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Edward Mountain MSP  
Convenor  
Net Zero, Energy & Transport Committee

12 June 2023

Dear Edward,

## **Report on the Scottish Government's Air Quality Improvement Plan and Wider Air Quality Issues**

I am writing in response to the conclusions set out in the Net Zero, Energy and Transport Committee's report on the Scottish Government's air quality improvement plan and wider air quality issues, published on 11 May 2023.

I am pleased that the Committee considers the improvement plan to be a positive step forward in addressing nitrogen dioxide levels in Scotland and recommended that the plan be approved by the Scottish Parliament. I note that approval was agreed in Parliament on 17 May 2023. Below, I address each of the Committee's conclusions in turn.

### **We urge the Scottish Government to utilise all review mechanisms at its disposal, such as Annual Progress Reports, to work with local authorities to accelerate the implementation of Air Quality Action Plans.**

As set out in the improvement plan, it is important to strike an appropriate balance between review and implementation. Individual actions will have differing timelines and the expectation is for each one to be completed in as short a time as possible. In addition to a full formal review every five years, the annual progress report, which is appraised by both the Scottish Government and SEPA, provides an opportunity over a shorter timescale to ensure that implementation continues to be on track, and for necessary steps to be taken should this not be the case e.g. follow up meetings with local authorities.

In addition, the Scottish Government and SEPA have held one to one meetings with each of the 14 local authorities that currently have Air Quality Management Areas in place. This was to obtain updates from authorities on where they currently stand with action plan implementation and review, and to discuss and address any issues of concern. The meetings have also provided an opportunity to take authorities through the updated Local Air Quality Management guidance which was produced in response to several of Environmental Standards Scotland's recommendations. Following these meetings, the authorities have

confirmed that they will review and update action plans in line with the requirements of the revised guidance.

**Without a more secure funding base, councils may continue to struggle to make the most of that strategic role, which risks hindering full realisation of the Improvement Plan's aims.**

This year the Scottish Government has provided up to £2.5m in funding to local authorities to assist them in undertaking their statutory air quality duties. This funding covers monitoring, action plan measures, Clean Air Day initiatives, roadside emissions testing and enforcement of anti-idling legislation.

**We call on the Scottish Government to clarify whether it is satisfied SEPA has all the statutory powers and resources it needs to take on the enhanced role now envisaged for it.**

Under section 85 of the Environment Act 1995 SEPA has wide-ranging powers to direct a local authority to take appropriate steps should that authority not be properly undertaking its statutory duties in relation to air quality. Such a direction can cover, amongst other things, review and assessment of air quality, declaration of an Air Quality Management Area or preparation or modification of an Air Quality Action Plan. The Scottish Government considers that these existing powers allow SEPA to take on the enhanced role. SEPA has confirmed that it considers its current resources to be sufficient for this purpose.

**We also call on the Scottish Government to set out what steps it will take to ensure SEPA delivers greater transparency and accountability as Scotland's main air quality watchdog.**

The Scottish Government met with SEPA in April 2023 to agree next steps following the review of SEPA's use of its reserve powers under the 1995 Act, as outlined in the Scottish Government's Improvement Plan. These new arrangements have been set out in updated Local Air Quality Management guidance for local authorities<sup>1</sup>.

To support this SEPA is developing an internal policies and procedures document setting out how it will discharge its powers under Section 85 of the Act.

This work will include updating existing guidance, procedures and approval routes. SEPA will make its guidance publicly available and will report to the Scottish Government annually on the work it has carried out to oversee the LAQM system as a whole.

**When the monitoring review is completed, we ask that the Scottish Government provide a written summary of its key findings, including on the siting of monitoring equipment near schools and hospital, and any relevant data.**

A summary of the review is included as an annex to this letter and has also been shared with Environmental Standards Scotland.

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<sup>1</sup> [Local Air Quality Management - New Policy Guidance PG\(S\) \(23\) | Scottish Air Quality](#)

**We recommend that the Scottish Government, in partnership with local authorities and others, reviews anti-idling guidance to ensure it remains fit for purpose and consistent with—**

- **The Improvement Plan;**
- **Its "Cleaner Air for Scotland 2" strategy;**
- **Its wider ambitions around achieving net zero by 2045.**

The anti-idling guidance was last formally reviewed by the Scottish Government and local authorities in 2017. This review concluded that the guidance remained fit for purpose. Neither the improvement plan or CAFS2 have introduced any policy or legislative changes on idling which would necessitate an update to the guidance at the present time.

The Scottish Government considers that individual local authorities are best placed to decide whether to make use of anti-idling enforcement powers, taking into account their specific issues and priorities around local air quality. Current guidance recommends that fixed penalty notices should only be issued as a last resort, once all reasonable requests to a driver of a parked idling vehicle to switch off the engine have failed. Anecdotal evidence from authorities making use of the powers suggests that the vast majority of drivers do switch off their engines either immediately or when they have been provided with information about the negative impacts of idling. We are therefore confident that the current approach is consistent with ongoing work to improve local air quality and our wider ambitions on net zero.

**Integrating air quality considerations into decision-making about climate change, health, transport and planning should be considered a priority, whether at national and strategic level or at the local or "everyday" level. The importance of place-making as set out in CAFS2 also aligns with key recommendations from our inquiry into local government which supports a place-based response at a local and regional level.**

The Scottish Government agrees that effective policy co-ordination is essential in order to realise maximum benefits for air quality, and this is the focus of several actions in CAFS2. As part of the governance structure for CAFS2, five expert advisory groups have been established to provide input and advice on action delivery in specific policy areas. One of these groups focuses on placemaking.

**We recommend that in its forthcoming review of review of CAFS2 the Scottish Government prioritise exploring further opportunities to "mainstream" air quality considerations across all relevant policymaking. We also request further details from the Scottish Government on the development and publication of the new agricultural pollution code of conduct highlighted to us in evidence.**

An integrated approach to policy delivery is a key theme running through CAFS2, with a particular focus on securing co-benefits for both air pollutant and greenhouse gas reductions. We have established a Ministerial Group to oversee at a strategic level implementation of the actions set out in CAFS2. The group brings together representatives from the Scottish Government and key organisations responsible for delivering the CAFS2 actions, together with representatives from other organisations who have an interest in the policy areas covered by the actions. The review of CAFS2 will seek to ensure that this approach is maintained and also identify ways in which it can be further strengthened. Additionally, the Scottish Government's policy prospectus published earlier this year makes explicit reference to the importance of action on transport in helping achieve our air quality objectives.

With regard to the new agricultural pollution code, work is currently underway with SAC Consulting and SEPA to update the Prevention of Environmental Pollution from Agricultural Activity (PEPFAA) code. Content of the PEPFAA code is being produced in chapters which will be published online. The CAFS2 agriculture and environment working group agreed that measures to prevent and control emissions to air should be incorporated into the relevant chapters of the PEPFAA code, rather than issued as standalone guidance. We have identified two chapters as being particularly important for air quality, these being manure handling and storage and inorganic and liquid fertilisers. The chapter covering manure handling and storage is currently being reviewed and both chapters are expected to be complete by autumn 2023.

**We ask the Scottish Government to outline how it proposes to work with others to increase uptake for qualifications and roles within the environmental health profession.**

There is one Royal Environmental Health Institute of Scotland (REHIS) accredited undergraduate course currently available in Scotland, provided by the University of West of Scotland. REHIS has developed various pathways offering an ‘alternative route’ option, available to those considering a career in environmental health through a non-traditional route.

Officials have met with the Royal Environmental Health Institute of Scotland (REHIS) to discuss attracting more people to apply for environmental health courses and to work in local authorities. The Minister for Public Health and Women’s Health is due to meet with REHIS soon to discuss these themes, and we will continue to engage with REHIS on this issue.

**We recommend that the Scottish Government review the Bus Partnership Fund to ascertain what are the barriers to take-up.**

The Scottish Government remains committed to investing £500m in bus priority over the longer term to tackle the negative impacts of congestion on bus services, as announced in the 2019 Programme for Government. A cornerstone in the delivery of which is the Bus Partnership Fund (BPF). In March 2020, the BPF was paused as a result of the pandemic. The fund resumed activity in November 2020 with the first awards made in June 2021. A further round of funding was awarded in February 2022. To date up to £26m of BPF funding has been awarded to 11 Partnerships covering 28 local authorities across Scotland.

On receipt of BPF applications, where there was sufficient evidence that the bus priority measures identified would improve bus journey times and the reliability of services, funding for delivery of these were awarded without the need for further assessment. In the short term this is delivering bus priority traffic light equipment to reduce delay for buses through junctions, bus lane cameras, junction improvements and has made a number of temporary bus measures permanent. For others funding was awarded for further investigation of measures, some of which did not provide the benefits to bus that had originally been anticipated, meaning that implementation would not have been a good use of public funds.

Within applications, there were not many projects that had already been designed and could be built straight away. For a number of the bus measures proposed that had the potential to meet the Bus Partnership Fund grant criteria, there was neither sufficient evidence of the problems and opportunities claimed, nor adequate consideration of the broad range of options that could address the problems and opportunities. In some areas there was also not a cohesive strategy about how potential bus interventions would be delivered alongside other priorities, such as active travel, which would use the same corridors in some cases but were not considered in the round. For these Transport Scotland recommended an appraisal following the principles set out in our Scottish Transport Appraisal Guidance (STAG).

Appraisal is an essential part of good financial management, as recognised by the Scottish Public Finance Manual (SPFM) which provides guidance on the proper handling and reporting of public funds. STAG aligns with what is required in relation to SPFM and appraisal. This includes being clear about objectives, thinking about alternative ways of meeting them, estimating and presenting the costs and benefits of each potentially worthwhile option, and taking full account of risks. STAG also involves stakeholder engagement which is important given BPF is looking to fund transformational bus projects to deliver the change we need. These projects will offer journey time benefits and reliable services for passengers, however particular attention needs to be paid where people consider themselves to be worse off due to the investment. Therefore there is a need to ensure that the proposals are underpinned by a robust evidence base and that the case for bus priority is made such that they can be effectively and efficiently delivered.

As the Confederation of Passenger Transport set out in their evidence, it is important that bus prioritisation measures are delivered at a strategic level at the same pace and same time as active travel measures to avoid competing for the same limited road space. Studies in line with STAG are well placed to do this as it requires all modes of travel to be considered concurrently. This ensures all appropriate options involving different modes are explored and that the evidence is presented regarding the different impacts and how these meet the objectives. This provides decision makers with the evidence they need to make decisions regarding the tensions between options, including different modes, improves stakeholder buy in and minimises abortive work at later stages.

The effort that goes into that appraisal should be proportionate to both the spend and the impact of that decision. This is recognised in the SPFM. Transport Scotland has provided written guidance on the proportionate use of appraisal to Partnerships as well as providing advice on the scope of studies at the start and on-going advice to Partnerships throughout the process and on next steps to ensure that work remains focussed and abortive work is avoided.

Many of the bus priority projects being looked at in these studies are estimated to cost tens of millions of pounds. It is rightly expected, and required, that Government has properly scrutinised the evidence for such large-scale investment in line with the SPFM. In a climate of increasing fiscal pressure it is important that the business cases for bus measures are made robustly and in an evidenced based way.

Transport Scotland is also working with Partnerships to identify projects for delivery as soon as evidence is available, with some of the smaller scale but effective options identified as having the potential to come forward in advance of the larger transformative projects.

Since the outset of the Fund Transport Scotland has continuously looked at how we can collectively increase the pace of delivery and overcome barriers as they are identified. This includes working with COSLA, CPT and ATCO through our Steering Group, and at our monthly meetings with Partnerships to identify opportunities to accelerate schemes and identify barriers to take up. This has resulted in the issuing of guidance on various topics and the holding of a workshop. An early barrier which slowed the mobilisation of the fund was Partnership resourcing constraints. Transport Scotland responded to this by providing funding to support those Partnerships affected.

Transport Scotland will continue to work with Partnerships and stakeholders to make sure that the case for bus priority is made. It will also continue to work with Partnerships to identify risks and best practice to ensure that bus priority measures are effectively and efficiently delivered to contribute to our National Transport Strategy priorities.

**We ask the Scottish Government to outline how it will support *all* local authorities to find bespoke transport-based air quality solutions in their more urbanised areas.**

The Scottish Government is taking forward a wide range of transport policies which will deliver clear benefits for air quality. We have pledged at least £320m a year by 2024-25 on active travel infrastructure, access to bikes and behaviour change. Within the 2023-24 budget, almost £190m has been allocated to Active Travel, money that will fund infrastructure projects, behaviour change initiatives and improving access to bikes for people of all ages and abilities.

Scotland has the most comprehensive EV public charging network in the UK outside of London, with over 3,000 public charge points. We are currently working with local authorities to develop public EV charging strategies and expansion plans for cars and vans covering all of Scotland. Through our EV Infrastructure Fund will work with local authorities and the private sector to invest a further £60 million in public charging across all of Scotland's communities over the next few years.

Our draft route map sets out how we will reduce car kilometres by 20% by 2030 – a truly world-leading commitment, demonstrating our level of ambition in meeting Scotland's statutory targets. In addition to addressing poor air quality, the scale of the climate challenge means that we need to take forward a broad combination of interventions including infrastructure, incentives and regulatory actions, taking into account the needs of people on low incomes to help ensure a just transition to net-zero.

The Low Emission Zone Support Fund, administered by the Energy Saving Trust, offers support to eligible households, microbusinesses and sole traders living and operating within a 20km radius of Scotland's four LEZs. The Low Emission Zone Support Fund provides funds for the disposal or retrofitting of non-LEZ compliant vehicles. Eligible households can apply for a cash grant for the disposal of a non-LEZ compliant vehicle, mobility grants or Travel Better vouchers for people to purchase a bike, e-bike or public transport voucher. As funding for 2023/24 is being assessed, those eligible can register their interest via the Energy Saving Trust.

The support provided through Scotland's LEZ Retrofit Fund, administered by the Energy Saving Trust, is available to microbusinesses. This covers up to 80% of the capital costs of a Clean Vehicle Retrofit Accreditation Scheme (CVRAS) approved retrofit solution for older wheelchair accessible taxis, light commercial and heavy goods vehicles. As funding for 2023/24 is being assessed, those eligible can register their interest via the Energy Saving Trust.

The 'Mobility and Scrappage fund' was launched in February 2023, offering cash incentives and Travel Better vouchers for households removing more polluting cars from the roads. The fund which is a 2022 PfG commitment, was piloted in lower income areas and Air Quality Management Areas in Scotland, including the Islands communities. The Mobility and Scrappage fund is a Programme for Government commitment, benefitting over 300 homes across Scotland and supporting the target of reducing car kilometres travelled by 20% by 2030. The funding, delivered by Energy Saving Trust, is targeted toward lower-income households and will provide a cash grants in return for the safe disposal of more polluting vehicles. This is based on the model of the LEZ Support fund which has had successful uptake. In addition, the fund offers 'Travel Better' grants to purchase a range of sustainable travel options, including bike, e-bike or public transport voucher – encouraging a shift away from cars for those that choose to do.

Buses are known from source apportionment to be a significant contributor to local air quality due to the frequency of entry to Air Quality Management Areas and poor emissions controls on mid-life Euro IV and V buses. The Bus Emissions Abatement Retrofit (BEAR) programme offers grant funding to support the costs of installing accredited exhaust abatement retrofit technology into mid-life EURO IV and V buses and coaches, in order to achieve the latest EURO VI emission standard. This equipment can achieve substantial reductions in particulate matter and NOx gases emitted from the tailpipe. Eligible retrofit technologies include; Selective Catalytic Reduction Traps to reduce diesel emissions and repowered drivetrains e.g. electric bus conversions. BEAR retrofitting will help reduce emissions from this sector in advance of the enforcement of LEZs in order to improve air quality. A total of £21 million was awarded to bus and coach operators from 2018 converting over 1200 mid-life buses and coaches to the latest emission standard.

**We call on the Scottish Government to work with local authorities and transport partnerships in rural areas of Scotland to identify what further support they require to ensure readiness for launch of LEZs.**

A total of £4.5 million was provided through the Public Transport Provision (PTP) Fund in 2019/20 to local authorities and regional transport partnerships, in order to establish Low Emission Zone related projects in their areas. We will continue to provide support for any further local authorities considering LEZ introduction in the future.

**We ask the Scottish Government to carefully consider examples from across the UK and internationally as part of its upcoming review of CAFS2.**

In 2020, to inform the development of CAFS2, the Scottish Government commissioned a review of existing evidence on public attitudes and behaviour around air quality in Scotland<sup>2</sup>. The review also covered international best practice around air quality engagement. One of the key actions in CAFS2 is to develop an air quality public engagement framework. The first stage of this work has already been completed with a comprehensive public survey undertaken in 2022, the outcomes of which will be published in summer 2023. The framework will draw on this survey and the previous evidence review, and will also help to inform the upcoming CAFS2 review, which will in addition draw on broader UK and international best practice.

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<sup>2</sup> [2 Methodology - Cleaner Air for Scotland – air quality public attitudes and behaviour: final report - gov.scot \(www.gov.scot\)](https://www.gov.scot/resources/documents/2023/06/23/2-Methodology-Cleaner-Air-for-Scotland-air-quality-public-attitudes-and-behaviour-final-report-gov.scot)

**We urge the Scottish Government to work with local authorities and others to map out pathways for achieving these ambitious targets. We also ask the Scottish Government to consider enshrining a continuous improvement approach into air quality policy, as part of its upcoming review of CAFS2.**

We are currently considering the ambitious targets referenced by the Committee (the new WHO guidelines) in the context of both CAFS2 delivery and development of the next air quality strategy which will be the outcome of the CAFS2 review. We will announce the outcomes of these considerations in due course. Continuous improvement is at the heart of our work on air quality and we will ensure that this is fully reflected in our review of CAFS2 and future strategies.

I hope you find this information helpful. I look forward to further engagement with the Committee around these important issues as we continue to deliver the ambitious programme of actions in CAFS2.

**MÀIRI MCALLAN**



# Review of the appropriateness of current practice and Local Air Quality Management Technical Guidance (LAQM.TG22) for Scotland when considering the location of air quality monitoring sites

## 1. Introduction

- 1.1 In November 2021, Environmental Standards Scotland (ESS) announced that its first investigation would consider air quality, specifically focusing on compliance with the nitrogen dioxide (NO<sub>2</sub>) limit value set in [Directive 2008/50/EC on ambient air quality and cleaner air for Europe](#) ('the air quality Directive'), which forms part of retained law following the UK's exit from the European Union.
- 1.2 After taking [evidence](#) from the Scottish Government, SEPA, local authorities and various other stakeholders, ESS published its conclusions and six recommendations in the form of [improvement report to the Scottish Government](#) in September 2022.
- 1.2 **Recommendation 5 of the ESS improvement report required** that the Scottish Government “ensures that its ongoing review of data provision scrutinises the protocols for the siting of monitoring sites, with a view to establishing whether they provide a sufficiently comprehensive picture of the state of air quality, particularly in and around our major cities. Specific focus should be placed on areas where vulnerable groups are present, such as schools and hospitals.”
- 1.3 In response to this recommendation, the Scottish Government requested that SEPA conduct an assessment of the current methodology for location of air quality monitoring sites. SEPA has reviewed the relevant policy and technical guidance, with particular attention to chapters relating to the siting of monitoring equipment, to assess whether the current guidance is sufficiently comprehensive and is delivering representative air quality monitoring for Scotland. This paper outlines the current requirements for siting of air quality monitoring and the conclusions of the assessment carried out by SEPA.

## 2. Current air quality monitoring legislation and guidance

### Compliance with European air quality monitoring requirements

- 2.1 European Union (EU) air quality monitoring requirements are defined in the [air quality Directive](#), which forms part of retained law following the UK's exit from the European Union. Member States are required to comprehensively assess air quality throughout their whole territory and the air quality Directive defines the criteria for siting for the location of monitoring stations to ensure representative data is provided. These criteria include:

- Areas where the highest concentrations of air pollutants occur to which the population is likely to be exposed.
- Assessment of levels in other areas within zones and agglomerations, which are representative of the exposure of the general population to air pollutants.
- Sampling points shall, where possible, also be representative of similar locations not in their immediate vicinity.

The purpose for these criteria is to provide spatial representativeness of air quality monitoring and also to allow the data to be used effectively in air quality modelling. Air quality modelling is used to compliment monitored data by allowing an assessment of air quality to be undertaken for an entire geographical area, providing an indication of likely levels of air pollution.

- 2.2 The Automatic Urban and Rural Network (AURN) is the UK's largest automatic monitoring network and is the main network used for compliance reporting against the air quality Directives. It includes automatic air quality monitoring stations measuring oxides of nitrogen (NO<sub>x</sub>), sulphur

dioxide (SO<sub>2</sub>), ozone (O<sub>3</sub>), carbon monoxide (CO) and particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>). These sites provide high resolution hourly data which is collected and made available to the public.

- 2.3 Scotland currently has 21 monitoring stations which are part of the AURN and sited in accordance with the requirements of the EU air quality Directives. This allows compliance with the Air Quality Standards (Scotland) Regulations 2010 (which implement the requirements of the air quality Directive) to be assessed.

### Compliance with domestic legislation

- 2.4 Domestic air quality monitoring requirements are defined in the Air Quality (Scotland) Regulations 2000 and subsequent amendments, and associated statutory guidance issued under the Environment Act 1995. The Scottish Government provides [policy guidance](#) for local authorities to assist them in carrying out their Local Air Quality Management (LAQM) duties (this guidance was last updated in March 2023). The Scottish Government, jointly with the UK Government and other devolved administrations, also provides [technical guidance](#) for local authorities to support them in undertaking all aspects of LAQM work (this guidance was last updated in August 2022).
- 2.5 The location and purpose of the sites assessing domestic compliance differs from the AURN network which is governed by criteria set out in the air quality directives. As a result, site selection is determined by local authorities and there can be a wide range of site types, equipment and data quality practices which are used to monitor locations of concern for air quality (such as known or suspected air quality hotspots which may be exceeding, or at risk of exceeding, domestic air quality objectives).
- 2.6 Air quality monitoring to fulfil domestic obligations is split between automatic and non-automatic sites. Some of the main purposes include:
- Assessing if air quality standards and objectives are being met (or are at risk of being exceeded).
  - Informing the public about air quality in their local area and also nationally.
  - Providing data for local authority review and assessment of air quality and action planning.
  - Providing data on trends in air pollution concentrations and for use in air quality modelling.
  - Assessing the effectiveness of local and national measures and policies to protect and improve air quality.
- 2.7 Local authority automatic monitoring stations share many of the same characteristics as AURN sites, and data is collected to the same quality control standards as the AURN network data. In Scotland all data from automatic monitoring stations is collated as a single dataset and provided in near real-time on the [Air Quality in Scotland](#) website operated by the Scottish Government.
- 2.8 Non-automatic monitoring sites tend to measure less frequently compared to automatic sites with samples collected by physical means (such as a Passive Diffusion Tubes (PDTs) or filters). These samples are then subjected to laboratory analysis, and final pollutant concentrations are calculated and provided from these results. This data provides an indication of the state of air quality in a local area averaged over a longer-term and where less temporal resolution is required. Due to their size, ease of installation and cost, non-automatic monitoring can be dispersed over a wider area geographical area or in greater numbers in a single location than automatic monitoring stations to provide increased coverage. These methods are used primarily to investigate potential air pollution issues or provide confidence that exceedances of objectives are not occurring.

- 2.9 Non-automatic monitoring is subject to a number of external influences such as site positioning, ambient weather conditions and handling of samples (such as storage, transit, laboratory preparation and analysis) and therefore can result in variability of results. The data provided by non-automatic monitoring is also often subject to analytical factors such as bias corrections which limit their use to longer-term assessment of air quality.
- 2.10 At the time of writing there are currently 98 automatic monitoring sites, 1,205 non-automatic monitoring sites and 39 low-cost sensors (low-cost sensors tend to be deployed periodically and therefore produce snapshots of air pollution data over short timescales) recording air quality across Scotland.
- 2.11 Low-cost sensor technologies are increasingly being used to compliment non-automatic monitoring in the identification of locations of concern for air quality and determination of areas where further action may be required. Low-cost sensors record data in a similar manner to automatic sites, but the equipment and methodologies are not of reference standard and therefore not suitable for formal compliance assessment. Data produced from low-cost sensors is useful for identifying trends of air pollution (and also local emission sources, as they can run on a higher time frequency than automatic sites) and can be used as a screening tool in the wider local authority review and assessment process.
- 2.12 However, as with non-automatic monitoring there are limitations with the data produced from low-cost sensors, which must be taken into account when considering the results. Low-cost sensors must be checked frequently to ensure data is still representative, otherwise false averages may be observed. Siting can also be an issue where access is required to power sources or where solar panels are used to charge the device.
- 2.13 Compliance with domestic air quality objectives and monitoring is conducted by local authorities, with input from the Scottish Government and SEPA. The types and scale of air quality monitoring deployed by a local authority will depend on the type of local authority area (e.g. island, rural, urban, city) and the scale of any air quality issues within their area. Island and rural local authorities may only deploy limited non-automatic monitoring where confidence is high that levels of air pollution are low, whereas a city local authority is likely to use multiples of automatic, non-automatic and low-cost sensor monitoring across the city area.

### 3. SEPA review of air quality monitoring in Scotland

- 3.1 SEPA conducted its review of current air quality monitoring during 2022, using local authority Annual Progress Reports (APRs) submitted for that year's reporting cycle. APRs contain information and data on the review and assessment process of air quality conducted by a local authority during the previous year.
- 3.2 In relation to air quality monitoring the local authority is required to provide information and a commentary on aspects such as:
- Locations of monitoring sites, what data is intended to be collected (e.g., kerbside) and whether the data represent relevant exposure.
  - Monitoring data and pollutant concentration trends over recent years and a comparison with the relevant air quality objectives.
  - Information on the quality of the data and any adjustments/corrections which have been applied.
  - Where results are presented for new monitoring sites, a description of the sites (and this should include the reason they were set up, e.g. do they represent worst-case relevant exposure locations?).

3.3 SEPA has found that the current system for assessing the appropriateness of siting and extent of air quality monitoring for local authorities is comprehensive and effective. In particular, SEPA made the following observations:

- The current LAQM Technical Guidance LAQM.TG 22 provides detailed and comprehensive guidance for local authorities on all aspects (and types) of air quality monitoring for LAQM purposes, including protocols for siting of monitoring equipment.
- As well as monitoring methods, LAQM.TG 22 covers approaches for data handling, detailed air quality modelling and the use of screening tools for estimating pollution levels at locations where air quality monitoring is not possible for practical reasons.
- The technical guidance was updated in 2022 to take account of new developments since the previous version was issued in 2016. A new section regarding the use of low-cost air quality sensors for LAQM purposes has now been incorporated. The use of low-cost sensors for LAQM purposes is increasing across local authorities and has the potential to support and enhance the more established monitoring approaches. Therefore, this a useful addition to the guidance and will hopefully continue to develop and as experience and knowledge is gained.
- SEPA works closely with local authorities on the monitoring aspects of their LAQM duties. SEPA responds to requests from local authorities providing assessments on the suitability of any proposed changes to monitoring networks (whether it be addition/removal of monitors, changes of location or type of monitoring, purpose for monitoring etc.).
- SEPA considers the suitability of local authority air quality monitoring on an annual basis through assessment of APRs which provide details on the types of monitoring undertaken, locations, purpose for monitoring and results of data collected. SEPA provides local authorities with written comments on their APRs and raises any pertinent issues identified with regard to the suitability of the current monitoring approach at this time.
- SEPA assesses the representativeness of the monitoring data in terms of compliance with air quality objective levels (and any patterns), receptor exposure and will periodically request that local authorities review and update their air quality monitoring network.
- SEPA also considers whether the local authority monitoring meets the requirements of the relevant statutory guidance (PG(S)(23) and LAQM.TG 22).

3.2 In response to the ESS investigation recommendations, the LAQM system has been strengthened with updated guidance to local authorities provided through LAQM Policy Guidance PG(S)(23) and SEPA's role in oversight of local authority performance has also been expanded to cover all aspects of a local authority's duties under the Act and its associated statutory guidance.

## 4 Conclusion

- 4.1 It is SEPA's conclusion that existing guidance for local authorities on air quality monitoring is comprehensive, robust and fit for purpose. SEPA will continue to review the local air quality monitoring network annually as part of the appraisal process for local authority annual progress reports for air quality and in response to specific requests from local authorities.
- 4.2 SEPA will collate the local authority data and information on monitoring on an annual basis and provide an update as part of the planned reporting on performance of the revised LAQM system which is scheduled to start in 2024.
- 4.3 SEPA will investigate the use of simple analytical and visualisation tools for collating and presenting data on local authority monitoring sites.