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Air Quality Action Plan

In fulfilment of Part IV of the Environment Act 1995

Local Air Quality Management

2024

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Glasgow City Council Air Quality Action Plan - 2024

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Glasgow City Council Air Quality Action Plan - 2024

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Executive Summary

This Air Quality Action Plan (AQAP) has been produced as part of our statutory duties required by the Local Air Quality Management framework. It outlines the action we will take to improve air quality in Glasgow between 2024 - 2029.

This action plan replaces the previous action plan which ran from 2009 – 2023. Projects delivered through the past action plan include:

- Revocation of the Citywide AQMA (PM₁₀), revocation of the Parkhead Cross AQMA (NO₂) and revocation of the Dumbarton Rd / Byres Rd AQMA (NO₂ – pending in 2024).
- Delivery of the first phase of Scotland's first Low Emission Zone (LEZ) at the end of 2018 for buses.
- Delivery of phase 2 of the Glasgow LEZ, expanded to include all vehicle types.
- Enforcement action relating to unnecessary vehicle idling, including general communications campaigns and signage at relevant locations, particularly around schools.
- Vehicle emissions testing (VET). GCC undertook a program of roadside VET focussing on bus, taxi and private hire vehicles but also including general use vehicles. Vehicles found to be exceeding the MOT test emission standards for their vehicle type were issued fixed penalty notices which were cancelled upon evidence of remedial work being conducted to improve the emissions.
- Introduction and adoption of a Workplace Travel Plan for Glasgow City Council.
- Provision of air quality information. GCC continues to publish air quality information on the main Council website and promote the use of the Scottish Air Quality Database "Know & Respond" information service. Ongoing engagement in relation to LEZ and vehicle idling highlights the air quality benefits of these interventions.

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- Provision of Air Quality and Planning guidance and guidance on the adoption of biomass.
- Promotion of Car Clubs. GCC has provided on-road parking spaces for the exclusive use of car club vehicles. Funding has also been provided, including funding of fully electric vehicles and associated charging infrastructure.
- Promotion of cleaner vehicles. GCC has introduced a significant proportion of zero emission vehicles to the Council fleet with associated charging infrastructure. GCC has also installed almost 300 charge points across over 150 units, including significant numbers of rapid chargers, deployed for public use in the city.
- Membership of the Glasgow Eco-stars scheme. The fleet recognition scheme has been operating since September 2014 and has currently recruited 298 members encompassing 11,653 fleet vehicles including three of the largest bus companies operating within Glasgow. Glasgow Taxi's group also joined the Glasgow Eco Stars scheme in 2018.
- Cleaner taxis. GCC has adopted licensing conditions in line with the introduction of the LEZ enforcement. GCC has removed the five year age policy for taxi applications to facilitate the replacement of vehicles with a newer taxi which meets the required emission standard. GCC have reduced testing frequency for newer vehicles and increased testing frequency for older vehicles.
- The Council continues to promote and facilitate improvements in sustainable transport through large scale investment in transport projects including cycling and walking infrastructure, including utilising the Scottish Government's AQAP grant funding for these activities. Initiatives such as the Avenues and City Ways projects, and promotion of behavioural change to active travel modes are also priority activities.

There is scientific consensus that exposure to air pollution is harmful to people's health in terms of premature mortality and morbidity. Air pollution is associated with a number

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of adverse health impacts, and particularly affects the most vulnerable in society: children and older people, and those with pre-existing health conditions.

Glasgow City Council is committed to reducing the exposure of people in Glasgow to poor air quality in order to improve health.

We have developed actions that can be considered under seven broad topics:

- Alternatives to private vehicle use
- Domestic solid fuel burning
- Promoting low emission transport
- Promoting travel alternatives
- Public information
- Transport planning and infrastructure
- Traffic management
- Vehicle fleet efficiency

Our priorities are to continue the implementation of Phase 2 of the LEZ, supporting policy measures related to strategic transport improvements, promoting behaviour change to reduce single occupancy vehicle use and increasing the uptake of cleaner vehicles more widely. There is also a vast amount of work underway in order to respond to the Climate Emergency declared in 2019 and this will support, and in some cases provide an implementation mechanism, for actions within this Plan.

In this AQAP we outline how we plan to effectively tackle air quality issues within our control to meet statutory air quality objectives within the shortest possible time. However, we recognise that there are a large number of air quality policy areas that are outside of our influence, but for which we may have useful evidence, and so we will continue to work with the Scottish Government and partner organisations on policies and issues beyond Glasgow City Council's direct influence.

In accordance with the requirements of air quality policy guidance PG (S) (23) Glasgow City Council expects the Byres Rd / Dumbarton Rd AQMA to be revoked no later than

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2024. Glasgow City Council, as a result of the anticipated improvements in air quality resulting from implementation of the Low Emission Zone, expects the City Centre AQMA to be revoked no later than 2029, during the implementation phase of this action plan, and where possible within the shortest possible time.

Responsibilities and Commitment

This AQAP was prepared in collaboration with Air Quality Consultants Ltd and the Sustainability service of Glasgow City Council, with the support and agreement of the following organisations and departments:

GCC – Transport Planning and Delivery

GCC – Roads Asset Management

GCC – Parking Services

GCC – Planning

GCC – Fleet Services

SEPA – Air Quality

Transport Scotland

Following consultation with statutory and other relevant consultees including SEPA, Transport Scotland, and the Scottish Government, this Draft AQAP will be considered by Glasgow City Council's Net Zero and Climate Progress Monitoring City Policy Committee and thereafter ratified by the City Administration Committee and submitted to Defra via the Report and Submission Website (RSW). This AQAP will be formally approved and signed by the Head of Sustainability, Glasgow City Council.

This AQAP will be formally reviewed and republished on a five-yearly cycle from date of initial publication. Progress each year will be reported in the Annual Progress Report (APR) produced by Glasgow City Council, as part of our statutory Local Air Quality Management duties.

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Glasgow City Council will schedule 12 months for the formal action plan review process to take place and ensure the revised action plan is republished within the five-yearly cycle.

If you have any comments on this AQAP, please send them to Dom Callaghan at:

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Introduction

This report outlines the actions that Glasgow City Council will deliver between 2024-2029 in order to reduce concentrations of air pollutants and exposure to air pollution; thereby positively impacting on the health and quality of life of residents and visitors to the City.

Whilst the City Centre AQMA is currently the only AQMA where exceedances of the air quality objectives continue to be observed and not scheduled for revocation, this AQAP adopts a holistic and city-wide approach to reducing emissions and improving air quality across the City Centre and wider City area..

It has been developed in recognition of the legal obligation on the local authority to work towards Air Quality Strategy (AQS) objectives under Part IV of the Environment Act 1995 and relevant regulations made under that part, and to meet the requirements of the Local Air Quality Management (LAQM) statutory process.

Glasgow is the largest city in Scotland, and the focal point of Scotland's motorway network, which link it to the rest of the country. The motorways include the M74 (to the south), the M8 (to the west and north) and the M73 (to the east). Additionally, the M77, M80 and M898 provide further links to the south west and north east of the city. The network is heavily used at peak times, connecting the city centre with the rest of the Glasgow City Region. As such, the main contributor to air pollution in Glasgow, and to exceedances of the air quality objectives, is emissions from road transport sources.

Glasgow has a well-developed network of park and ride sites operated by Strathclyde Passenger Transport (SPT) and Scotrail. These are located at railway and subway stations across the Glasgow City Region. The Glasgow Subway has three park and ride sites with a total of 1,109 spaces with at least 10,000 further spaces spread out across the local rail network.

Glasgow has set the ambitious target to become a net-zero carbon city, following the City Council's declaration of a climate and ecological emergency in May 2019. Transitioning towards a net-zero carbon future will require the city to grow in an environmentally responsible way, such as enabling more people to live in the city

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centre better connections to work, education, leisure and cultural opportunities. It will also necessitate a step change in the transformation of the centre's urban environment to be less car-dominated and more people-friendly, (building on the work of the Avenues project to create greener and more attractive pedestrian and cycle friendly streets), and more climate resilient through the creation of multifunctional green/blue infrastructure networks.

Glasgow's first AQMA was declared in 2002 for the City Centre area and subsequently the City Centre AQAP was produced in 2004. Since that time, further work concluded that the boundary of the original AQMA needed to be increased and that new AQMAs were required for both Parkhead Cross and for the Byres Road / Dumbarton Road area. Concentrations of relevant pollutants have since reduced and the Parkhead Cross AQMA has been revoked, with the Byres Rd / Dumbarton Rd AQMA scheduled for revocation in 2014. In the city centre, exceedances of the annual mean nitrogen dioxide objective remain mainly in a small area around Central Station, where buildings form canyons, reducing dispersion of pollutants. The streets which have remaining exceedances are typically those with high numbers of buses. Figure 1.1 shows nitrogen dioxide diffusion tube monitoring sites within and just outside of the LEZ boundary, showing in red those above the annual mean objective in 2022.

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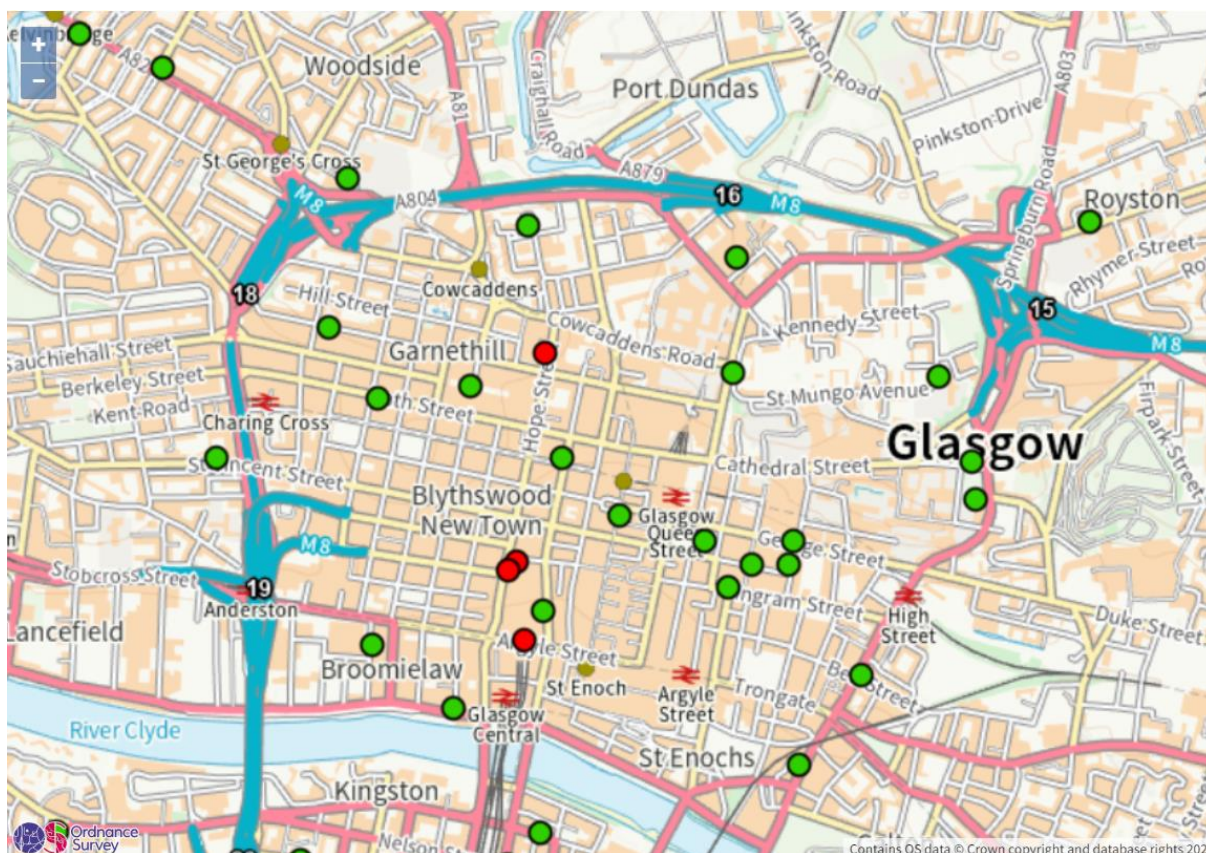


Figure 1.1 Map of 2022 nitrogen dioxide monitoring in central Glasgow showing exceedances of the annual mean NO₂ objective

It should be noted that whilst the air quality objective for nitrogen dioxide (under the Environment Act 1995) and the Limit Value (under Directive 2008/50/EC Ambient Air Quality and Cleaner Air for Europe) are numerically the same ($40 \mu\text{g}/\text{m}^3$ as an annual mean), there are important differences in how they are assessed and reported. Compliance with the Limit Values is largely determined via the national monitoring network and the national model (the Pollution Climate Mapping (PCM) model) and reported to the EU by the UK Secretary of State for the Environment. In locations such as Glasgow, where extensive LEZ feasibility work has been undertaken as part of the Cleaner Air for Scotland (CAFS) strategy, local modelling under the National Modelling Framework (NMF) has also been undertaken. The model predicted concentrations in a base year, at kerbside locations (i.e. very close to the road carriageway) and assesses a number of scenarios for different levels of LEZ. There are clearly large

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overlaps between the two systems, and both are designed to improve public health, but throughout this report the term 'objectives' is used to denote the criteria under the Environment Act 1995, while the term 'Limit Value' is used to denote the criteria under Directive.

Additionally, whilst not forming part of the current legislative and policy framework, the World Health Organisation (WHO) guidelines are a set of evidence-based recommendations of limit values for specific air pollutants developed to help countries achieve air quality that protects public health. In respect of levels of nitrogen dioxide and particulates, these guidelines set lower limits on pollution levels than the current objectives or EU limit values. Glasgow City Council shares the ambition of the Scottish Government to achieve the best air quality possible and this report will therefore take cognisance of these guidelines and where appropriate these will be referred to by the term "WHO guidelines".

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This Plan will be reviewed every five years at the latest and updated for the following five year period where appropriate. Progress on measures set out within this Plan will be reported on annually within Glasgow City Council's air quality APR.

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Summary of Current Air Quality in Glasgow

This section includes a summary of the latest air quality information available. For more detail, please refer to the latest Annual Progress Report from Glasgow City Council, available at <https://www.glasgow.gov.uk/localairqualitymanagement>.

NO₂ levels are recorded by automatic monitoring stations and by diffusion tubes across Glasgow and in 2020 all monitoring was within the annual mean objective except for one marginal exceedance which was within the margin for error for diffusion tube monitoring. In 2021, as pandemic restrictions lessened, this had increased to exceedances at two diffusion tube locations in the city centre, with a further four locations within 10% of the objective, indicating the potential for exceedances

In 2022 the NO₂ annual mean objective recorded by diffusion tubes was exceeded at four locations within the city centre, with a further four locations within 10% of the objective. It should be noted that the WHO guidelines for annual mean NO₂ (10ug/m³) remain ambitious, with only three locations located at Urban Background locations, at distance from road traffic sources, falling under these guidelines.

During 2022, Glasgow City Council measured concentrations of NO₂ below the annual mean objective at all automatic monitoring stations in the city, including those within the City Centre Air Quality Management Area (AQMA). This was the first time annual mean NO₂ at all of the automatic monitoring stations were within the objective levels since the heavily pandemic affected year of 2020. However, it should be noted that the compliance recorded at Glasgow Kerbside was marginal, recording an annual mean of 39.1ug/m³ against an objective level of 40ug/m³.

Levels of NO₂ pollution have been on a downward trend in recent years, as a result of improvements in vehicle emissions and the phased introduction of the Glasgow Low Emission Zone (LEZ) for scheduled bus services since 2018. As discussed, NO₂ levels dropped significantly in 2020 as a result of the pandemic restrictions, before increasing in 2021 as these restrictions lessened. However, most automatic stations recorded a slight decrease in NO₂ levels between 2021 and 2022, maintaining a significant decrease on the pre-pandemic levels. This is in contrast with diffusion tube

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measurements within the city centre, which observed a significant increase between 2021 and 2022.

The NO₂ Hourly Mean Objective was not exceeded at any of the automatic monitoring stations in 2022. This was consistent with measurements from previous years.

Levels of PM₁₀ recorded across the city in 2022 were satisfactory with both the daily mean and annual mean objectives being met at all monitoring locations. This continued the trend of compliance in respect of this pollutant which has been observed for several years. It should be noted that the Scottish annual mean objective for this pollutant is set at 18ug/m³, just under half that of the UK and EU limits. All locations also met the WHO guideline values and the city is therefore doing relatively well in this area.

For Scottish Local Authorities particulates at PM_{2.5} have now been prescribed in regulations with an annual mean objective of 10ug/m³ to be achieved by 2020. This objective was not exceeded at any monitoring location in Glasgow during 2022. All locations were also very close to the WHO guideline levels in respect of this pollutant.

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Glasgow City Council's Air Quality Priorities

1.1 Source Apportionment

The AQAP measures presented in this report are intended to be targeted towards the predominant sources of emissions within Glasgow City Council's area.

A source apportionment exercise was carried out as part of the feasibility work for the LEZ by SEPA in 2020. This identified that at the locations within the AQMA that are still exceeding the annual mean nitrogen dioxide objective, the percentage source contributions were as shown in Figures 1.2 to 1.6

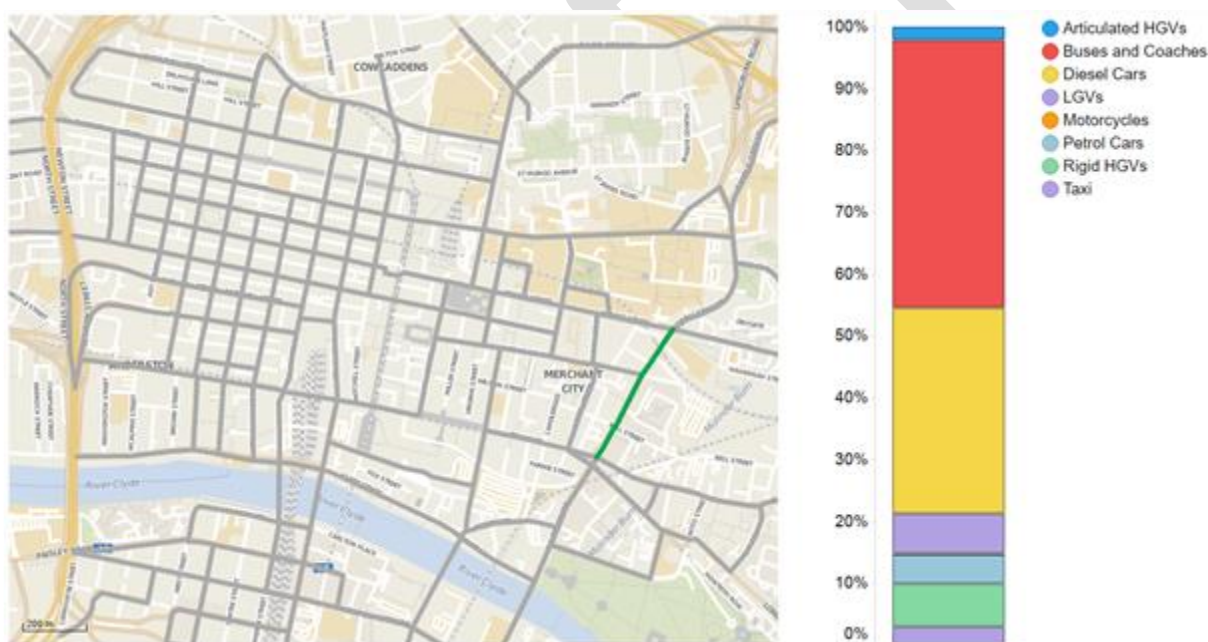


Figure 1.2 Source Apportionment for NOx for High Street (A8)

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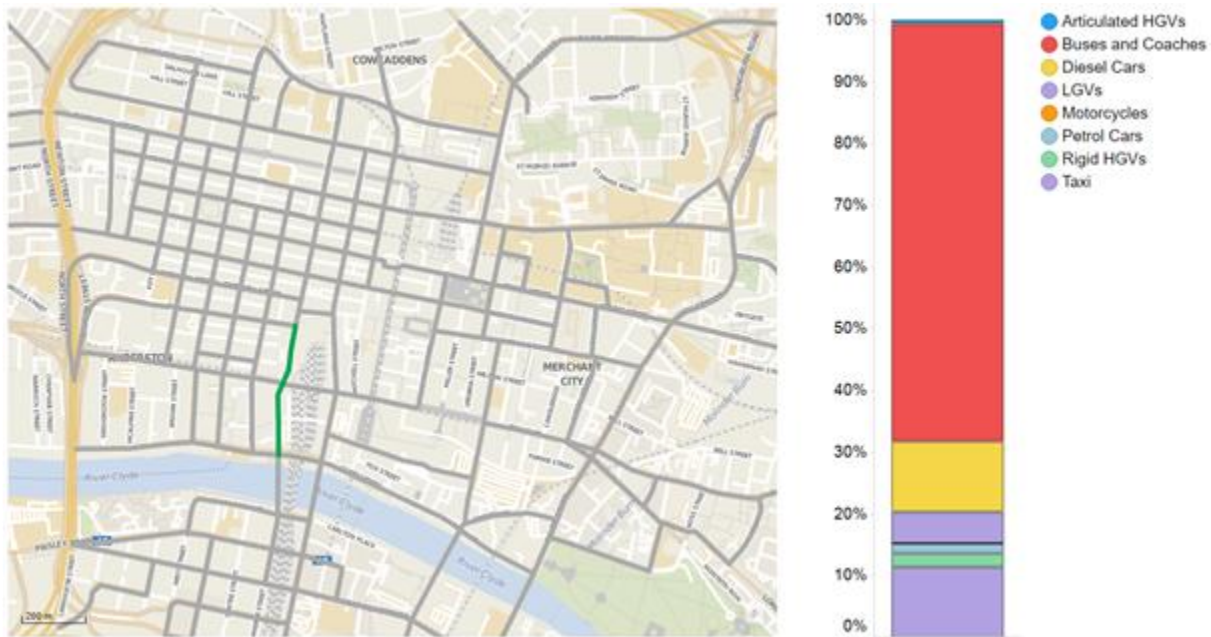


Figure 1.3 Source Apportionment for NOx for Oswald Street and Hope Street

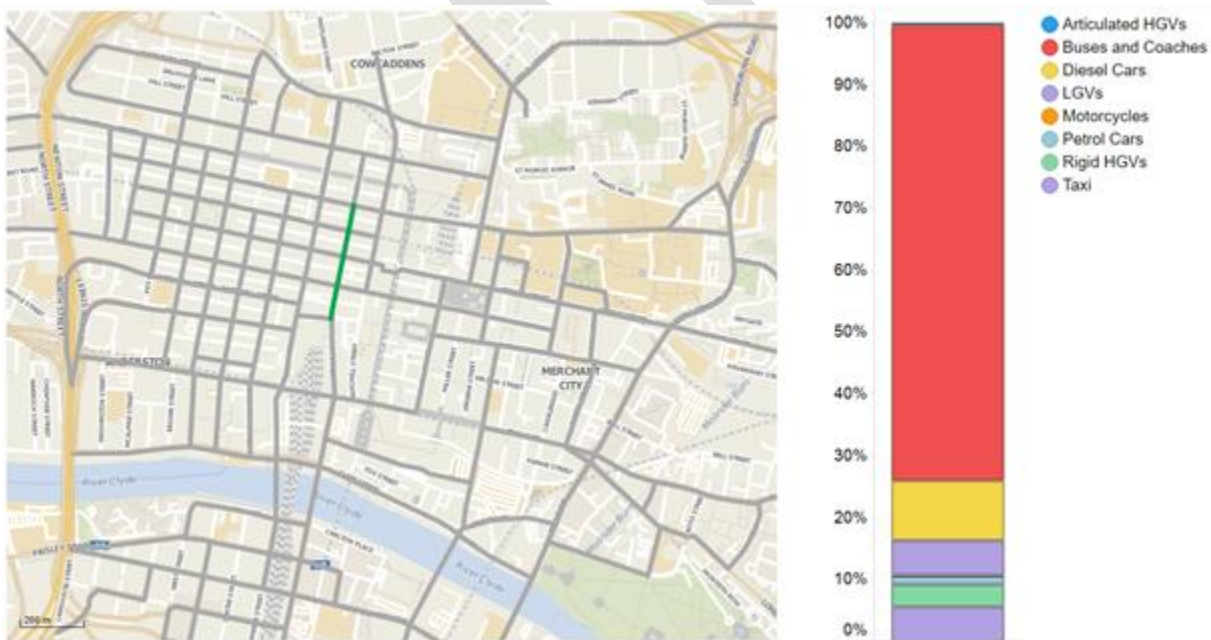


Figure 1.4 Source Apportionment for NOx for Renfield Street

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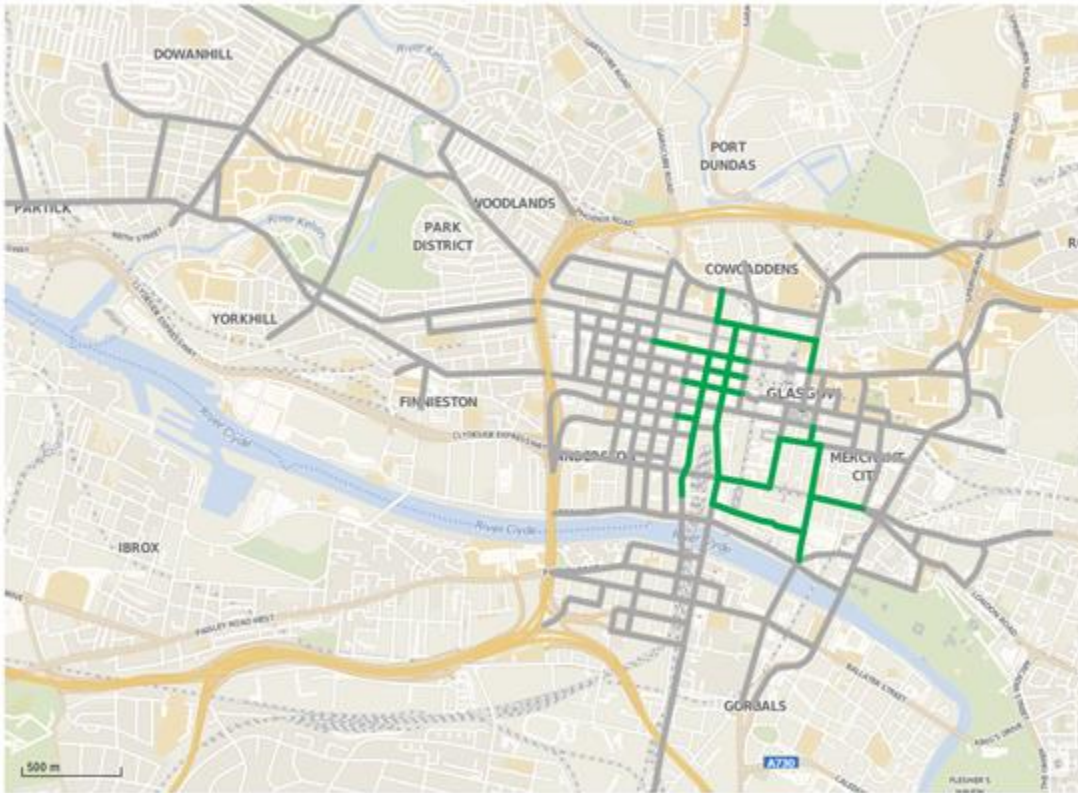


Figure 1.5 Map illustrating roads in central Glasgow which have over 70% bus contribution to road NOx emissions

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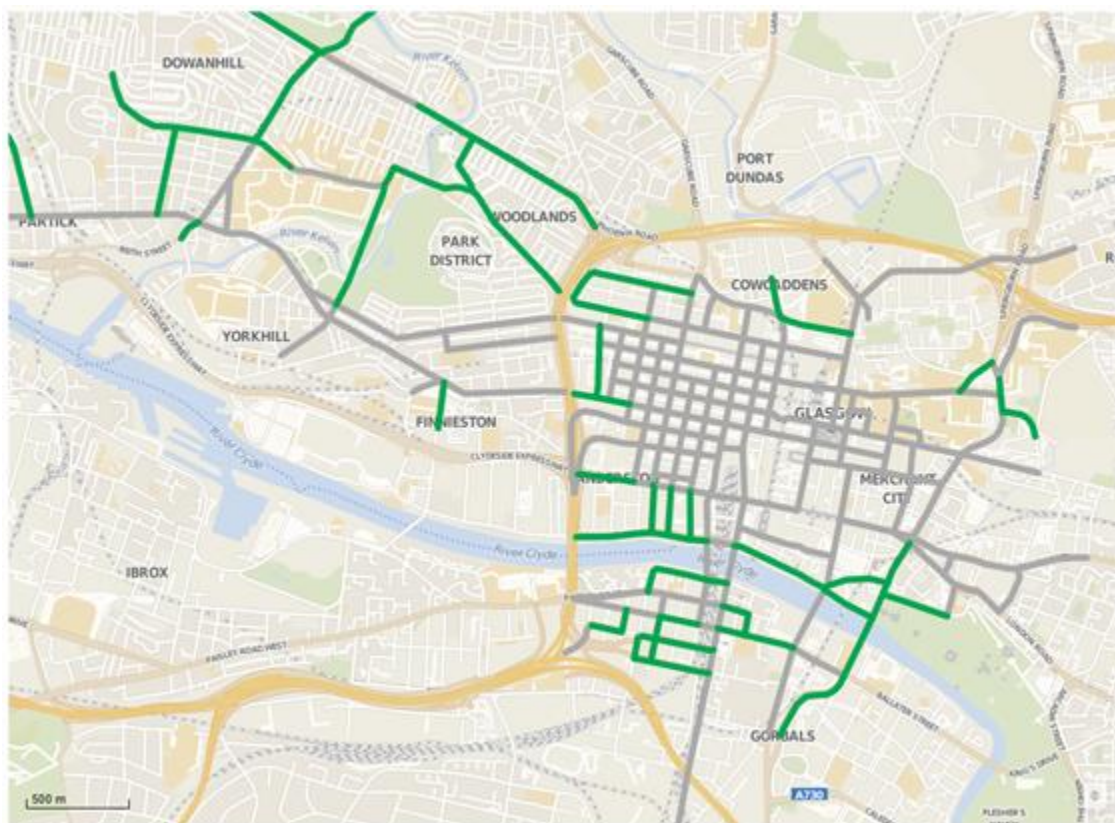


Figure 1.6 Map illustrating roads in central Glasgow which have over 40% diesel car contribution to road NO_x emissions

The source apportionment (Figure 1.3, Figure 1.4 and Figure 1.5) show that for the roads around Central Station (Oswald Street, Hope Street and Renfield Street), in the region of 70% of NO_x¹ emissions are attributable to buses. High Street (A8) has a lower proportion of NO_x emissions attributable to buses (Figure 1.), however the majority of emissions are split between buses and diesel cars. Figure 1.6 shows that outside of the central area, the diesel car contribution rises and in a number of streets is over 40% of local transport NO_x emissions.

¹ Oxides of nitrogen are a mixture of gases that are composed of nitrogen and oxygen. Two of the most toxicologically significant compounds are nitric oxide (NO) and nitrogen dioxide (NO₂). NO emissions can react in the atmosphere to form NO₂

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1.2 Required Reduction in Emissions

The required reduction in emissions is an estimate in the improvement in air quality required to achieve compliance with the National Air Quality Strategy (NAQS) objectives for NO₂, PM₁₀ and PM_{2.5} within the City Centre AQMA. As detailed previously and within the Glasgow APR for 2023, monitoring of PM₁₀ and PM_{2.5} in 2022 indicated that the objectives were being met. However, monitoring of NO₂ exceeded the objective at four locations with a maximum annual mean measurement of 50ug/m³. Therefore, at this location, a reduction of 10ug/m³ is required to achieve compliance with the objective.

1.3 Key Priorities

The priorities set out in the plan aim to minimise emissions from road traffic, the main emission source leading to current exceedances of the objectives, through the reduction of direct emissions from transport. Reducing short journeys and increasing and promoting low emission public transport and active travel alternatives also play an important role in this AQAP. Reducing air pollution from heating sources is of considerable importance, particularly in relation to longer-term achievement of the WHO guidelines. Therefore, the following actions have been identified as priority areas:

- Priority 1 – Continue to implement the Low Emission Zone and Mitigation Measures. The LEZ has been enforced since June 2023. The additional year grace period available to residents of the zone and sector specific time-limited exemptions will expire in June 2024. Therefore, continuous improvements in the annual mean NO₂ levels, due to increased scope of vehicles subject to the LEZ, is expected through to 2025.
- Priority 2 - Support the development and implementation of the Glasgow Transport Strategy (GTS) and associated City Centre Transport Plan (CCTP). These will introduce a range of transport initiatives with the potential to benefit

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air quality, particularly in relation to the target reduction in peak-hour private car traffic in Glasgow City Centre by 2030.

- Priority 3 – Support the development of an appropriate model to successfully deliver the Local Heat and Energy Efficiency Strategy (LHEES). This is principally relevant to the ambition to accelerate the deployment of heat networks in the city, reducing the contribution to background pollution levels from fossil fuelled heating systems.
- Priority 4 – Improve the emissions of GCC vehicles by implementing the Council's Fleet Strategy. As a major employer with approximately 1200 vehicles servicing the city, reducing emissions from this fleet serves as an example of best practice and can contribute significantly to improving air quality.
- Priority 5 – Undertake a comprehensive review of air quality monitoring in Glasgow with a focus around schools, hospitals and care homes. This action fulfils one of the additional recommendations from the ESS report. Whilst existing knowledge indicates that all sensitive receptors of this type currently meet the air quality objectives, the provision of this information will help quantify the progress required for longer term ambitions such as meeting the WHO guideline levels.
- Priority 6 – Support the expansion of Glasgow's active travel network and supporting infrastructure through the Active Travel Strategy.
- Priority 7 – Continue to undertake vehicle idling awareness campaigns and enforcement, particularly around sensitive locations, and explore options for improving effectiveness of enforcement.

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Development and Implementation of Glasgow City Council's AQAP

1.4 Consultation and Stakeholder Engagement

This section will be updated in the final AQAP to fully reflect the consultation undertaken.

In developing/updating this AQAP, we will work with other local authorities, agencies, businesses and the local community to improve local air quality. Schedule 11 of the Environment Act 1995 requires local authorities to consult the bodies listed in Table 1. Consultation will comprise of directed comms with statutory consultees and online open consultation on the GCC consultation hub with appropriate promotion.

The response to our consultation stakeholder engagement will be provided within the final AQAP in Appendix A: Response to Consultation.

Table 1 – Consultation Undertaken

Consultee	Consultation Undertaken
The Scottish Government	Yes
The Scottish Environment Protection Agency (SEPA)	Yes
Transport Scotland	Yes
All neighbouring local authorities	Yes
Other public authorities as appropriate, such as NHS Scotland and Health Boards	Yes

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Consultee	Consultation Undertaken
Bodies representing local business interests and other organisations such as community groups as appropriate	Yes

1.5 Steering Group

A Steering Group was set up in order to take this Action Plan revision forward. The meetings of the Steering Group have involved collaborating with the consultees listed in table 1, initially setting out the background to the air quality issue in Glasgow, the process of the Action Plan, as well as gaining input and insight into existing and future policy measures within Glasgow, and how these may assist in the implementation of measures within this Plan (and vice versa). The Steering Group also discussed evaluation of the measures included in the plan. Additional meetings with specific members of the Group (and others) were also held to discuss specific policy areas such as planning, taxi licensing and climate emergency work. The provision of specific information on the LEZ from SEPA, including source apportionment work has been critical to the development of the AQAP. Following these meetings, a draft AQAP was developed. However, progress on finalising the AQAP was delayed due to the ongoing development and delivery of phase 2 of the Glasgow LEZ. The AQAP draft was further adapted to reflect the findings of the Environmental Standards Scotland (ESS) investigation and the resulting changes to the AQAP methodology and template. The Steering Group will continue to contribute and be consulted on this draft plan. Several members of the Group will further be involved in delivery of the actions.

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AQAP Measures

Table shows the Glasgow City Council AQAP measures. It contains:

- A list of the measures that form part of the plan.
- Expected or actual completion year for measures.
- Status of measure (whether the measures are planned, in progress, completed or delayed)
- The organisations responsible for delivery.
- How the measure will be funded (Scottish Government or other).
- Estimated cost of implementing each measure (overall cost and cost to the local authority).
- Expected benefit in terms of pollutant emission and/or concentration reduction.
- Key milestones towards delivery.

NB: Please see future Annual Progress Report, published on the GCC [Local Air Quality Management](#) website for annual updates on implementation of these measures.

In accordance with the requirements of PG (S) (23) Glasgow City Council expects the City Centre AQMA to be revoked no later than 2029 and where possible in the shortest possible time post-declaration.

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Table 2 – Air Quality Action Plan Measures

Measure No.	Measure	Category and Classification	Expected/Actual Completion Year	Measure Status	Delivery Organisation(s)	Funding Source	Funding Status	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Milestones	Comments
1	Continue to implement the Low Emission Zone and Mitigation Measures	Promoting Low Emission Transport	2024	In progress	GCC	Transport Scotland LEZ Grant Self-funded through penalty charges	Fully funded for development and implementation phases	£1 million - £10 million	20% reduction (10ug/m ³ at 2022 worst case location)	June 2023 – implement LEZ for all vehicle types. June 2024 – resident grace period and sector specific exemptions end. Statutory annual reporting	The Glasgow LEZ has been in effect since 2018 (buses only) and expanded to all other vehicle types in June 2023. The grace period for residents and the exemption for taxis will expire in June 2024.
2	Implement the Council's Fleet Strategy		2030	In progress	GCC	Internal	Funded	>£10 million	Unknown. As a significant fleet operator, GCC fleet improvements will have a benefit, particularly within the AQMA	As detailed in Fleet Strategy	
3	Conduct a pilot project to install a combined solar PV, battery storage and EV charging facility open to public use.		2024	In progress	GCC	European Union and Transport Scotland funding	Funded	£100k - £500k	Unknown	Procurement of PV panels and battery storage complete	Locations for pilot project actively being explored
4	Transition the fleet of private hire vehicles to zero emission vehicles		2030	Planned	GCC	N/A	N/A	Unknown – expected through changes to license conditions and fleet renewal as vehicles age out of use	Unknown. Over 3000 private hire vehicles currently licensed in Glasgow.	Annual proportion of zero emission private hire vehicles	

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Measure No.	Measure	Category and Classification	Expected/Actual Completion Year	Measure Status	Delivery Organisation(s)	Funding Source	Funding Status	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Milestones	Comments
5	Develop new Staff Travel Plan for GCC employees (Including cycle to work scheme improvements)	Promoting Travel Alternatives	2024	In progress	GCC	N/A	N/A	N/A	No target reduction in emissions	Staff travel survey completed – analysis in early 2024	
6	Support hybrid and remote working		Ongoing	In progress	GCC	N/A	N/A	N/A	No target reduction in emissions	Hybrid working ongoing since pandemic. Increased provision of hybrid meeting rooms to facilitate remote working	
7	Establish a pilot example school for the promotion of good air quality and travel practices.		2024	Planned	GCC	Various – School street program / active travel funding / Scottish Government	In planning	TBD	Unknown. Reduction will be estimated from analysis of completed project	Identification of pilot school. Preparation of educational material	Project will include current best practice in respect of the “School Streets” program, combined with active travel infrastructure provision and educational material for staff, parents and students and help with School Travel Plans.
8	Vehicle Idling Awareness and Enforcement	Traffic Management	Ongoing	In progress	GCC	Scottish Government	Funded	£100k - £500k (staffing and communications costs)	Unknown. Vehicle idling is unnecessary and contributes to overall emissions, especially at sensitive locations	N/A	GCC will undertake vehicle idling awareness campaigns and enforcement, particularly around sensitive locations, and explore options for improving effectiveness of enforcement.
9	Emission based parking permits		2024 (check)	In progress	GCC	N/A	N/A	£10k-£50k	Whilst focussed on CO ₂ emissions, this measure is expected to have co-benefits in respect of LAQM pollutants	Consultation completed end 2023 Publication of Proposals to be carried out in first quarter of 2024	

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Measure No.	Measure	Category and Classification	Expected/Actual Completion Year	Measure Status	Delivery Organisation(s)	Funding Source	Funding Status	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Milestones	Comments
10	Implement city wide 20mph speed limit		2024	Planned	GCC	N/A	N/A	N/A	Unknown. Minor emission reduction expected due to reduction in due to smoother traffic flow and reduced congestion. This measure will encourage more walking, wheeling and cycling in quieter and less congested neighbourhoods	Network assessment completion – March 2024.	
11	Support the development and implementation of the Glasgow Transport Strategy (GTS) and associated City Centre Transport Plan (CCTP) and People First Zone (PFZ)	Transport Planning and Infrastructure	2030	In progress	GCC	Various sources - GCC / Scottish Government / Transport Scotland / Sustrans	Annual or ongoing funding required	>£10 million	Unknown but significant due to target of 30-40% reduction in peak-hour private car traffic in city centre	To be determined within delivery plan and delivery framework. PFZ strategic case and emerging options March 2024	Various aspects of the GTS and CCTP are expected to have significant impact on vehicle emissions, particularly within the AQMA Glasgow Transport Strategy City Centre Transport Plan
12	Support the expansion of Glasgow's active travel network and supporting infrastructure through the Active Travel Strategy		2031	Partially completed	GCC	GCC / Scottish Government / Sustrans	Annual or ongoing funding required	£1 million - £10 million	Unknown – reduction in emissions expected due to transition to zero emission transport modes	Annual targets for number of key locations connected to city network (schools, healthcare centres etc.) to inform City Network delivery.	Glasgow Active Travel Strategy
13	Public Cycle Hire Scheme		N/A	In progress	Nextbike	GCC / Scottish Government	Funded	£10k - £50k	Unknown – reduction in emissions expected due to	GCC will continue to explore potential for expansion of the cycle hire scheme, including	

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Measure No.	Measure	Category and Classification	Expected/Actual Completion Year	Measure Status	Delivery Organisation(s)	Funding Source	Funding Status	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Milestones	Comments
									transition to zero emission transport modes	provision of e-bikes and charging infrastructure.	
14	Support for Glasgow Car Club	Alternatives to Private Vehicle Use	Ongoing	In progress	GCC / Co Wheels	Dependent on future requirements	Not funded	Dependent on future requirements	Each car club vehicle is estimated to remove the equivalent of 12 vehicles from private use	Dependent on future requirements	Potential future measures include increased vehicles / locations and zero emission vehicles where appropriate
15	Continue to support and expand the Eco Stars Fleet Recognition Scheme	Vehicle Fleet Efficiency	Ongoing	In progress	GCC / TRL	GCC / Scottish Government	Funded	£10k - £50k	Eco Stars helps fleet operators improve efficiency, reduce fuel consumption & emissions and make cost savings	Annual increase in membership and fleet numbers	
16	Revoke Byres Rd / Dumbarton Rd AQMA	Public information	2024	In progress	GCC	N/A	N/A	N/A	N/A – target reduction has been achieved in this AQMA		
17	Undertake a comprehensive review of air quality monitoring in Glasgow with a focus around schools, hospitals and care homes		2024	Planned	GCC	N/A	N/A	N/A	N/A		This action fulfils one of the additional recommendations from the ESS report. Whilst existing knowledge indicates that all sensitive receptors of this type currently meet the air quality objectives, the provision of this information will help quantify the progress required for longer term ambitions such as meeting the WHO guideline levels

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Measure No.	Measure	Category and Classification	Expected/Actual Completion Year	Measure Status	Delivery Organisation(s)	Funding Source	Funding Status	Estimated Cost of Measure	Target Reduction in Pollutant / Emission from Measure	Key Milestones	Comments
18	Develop an appropriate model to successfully deliver the Local Heat and Energy Efficiency Strategy (LHEES)	N/A	2024	In progress	GCC	N/A for model development stage	N/A	N/A	The deployment of heat networks in the city will reduce the contribution to background pollution levels from fossil fuelled heating systems.		

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Appendix A: Response to Consultation

Table A.1 – Summary of Responses to Consultation and Stakeholder Engagement on the AQAP

This section will be updated in the final AQAP to fully reflect the consultation undertaken.

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Appendix B: Reasons for Not Pursuing Action Plan Measures

Table B.1 – Action Plan Measures Not Pursued and the Reasons for that Decision.

Action category	Action description	Reason action is not being pursued (including Stakeholder views)
Environmental Permits	Various permitting schemes	Measures within this category were not considered appropriate due to predicted impact within the AQMA
Freight and Delivery Management	Various	Actions within this category were not pursued individually at this stage. However, many of the actions such as Delivery and Service Plans, delivery scheduling etc will be considered under the actions relating to the CCTP and PFZ and may be incorporated into these as they are developed.

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Policy Guidance and Development Control	Air Quality Planning and Policy Guidance	Planning and policy guidance has already been developed in Glasgow along with guidance on the use of biomass
Promoting Low Emission Plant	Actions relating to fuel type for Plant	It was considered that policy development and enforcement would best be developed at a national level. GCC will support any developments of this nature.
Domestic Solid Fuel Burning	<p>Gathering evidence on the contribution of domestic burning to key pollutants in the local area</p> <p>Promoting the uptake of lower emission appliances</p> <p>Promoting the use of lower emission domestic fuels</p> <p>Developing and promoting educational material and schemes.</p>	Domestic solid fuel burning is not considered a significant contributor to pollutant levels in respect of the AQMA. It was considered that policy development and enforcement would best be developed at a national level. GCC will support any developments of this nature.

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Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority 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
AQS	Air Quality Strategy
APR	Annual Progress Report
EU	European Union
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
SEPA	Scottish Environment Protection Agency

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