



**REPORT IN SUPPORT OF THE
REVOCATION OF COATBRIDGE AQMA,
NORTH LANARKSHIRE**

Local Authority Officer	Fiona Maguire
Department	Protective Services
Address	Civic Centre, Windmillhill Street, Motherwell, ML1 1AB
Email	maguiref@northlan.gov.uk
Report Reference	Coatbridge AQMA Revocation Proposal Report
Status (version control)	Final
Date	September 2024

Contents

- 1. Background**
 - 1.1 Introduction**
 - 1.2 Legislation**
 - 1.3 Summary of proposal**

- 2. Description of AQMA**
 - 2.1 Pollutants declared for and time intervals, date declared**
 - 2.2 Description and extent of AQMA**

- 3. Description of local sources**
 - 3.1 Local sources**
 - 3.2 Action Planning measures which have been implemented**
 - 3.3 Changes to local sources from measures which have been implemented or changes to local circumstances for emission sources**

- 4. Local monitoring equipment**
 - 4.1 Automatic monitoring in Coatbridge AQMA**
 - 4.2 Non-automatic monitoring in Coatbridge AQMA**

- 5. Local monitoring data**
 - 5.1 Results and data interpretation from automatic monitoring site**
 - 5.2 Results and data interpretation from non-automatic monitoring sites**

- 6. Action Plan measures and Coatbridge AQMA**

- 7. Conclusions and recommendations**

1. BACKGROUND

1.1 Introduction

Air pollution is associated with several adverse health impacts including exacerbating respiratory conditions and heart disease. There is also often a strong correlation with equalities issues because areas with poor air quality are also often the less affluent areas. North Lanarkshire Council is committed to reducing the exposure of people in North Lanarkshire to poor air quality to improve health.

1.2 Legislation and policy

To prevent, control and minimise atmospheric emissions that are harmful to human health and the environment, legislation and policies at European, national and regional levels have been put in place.

European Legislation

The European Union (EU) published a Directive on Ambient Air Quality Assessment and Management which came in to force in September 1996 (Union Council of the European Union, 1996). This Directive was intended as a strategic framework for tackling air quality in a consistent manner, through setting European wide air quality limit values in a series of daughter directives, superseding and extending European legislation. The first four daughter directives were placed into national legislation. A new EU air quality directive (European Parliament and the Council of the European Union, 2008) came into force in June 2008 and was transposed into the Air Quality Standards Regulations in England, Wales, Scotland and Northern Ireland in June 2010). The directive merged the four daughter directives and one Council decision into a single directive on air quality. The Directive requirements have been retained in domestic legislation following the UK's exit from the EU.

National Legislation

The Environment Act 1995 (HM Government, 1995) required the preparation of a national air quality strategy setting Air Quality Objectives (AQOs) for specified pollutants and outlining measures to be taken by local authorities through the system of Local Air Quality Management (LAQM). Local authorities are required to review and assess air quality within their areas under LAQM and to work in pursuit of the achievement of the statutory AQOs.

Air Quality is a devolved matter and the AQOs which are relevant to LAQM have been set into regulations, namely

Air Quality (Scotland) Regulations 2000

Air Quality (Scotland) (Amendment) Regulations 2002

Air Quality (Scotland) (Amendment) Regulations 2016

A summary of the relevant AQOs for this revocation report, namely Nitrogen Dioxide (NO₂) and Particulate Matter, PM₁₀ is outlined in Table 1.1

Table 1.1 – Summary of AQOs for NO₂ and PM₁₀ in Scotland

Pollutant	AQO Concentration	AQO Measured as	Date to be achieved by
Nitrogen Dioxide (NO ₂)	40 µg/m ³	Annual Mean	31.12.2005
	200 µg/m ³ not to be exceeded more than 18 times per year	1-hour Mean	31.12.2005
Particulate Matter (PM ₁₀)	18 µg/m ³	Annual Mean	31.12.2010
	50 µg/m ³ not to be exceeded more than 7 times per year	24-hour Mean	31.12.2010

Cleaner Air for Scotland Strategy

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 website.

Local Air Quality Management

The aforementioned AQOs have been set down in regulation for the purposes of the LAQM. The Environment Act 1995 requires that local authorities undertake a tiered appraisal of air quality within their area to establish compliance or non-compliance with the targets detailed in the UK National Air Quality Strategy, and report on an annual basis through the preparation and publication of an Annual Progress Report (APR). Where the AQOs are not met or are not likely to be met within the stated timescales for compliance the local authority must designate an Air Quality Management Area (AQMA). The boundary of the AQMA is set by the governing local authority and can be as large or as small as preferred, however it must include the area of exceedance, usually determined through air quality monitoring.

Where an AQMA has been declared the local authority must thereafter prepare an Air Quality Action Plan setting out the measures it intends to put in place in pursuit of the objectives. North Lanarkshire Council has three AQMAs – Coatbridge, Chapelhall and Motherwell Town Centre. This revocation proposal report focuses on the Coatbridge AQMA. The Chapelhall AQMA is also being revoked and is subject to its own report.

Following a minimum of three consecutive years of compliance with the AQOs, an AQMA may be revoked. Section 4 of Part IV of the Environment Act 1995 states that local authorities can amend or revoke an AQMA at any time as set out under section 83(2) of the 1995 Act. Where an authority

considers it necessary to do this, the Scottish Government expects the authority to prepare a revocation proposal report containing all available supporting information to justify the revocation. This report must be approved by the Scottish Government prior to any changes taking effect. On completion of the AQMA revocation all statutory consultees, SEPA, businesses, members of the public and other interested parties in the vicinity of the AQMA will be notified.

1.3 Summary of proposal

Monitored concentrations of the pollutants NO₂ and PM₁₀ at the monitoring locations within and adjacent to the Coatbridge AQMA have complied with the statutory AQOs for at least nine years. As such it is proposed that the Coatbridge AQMA is revoked in its entirety for both pollutants. Monitoring in this area will continue for a period of at least a year following the revocation.

2. Description of Coatbridge AQMA

The Coatbridge AQMA was originally declared in December 2005 because of air monitoring identifying likely breaches of the AQO for levels of PM₁₀ in the Whifflet/North Road area of Coatbridge. Following this AQMA declaration an Emissions Inventory exercise was undertaken in 2007. This, combined with monitoring carried out over subsequent years indicated exceedances of NO₂ as well as PM₁₀ along the M8 at Coatbridge (Shawhead to Kirkshaws areas) and at Chapelhall. Monitoring reinforcing this was also reported in the 2011 Progress Report and the 2012 Updating and Screening Assessment. In the 2013 Progress Report it was suggested that a Detailed Assessment (including dispersion modelling) of the area was undertaken, and the Monklands Detailed Assessment (covering Coatbridge, Airdrie and Chapelhall areas) was carried out in 2013/14. This confirmed continued likely exceedances of the annual mean statutory air quality objectives for both PM₁₀ and NO₂ in the Chapelhall and Coatbridge AQMAs. Consequently, the Coatbridge AQMA was amended in 2014 to be declared for NO₂ in addition to PM₁₀. The geographical boundary of the Coatbridge AQMA is illustrated in Figure 2.1

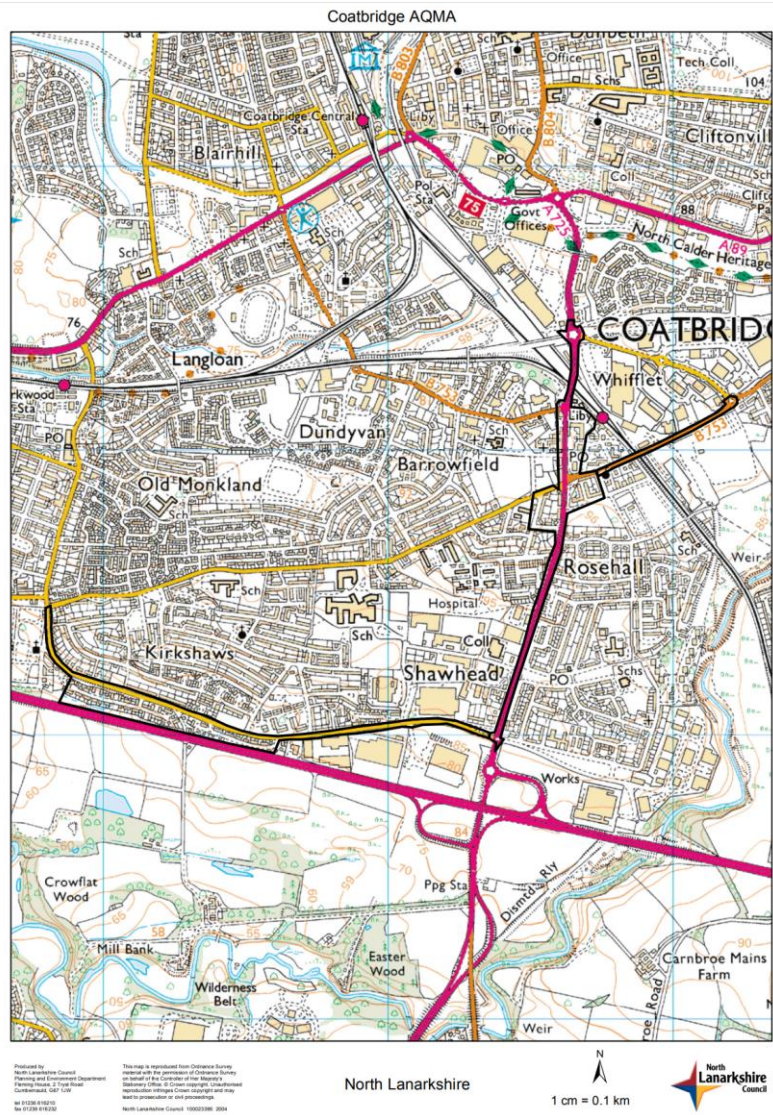


Figure 2.1 Boundary of Coatbridge AQMA

3.0 Local sources of air pollution in Coatbridge AQMA

A source apportionment exercise was carried out by North Lanarkshire Council in 2018 with reference to the 2017-based National Atmospheric Emissions Inventory (NAEI). The data was used to evaluate the emissions contributions from multiple source types within 1km x 1km grid squares covering the AQMAs. For each grid square, the road sources emissions were further analysed to identify contributions from motorcycles, cars, light goods vehicles (LGVs), buses and heavy goods vehicles (LGVs) using emissions factors and vehicles split information from Department of Transport data. Dispersion modelling was used to calculate the contribution to ambient annual mean concentrations of each pollutant from the main source groups at roadside receptors at different locations within each AQMA.

The 1km x 1km grid square emissions were updated for expanded regional modelling studies in 2021 and 2022 using updated versions of the NAEI with no significant variation in the dominant sources. The modelled contributions to concentrations at roadside receptors within the AQMAs

are therefore dominated by the same principal sources. Table 3.1 illustrates the source apportionment for each pollutant monitored in the Coatbridge AQMA.

Table 3.1 : Source Apportionment in Coatbridge AQMA

Pollutant	Emissions Source Apportionment (NAEI 2020)				Average Contribution to Annual Mean Concentration at Roadside Receptors in the AQMA		
	Roads	Other mobile (inc. air and rail) & Machinery	Combustion Plant	Other including Rural/Long Range Transportation	Traffic	Rural Background	Other
NO ₂	75%	5%	3%	17%	48% (c.80%/20% Cars, Motorbikes & LGV/Buses, Taxis & HGV)	40%	12%
PM ₁₀	36%	2%	1%	61%	10% (c.80%/20% Cars, Motorbikes & LGV/Buses, Taxis & HGV)	85%	5%

It can be seen from Table 3.1 that the main sources of average contribution to annual mean concentrations of NO₂ at roadside receptors in the Coatbridge AQMA are 48% from road traffic emissions, 40% from the rural background and 12% from other sources.

For PM₁₀ the predominant source of annual mean concentrations is the rural background (85%) with a further 10% from road traffic emissions.

4.0 Monitoring Equipment in Coatbridge AQMA

North Lanarkshire Council has operated a number of monitoring locations in and adjacent to the Coatbridge AQMA for approximately fifteen years now. The original monitoring in place after the initial AQMA declaration was increased to determine the extent of further suspected exceedances, which ultimately led to the amendment and increase in size of the Coatbridge AQMA in 2014. A summary of monitoring types and locations in/adjacent to the Coatbridge AQMA is provided in Table 4.1 below.

Table 4.1 Details of Monitoring Sites within/adjacent to Coatbridge AQMA

Site Name/ID	Site Type	Type of Monitor	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	Distance to Relevant Exposure(m)	Distance to kerb of nearest road (m)
CM5 – Shawhead, Coatbridge	Roadside	Automatic	273411	662997	NO ₂ PM ₁₀ PM _{2.5}	22	20

CM6 – Kirkshaws, Coatbridge	Roadside	Automatic	272523	663030	NO ₂ PM ₁₀ PM _{2.5}	20	8
CM3 – Calder Court, Whifflet	Urban background	Automatic	273674	663927	NO ₂ PM ₁₀	20	30
CM12 – Whifflet Cross A725	Roadside	Automatic	273646	663867	NO ₂ PM ₁₀	16	20
DT118 – Shawhead roundabout	Kerbside	Diffusion Tube	273432	662965	NO ₂	30	2
DT119 – Kirkshaws Rd, Coatbridge	Kerbside	Diffusion Tube	273432	662965	NO ₂	30	2
DT134 – Whifflet Court, Coatbridge	Kerbside	Diffusion Tube	273655	664003	NO ₂	10	20

The diffusion tube monitoring sites have all been in place for several years (since before 2014). Automatic monitoring in the Whifflet area of the AQMA was initially sited in Calder Court, Whifflet, (identified as CM3) however a more representative location was identified, and this monitoring site was relocated in 2021 to Whifflet Cross A725 (CM12).

Figure 4.1 illustrates the locations of monitoring points within the Coatbridge AQMA boundary.

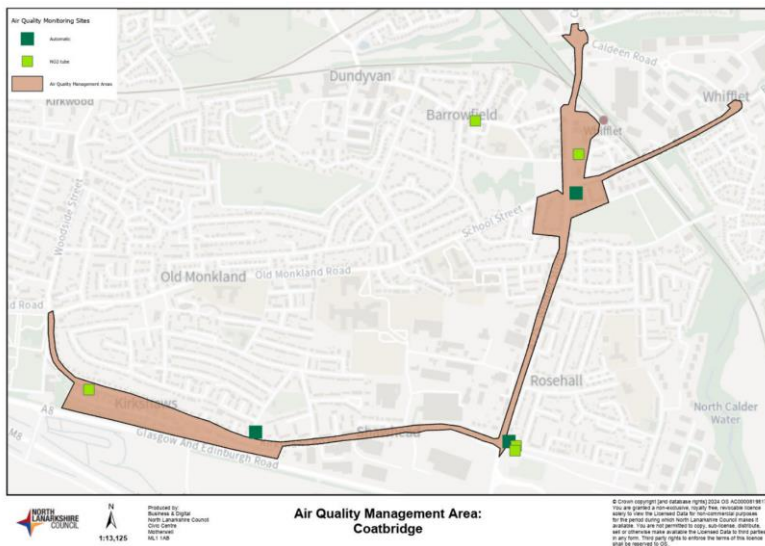


Figure 4.1 – Monitoring locations within/adjacent to Coatbridge AQMA boundary

5.0 Local Monitoring Data – Coatbridge AQMA

Monitoring data for the period 2014 to 2023 from both the automatic and non-automatic air monitoring sites in/near the Coatbridge AQMA is presented in the tables below

Table 5.1 Annual Mean NO₂ Monitoring Results – Coatbridge AQMA

Monitoring Site	Monitoring Type	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
CM5 – Shawhead	Automatic	32.4	36	30	28.5	20.7	20.3	16.0	14.2	13.5	14.9
CM6 – Kirkshaws	Automatic	20.3	25	33	22	18.3	20.3	13.0	13.6	13	15.7
CM3 – Calder Court, Whifflet	Automatic	-	-	-	-	-	17.2	12.0	11.5	-	-
CM12 – Whifflet Cross	Automatic	-	-	-	-	-	-	-	13.9	17.2	17.2
DT119 – Shawhead roundabout	Diffusion Tube	30.2	33.8	28.2	28.2	27.8	23.7	18.5	19.7	17.7	14.3
DT120 – Kirkshaws Road	Diffusion Tube	36.2	34.1	30.9	31.3	26.5	24.4	18.9	20.5	16.2	14.1
DT134 – Whifflet Court	Diffusion Tube	25	20.1	23	23	19.8	30.1	17.5	23.5	17.0	10.0

It can be seen from the monitoring data for NO₂ that both automatic and non-automatic (diffusion tube) measured annual mean concentrations have shown a sustained reduction over the period 2014-2023. In recent years, the post-pandemic period the levels have remained low, and well below the statutory annual mean air quality objective for which the Coatbridge is declared.

Table 5.2 – Annual Mean PM₁₀ Monitoring Results – Coatbridge AQMA

Monitoring Site	Monitoring Type	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
CM5 - Shawhead	Automatic	13.3	16	12	14	4.9	10.0	8.0	9.1	9.4	8.7
CM6 – Kirkshaws	Automatic	14.8	13	11	9	9.6	10.0	9.0	8.9	9.8	9.7
CM12 – Whifflet Cross A725	Automatic	-	-	-	-	-	-	-	9.4	10.2	9.1
CM3 – Calder Court, Whifflet	Automatic	13.1	12	12	11.4	6.9	13.5	8.0	8.5	-	-

It can be seen from the monitoring data presented in Table 5.2 above that the measured annual mean concentrations for PM₁₀ have remained consistent over the past few years, post-pandemic, and have comfortably complied with the annual mean air quality objective for PM₁₀ for which the Coatbridge AQMA was declared.

Following the revocation of the Coatbridge AQMA monitoring of NO₂ and PM₁₀ will continue for at least one year at the existing monitoring locations.

6.0 Actions taken to improve air quality in Coatbridge AQMA

With the declaration of AQMAs there is a subsequent requirement for the local authority to prepare and publish an Air Quality Action Plan (AQAP). An AQAP outlines a range of measures that the Council pledges to take to improve air quality in the AQMAs. North Lanarkshire Council has fulfilled this duty and published four AQAPs since the original declaration of the Coatbridge AQMA in 2005. North Lanarkshire Council has fulfilled this duty and published three AQAPs since the original declaration of the Coatbridge AQMA in 2005. The first AQAP was published in 2007. This was updated by the 2010-2013 AQAP, the 2013-2018 AQAP, the 2018-2021 AQAP and the current AQAP 2023-2028. All the AQAPs contained a range of general measures aimed at the improvement of air quality across all North Lanarkshire, including the AQMAs as well as measures bespoke to the individual AQMAs where appropriate. Measures taken to improve air quality within the Coatbridge AQMA include:-

- The upgrade of the M8/A8 included a re-design of the Shawhead junction which reduced congestion and allowed greater free flow of traffic through the AQMA and thus improving air quality.
- Traffic light optimisation was undertaken for the traffic lights at Whifflet Cross. Again, this ensured greater flow of traffic in the Coatbridge AQMA.
- Two car parks were constructed at the shopping areas in Whifflet. This enabled parking off the main carriageway so that the practice of parking on the main road is unnecessary and two lanes are available for the flow of traffic.

7.0 Conclusions and Recommendations

Data from the monitoring equipment located in and adjacent to the Coatbridge AQMA has indicated sustained and ongoing compliance with annual mean statutory air quality objectives for both NO₂ and PM₁₀, for which the AQMA was declared. As such, in line with Section 83(2) of the Environment Act 1995 and statutory air quality guidance made in respect of this legislation, it is concluded that there is no longer a requirement for an AQMA in this area. As such it is concluded that the Coatbridge AQMA will be revoked in its entirety but that monitoring of NO₂ and PM₁₀ will continue for at least a year within this area following the revocation process.

The current AQAP for North Lanarkshire will remain in place until its expiry in 2028.