regional Sports Facility.
- Completion of the dualling of Airbles Road supported by additional road improvements.

Please note that the Ravenscraig Access Infrastructure North which involved the dualling of the A723 has now been removed from the City Deal Programme.

M8/A8 Corridor Project

The City Deal Orchard Farm roundabout project involves a £2 million funding contribution from City Deal towards the development of a new junction on the A8 for heavy goods vehicles, light commercial vehicles and cars to Mossend International Rail Freight Park and Mossend rail head, as well as to the former Shanks and McEwan site and Carnbroe Business Development. The roundabout will enable new industrial developments at these locations. The project relies on PD Stirling Ltd delivering the Mossend International Rail Freight Park. Further information can be viewed by searching the North Lanarkshire Council online planning portal using the reference 19/00002/FUL. The Outline Business Case (OBC) which includes the Orchard Farm roundabout was approved by the Glasgow City Region (GCR) Cabinet on 30th August 2022. The OBC also includes 10km of strategic Active Travel linking local communities with key employment sites along the A8/M8 to stimulate modal shift and address access barriers for local areas.

The new roundabout on the A8 will enable direct access to the Mossend rail head and planned rail freight park from the strategic road network, removing heavy goods vehicles

from local roads in the surrounding area, with associated air quality and road safety benefits within local communities in the Mossend and Bellshill areas.

The Strategic Active Travel Links planned for Eurocentral will connect the strategic employment locations of Eurocentral, Mossend and Newhouse to rail stations at Whifflet to the north; Holytown to the south and Bellshill to the west, and surrounding communities, by active travel. This will remove barriers to the accessibility of jobs at these employment locations and encourage greater use of public transport and active travel for commuting journeys.

NHS Lanarkshire New Monklands Hospital

In addition to City Deal projects, NHS Lanarkshire has secured land at the Wester Moffat area of Airdrie and this is to be the site of the proposed New Monklands Hospital. Aspiring to be a “woodland hospital” the chosen site is in a semi-rural location on the outskirts of Airdrie and will be accessed via the City Deal East Airdrie Link Road. This site has been approved by the Scottish Government and the projected opening year for the new hospital at the time of writing is 2031. An Outline Business Case was approved by the Scottish Government in July 2023 and a planning application for the new hospital was submitted in August 2023.

The development control process for each of these development will consider the potential effects on local air quality and assessments will determine any impact on the relevant statutory objectives for air quality. Any potential for cumulative impacts on air quality as development progresses will also be considered in relation to these major infrastructure projects. Cognisance will be taken of developments close to or impacting on the AQMAs.

4.2 Other Transport Sources

North Lanarkshire Council considered the relevant criteria set out in the template and can confirm that there are no other significant transport sources to be considered in the report.

- Airports – there are no relevant sources in North Lanarkshire.
- Locations where diesel or steam trains are regularly stationary for periods of 15 minutes or more, with potential for relevant exposure within 15m – there are no relevant sources in North Lanarkshire.
- Locations with large numbers of movements of diesel locomotives – no relevant sources in North Lanarkshire.

- Ports for shipping – there are no relevant sources within North Lanarkshire.

4.3 Industrial Sources

On consulting with SEPA for this section the following responses were provided for 2023.

Relevant sites which are permitted by SEPA are as follows:-

- PPC/B/1004355 – PPC Part B Substantial Variation. Category – PPC(B) Mining and Quarrying. Tarmac Trading Ltd, Cairneyhill Quarry, Forrest Road, Caldercruix, ML6 8NX. Granted 14/09/2023
- PPC/B/5005644 – PPC Part B New Licence. Category - PPC(B) Combustion of Fuels. MCP Wardpark Gas Peaking Project, 2 South Wardpark Place, Wardpark South, Cumbernauld, G67 3HX. Granted 03/10/2023
- PPC/B/5005674 – PPC Part B New Licence. Category – PPC(B) Combustion of Fuels. MCP NHS West of Scotland Laundry, NHS Lanarkshire, Canyon Road, Netherton Industrial Estate, Wishaw, ML2 0EG. Granted 03/10/2023
- WML/L/5003422 – WML New Licence. Category – Waste and other waste storage and treatment sites. Brewster Brothers Limited, Gartshore Works, Twechar, Kilsyth, G65 9TW. Granted 06/01/2023
- WML/L/SEPA 2023 – WML Substantial Variation. Category – Waste and other waste storage and treatment sites. Impact Recycling Limited, Building 1, 100 Inchinan Road, Bellshill Industrial Estate, ML4 3NT. Granted 20/10/2023
- WML/L/1150385 – WML Substantial Variation. Category – Waste and other waste storage and treatment sites. Murfitts Industries Limited, Motherwell Tyre Facility, Condor Glen, Holytown, Motherwell, ML1 4UY. Granted 17/11/2023

In addition to the information from SEPA above I can confirm the following

- Major fuel depots storing petrol – there are no major fuel depots in North Lanarkshire
- Petrol stations – there were no new petrol stations in North Lanarkshire in 2023
- Poultry Farms – there are no poultry farms in North Lanarkshire

4.4 Commercial and Domestic Sources

On consultation with SEPA we can confirm the following for 2023.

- Biomass combustion plant – individual installations – there are none that are regulated by SEPA (there could be smaller installations which are not currently PPC, e.g. NDRHI sites).

- Areas where the combined impact of several biomass combustion sources may be relevant – none that SEPA are aware of.

- Areas where domestic solid fuel burning may be relevant – there are no areas of North Lanarkshire where domestic solid fuel burning is a significant source of air pollution.

- Combined Heat and Power (CHP) plant – PPC/B/5005674 – PPC Part B New Licence. Category – PPC(B) Combustion of Fuels. MCP NHS West of Scotland Laundry, NHS Lanarkshire, Canyon Road, Netherton Industrial Estate, Wishaw, ML2 0EG. Granted 03/10/2023. SEPA advised this is unlikely to have an impact on emissions.

4.5 New Developments with Fugitive or Uncontrolled Sources

On consulting with SEPA the following information was provided.

- Landfill sites – no new landfill sites permitted in North Lanarkshire in 2023.
- Quarries – no new quarries permitted in North Lanarkshire in 2023.
- Unmade haulage roads on industrial sites – none that SEPA are aware of.
- Waste transfer stations – WML/L/5003422 is a new waste transfer station that was permitted in 2023. Brewster Brothers Limited, Gartshore Works, Twechar, Kilsyth, G65 9TW. Granted 06/01/2023

5 Planning Applications

North Lanarkshire Planning and Place service was consulted for details of any relevant planning applications under consideration and planning applications granted consent during 2023 that have the potential to impact on local air quality. All relevant information is presented in Table 5.1 below.

Table 5.1 – Relevant Planning Applications from 2023

Application Number	Brief description of development	AQ impact	Comments/further information
23/00029/PPP	60 holiday lodges, Bridgehill Farm, Blairmuckhole and Forrestdyke Rd, Harthill	Not in/near AQMA. No relevant AQ implications.	https://www.northlanarkshire.gov.uk/planning-and-building/planning-applications
23/00174/PPP	7 Drum Mains Park, Orchardton Woods, Cumbernauld. PPP for mixed use development including residential, employment, community uses etc.	AQ Assessment submitted. Still under review at time of writing.	https://www.northlanarkshire.gov.uk/planning-and-building/planning-applications
23/00349/FUL	Lawmuir Primary School, Orbiston, Bellshill. New community hub building including new teaching facilities for Lawmuir and Sacred Heart Primary Schools, community spaces, sports pitches and associated parking. Includes	Council-led development replacing two existing schools with new campus. Not in/near AQMA	https://www.northlanarkshire.gov.uk/planning-and-building/planning-applications

	demolition of existing infrastructure		
23/00367/FUL	Land at Woodhall Rd, Cambusnethan, Wishaw. Residential development (196 units) with access, open space etc.	No AQIA requested however application currently paused. Not in/near AQMA	https://www.northlanarkshire.gov.uk/planning-and-building/planning-applications
23/00535/FUL	Land at east of 26 Aidriehill St, Rawyards, Airdrie. Residential development comprising 62 dwellings.	No AQ Impact Assessment required. Not in/near AQMA.	https://www.northlanarkshire.gov.uk/planning-and-building/planning-applications
23/00760/FUL	Airdriehill Quarry, Airdriehill Rd. Land engineering operations (inc. importation of materials) to facilitate holiday park comprising 135 lodges.	No AQIA required. Not in/near AQMA	https://www.northlanarkshire.gov.uk/planning-and-building/planning-applications
23/00800/FUL	Wester Moffat Farm, Towers Rd and South of Forrest St, Airdrie. Proposed hospital replacement - University Hospital Monklands and assoc. hospital-related facilities and infrastructure	Air Quality information submitted as part of EIA for development	https://www.northlanarkshire.gov.uk/planning-and-building/planning-applications
23/00849/FUL	Residential revelopment, Heathfield Farm, Drumcavel Rd, Muirhead	AQ Impact Assessment information provided. Report conclusions accepted. Not	https://www.northlanarkshire.gov.uk/planning-and-building/planning-applications

		in/near AQMA. Application still under consideration.	
23/00992/FUL	Dewshill Farm – extraction of colliery shale from disused coal mine and rock from disused quarry face together with agricultural improvement works and restoration of colliery site	AQ Impact Assessment submitted in respect of application. On review it was approved with request that Dust Plan be prepared for the works.	https://www.northlanarkshire.gov.uk/planning-and-building/planning-applications
23/01357/FUL	Land at Woodneuk Ave, Gartcosh Campus for relocation of Gartcosh Primary School, language communication support centre, nursery class and community facilities	AQ Impact Assessment requested and reviewed. Satisfactory. Dust management plan requested prior to development. Application approved.	https://www.northlanarkshire.gov.uk/planning-and-building/planning-applications
23/00546/SHIP	Land to south of 1 Northcraig Dr, Ravenscraig. 23 residential units	AQ information provided as part of Area Planning Brief for Ravenscraig site.	https://www.northlanarkshire.gov.uk/planning-and-building/planning-applications
23/01083/FUL	Land to east of Darngavel Rd, Greengairs. Contaminated soil treatment facility	Air Quality Assessment submitted. Process will be regulated by SEPA and area not near/in AQMA.	https://www.northlanarkshire.gov.uk/planning-and-building/planning-applications

6 Conclusions and Proposed Actions

6.1 Conclusions from New Monitoring Data

- In 2023 all measured concentrations of NO_2 at all automatic monitoring sites complied comfortably with the annual mean statutory objective. All except two sites showed a marginal increase on 2022 levels.
- All NO_2 diffusion tubes measured well below the air quality objective, with the vast majority either the same of below 2022 measured concentrations.
- There were no measured exceedances of the short-term air quality objective for NO_2 at North Lanarkshire automatic monitoring sites in 2023.
- PM_{10} was measured at ten automatic monitoring sites in North Lanarkshire in 2023. Measured concentrations of PM_{10} all complied comfortably with the annual mean statutory objective and also there were no breaches of the short-term objective for PM_{10}.
- $PM_{2.5}$ was monitored at nine automatic monitoring stations in North Lanarkshire in 2023. Measured concentrations of $PM_{2.5}$ at all monitoring sites in 2023 comfortably complied with the annual mean statutory objective.

6.2 Conclusions relating to New Local Development

North Lanarkshire Council's Pollution Control and Public Health Team has taken due cognisance of the information provided by the Development Management and Strategic Planning Teams in relation to developments in 2023 and in reviewing Air Quality Impact Assessments that were submitted in support of planning applications in 2023. In considering this it is concluded that although there continues to be a high level of planning applications received by the Council there are no significant issues in relation to new local developments and their impact on local air quality. This is most likely because the developments have generally not been located in areas where air quality levels are close to the statutory objectives, mitigation against air quality impacts were included in the development, or the developments themselves did not lead to significant effects on air quality or result in exceedances of the air quality objectives at nearby receptors.

Pollution Control and Public Health will continue to work with planning colleagues to identify any future developments that may present air quality issues and take any action deemed

appropriate at that time. We will also continue to request Air Quality Impact Assessments where necessary when consulted through the development management process.

We will also continue to have an input as required to City Deal projects and other major infrastructure projects aiming to highlight any potential impact on local air quality at the earliest possible stage (pre-planning and Masterplan stage) where possible.

6.3 Proposed Actions

Work on air quality in North Lanarkshire in 2024/25 will focus on the following areas.

- Following discussions with the Scottish Government and SEPA, North Lanarkshire will revoke the AQMAs at Chapelhall and Coatbridge in their entirety in 2024, however the Motherwell AQMA will remain in place but under review. This is due to the ongoing and planned road infrastructure changes required to facilitate access to the Ravenscraig major development site.

- We will complete the commissioning of the new automatic air monitoring station at Gartcosh, to monitor for NO_2 and Particulate Matter (PM_{10} and $PM_{2.5}$). The Croy air monitoring station will be decommissioned.

- We will conclude the review of our diffusion tube monitoring sites in North Lanarkshire and implement the changes. This will involve reducing the number of diffusion tube sites from 81 to 50 sites, including two new diffusion tube sites being set up at Whifflet and at Moffat Mills.

- We will undertake the required optics replacement on four of our FIDAS particulate air monitors to ensure the optimum operating conditions of our equipment.

- We will continue to run the two North Lanarkshire Eco Stars schemes for fleet and taxi operators in the area.

- We will undertake a school air quality project for Clean Air Day, and continue with any relevant air quality awareness opportunities that we can be involved in.

- We will update and relaunch the Strathclyde Country Park Treasure Trail competition

Appendix A: Monitoring Results

Table A.1 – Details of Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Inlet Height (m)
CM1	Chapelhall	Roadside	278174	663124	NO_2 PM_{10}, $PM_{2.5}$	YES (Chapelhall AQMA)	Chemiluminescent; FIDAS	20	10	2
CM2	Croy	Special – by quarry	272775	675738	NO_2 PM_{10}, $PM_{2.5}$	NO (recently revoked AQMA)	Chemiluminescent FIDAS	30	10	2
CM4	Motherwell	Roadside	275458	656792	NO_2 PM_{10}. $PM_{2.5}$	Y (Motherwell AQMA)	FIDAS	20	8	2
CM5	Shawhead, Coatbridge	Roadside	273411	662997	NO_2 PM_{10}, $PM_{2.5}$	Y (Coatbridge AQMA)	FIDAS	22	20	2
CM6	Kirkshaws	Roadside	272523	663030	NO_2 PM_{10}, $PM_{2.5}$	Y (Coatbridge AQMA)	FIDAS	20	8	2
CM7	New Edinburgh Rd, Uddingston	Roadside	269144	661496	NO_2 PM_{10}	No	Chemiluminescent; FIDAS	30	10	2
CM10	Kenilworth Drive, Airdrie	Roadside	277385	665837	NO_2 PM_{10}	No	Chemiluminescent; BAM gravimetric equivalent	30	10	2
CM11	Adele Street, Motherwell	Roadside	275642	656148	NO_2 PM_{10}, $PM_{2.5}$	Y (Motherwell AQMA)	Chemiluminescent FIDAS	20	0.75	2
CM12	Whifflet Cross, A725	Roadside	273646	663867	NO_2 PM_{10} , $PM_{2.5}$	Y (Coatbridge AQMA)	Chemiluminescent FIDAS	16	20	2

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA? Which AQMA?	Monitoring Technique	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Inlet Height (m)
CM13	Ravenscraig Plantation Rd	Roadside	277307	657613	NO_2 PM_{10} , $PM_{2.5}$	No	Chemiluminescent FIDAS	30	1	2

Notes:

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on the façade of a residential property).

(2) N/A if not applicable.

Table A.2 – Details of Non-Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube co-located with a Continuous Analyser?	Tube Height (m)
DT47	(47) Layby in Stand	Roadside	276538	668899	NO_2	No	10.0	2.0	No	2.5
DT48	(48) Bus Stop, Bron Way, Cumbernauld	Kerbside	275920	674203	NO_2	No	10.0	2.0	No	2.5
DT49	(49) Swimming Pool, Kilsyth	Kerbside	271514	678040	NO_2	No	50.0	2.0	No	2.5
DT50	(50) House No 1791, Cumbernauld Road, Stepps	Kerbside	265198	668204	NO_2	No	25.0	2.0	No	2.5
DT51	(51) House No 131, Cumbernauld Road, Stepps	Kerbside	265971	668567	NO_2	No	30.0	2.0	No	2.5
DT52	(52) Traffic Lights, A 80 Eastbound, Moodiesburn	Kerbside	269966	670412	NO_2	No	30.0	2.0	No	2.5
DT53	(53) Moodiesburn Lights, Cumbernauld Rd, Westbound	Kerbside	269986	670400	NO_2	No	10.0	2.0	No	2.5
DT157	(157) 31 Station Road, Muirhead	Roadside	268442	669262	NO_2	No	15.0	2.0	No	2.5
DT158a	(158a) Croftmoraig Avenue	Kerbside	270281	671715	NO_2	No	15.0	2.0	No	2.5
DT159	(159) Glenview Crescent	Roadside	279391	671505	NO_2	No	10.0	2.0	No	2.5

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube co-located with a Continuous Analyser?	Tube Height (m)
DT160	(160) The Cuillins	Roadside	270067	671604	NO_2	No	10.0	2.0	No	2.5
DT161	(161) Bridgend Crescent	Roadside	269071	670889	NO_2	No	1.0	1.0	No	2.5
DT162	(162) Auchingeoch Road	Roadside	269022	670979	NO_2	No	2.0	1.0	No	2.5
DT163	(163) 12 Inchwood Rd, Westfield	Roadside	274098	673321	NO_2	No	10.0	1.0	No	2.5
DT164	(164) 12 Leckethill Court, Westfield	Roadside	272634	672994	NO_2	No	10.0	1.0	No	2.5
DT166	(166) 122 Cumbernauld Road, Chryston	Roadside	268392	669502	NO_2	No	10.0	2.0	No	2.5
NewDT54	(54) Viewpark (Columba Court & Old Ed Rd), Uddingston	Roadside	271259	661016	NO_2	No	15.0	2.0	No	2.5
NewDT55	(55) Viewpark (Old Edinburgh Rd) Uddingston	Roadside	270463	661441	NO_2	No	15.0	2.0	No	2.5
NewDT56	(56) Bargeddie	Roadside	270201	664281	NO_2	No	10.0	2.0	No	2.5
DT57	(57) Glenboig Main St Jct Carrick view L/H First Post	Urban Background	272030	668564	NO_2	No	10.0	2.0	No	2.5
DT58	(58) Glenboig Lochend Rd & C'Bridge Rd, JCT Road	Urban Background	269828	668354	NO_2	No	20.0	2.0	No	2.5
DT59	(59) Mount Ellen Coronation	Urban Background	269356	669173	NO_2	No	20.0	2.0	No	2.5

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube co-located with a Continuous Analyser?	Tube Height (m)
	Place Adjacent House Nos 10-16									
DT61	(61) Under Bridge Central Way East Cumbernauld	Roadside	275778	674440	NO_2	No	10.0	2.0	No	2.5
DT62	(62) A Central Way West Bound Cumbernauld	Roadside	275920	674511	NO_2	No	10.0	2.0	No	2.5
DT63	(63) B Central Way West Bound Cumbernauld	Roadside	275642	674271	NO_2	No	10.0	2.0	No	2.5
DT64	(64) Under Bridge Central Way West Cumbernauld	Roadside	275666	674293	NO_2	No	10.0	2.0	No	2.5
DT132	(132) Airdrie Road, Caldercruix	Roadside	281713	667517	NO_2	No	10.0	2.0	No	2.5
DT100	(100) Civic Centre, Motherwell	Roadside	275820	656208	NO_2	Yes, Motherwell	10.0	2.0	No	2.5
DT101	(101) Shields Road, Motherwell	Roadside	274594	655113	NO_2	No	15.0	2.0	No	2.5
NewDT102	(102) Windmillhill Street 1, Motherwell	Roadside	275738	656400	NO_2	Yes, Motherwell	50.0	1.0	No	2.5
NewDT103	(103) Windmillhill	Roadside	275733	656439	NO_2	Yes, Motherwell	20.0	1.0	No	2.5

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube co-located with a Continuous Analyser?	Tube Height (m)
	Street 2, Motherwell									
DT104	(104) Coursington Road, Motherwell	Urban Background	276178	657344	NO_2	No	20.0	2.0	No	2.5
DT105	(105) Craigneuk Road, Carfin	Urban Background	277244	657344	NO_2	No	10.0	2.0	No	2.5
DT110	(110) New Edinburgh Road (1), M74 Uddingston	Roadside	269134	661497	NO_2	No	30.0	2.0	Yes	2.5
DT111	(111) New Edinburgh Road (2), M74 Uddingston	Roadside	269171	661451	NO_2	No	15.0	2.0	Yes	2.5
DT112	(112) New Edinburgh Road (3), M74 Uddingston	Roadside	269200	661465	NO_2	No	10.0	2.0	Yes	2.5
DT113	(113) Tinkers Lane, Motherwell	Roadside	274305	656466	NO_2	No	20.0	2.0	No	2.5
DT114	(114) Main Street, Overtown	Kerbside	280370	653072	NO_2	No	15.0	2.0	No	2.5
DT115	(115) Plantation Road, Ravenscraig	Kerbside	277282	657607	NO_2	No	15.0	2.0	No	2.5
NewDT116	(116) Airbles Rd (nr Electric Bar), Motherwell	Roadside	274814	656147	NO_2	No	15.0	5.0	No	2.5
DT117	(117) Hamilton Road, Motherwell	Urban Background	275091	656986	NO_2	Yes, Motherwell	20.0	2.0	No	2.5

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube co-located with a Continuous Analyser?	Tube Height (m)
NewDT118	(118) Merry St (Jct with Dalziel St), Motherwell	Roadside	275444	657312	NO_2	No	15.0	2.0	No	2.5
NewDT119	(119) Shawhead R'about, Coatbridge	Kerbside	273432	662965	NO_2	Yes Coatbridge	30.0	2.0	No	2.5
NewDT120	(120) Kirkshaws Rd, Coatbridge	Roadside	271939	663179	NO_2	Yes Coatbridge	10.0	2.0	No	2.5
DT121	(121) Flannigan Grove, Bellshill	Urban Background	273180	660350	NO_2	No	30.0	2.0	No	2.5
DT122	(122) Main Street, Mossend	Roadside	274082	660308	NO_2	No	60.0	2.0	No	2.5
DT123	(123) Hamilton Road, Orbiston, Bellshill	Kerbside	272687	659512	NO_2	No	20.0	2.0	No	2.5
DT124	(124) Scotmid, Tannochside	Kerbside	270073	661870	NO_2	No	20.0	2.0	No	2.5
DT125	(125) Main Street, Near /At Motherwill Rd, Bellshill	Kerbside	273767	661281	NO_2	No	25.0	2.0	No	2.5
DT126	(126) Main Street, Near/at Tesco, Bellshill	Kerbside	273541	660339	NO_2	No	2.0	2.0	No	2.5
NewDT127	(127) Matalan, Wishaw	Kerbside	278059	655368	NO_2	No	10.0	2.0	No	2.5
NewDT128	(128) Wishaw Cross (Stewarton St), Wishaw	Roadside	279587	655125	NO_2	No	30.0	2.0	No	2.5
DT129	(129) Newmains Police Station	Roadside	282392	656016	NO_2	No	7.0	2.0	No	2.5

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube co-located with a Continuous Analyser?	Tube Height (m)
DT130	(130) Main Street (Bottom), Wishaw	Roadside	279118	655327	NO_2	No	5.0	2.0	No	2.5
DT131	(131) Brandon Place Bellshill	Roadside	272302	659237	NO_2	No	5.0	2.0	No	2.5
DT133	(133) Coatbridge 1, Bank Street	Roadside	272887	664991	NO_2	No	2.0	2.0	No	2.5
DT134	(134) Coatbridge 2, Whifflet Court	Kerbside	273655	664003	NO2	Yes, Coatbridge	10.0	20.0	No	2.5
DT135	(135) Grahamshill Street, Airdrie	Kerbside	277276	665615	NO_2	No	10.0	2.0	No	2.5
DT136	(136) Airdrie 3, Springhills Crescent	Roadside	274162	674130	NO_2	No	30.0	2.0	No	2.5
NewDT137	(137) Village Main Street, Cumbernauld	Roadside	276710	676098	NO_2	No	10.0	2.0	No	2.5
DT138	(138) Chapellhall Main street, (Near shops)	Roadside	278037	662798	NO2	Yes, Chapelhall	10.0	2.0	No	2.5
DT139	(139) Lauchope Street, Chapelhall Junction	Roadside	278178	663111	NO2	Yes, Chapelhall	10.0	2.0	No	2.5
DT140	(140) Coatbridge, Dundy Van Rd	Kerbside	273293	664120	NO_2	No	5.0	1.0	No	2.5
NewDT141	(141) Station Road, Shotts	Roadside	286840	656978	NO_2	No	20.0	2.0	No	2.5
NewDT142	(142) Stane Gardens, Shotts	Roadside	287954	659620	NO_2	No	20.0	2.0	No	2.5

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube co-located with a Continuous Analyser?	Tube Height (m)
DT143	(143) Harthill Main Street(2), (Near shops)	Roadside	290482	664386	NO_2	No	10.0	2.0	No	2.5
DT144	(144) Lab 1 Constarry Road, Croy 1	Roadside	272789	675735	NO_2	No	100.0	5.0	Yes	2.5
Dt145	(145) Lab 2 Constarry Road, Croy 2	Roadside	272789	675735	NO_2	No	100.0	5.0	Yes	2.5
DT146	(146) Lab 3 Constarry Road, Croy 3	Roadside	272789	675735	NO_2	No	100.0	5.0	Yes	2.5
DT147	(147) Bank St, Coatbridge (Nearest house)	Roadside	272947	665037	NO_2	No	15.0	0.0	No	2.5
DT148	(148) Main Street, Chapelhall R32	Kerbside	278105	663174	NO2	Yes, Chapelhall	15.0	2.0	No	2.5
DT149	(149) Main Street, Chapelhall R33	Kerbside	278119	663075	NO2	Yes, Chapelhall	15.0	2.0	No	2.5
DT150	(150) Eastfield Rd, Cumbernauld (Lamppost)	Kerbside	275160	676210	NO_2	No	25.0	2.0	No	2.5
DT151	(151) Holytown, Main Street	Urban Background	276635	660569	NO_2	No	10.0	2.0	No	2.5
DT152	(152) Coatbridge Road shops, Townhead	Roadside	272391	665824	NO_2	No	10.0	2.0	No	2.5
DT153	(153) House Number 72, Townhead	Roadside	271720	666053	NO_2	No	20.0	2.0	No	2.5

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube co-located with a Continuous Analyser?	Tube Height (m)
	Road, Coatbridge									
DT154	(154) Sunnyside Road, Coatbridge	Roadside	273042	665176	NO_2	No	20.0	2.0	No	2.5
DT156	(156) Stirling Street, Airdrie	Roadside	276005	665406	NO_2	No	50.0	2.0	No	2.5
NewDT157a	(157) 31 Station Road, Muirhead	Roadside	268442	669262	NO_2	No	15.0	2.0	No	2.5
DT158b	(158b) Deeds Street, Airdrie	Roadside	274819	665005	NO_2	No	7.0	2.0	No	2.5
DT165	(165) Kildonan St, Coatbridge	Roadside	273727	665285	NO_2	No	20.0	2.0	No	2.5

Notes:

(1) 0m if the monitoring site is at a location of exposure (e.g. installed on/adjacent to the façade of a residential property).

(2) N/A if not applicable.

Table A.3 – Annual Mean NO_2 Monitoring Results: Automatic Monitoring (µg/m^3)

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
CM1-Chapelhall	Roadside	Automatic	67.40%	67.40%	21.7	18.0	14.8	13.8	18.2(3)
CM2 - Croy	Special-by quarry	Automatic	64.30%	64.30%	19	12.0	10.0	9.6	10.8(3)
CM4-Menteith Rd, Motherwell	Roadside	Automatic	74.40%	74.40%	-	12.6	10.8	9.6	11.7(3)
CM5-Shawhead, Coatbridge	Roadside	Automatic	73.90%	73.90%	20.3	16.0	14.2	13.5	14.9(3)
CM6-Kirkshaws, Coatbridge	Roadside	Automatic	74.20%	74.20%	20.3	13.0	13.6	13	15.7(3)
CM7-New Edinburgh Rd, Uddingston	Roadside	Automatic	77.70%	77.70%	24.4	17.0	16.6	15.1	16.6
CM10-Kenilworth Dr, Airdrie	Roadside	Automatic	90.70%	90.70%	16.9	14.0	11.9	12.2	12.4
CM11-Adele St, Motherwell	Roadside	Automatic	99.90%	99.90%	-	-	9	13.2	12.7
CM12-Whifflet Cross A725	Roadside	Automatic	99.30%	99.30%	-	-	13.9	17.2	17.1
CM13 – Ravenscraig Plantation Road	Roadside	Automatic	76.30%	76.30%	-	-	-	5.9	9.2

Notes:

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in bold.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

(3) Data have been annualised – see Appendix C

Table A.4a – Annual Mean NO_2 Monitoring Results: Non-Automatic Monitoring (µg/m^3)

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023(1)
(47) Layby in Stand	Roadside	Diffusion Tube	94.8	94.8	21.4	14.7	14.0	11.8	8.5
(48) Bus Stop, Bron Way, Cumbernauld	Kerbside	Diffusion Tube	88.7	88.7	25.7	17.8	16.9	15.7	11.6
(49) Swimming Pool, Kilsyth	Kerbside	Diffusion Tube	94.8	94.8	18.3	11.2	13.0	12.8	10.4
(50) House No 1791, Cumbernauld Road, Stepps	Kerbside	Diffusion Tube	94.8	94.8	20.2	12.4	16.0	11.5	9.6
(51) House No 131, Cumbernauld Road, Stepps	Kerbside	Diffusion Tube	94.8	94.8	21.0	14.6	16.8	13.4	9.6
(52) Traffic Lights, A 80 Eastbound, Moodiesburn	Kerbside	Diffusion Tube	94.8	94.8	22.6	14.6	14.2	12.5	10.0
(53) Moodiesburn Lights, Cumbernauld Rd, Westbound	Kerbside	Diffusion Tube	94.8	94.8	18.3	10.5	11.1	9.8	6.8
(157) 31 Station Road, Muirhead	Roadside	Diffusion Tube	94.8	94.8	22.3	14.4	19.1	12.7	6.9
(158a) Croftmoraig Avenue	Kerbside	Diffusion Tube	94.8	94.8	30.3	22.0	23.4	19.6	6.4
(159) Glenview Crescent	Roadside	Diffusion Tube	94.8	94.8	18.4	11.1	12.2	11.2	6.8
(160) The Cuillins	Roadside	Diffusion Tube	94.8	94.8	18.4	10.7	11.3	9.9	7.1
(161) Bridgend Crescent	Roadside	Diffusion Tube	94.8	94.8	15.7	10.4	10.9	10.0	5.9
(162) Auchingeoch Road	Roadside	Diffusion Tube	94.8	94.8	18.3	11.6	12.1	9.9	6.4
(163) 12 Inchwood Rd, Westfield	Roadside	Diffusion Tube	94.8	94.8	21.7	14.2	15.6	12.2	9.1
(164) 12 Leckethill Court, Westfield	Roadside	Diffusion Tube	94.8	94.8	19.0	11.2	9.9	10.0	6.2
(166) 122 Cumbernauld Road, Chryston	Roadside	Diffusion Tube	94.8	94.8	23.2	14.5	16.3	14.4	9.1

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023[1]
(NewDT54) Viewpark (Columba Court & Old Ed Rd), Uddingston	Roadside	Diffusion Tube	94.8	94.8	23.6	14.0	16.4	13.1	9.9
(NewDT55) Viewpark (Old Edinburgh Rd) Uddingston	Roadside	Diffusion Tube	94.8	94.8	24.7	13.6	19.3	15.0	10.6
(NewDT56) Bargeddie	Roadside	Diffusion Tube	86	86.0	20.0	12.2	14.1	12.2	7.0
(57) Glenboig Main St Jct Carrick view L/H First Post	Urban Background	Diffusion Tube	94.8	94.8	16.6	-	12.8	9.5	4.8
(58) Glenboig Lochend Rd & C'Bridge Rd, JCT Road	Urban Background	Diffusion Tube	86	86.	22.9	9.8	17.9	14.7	9.3
(59) Mount Ellen Coronation Place Adjacent House Nos 10-16	Urban Background	Diffusion Tube	94.8	94.8	17.7	14.3	12.5	10.8	6.6
(61) Under Bridge Central Way East Cumbernauld	Roadside	Diffusion Tube	94.8	94.8	**40.5**	12.6	27.2	23.7	17.2
(62) A Central Way West Bound Cumbernauld	Roadside	Diffusion Tube	94.8	94.8	32.9	25.8	24.2	19.8	13.3
(63) B Central Way West Bound Cumbernauld	Roadside	Diffusion Tube	94.8	94.8	37.5	17.9	26.6	25.4	15.9
(64) Under Bridge Central Way West Cumbernauld	Roadside	Diffusion Tube	94.8	94.8	28.7	21.2	21.8	18.7	13.9
(132) Airdrie Road, Caldercruix	Roadside	Diffusion Tube	94.8	94.8	15.8	10.2	9.9	9.4	5.6
(100) Civic Centre, Motherwell	Roadside	Diffusion Tube	83.8	83.8	36.9	15.6	22.1	18.9	18.2
(101) Shields Road, Motherwell	Roadside	Diffusion Tube	75.8	75.8	20.1	22.4	14.8	13.5	10.1
(NewDT102) Windmillhill Street 1, Motherwell	Roadside	Diffusion Tube	83.8	83.8	18.3	14.1	12.1	11.6	9.9
(NewDT103) Windmillhill Street 2, Motherwell	Roadside	Diffusion Tube	83.8	83.8	20.7	16.6	15.1	15.0	10.8
(104) Coursington Road, Motherwell	Urban Background	Diffusion Tube	83.8	83.8	10.5	10.2	7.7	5.9	4.8
(105) Craigneuk Road, Carfin	Urban Background	Diffusion Tube	83.8	83.8	12.6	11.5	10.3	8.2	7.5

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023[1]
(110) New Edinburgh Road (1), M74 Uddingston	Roadside	Diffusion Tube	83.8	83.8	28.9	20.2	23.9	18.8	16.2
(111) New Edinburgh Road (2), M74 Uddingston	Roadside	Diffusion Tube	83.8	83.8	31.1	22.2	19.0	20.3	17.1
(112) New Edinburgh Road (3), M74 Uddingston	Roadside	Diffusion Tube	83.8	83.8	28.6	20.3	23.4	19.5	15.8
(113) Tinkers Lane, Motherwell	Roadside	Diffusion Tube	83.8	83.8	17.9	14.1	14.4	11.9	10.3
(114) Main Street, Overtown	Kerbside	Diffusion Tube	83.8	83.8	15.0	14.1	9.9	8.5	9.7
(115) Plantation Road, Ravenscraig	Kerbside	Diffusion Tube	83.8	83.8	13.8	10.7	8.2	7.4	5.9
(NewDT116) Airbles Rd (nr Electric Bar), Motherwell	Roadside	Diffusion Tube	83.8	83.8	17.2	13.3	14.3	10.0	10.4
(117) Hamilton Road, Motherwell	Urban Background	Diffusion Tube	83.8	83.8	26.8	18.6	19.5	16.4	12.9
(NewDT118) Merry St (Jct with Dalziel St), Motherwell	Roadside	Diffusion Tube	64.0	64.0	24.1	17.1	17.6	14.8	10.5
(119) Shawhead R'about, Coatbridge	Kerbside	Diffusion Tube	83.8	83.8	23.7	18.5	19.7	17.7	14.3
(NewDT120) Kirkshaws Rd, Coatbridge	Roadside	Diffusion Tube	75.8	75.8	24.4	18.9	20.5	16.2	14.1
(121) Flannigan Grove, Bellshill	Urban Background	Diffusion Tube	75.3	75.3	20.2	13.8	15.4	12.1	9.7
(122) Main Street, Mossend	Roadside	Diffusion Tube	75.3	75.3	24.0	17.1	15.2	11.4	11.0
(123) Hamilton Road, Orbiston, Bellshill	Kerbside	Diffusion Tube	83.8	83.8	21.4	16.7	17.1	14.3	13.3
(124) Scotmid, Tannochside	Kerbside	Diffusion Tube	83.8	83.8	23.5	15.7	16.3	13.0	12.8
(125) Main Street, Near /At Motherwill Rd, Bellshill	Kerbside	Diffusion Tube	83.8	83.8	18.8	15.2	15.5	13.2	11.9
(126) Main Street, Near/at Tesco, Bellshill	Kerbside	Diffusion Tube	83.8	83.8	21.4	14.6	15.1	12.2	8.6

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) [1]	Valid Data Capture 2023 (%) [2]	2019	2020	2021	2022	2023[1]
(NewDT127) Matalan, Wishaw	Kerbside	Diffusion Tube	83.8	83.8	26.6	18.8	18.0	14.3	14.0
(NewDT128) Wishaw Cross (Stewarton St), Wishaw	Roadside	Diffusion Tube	76.4	76.4	27.9	21.8	22.6	18.2	17.1
(129) Newmains Police Station	Roadside	Diffusion Tube	83.8	83.8	27.3	17.7	21.5	17.9	14.0
(130) Main Street (Bottom), Wishaw	Roadside	Diffusion Tube	76.9	76.9	15.8	12.5	11.1	9.8	9.1
(131) Brandon Place Bellshill	Roadside	Diffusion Tube	83.8	83.8	14.6	14.1	16.4	12.0	11.4
(133) Coatbridge 1, Bank Street	Roadside	Diffusion Tube	83.8	83.8	15.8	10.2	9.9	9.4	17.7
(134) Coatbridge 2, Whifflet Court	Kerbside	Diffusion Tube	83.8	83.8	30.1	17.5	23.5	17.0	10.0
(135) Grahamshill Street, Airdrie	Kerbside	Diffusion Tube	83.8	83.8	20.4	12.8	15.4	13.0	15.6
(136) Airdrie 3, Springhills Crescent	Roadside	Diffusion Tube	79.9	79.9	28.3	22.1	27.1	17.4	8.0
(NewDT137) Village Main Street, Cumbernauld	Roadside	Diffusion Tube	83.8	83.8	22.5	13.9	16.4	15.2	11.9
(138) Chapellhall Main street, (Near shops)	Roadside	Diffusion Tube	83.8	83.8	23.1	12.3	16.7	13.7	12.5
(139) Lauchope Street, Chapelhall Junction	Roadside	Diffusion Tube	83.8	83.8	28.1	18.1	22.8	21.1	17.0
(140) Coatbridge, Dundy Van Rd	Kerbside	Diffusion Tube	83.8	83.8	23.2	14.8	20.9	13.6	12.8
(NewDT141) Station Road, Shotts	Roadside	Diffusion Tube	83.8	83.8	12.7	9.6	10.2	8.0	7.2
(NewDT142) Stane Gardens, Shotts	Roadside	Diffusion Tube	83.8	83.8	16.9	11.8	12.8	10.5	8.8
(143) Harthill Main Street(2), (Near shops)	Roadside	Diffusion Tube	79.9	79.9	15.4	11.6	11.6	9.9	7.2
(144) Lab 1 Constarry Road, Croy 1	Roadside	Diffusion Tube	83.8	83.8	16.7	9.5	9.7	9.9	5.9

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023(1)
(145) Lab 2 Constarry Road, Croy 2	Roadside	Diffusion Tube	83.8	83.8	16.4	9.9	10.4	10.5	8.3
(146) Lab 3 Constarry Road, Croy 3	Roadside	Diffusion Tube	83.8	83.8	15.8	11.6	9.5	11.2	8.8
(147) Bank St, Coatbridge (Nearest house)	Roadside	Diffusion Tube	83.8	83.8	27.4	13.7	20.2	16.0	14.8
(148) Main Street, Chapelhall R32	Kerbside	Diffusion Tube	83.8	83.8	28.0	17.6	20.6	19.1	13.9
(149) Main Street, Chapelhall R33	Kerbside	Diffusion Tube	74.2	74.2	29.1	17.2	20.7	16.4	14.3
(150) Eastfield Rd, Cumbernauld (Lampost)	Kerbside	Diffusion Tube	83.8	83.8	18.7	11.2	11.8	10.9	9.3
(151) Holytown, Main Street	Urban Background	Diffusion Tube	75.8	75.8	17.5	12.0	14.0	13.2	11.7
(152) Coatbridge Road shops, Townhead	Roadside	Diffusion Tube	83.8	83.8	30.3	20.7	20.3	14.3	12.8
(153) House Number 72, Townhead Road, Coatbridge	Roadside	Diffusion Tube	83.8	83.8	19.5	13.1	17.3	13.4	10.4
(154) Sunnyside Road, Coatbridge	Roadside	Diffusion Tube	83.8	83.8	27.4	18.3	21.5	18.0	14.9
(156) Stirling Street, Airdrie	Roadside	Diffusion Tube	83.8	83.8	28.4	18.9	26.0	16.0	15.6
(NewDT157a) Castlecary Swingpark	Roadside	Diffusion Tube	83.8	83.8	22.3	14.4	19.1	12.7	13.5
(158b) Deeds Street, Airdrie	Roadside	Diffusion Tube	83.8	83.8	30.3	22.0	23.4	19.6	19.8
(165) Kildonan St, Coatbridge	Roadside	Diffusion Tube	83.8	83.8	23.2	14.5	16.3	14.4	11.2

Means for diffusion tubes have been corrected for bias.

Means have been “annualised” as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Notes

(1) Deployment dates for certain diffusion tube monitoring sites in NLC differed in 2023. Annual mean NO_2 results for 2023 are shaded to show deployment dates. Table A.4b shows the date patterns for the deployment dates of the diffusion tube monitoring sites. Shaded cells follow date pattern 1, unshaded cells follow date pattern 2.

Table A.4b – Date Patterns for Diffusion Tube Deployment Dates NLC 2023

Month	Date Pattern 1		Date Pattern 2	
Jan	04/01/2023	25/01/2023	04/01/2023	31/01/2023
Feb	25/01/2023	20/02/2023	31/01/2023	03/03/2023
Mar	20/02/2023	21/03/2023	03/03/2023	04/04/2023
Apr	21/03/2023	20/04/2023	04/04/2023	03/05/2023
May	20/04/2023	22/05/2023	03/05/2023	30/05/2023
Jun	22/05/2023	20/06/2023	30/05/2023	13/06/2023
Jul	20/06/2023	20/07/2023	10/07/2023	04/08/2023
Aug	20/07/2023	18/08/2023		
Sep	18/08/2023	20/09/2023	05/09/2023	04/10/2023
Oct	20/09/2023	24/10/2023	04/10/2023	02/11/2023
Nov	24/10/2023	23/11/2023	02/11/2023	07/12/2023
Dec	23/11/2023	15/12/2023	07/12/2023	03/01/2024

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.**

☒ **Diffusion tube data has been bias adjusted.**

☒ **Reported concentrations are those at the location of the monitoring site (bias adjusted and annualised, as required), i.e. prior to any fall-off with distance correction.**

Notes:

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in bold.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per LAQM.TG(22) if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(4) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(5) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Table A.5 – 1-Hour Mean NO_2 Monitoring Results, Number of 1-Hour Means > 200µg/m^3

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
CM1-Chapelhall	Roadside	Automatic	67.40%	67.40%	0(112)	0	0	0	0(83.2)
CM2-Croy	Special – by quarry	Automatic	60.90%	60.90%	0(77)	0(73)	0	0	0(60.9)
CM4-Menteith Rd, Motherwell	Roadside	Automatic	74.40%	74.40%	0(114)	0(113)	0	0	0(62.0)
CM5-Shawhead	Roadside	Automatic	73.90%	73.90%	0(113)	0	0	0	0(79.5)
CM6-Kirkshaws	Roadside	Automatic	74.20%	74.20%	0(114)	0	0	0	0(88.2)
CM7-New Edinburgh Rd, Uddingston	Roadside	Automatic	77.70%	77.70%	0(87)	0	0	0	0(70.1)
CM10-Kenilworth Dr, Airdrie	Roadside	Automatic	90.70%	90.70%	0(83)	0	0	0	0
CM11-Adele St, Motherwell	Roadside	Automatic	99.90%	99.90%	-	-	0(75.1)	0(83.5)	0(72.1)
CM12-Whifflet Cross A725	Roadside	Automatic	99.30%	99.30%	-	-	0(71)	0	0
CM13-Ravenscraig Plantation Road	Roadside	Automatic	76.30%	76.30%	-	-	-	0(47.9)	0(45.9)

Notes:

Exceedances of the NO_2 1-hour mean objective (200 µg/m^3 not to be exceeded more than 18 times/year) are shown in bold.

If the period of valid data is less than 85%, the 99.8th percentile of 1-hour means is provided in brackets.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Figures A1 to A5 below show the trend graphs of measured annual mean NO_2 concentrations over the period 2019-2023 in the three AQMAs.

Figure A1: Annual Mean Concentrations of NO_2 at CM1 Chapelhall

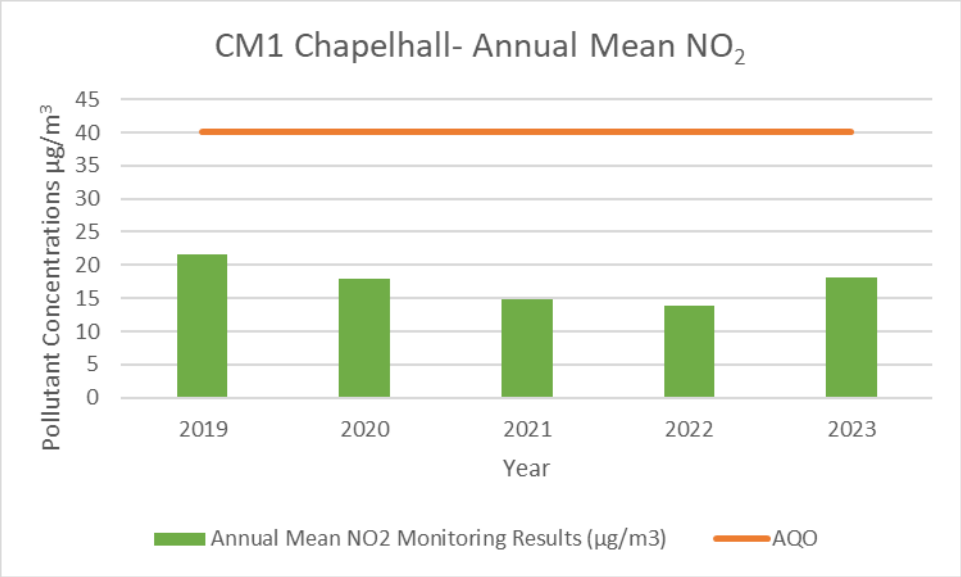


Figure A2: Annual Mean Concentrations of NO_2 at CM4 Motherwell

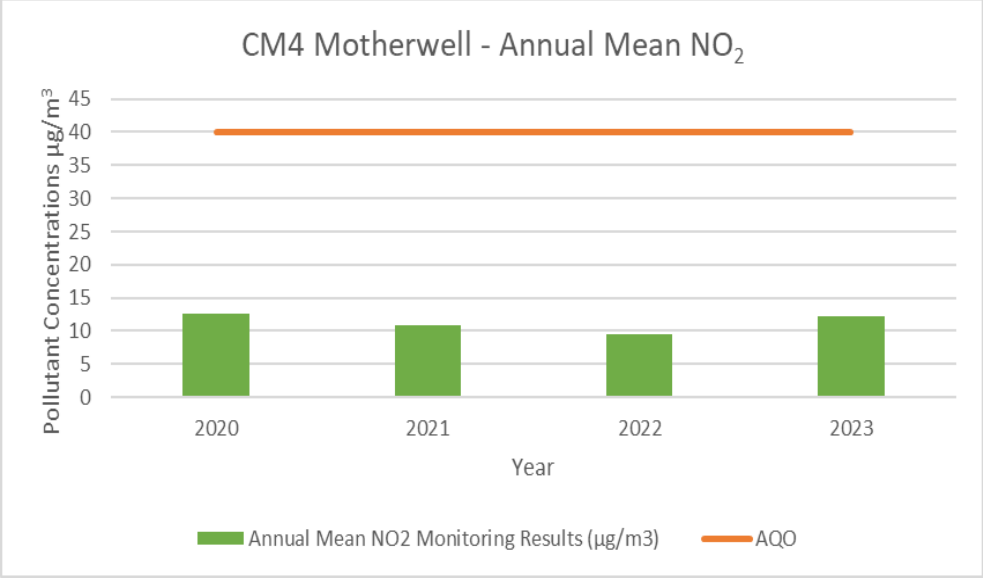


Figure A3: Annual Mean Concentrations of NO_2 at CM12 Whifflet A725

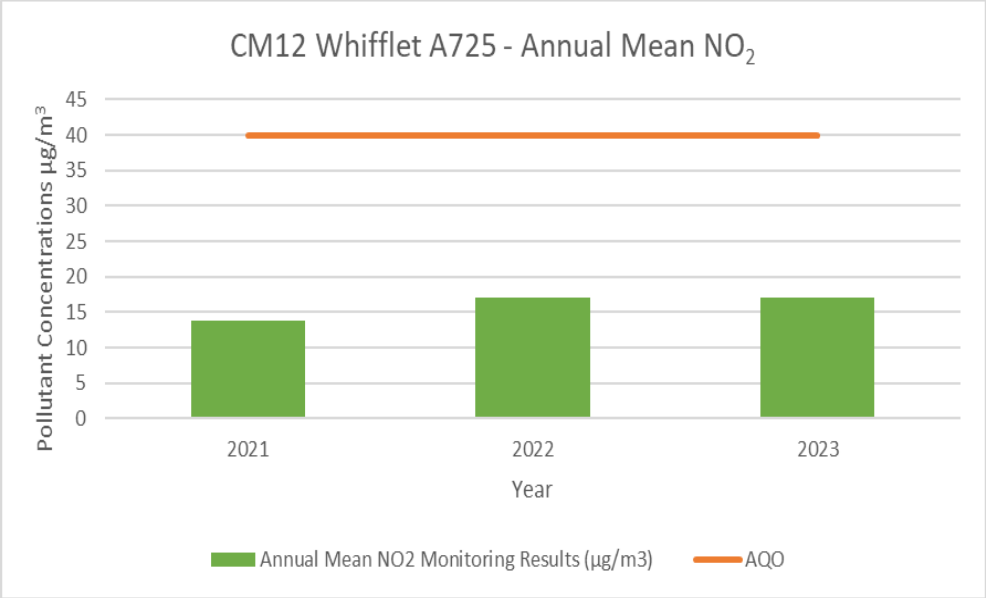


Figure A4: Annual Mean Concentrations of NO_2 at CM5 Shawhead Coatbridge

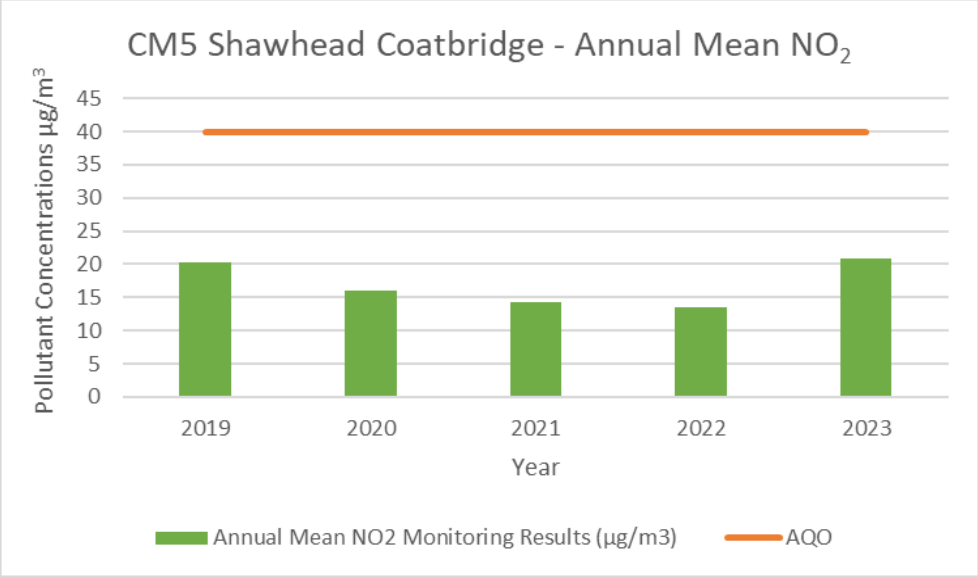


Figure A5: Annual Mean Concentrations of NO_2 at CM6 Kirkshaws Coatbridge

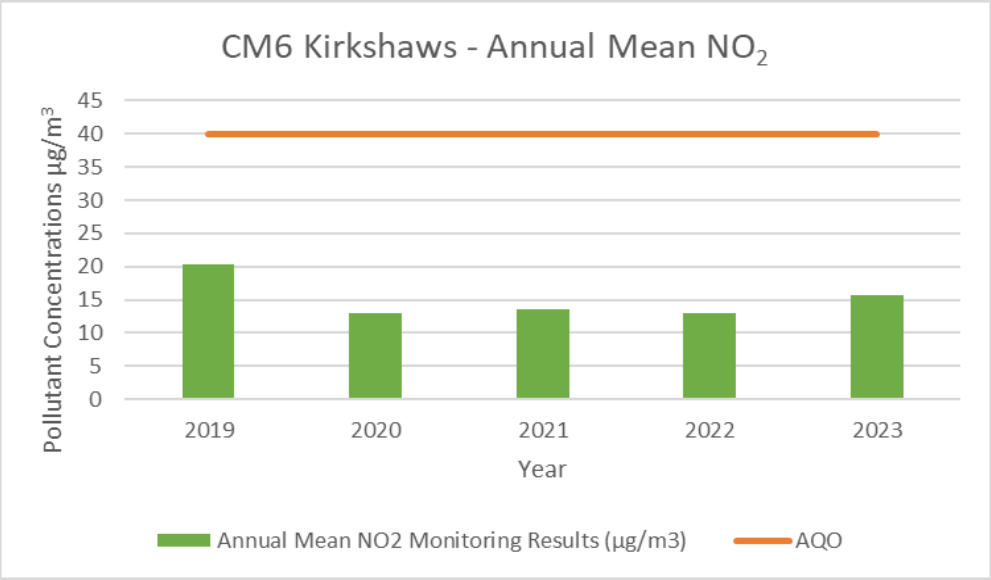


Table A.6 – Annual Mean PM_{10} Monitoring Results (µg/m^3)

Site ID	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
CM1-Chapelhall	Roadside	99.70%	99.70%	10.0	9.0	9.4	9.9	9.7
CM2-Croy	Special – by quarry	97.30%	97.30%	11.0	8.0	8.5	10.6	8.8
CM3-Calder Ct, Whifflet, Coatbridge	Urban background	99.80%	99.80%	13.5	8.0	8.5	-	9.3
CM4-Menteith Rd, Motherwell	Roadside	98.60%	98.60%	11.0	9.0	9.6	10	8.6
CM5-Shawhead	Roadside	98.80%	98.80%	10.0	8.0	9.1	9.4	8.7
CM6-Kirkshaws	Roadside	99.70%	99.70%	10.0	9.0	8.9	9.8	9.7
CM7-New Edinburgh Rd, Uddingston	Roadside	95.60%	95.60%	13.5	9.0	9.5	10.7	10.4(3)
CM10-Kenilworth Dr, Airdrie	Roadside	22.20%	22.20%	12.2	7.8	10.2	10.9	8.7
CM11-Adele St, Motherwell	Roadside	99.80%	99.80%	-	8.0	8.8	7.7	7.9
CM12-Whifflet Cross A725	Roadside	99.30%	99.30%	-	-	9.4	10.2	9.1
CM13-Ravenscraig Plantation Road	Roadside	88.60%	88.60%	-	-	-	8.3	10.1

Notes:

Exceedances of the PM_{10} annual mean objective of 18 µg/m^3 are shown in bold.

All means have been "annualised" as per LAQM.TG(22), valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

(3) Data have been annualised – see Appendix C.

Table A.7 – 24-Hour Mean PM_{10} Monitoring Results, Number of PM_{10} 24-Hour Means > 50µg/m^3

Site ID	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
CM1-Chapelhall	Roadside	99.70%	99.70%	1	0	0	0	0
CM2-Croy	Special – by quarry	97.30%	97.30%	3	0(18)	0	2	0
CM3-Calder Ct, Whifflet, Coatbridge	Urban background	99.80%	99.80%	0(22)	0	0	-	0
CM4-Menteith Rd, Motherwell	Roadside	98.60%	98.60%	2	0	0	0	0
CM5-Shawhead	Roadside	98.80%	98.80%	2	0	0	0	0
CM6-Kirkshaws	Roadside	99.70%	99.70%	1	0	0	0	0
CM7-New Edinburgh Rd, Uddingston	Roadside	95.60%	95.60%	0(21)	0(15)	0(18.3)	0	0
CM10-Kenilworth Dr, Airdrie	Roadside	22.20%	22.20%	0(21)	0(23)	0(22.4)	0(29.1)	0(19)
CM11-Adele St, Motherwell	Roadside	99.80%	99.80%	-	0(18)	0	0(16.2)	0
CM12-Whifflet Cross A725	Roadside	99.30%	99.30%	-	**-**	0(21.2)	0	0
CM13-Ravenscraig Plantation Road	Roadside	88.60%	88.60%	-	**-**	-	0	0

Notes:

Exceedances of the PM_{10} 24-hour mean objective (50 µg/m^3 not to be exceeded more than seven times/year) are shown in bold.

If the period of valid data is less than 85%, the 98.1st percentile of 24-hour means is provided in brackets.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Figures A6 to 10 below show the trend graphs of measured annual mean PM_{10} concentrations over the period 2019-2023 in the three AQMAs.

Figure A.6: Annual Mean Concentrations of PM_{10} at CM1 Chapelhall

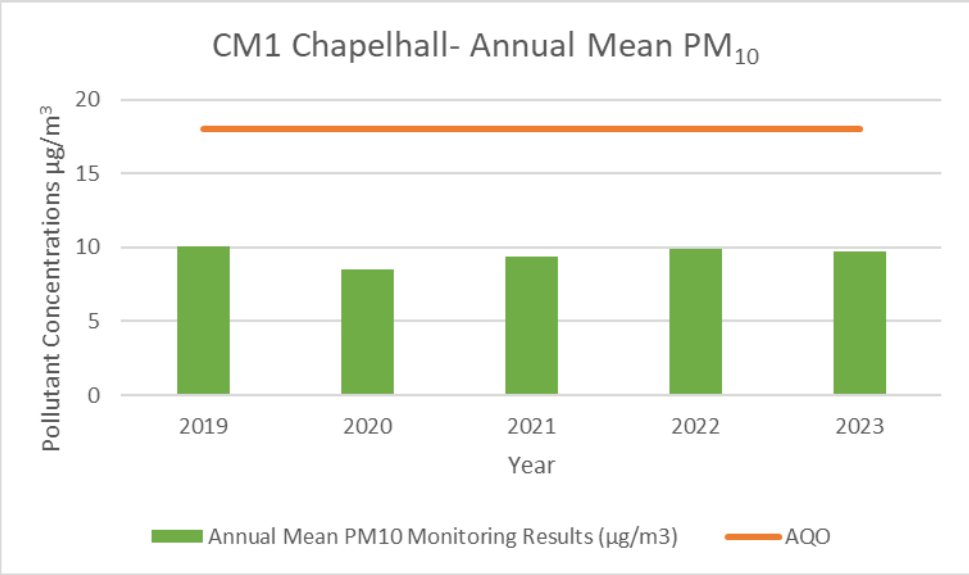


Figure A.7: Annual Mean Concentrations of PM_{10} at CM4 Motherwell

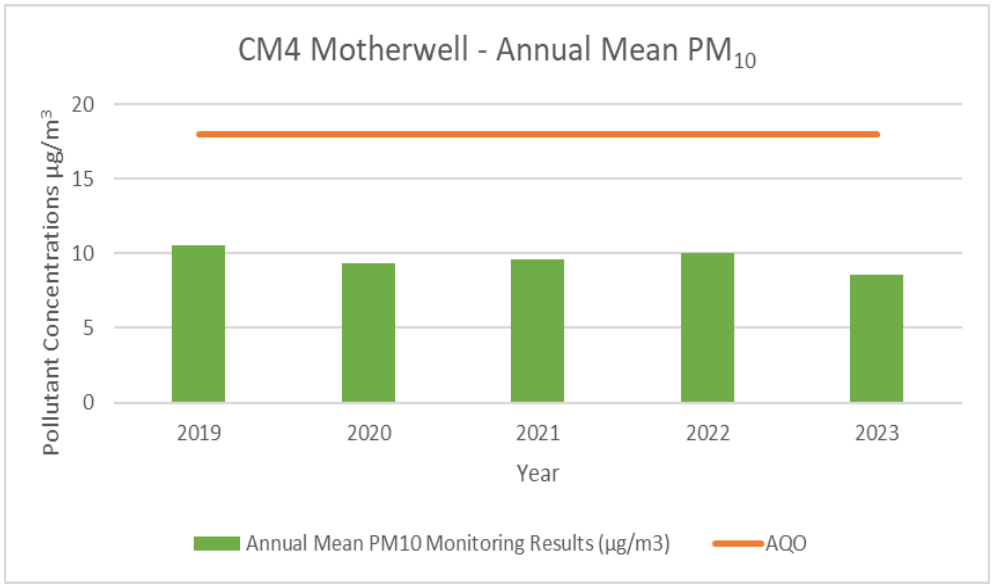

CM4 Motherwell - Annual Mean PM10
Pollutant Concentrations µg/m3
20
15
10
5
0
2019
2020
2021
2022
2023
Year
Annual Mean PM10 Monitoring Results (µg/m3)
AQO

Figure A8: Annual Mean Concentrations of PM_{10} at CM12 Whifflet A725

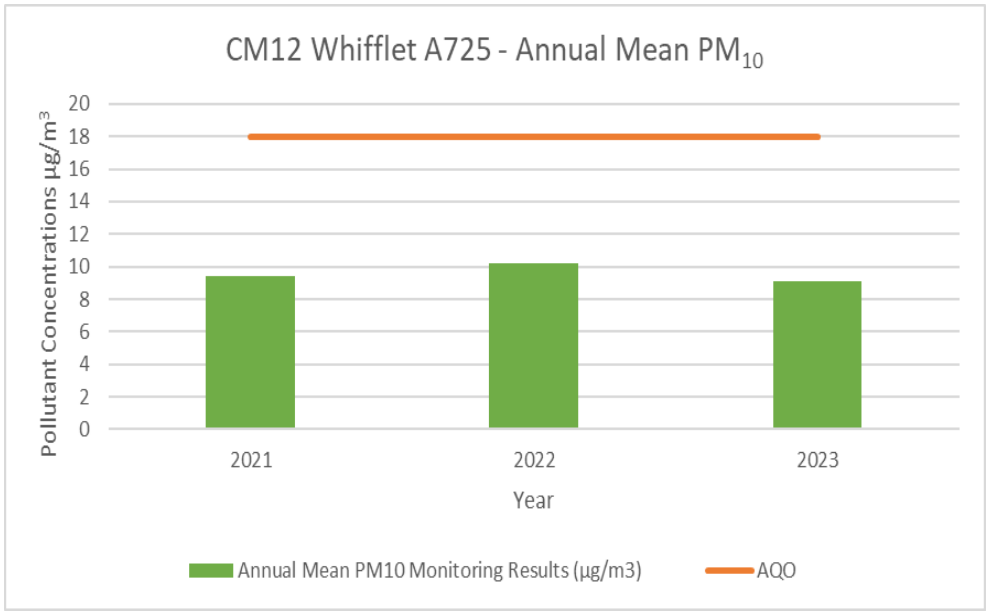


Figure A9: Annual Mean Concentrations of PM_{10} at CM5 Shawhead Coatbridge

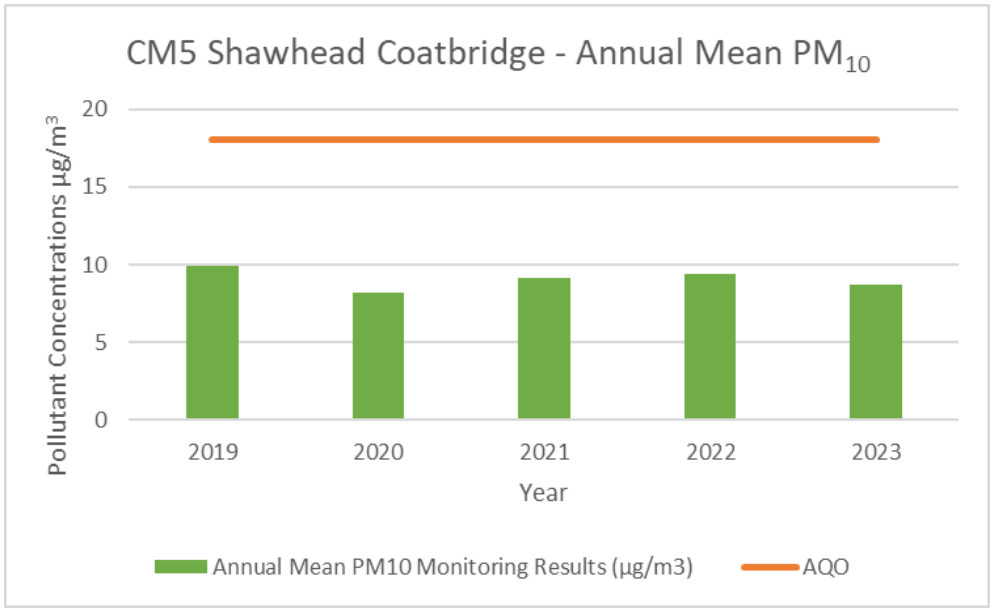


Figure A10: Annual Mean Concentrations of PM_{10} at CM6 Kirkshaws Coatbridge

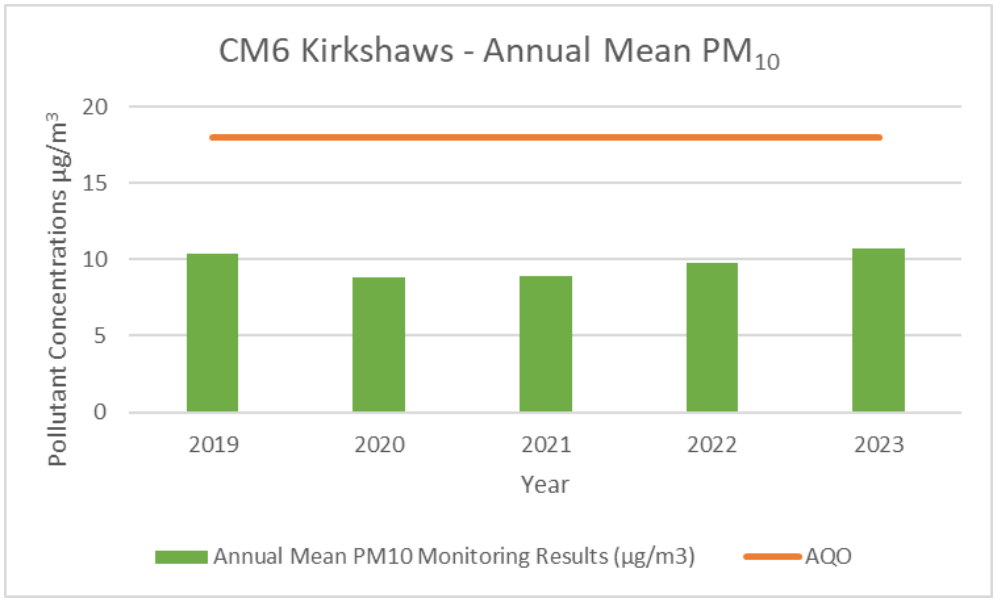


Table A.8 – Annual Mean $PM_{2.5}$ Monitoring Results (µg/m^3)

Site ID	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2023 (%) (2)	2019	2020	2021	2022	2023
CM1-Chapelhall	Roadside	99.70%	99.70%	6.0	5.0	5.0	5.2	4.9
CM2-Croy	Special – by quarry	97.30%	97.30%	6.0	4.0	4.9	5.5	4.9
CM4-Menteith Rd, Motherwell	Roadside	98.60%	98.60%	6.0	5.0	5.0	5.4	4.9
CM5-Shawhead	Roadside	98.80%	98.80%	6.0	5.0	4.8	5.1	4.4
CM6-Kirkshaws	Roadside	95.60%	95.60%	6.0	5.0	4.9	5.3	4.6
CM7-New Edinburgh Rd, Uddingston	Roadside	99.80%	99.80%	-	-	5.0	5.2	4.3
CM11-Adele St, Motherwell	Roadside	99.30%	99.30%	-	4.5	5.0	4.3	4.3
CM12-Whifflet Cross A725	Roadside	88.60%	88.60%	-	-	5.2	5.6	5
CM13-Ravenscraig Plantation Road	Roadside	99.70%	99.70%				4.6	4.3

Notes:

Exceedances of the $PM_{2.5}$ annual mean objective of 10 µg/m^3 are shown in bold.

All means have been “annualised” as per LAQM.TG(22), valid data capture for the full calendar year is less than 75%. See Appendix C for details.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%).

Figures A11 to A15 below show the trend graphs of measured annual mean $PM_{2.5}$ concentrations over the period 2019-2023 in the three AQMAs.

Figure A11: Annual Mean Concentrations of $PM_{2.5}$ at CM1 Chapelhall

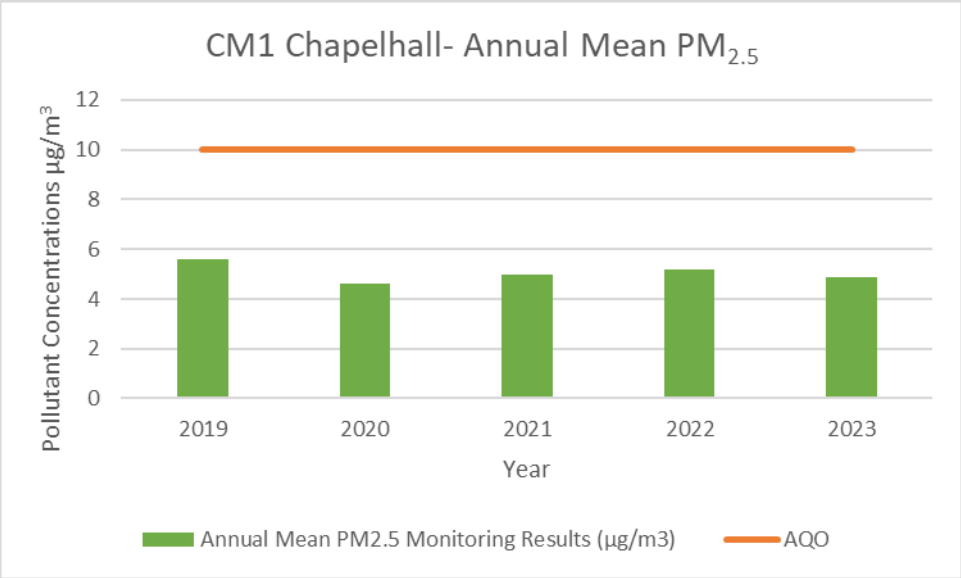


Figure A12: Annual Mean Concentrations of $PM_{2.5}$ at CM4 Motherwell

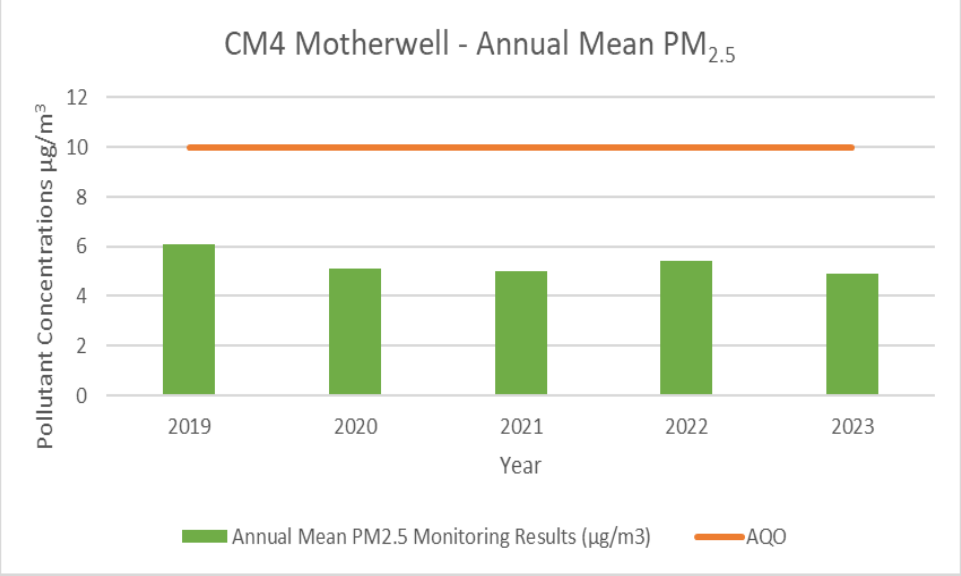


Figure A13: Annual Mean Concentrations of $PM_{2.5}$ at CM12 Whifflet A725

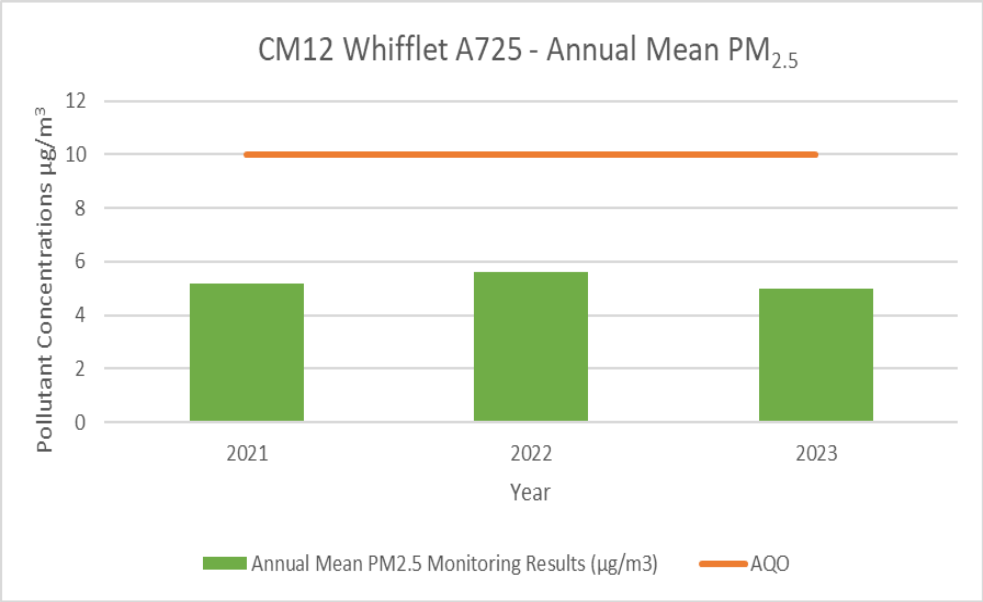


Figure A14: Annual Mean Concentrations of $PM_{2.5}$ at CM5 Shawhead Coatbridge

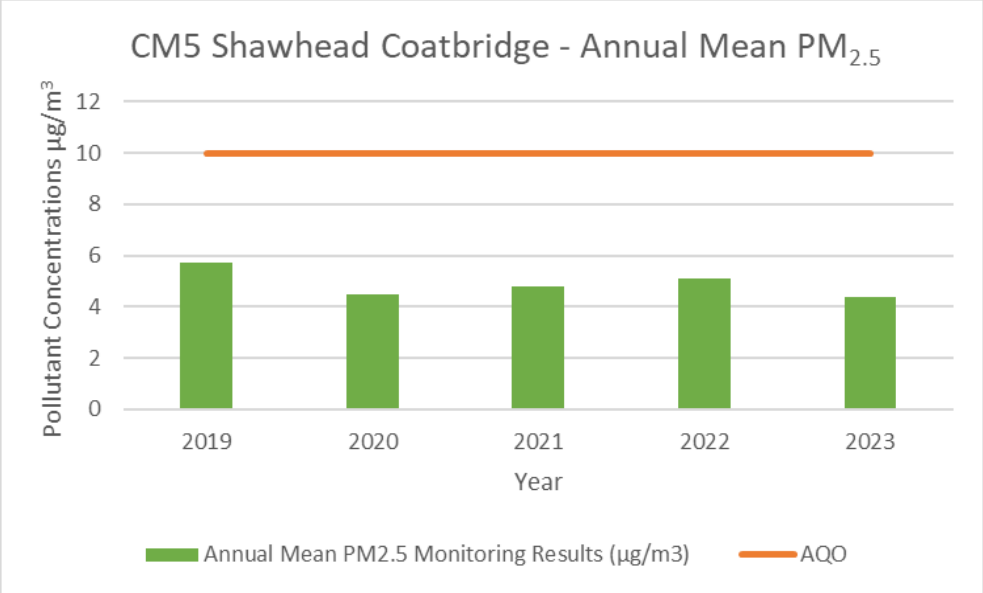
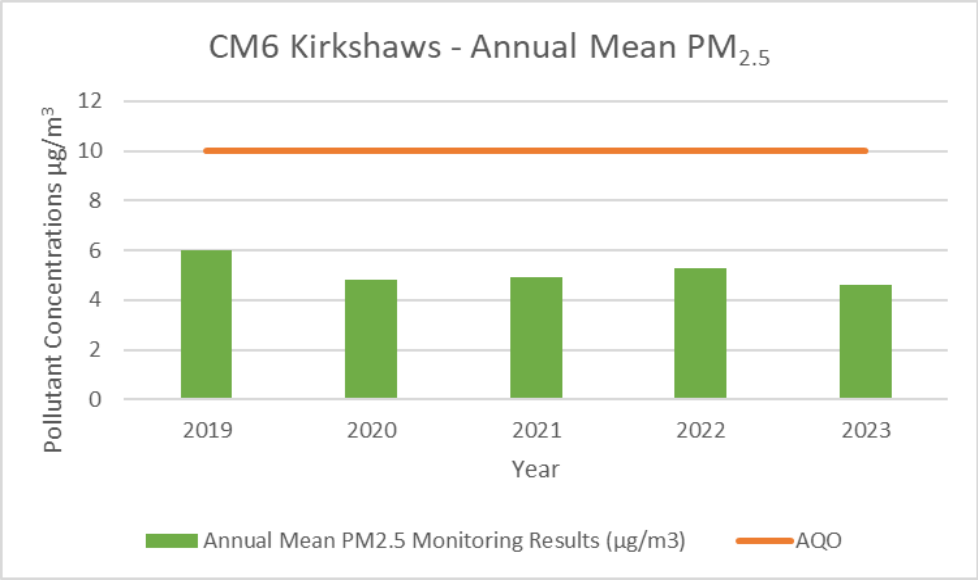


Figure A15: Annual Mean Concentrations of $PM_{2.5}$ at CM6 Kirkshaws Coatbridge



Appendix B: Full Monthly Diffusion Tube Results for 2023

Table B.1 – NO_2 2023 Monthly Diffusion Tube Results (µg/m^3) – (Shaded Site IDs in Date Pattern 1, Unshaded Site IDs in Date Pattern 2)

Site ID	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Bias Adjusted (1)
DT47	17.3	14.3	18.3	12.2	11.9	8.6	3.1	7.3	10.4	9.3	15.0	13.1	11.5	8.5
DT48	24.6	23.4	23.2	16.3	15.8	2.0	5.8	10.8	14.2	14.9	24.6	-	15.6	11.6
DT49	23.2	16.7	18.0	16.7	12.4	14.0	4.4	8.7	12.6	9.6	20.5	15.4	14.0	10.4
DT50	19.6	20.2	20.7	8.9	6.9	7.9	4.9	10.2	14.3	10.6	21.0	14.4	13.0	9.6
DT51	22.4	21.6	21.7	7.4	5.2	11.1	5.5	9.1	11.0	9.8	21.4	16.1	13.0	9.6
DT52	19.6	21.7	22.0	11.2	7.3	10.0	5.5	7.6	12.8	6.6	20.7	23.3	13.4	10.0
DT53	14.4	15.9	15.5	5.9	5.9	9.3	4.5	3.6	6.6	3.2	16.2	15.3	9.2	6.8
DT157	11.6	28.6	16.1	4.4	4.7	7.1	3.6	3.3	5.1	3.0	15.3	14.6	9.3	6.9
DT158a	15.5	14.8	14.1	5.2	6.2	7.5	2.5	3.9	5.7	3.0	16.0	16.0	8.7	6.4
DT159	14.3	15.5	13.8	7.5	5.1	8.9	1.9	3.1	6.4	5.7	14.9	19.9	9.2	6.8
DT160	15.1	15.3	16.1	7.3	2.5	10.5	1.9	3.0	8.5	5.3	18.1	16.6	9.6	7.1
DT161	11.2	15.4	14.7	5.9	3.5	9.8	1.9	2.0	5.4	3.4	13.6	13.8	8.0	5.9
DT162	9.7	12.2	19.3	7.8	5.7	10.3	3.0	3.2	4.3	2.6	15.4	15.2	8.7	6.4
DT163	18.6	19.6	20.0	9.7	6.1	15.2	4.6	5.1	9.3	1.7	21.6	23.7	12.3	9.1
DT164	14.7	15.7	14.9	4.1	4.4	10.1	2.6	2.4	6.5	5.1	12.7	11.9	8.4	6.2
DT166	16.7	15.9	21.6	9.0	7.9	16.9	3.5	7.6	9.2	7.3	17.6	19.2	12.3	9.1
NewDT54	19.0	19.2	21.6	8.1	7.0	15.3	4.8	7.3	9.5	12.0	19.0	23.7	13.3	9.9
NewDT55	20.7	23.6	26.7	10.2	8.9	11.0	7.2	8.3	13.0	5.3	19.8	24.7	14.3	10.6
NewDT56	14.3	17.2	14.1	1.9	-	9.4	4.3	6.4	7.2	6.8	11.0	17.3	9.5	7.0
DT57	11.0	13.7	13.7	4.6	3.6	5.4	2.4	2.0	6.3	1.9	9.2	7.4	6.5	4.8
DT58	19.1	19.5	18.1	18.2	-	10.4	5.4	7.1	9.6	5.3	14.9	15.7	12.6	9.3
DT59	12.4	14.7	14.3	6.9	5.4	8.4	3.9	3.2	7.4	3.5	15.0	17.9	9.0	6.6
DT61	16.9	42.3	36.4	20.3	20.4	28.1	17.1	15.7	23.4	12.0	22.2	27.1	23.2	17.2
DT62	19.4	29.2	35.2	13.4	10.6	21.8	6.7	8.0	14.1	14.2	22.6	25.8	17.9	13.3
DT63	32.9	34.7	25.5	17.7	15.0	21.7	14.5	17.1	22.1	13.8	20.1	32.0	21.5	15.9
DT64	21.1	29.5	28.8	13.8	11.9	17.3	7.6	7.6	20.8	14.8	22.0	38.9	18.8	13.9
DT132	11.9	14.3	11.4	3.9	5.3	8.7	2.0	4.6	3.4	5.7	9.3	15.0	7.5	5.6
DT100	24.2	30.1	25.0	25.5	18.0	69.0	13.6	-	19.4	24.5	20.7	21.4	24.6	18.2
DT101	20.2	16.2	13.3	12.3	6.6	40.1	9.7	-	2.2	-	14.3	14.3	13.6	10.1
NewDT102	19.5	17.0	12.7	12.3	5.5	38.7	7.0	-	14.3	12.6	10.0	9.8	13.4	9.9
NewDT103	2.3	24.2	16.8	15.4	5.0	32.4	10.7	-	10.0	13.6	22.2	11.8	14.5	10.8
DT104	10.9	10.0	6.9	5.0	2.4	7.2	3.2	-	2.2	6.5	9.9	6.0	6.5	4.8
DT105	15.2	15.0	8.6	8.5	8.6	19.9	5.8	-	2.9	10.6	11.9	9.1	10.2	7.5
DT110	30.0	23.0	27.7	19.6	9.0	34.5	21.6	-	16.9	18.5	24.9	19.6	21.9	16.2
DT111	34.3	24.3	27.3	17.5	16.9	39.0	22.5	-	17.8	18.8	24.1	19.7	23.2	17.1
DT112	32.8	23.3	26.0	19.9	11.8	17.5	23.5	-	17.0	18.0	24.8	16.9	21.3	15.8
DT113	21.6	26.4	13.8	11.0	5.5	29.0	7.5	-	9.0	10.2	15.5	9.4	14.0	10.3
DT114	14.5	25.8	12.0	8.9	5.3	64.9	5.5	-	7.9	7.4	10.7	6.1	13.1	9.7

Site ID	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Bias Adjusted (1)
DT115	15.7	14.0	8.9	8.1	2.5	16.5	5.0	-	3.0	6.3	8.2	2.1	7.9	5.9
NewDT116	18.4	17.6	12.5	12.3	9.8	29.2	7.7	-	6.5	18.4	17.8	10.4	14.1	10.4
DT117	24.7	19.0	13.8	17.9	14.5	51.8	12.6	-	13.2	14.5	12.7	15.4	17.4	12.9
NewDT118	30.5	-	19.1	1.9	-	-	19.6	-	8.0	11.6	18.2	11.8	15.0	10.5
DT119	34.9	27.8	18.0	12.7	11.1	25.8	17.2	-	12.2	15.0	21.3	18.7	19.3	14.3
NewDT120	32.7	19.9	19.2	17.0	7.3	29.1	10.9	-	14.9	-	26.0	15.5	19.0	14.1
DT121	25.8	-	13.5	12.1	4.6	25.2	10.2	-	9.3	16.0	10.1	10.5	13.1	9.7
DT122	20.6	-	13.3	13.2	6.0	37.4	15.9	-	8.5	14.3	18.8	11.3	14.9	11.0
DT123	19.3	23.9	16.4	14.6	15.4	42.1	13.1	-	12.2	8.2	25.5	17.3	18.0	13.3
DT124	24.4	19.7	22.2	13.1	11.3	19.2	9.7	-	12.9	16.8	22.5	17.4	17.4	12.8
DT125	19.7	21.2	17.6	15.9	9.0	25.0	8.4	-	13.6	16.0	19.2	13.7	16.1	11.9
DT126	2.1	19.0	13.6	11.9	4.7	22.2	14.7	-	5.6	13.5	13.7	11.1	11.7	8.6
NewDT127	32.3	25.5	17.8	18.9	11.7	30.5	14.7	-	11.5	16.0	21.0	13.4	19.0	14.0
NewDT128	29.0	32.0	21.3	21.5	14.3	53.5	14.2	-	17.9	22.5	19.4	-	23.1	17.1
DT129	24.2	14.3	21.3	22.8	18.9	27.6	8.0	-	15.3	21.7	23.5	13.0	19.0	14.0
DT130	15.2	16.6	11.1	11.0	6.2	26.7	-	-	7.0	14.8	12.8	8.4	12.3	9.1
DT131	24.9	23.8	13.8	12.0	8.3	29.0	12.7	-	7.6	15.0	17.5	11.2	15.5	11.4
DT133	38.7	25.9	25.6	23.2	18.0	43.4	20.7	-	16.7	23.5	16.6	22.0	23.9	17.7
DT134	8.4	20.3	17.6	10.6	8.3	24.0	14.0	-	8.7	15.5	14.0	11.2	13.5	10.0
DT135	31.5	29.4	26.1	17.4	11.9	52.0	13.2	-	14.7	3.6	28.2	16.6	21.1	15.6
DT136	21.2	13.5	13.0	8.2	3.3	-	9.7	-	5.0	10.8	11.9	11.0	10.8	8.0
NewDT137	22.7	15.4	20.4	13.6	6.5	38.0	9.8	-	10.5	16.3	13.9	20.7	16.1	11.9
DT138	26.3	23.4	15.9	13.4	7.8	39.3	11.3	-	15.6	14.5	17.4	11.5	16.9	12.5
DT139	41.1	32.2	26.7	18.8	2.3	53.2	19.2	-	9.8	19.7	26.9	15.2	23.0	17.0
DT140	28.7	24.3	18.2	15.6	8.4	25.8	13.6	-	9.9	18.3	24.7	4.3	17.3	12.8
NewDT141	9.5	12.6	9.4	10.1	10.4	21.3	5.0	-	3.4	8.7	13.3	7.7	9.7	7.2
NewDT142	18.8	16.6	12.5	10.8	13.1	14.8	6.7	-	6.2	10.2	13.8	7.8	11.9	8.8
DT143	8.4	16.4	10.1	13.5	2.4	-	7.9	-	5.5	12.4	12.1	6.8	9.8	7.2
DT144	15.8	11.3	12.9	9.6	5.0	4.4	6.0	-	6.7	2.1	1.7	11.4	8.0	5.9
Dt145	15.7	11.6	15.2	10.3	5.8	12.8	4.7	-	7.8	10.1	16.0	11.7	11.2	8.3
DT146	17.8	12.2	13.4	10.3	7.5	15.9	5.6	-	7.1	13.5	14.3	13.6	11.9	8.8
DT147	30.0	26.0	19.8	17.6	15.0	4.4	21.0	-	13.5	23.6	24.1	16.0	20.0	14.8
DT148	28.2	25.9	19.8	17.0	10.6	19.6	14.0	-	13.1	17.7	19.2	20.4	18.7	13.9
DT149	28.8	28.8	24.2	16.7	10.8	43.2	12.8	-	17.4	17.4	-	2.0	19.3	14.3
DT150	16.4	13.2	16.6	12.1	4.8	19.0	6.3	-	9.6	12.6	17.7	10.3	12.6	9.3
DT151	20.3	21.8	14.4	16.6	5.3	19.2	10.7	-	-	16.2	21.4	11.2	15.8	11.7
DT152	33.2	23.8	20.3	14.3	14.4	4.4	17.9	-	8.6	15.8	17.0	14.7	17.4	12.8
DT153	27.6	20.4	14.9	11.9	5.2	10.7	14.0	-	11.0	12.0	13.0	11.6	14.0	10.4
DT154	25.1	30.8	25.2	17.5	18.2	23.9	16.0	-	16.1	17.6	16.9	14.6	20.1	14.9
DT156	34.3	30.1	24.1	19.1	14.4	18.7	21.8	-	16.0	17.6	20.2	14.3	21.1	15.6
NewDT157a	31.7	23.5	23.4	17.7	6.5	30.4	11.4	-	5.1	17.0	18.8	19.3	18.2	13.5
DT158b	47.5	33.0	25.4	16.8	13.4	34.8	27.6	-	18.5	33.4	30.5	16.8	26.8	19.8
DT165	12.8	21.1	15.4	12.1	7.8	11.9	17.5	-	10.8	18.3	19.2	16.0	15.1	11.2

☒ **All erroneous data has been removed from the NO_2 diffusion tube dataset presented in Table B.1.**

☐ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.**

☒ **National bias adjustment factor used.**

☐ **Where applicable, data has been distance corrected for relevant exposure in the final column.**

☐ **North Lanarkshire Council confirm that all 2023 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.**

Notes:

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation

Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC

New or Changed Sources Identified Within North Lanarkshire During 2023

North Lanarkshire Council has not identified any new sources relating to air quality within the reporting year of 2023.

Additional Air Quality Works Undertaken by North Lanarkshire Council During 2023

North Lanarkshire Council has not completed any additional works within the reporting year of 2023.

QA/QC of Diffusion Tube Monitoring

The diffusion tubes are analysed by Glasgow Scientific Services using the 20% triethanolamine (TEA) in acetone method.

GSS has confirmed that the procedures set out in the Harmonisation Practical Guidance are followed during the analysis. The laboratory is UKAS accredited for the analysis and also participates in the Workplace Analysis Scheme for Proficiency (WASP) scheme. GSS has reported that the results from the WASP scheme confirm that the laboratory is performing satisfactorily.

The diffusion tubes for the year 2023 were supplied and analysed by Glasgow Scientific Services (GSS). The tubes were prepared using the 20% TEA in water preparation method. All results have been bias adjusted and annualised (where required). GSS is a UKAS accredited laboratory and participates in the (a continuation of the Workplace Analysis Scheme for Proficiency (WASP) for NO_2 tube analysis and the Annual Field Inter-Comparison Exercise. These provide strict performance criteria for participating laboratories to meet, thereby ensuring NO_2 concentrations reported are of a high calibre.

The latest AIR-PT results are as follows:-

- AIR-PT AR052 (July to August 2022) – 100%
- AIR-PT AR053 (September to October 2022) – 100%
- AIR-PT AR055 (January to February 2023) – 100%
- AIR-PT AR056 (May to June 2023) – 100%
- AIR-PT AR058 (July to August 2023) – 100%
- AIR-PT AR059 (September to October 2023) – 100%

Over a rolling five round AIR-PT window, it is expected that 95% of laboratory results should be greater than or equal to +2. If this percentage is substantially lower than 95% for a particular laboratory, within this five-round window, then one can conclude that the laboratory in question may have sources of error within their analytical procedure.

The results of all round results from 2022 and 2023 were 100% demonstrating satisfactory performance of the laboratory.

The monitoring was largely carried out in adherence with the 2023 Diffusion Tube Monitoring Calendar.

Diffusion Tube Annualisation

Diffusion tube annualisation was carried out for one diffusion tube monitoring location in NLC, which was DT118. This is shown in Table C.1.

All other diffusion tube monitoring locations within North Lanarkshire Council recorded data capture of 75% or greater, therefore annualisation was not required.

The diffusion tube processing tool calculated a data capture of 0.74 for DT149 and therefore highlighted that it should be annualised. There were 10 months of data entered in the raw data sheet, therefore data capture would have been assumed to be 83%. The spreadsheet also provides a note to say that "*annualisation cannot be carried out as less than 2 annual factors could be calculated from the data provided",* despite 3 factors being shown. Manually averaging the three factors resulted in a value of 1.03. The raw data, bias adjusted mean for DT149 was therefore not annualised.

Table C1 – Annualisation Summary for Diffusion Tubes (concentrations presented in µg/m^3)

Site ID	Annualisation Factor Bush Estate	Annualisation Factor Peebles	Annualisation Factor Glasgow Townhead	Average Annualisation Factor	Raw Data Time Weighted Annual Mean (µg/m^3)	Annualised Data Time Weighted Annual Mean (µg/m^3)	Comments
DT118	0.9296	1.0000	0.8983	0.9426	15.0	14.2	

Table C.2 – Annualisation Summary for NO_2 (concentrations presented in µg/m^3)

Site ID	Annualisation Factor Bush Estate	Annualisation Factor Peebles	Annualisation Factor Glasgow Townhead	Average Annualisation Factor	Raw Data Annual Mean (µg/m^3)	Annualised Annual Mean (µg/m^3)	Comments
CM1 Chapelhall	1.01	0.92	0.93	0.95	19.1	18.2	
CM2 - Croy	1.15	1.18	1.10	1.14	9.4	10.8	
CM4-Menteith Rd, Motherwell	1.01	0.92	0.93	0.95	12.3	11.7	
CM5-Shawhead, Coatbridge	0.99	0.93	0.94	0.95	15.6	14.9	
CM6-Kirkshaws, Coatbridge	1.01	0.92	0.93	0.95	16.5	15.7	

Diffusion Tube Bias Adjustment Factors

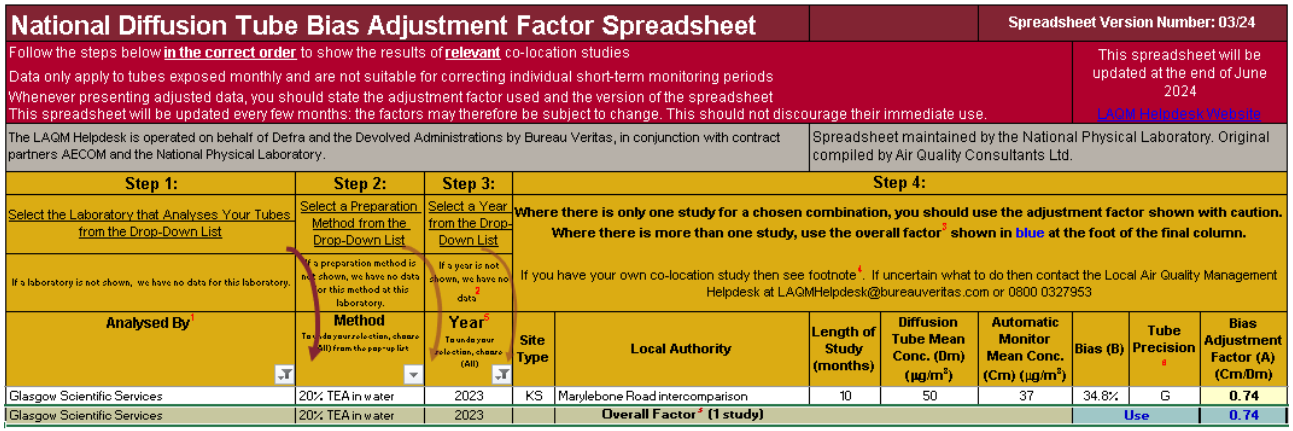
North Lanarkshire Council has applied a nationally derived bias adjustment factor of 0.74 to the 2023 diffusion tube monitoring data as shown in Table C.4.

Table C.4 – Bias Adjustment Factor

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor[1]
2023	National	03/24	0.74
2022	National	03/23	0.87
2021	National	06/22	0.97
2020	National	06/21	0.89
2019	National	06/20	0.87

The bias adjustment factor for the GSS laboratory and method are listed in the Spreadsheet of Bias Adjustment Factors v.03/24 is 0.74. The National Average Bias Adjustment Factor Spreadsheet is shown in Figure C.1.

Figure C.1 – Glasgow Scientific Services - National Average Bias Adjustment Factor Spreadsheet v.03/24



National Diffusion Tube Bias Adjustment Factor Spreadsheet — Spreadsheet Version Number: 03/24

Follow the steps below **in the correct order** to show the results of **relevant** co-location studies
Data only apply to tubes exposed monthly and are not suitable for correcting individual short-term monitoring periods
Whenever presenting adjusted data, you should state the adjustment factor used and the version of the spreadsheet
This spreadsheet will be updated every few months: the factors may therefore be subject to change. This should not discourage their immediate use.

This spreadsheet will be updated at the end of June 2024
LAQM Helpdesk Website

The LAQM Helpdesk is operated on behalf of Defra and the Devolved Administrations by Bureau Veritas, in conjunction with contract partners AECOM and the National Physical Laboratory.

Spreadsheet maintained by the National Physical Laboratory. Original compiled by Air Quality Consultants Ltd.

Step 1:	Step 2:	Step 3:	Step 4:								
Select the Laboratory that Analyses Your Tubes from the Drop-Down List	Select a Preparation Method from the Drop-Down List	Select a Year from the Drop-Down List	Where there is only one study for a chosen combination, you should use the adjustment factor shown with caution. Where there is more than one study, use the overall factor[3] shown in blue at the foot of the final column.								
If a laboratory is not shown, we have no data for this laboratory.	If a preparation method is not shown, we have no data for this method at this laboratory.	If a year is not shown, we have no data[2]	If you have your own co-location study then see footnote[4]. If uncertain what to do then contact the Local Air Quality Management Helpdesk at LAQMHelpdesk@bureauveritas.com or 0800 0327953								
Analysed By[1]	Method To undo your selection, choose (All) from the pop-up list	Year[5] To undo your selection, choose (All)	Site Type	Local Authority	Length of Study (months)	Diffusion Tube Mean Conc. (Dm) (µg/m³)	Automatic Monitor Mean Conc. (Cm) (µg/m³)	Bias (B)	Tube Precision[6]	Bias Adjustment Factor (A) (Cm/Dm)
Glasgow Scientific Services	20% TEA in water	2023	KS	Marylebone Road intercomparison	10	50	37	34.8%	G	0.74
Glasgow Scientific Services	20% TEA in water	2023		Overall Factor[3] (1 study)				Use		0.74

A local bias adjustment factor of 0.74 was also calculated using the Diffusion Tube Data Processing Tool for 2024. The calculation of this local bias adjustment factor is shown in Table C.5. This local factor was calculated using data from the co-located diffusion tubes at CM7, New Edinburgh Road automatic monitoring location. Data capture at this location was 77.7% which is shown in Table A.3.

Due to low data capture at CM7 for the local bias adjustment factor, and the consistent use of the national factor in previous years, the national bias adjustment factor of 0.74 has been used for the 2023 data.

Table C.5 – Local Bias Adjustment Calculations

	Local Bias Adjustment Input 1	Local Bias Adjustment Input 2	Local Bias Adjustment Input 3	Local Bias Adjustment Input 4	Local Bias Adjustment Input 5
Periods used to calculate bias	8				
Bias Factor A	0.74 (0.6 - 0.96)				
Bias Factor B	35% (4% - 65%)				
Diffusion Tube Mean (µg/m³)	23.1				

	Local Bias Adjustment Input 1	Local Bias Adjustment Input 2	Local Bias Adjustment Input 3	Local Bias Adjustment Input 4	Local Bias Adjustment Input 5
Mean CV (Precision)	4.1%				
Automatic Mean (µg/m^3)	17.1				
Data Capture	100%				
Adjusted Tube Mean (µg/m^3)	17 (14 - 22)				

Notes:

A single local bias adjustment factor has been used to bias adjust the 2023 diffusion tube results.

NO_2 Fall-off with Distance from the Road

No diffusion tube NO_2 monitoring locations within North Lanarkshire Council required distance correction during 2023.

QA/QC of Automatic Monitoring

Automatic monitoring of NO_x, PM_{10} and $PM_{2.5}$ is completed within North Lanarkshire Council using Chemiluminescence and FIDAS (PM_{10} and $PM_{2.5}$) analysers. All data is available in real-time and, following data dissemination, is ratified by Ricardo Energy and Environment to AURN standards.

The data from the automatic monitoring stations is checked by the Local Site Operator (in-house member of staff).

Live and historic data are available from http://www.scottishairquality.scot/

Details of the calibration, servicing etc. arrangements for the automatic air monitoring stations in North Lanarkshire are as follows.

- Automatic analysers are set up to calibrate themselves every 72 hours

- All automatic analysers are audited by Ricardo every six months
- Analysers are serviced by the maintenance contractor for the equipment every six months. Maintenance contracts are in place for the analysers to ensure this. this also covers attending faults as necessary.
- Our in-house LSO maintains the air station network in terms of filter changes, gas ordering, initial fault-finding and reporting of faults, as necessary. They also carry out visual checks on the monitors and ancillary equipment, enclosures etc.

PM_{10} and $PM_{2.5}$ Monitoring Adjustment

All PM_{10} and $PM_{2.5}$ monitoring within North Lanarkshire is carried out using either the conventional TEOM gravimetric equipment monitoring technique or the FIDAS monitoring technique. All correction factors applied to monitoring data of PM_{10} and $PM_{2.5}$ within North Lanarkshire are detailed in the Annual Statistics Reports.

Automatic Monitoring Annualisation

As laid out in section 7 of the LAQM Technical Guidance (TG22), where monitoring data capture is below 75% for the year, it is necessary to annualise the data.

Annualisation was required for the NO_2 results from automatic monitoring sites CM1, CM2, CM4, CM5 and CM6.

In accordance with Box 7-8 of the TG22 guidance, three continuous urban background and rural monitoring sites within a radius of 50 miles from the automatic monitoring locations, with at least 85% data capture, were selected for the annualisation process.

The annualisation ratio shown in Table C.2 was calculated by first taking the annual mean (Am) of each of the selected sites then dividing that by the period mean (Pm) for the relevant months of data for which the relevant automatic sites recorded data, to obtain a ratio between the Am and Pm for each site. The average of these Am/Pm ratios is the annualisation ratio applied to the automatic monitoring results.

Annualisation was required for PM_{10} concentrations from automatic monitoring site CM10 Kenilworth Drive, Airdrie as it had a data capture of 22%. Following the same process as outlined above, the process and annualised annual mean are shown in Table C.3.

Table C.3 – Annualisation Summary for PM_{10} (concentrations presented in µg/m^3)

Site ID	Annualisation Factor Glasgow Anderston	Annualisation Factor Glasgow Townhead	Average Annualisation Factor	Raw Data Annual Mean (µg/m^3)	Annualised Annual Mean (µg/m^3)	Comments
CM10 Kenilworth Dr, Airdrie	0.92	0.94	0.93	9.4	8.7	

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the LA intends to achieve air quality limit values'
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
AQO	Air Quality Objectives
APR	Annual Progress Report
AURN	Automatic Urban and Rural Network (UK air quality monitoring network)
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
DT	Diffusion Tube
FDMS	Filter Dynamics Measurement System
LAQM	Local Air Quality Management
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
$PM_{2.5}$	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO_2	Sulphur Dioxide

References

North Lanarkshire Council Air Quality Action Plan 2023 – 2028

North Lanarkshire Council Annual Progress Report 2023