

1. Introduction

- 1.1 This note provides background information on the current status of policy, legislation and governance of air quality (AQ) and air pollution in Scotland in 2019.
- 1.2 The policy and legal landscape for controlling and protecting AQ is very complex and there are a variety of policies, legal measures and responsible bodies. This background paper describes the main aspects of AQ protection and improvement, where strengths and weaknesses may exist and also suggests those areas which could be revised and strengthened to improve the process moving forward. The R/A/G colouring in the summary provides an indication of the practicality of implementing the suggested change.
- 1.3 The management of AQ is based on a series of statutory measures and policy programmes originating from the European Union (EU), UK and within Scotland. Together, these form the policy and legal basis of a framework for managing AQ.

2. Legal framework

EU Legislation

- 2.1 The main pieces of EU legislation on AQ are [Directive 2008/50/EC on ambient air quality and cleaner air for Europe \('the Directive'\)](#), [Directive 2004/107/EC relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air \('the 4th air quality Daughter Directive'\)](#) and [Directive \(EU\) 2016/2284 on the reduction of national emissions of certain atmospheric pollutants \('National Emissions Ceilings Directive' or 'NECD'\)](#).
- 2.2 The Directive sets objectives and values for limits of certain air pollutants (particulate matter, sulphur dioxide, nitrogen dioxide and oxides of nitrogen, lead, benzene, carbon monoxide, and ozone) and the NECD sets national emissions ceilings (mass emissions) for certain pollutants (oxides of nitrogen, sulphur dioxide, non-methane volatile organic compounds, ammonia and fine particulate matter) which must be met by Member States (MS) by prescribed dates.
- 2.3 The Scottish Ministers are responsible for meeting EU requirements and much of our system of AQ management is based on achieving these EU obligations (although there are differences between domestic and EU requirements – See Section 3).

Domestic legislation

Environment Act 1995 ('EA95') – Local Air Quality Management (LAQM)

- 2.4 Under the EA95 local authorities (LAs) are regularly required to review and assess AQ and work toward meeting the objectives contained in the [UK air quality strategy for England, Scotland, Wales and Northern Ireland \(2007\)](#). AQ objectives are prescribed for benzene, 1,3 – butadiene, carbon monoxide, lead, nitrogen dioxide, particulate matter (PM₁₀ and 2.5) and sulphur dioxide. This is the main mechanism for protecting Scotland's local AQ; however, LAQM is limited to the named substances and subject to a specific assessment process.
- 2.5 Where a LA identifies a risk of an AQ objective being exceeded at a relevant location this may lead to the declaration of an Air Quality Management Area (AQMA) after which the LA must prepare an action plan on how it proposes to tackle the issues of

concern. SEPA provides oversight and has reserve powers under Section 85 of the EA95 (with the approval of Scottish Ministers) and also provides significant support and advice to LAs on LAQM.

Pollution Prevention and Control Regulations (Scotland) 2012 (as amended) ('PPC')

- 2.6 SEPA regulates industrial activities which require a permit under PPC. Permits contain measures to control emissions to air and suitable emission limit values (ELVs) for both point and fugitive sources of emissions, for certain substances, and require monitoring to be conducted which are assessed for compliance. In setting appropriate permit conditions SEPA must have regard to the requirements of the UK air quality strategy to meet relevant environmental quality standards for emissions to air.

Clean Air Act 1993 ('CAA93')

- 2.7 Emissions to air which are not captured by PPC may be controlled under the provisions of the CAA93. This is not a permitting regime, but action is taken by LAs in response to public complaints. The CAA93 seeks to control emissions of dark smoke, smoke, grit, dust and fumes from smaller-scale/non-PPC activities (and the provisions can cover both domestic and commercial premises). The CAA93 does not apply to activities which have a PPC permit. LAs can monitor for air pollution from these activities and take action via investigations, notices and prosecutions.
- 2.8 SEPA also has powers in relation to the declaration of Smoke Control Areas (SCAs) by LAs, but has no direct regulatory remit under the CAA93.

Environmental Protection Act 1990 ('EPA90')

- 2.9 Under the EPA90 Part III, where an activity is causing a nuisance (known as a Statutory Nuisance) a LA is responsible for investigating and taking suitable action. Statutory nuisance covers a wide range of potential air pollution types from any premises including smoke, fumes, gases, dust, steam, smell and other effluvia. As with the CAA93, these provisions do not apply to an activity which is permitted under PPC. Also, as with the CAA93 LAs can monitor for pollution from these activities and also take action via investigations, notices and prosecutions. SEPA has no regulatory powers under Part III of the EPA90.

3. The main differences between European and domestic AQ requirements

- 3.1 Although LAQM and EU requirements have the shared aim of improving human and environmental health through reducing air pollution, the rationale and approach employed in each system have some important differences. These differences set the minimum EU requirements for legal compliance (which are not subject to change at this time) with the additional flexibility provided for by the domestic requirements. These are described in the following section.

Definitions

- 3.2 Air Quality Standards (AQSs) are concentrations of pollutants in the atmosphere considered safe for health and the environment. In LAQM, AQSs are defined as Air Quality Objectives (AQOs), whereas in the Directive they are limit or target values. The different wording reflects the different legal status of the standards.

Legal responsibility

- 3.3 Under the EA95, and associated regulations, LAs are required to review and assess AQ in their areas against AQOs for several air pollutants of concern for human health. LAs are not legally obliged to achieve the AQOs by the required dates, but to demonstrate they are doing all that is reasonably possible to work towards them. This is because some pollution sources are not within direct LA control (e.g. Transport Scotland-controlled trunk roads and SEPA-regulated installations).
- 3.4 Scottish Government (SG) and the UK administrations are responsible for complying with Directive requirements. These are legally binding and MSs are potentially liable to infraction if any limit value is not achieved by the required date and an appropriate time extension has not been agreed. LAs have no legal responsibility in relation to EU requirements, even though the work undertaken by LAs through LAQM makes an important contribution to actions being implemented by central government.

Scope of assessment

- 3.5 Under LAQM, assessment of AQ is required in locations where members of the public are regularly present and there is exposure to the pollutant in question over the timescale for which the AQO is defined. The Directive requirements are slightly different and assessment is undertaken anywhere the public has access, irrespective of whether this is regular access. The exceptions are workplaces which are covered by (reserved) health and safety legislation, locations with no fixed habitation, and road carriageways and central reservations (unless there is public access to the central reservation).

Assessment methodology

- 3.6 Monitoring requirements are defined more precisely in the Directive than for LAQM with Scotland being divided into zones and agglomerations based on population. Within each zone/agglomeration there are a minimum number of sampling points for each pollutant and also a provision for reducing these by up to 50% if modelling can be shown to provide equivalent data of a sufficient quality. In addition, there are detailed criteria for sampling locations, including that traffic-related sites should be representative of AQ for a street segment no less than 100m in length. There is a requirement to use specified reference monitoring equipment, or alternatively equipment that can be shown to be equivalent to the reference methods.
- 3.7 For LAQM monitoring, although detailed requirements are set out in guidance, [LAQM TG16](#), there is more flexibility as to where monitoring sites can be located and greater scope for tailoring monitoring to specific local circumstances (this allows LAs to identify “hot spot” areas). Also, there is no legally defined requirement to use reference or equivalence methods although this is strongly encouraged and is SG’s preferred approach.
- 3.8 The differences in assessment methodology are an important reason why it is difficult to directly compare LAQM with compliance with the Directive. It is also why it is not always possible to incorporate LA monitoring sites into the national monitoring network (as the two systems are set up for different purposes).
- 3.9 The apparent anomaly between the large number of AQMAs which remain in Scotland and the conclusion that we are almost fully compliant with Directive requirements is a reflection of these differences. Using LAQM data to supplement UK Government submissions to the EC also requires careful consideration due to the

very specific requirements of the Directive and explains why, historically, this has only been done in a very limited way.

4. Policy framework for air quality in Scotland

The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2007) ('the Strategy')

- 4.1 Part IV of the EA95 requires the UK Government and the devolved administrations (DAs) to publish a National Air Quality Strategy and establishes the system of LAQM. The Strategy (first published in 1997 and revised in 2000 and 2007), establishes a UK-wide strategy for tackling air pollution. It is based on strong scientific evidence and a science-based understanding of the effects of air pollutants on health and the environment.
- 4.2 The Strategy sets objectives for a series of pollutants to be met within the UK. The scientific basis, the objectives set and provisions contained within the Strategy are closely associated with the corresponding limit values set by EU Directives. The Strategy provisions for some pollutants differ from those in the Directives; however all objectives are at least as stringent as the corresponding EU limit values. For some pollutants (such as PM_{10/2.5}), Scotland has adopted objectives which are significantly more stringent than the rest of the UK and EU.
- 4.3 The requirements of the Strategy are implemented through domestic regulations and form the basis of the LAQM system. CAFS complements the Strategy by establishing measures which help to achieve the domestic objectives and also Directive compliance.

Cleaner Air for Scotland 2015 ('CAFS')

- 4.4 Scottish Government, through CAFS, sought for the first time, to bring together the major policy instruments concerning AQ and related policy areas (e.g. climate change, transport, planning, health) under one overarching strategy.
- 4.5 CAFS, in conjunction with the existing legal instruments available, provides the mechanism for necessary improvements in AQ in Scotland. CAFS has placed a greater focus on delivering AQ improvements through evidence-based actions and measures and this is complimented by the existing LAQM regime.
- 4.6 A full review of LAQM was conducted as an action under CAFS in 2015 and a refocused system was implemented as a result. This action was determined to be ongoing with improvements being implemented where identified. With the current review of CAFS taking place it provides an opportunity to review the LAQM system again, how it is operating in practice and also look at the wider policy framework and governance aspects of the requirements of AQ legislation.

Opportunities for review of LAQM offered by the review of CAFS

- 5.1 Recognising the limitations provided by the need for compliance with Directives there are significant opportunities to improve the coherence, practicality and effectiveness in the way AQ is managed in Scotland in a number of areas. These opportunities have been broadly grouped together and are discussed in the following section with the reasoning and improvements which could be achieved.
- 5.2 The LAQM system operates in Scotland in a relatively robust manner and the previous review conducted in 2015 provided for some key improvements. However,

there still exist opportunities for improving the overall effectiveness of LAQM, improving LA performance in fulfilling their duties and making the processes associated with it as streamlined and coherent as possible.

- 5.3 It is probably not possible at this time to completely redesign the LAQM system due to legal constraints (changes to UK primary and domestic secondary legislation) and practicalities (in most part the LAQM system has developed because it is the only real way to carry out the work). What is possible is to ensure that the LAQM system is as robust as possible, that LAs fulfil their duties within very narrow prescribed parameters and where LAs are not performing adequately appropriate provisions are in place to secure compliance with AQ objectives within the short possible time.
- 5.4 In most cases this involves reducing regulatory burden and making the reporting systems as efficient and effective as possible, maximising the available funding to ensure the most benefit for AQ is achieved and collecting and using high quality data to provide a robust evidence-base from which effective interventions can be identified and implemented. However, there also remain major issues to be resolved with the effectiveness with which LAs review and assess AQ, declare and revoke AQMAs, develop and implement AQ action plans, communicate within LA departments and allocate resources.

Recommendations for reviewing the current LAQM system in Scotland

Air Quality Standards

- 6.1 The AQ standards currently in use are now over 20 years old (with the exception of the WHO equivalent standards for PM). The SG could commission a study with a view to investigating and establishing possibly more relevant standards for Scotland (especially in the case of NO₂ where the standards are set solely on public health grounds).
- 6.2 There is too little emphasis placed on the health impact of ozone which can be a significant concern during pollution episodes. Recent studies have shown consistent links between respiratory impacts and short-term O₃ exposure. The current requirements for O₃ (both standards and objectives) are not currently assessed by Scottish LAs and the Scottish Government should investigate how this situation could be improved.

Scope of assessment

- 6.3 The definitions for “exposure” and “receptors” within LAQM places limitations on those areas where a LA must assess AQ and also makes communicating AQ issues to the public and also to other professionals complicated. If the LAQM AQ objectives applied in all places of public access it would offer a higher level of health/environmental protection and standardise the concepts of “exposure” and “receptor”. In terms of planning and development it would protect future land-use (i.e. where receptors move into an area where previously the AQ objectives did not apply). However, there could also be significant, additional, burdens placed on LAs to assess more sites in their authority area.

Annual Progress Reporting (APR)

- 6.4 It is suggested to bring the National Low Emissions Framework (NLEF) Stage 1 screening assessment into APRs as an annual requirement. This will help AQ to be considered across all relevant LA departments (e.g. Environmental Health, Transport, Planning and Sustainability) by ensuring they contribute to the APR measures and

actions. This should also ensure that measures and actions are maximised to achieve multiple benefits in policy areas. This is a new requirement and will be required for the first time on 2019.

- 6.5 Air Quality Action Planning (AQAP) reporting in APRs should be amended to measure progress against agreed and specified timelines. A R/A/G system (or similar) should highlight progress and this would provide the evidence-base for SG/SEPA to determine whether “sufficient progress” is being made. Including this in APRs would also serve as an annual review of the AQAP, lessening additional administrative burden and also ensuring LAs are constantly monitoring the progress and effectiveness of their actions. This also ensures that the APR is a true assessment of all aspects on AQ and not just review and assessment.
- 6.6 Provision of information on commercial and domestic sources (currently Section 4.4 of the APR) should be broadened to include all combustion plants (currently just limited to biomass and Combined Heat and Power (CHP)). This would be in line with recent update to LAQM PG(S)16 Guidance and the LA responsibility to screen all combustion plants for AQ impacts. This would also provide a valuable source of information on the scale and location of new combustion activities throughout Scotland and enable an assessment of potential for cumulative AQ impacts.

AQ Action Planning (AQAP) – Process

- 6.7 AQAP has been less than successful and conducted in an incoherent and uncommitted fashion across LAs. In order to improve LA consistency and performance it is suggested to streamline and standardise AQAP in the same way as per APRs (provide a template for completion specifically defining content, specified timescales for completion, submission and review, etc.), which has worked successfully.
- 6.8 Specifying criteria/timescales for review of AQAP (and specific measures) would remove the ambiguity that currently exists with the requirement to review “from time-to-time” and how and when to publish AQAP (some of which have taken years, or are still not published). Standardising the format, content and timescales would allow greater ease of completion, assessment and comparability. New AQMAs would automatically be subject to the new AQAP process and existing AQAP would transition within two years. Adding prescription to the AQAP process will remove the flexibilities LAs currently have (which can ultimately lead to a lack of progress in production, review and updating of the AQAP and implementing the AQ improvement measures).
- 6.9 Ensure AQAP measures are linked directly with specific CAFS objectives. This will allow a measurable assessment of uptake of measures from CAFS and ensure the LA has considered CAFS in developing the AQAP.
- 6.10 Where the LA has gone through the NLEF Stage 2 appraisal and determined that Low Emission Zones (LEZs)/Vehicle Access Regulations (VARs) are a suitable intervention the AQAP should automatically be reviewed and updated to contain these measures (NLEF Stage 2 appraisal should be complimentary and inform AQAP). This could be facilitated by point 5.9 above.
- 6.11 Make guidance explicit as to whether a Strategic Environmental Assessment (SEA) is required (or not) for an AQAP as there is still currently confusion over this.

AQ Action planning – Measures and interventions

- 6.12 For transport-related AQMAs ensure AQAP considers specific transport options and provide a justification for their uptake/exclusion (with an annual reappraisal of excluded measures for possible appropriateness). These should be agreed by SG and SEPA.
- 6.13 AQAP measures should be directly linked to source apportionment studies undertaken as part of the AQAP process (e.g. if 50% of NO₂ emissions are from buses the LA needs to address this directly with appropriate measures). These should be agreed by SG and SEPA.
- 6.14 Where AQAP measures are proposed these must be committed to (i.e. should be quantifiable in their contribution to improve AQ, must take place, by a certain time (and be time-bound), to a certain level and must be assessed for their effectiveness – not just be a list of potential options). Measuring/quantifying emission reductions to illustrate effectiveness should be assessed through monitoring. Where a LA is missing AQAP targets or not making sufficient progress SEPA should use its powers under Section 85(4)(f) and (g) of the EA95 to require modification and implementation of AQAP requirements.

Air Quality Management Areas (AQMAs)

- 6.15 There should be tighter procedures in place for declaring an AQMA after a detailed/additional assessment. An AQMA should only be declared when automatic EU equivalence monitoring provides conclusive evidence there is an exceedance of an objective level (it should not be declared as a result of indicative monitoring or modelling). AQMAs should only be declared with the agreement of SG/SEPA.
- 6.16 All AQMAs should be time-bound for removal (i.e. declared until 2023) and agreed with SG/SEPA.
- 6.17 AQMAs must be revoked at the earliest possible stage when compliance with objectives is secured (i.e. 3 years of data, safely below the objective level). LAs should provide a target date for removal of the AQMA with their AQAP and progress against this would be reported via the APR. If the target date is in danger of being missed it should trigger an automatic review/update of the AQAP with new/revised measures being required to meet the target date (see also point 5.15 above). Where a LA is not revoking an AQMA within specified timescales SEPA should use its powers under Section 85(d) of the EA95 to direct the AL to revoke the AQMA.
- 6.18 Guidance on revocation/declaration of AQMAs should be made explicit so that LAs can determine what is considered 'compliant' (e.g. exceedances of the objective concentration but not the actual objective does not provide the justification for keeping an AQMA; neither does exceedances in an area not representative of public exposure). Clearer criteria for declaration and revocation should help facilitate points 6.15 and 6.17.

Guidance

- 6.19 Review PG(S) 16 to include any new proposals for LAQM arising from the review, merge the NLEF into the reviewed PG(S) 16 and embed the NLEF into the LAQM process. The current CAFS requirements for LAs to develop Corporate Travel Plans which are consistent with AQAP and consider AQ in developing a Sustainable Energy Action Plan (SEAP) should also have guidance provided for them. This

guidance should be explicit, unambiguous and cover all facets of the LAQM system and LA duties in a single, web-based document.

- 6.20 In particular, Section 11 (Air Quality and Planning) of PG(S)(16) should be updated to ensure all LAs are required to have an AQ policy in their local development plans (LDP) and accompanying supplementary guidance to support the LDP AQ policy. This would be in line with placemaking objectives currently in CAFS and give the LA a stronger basis on which to object to planning applications on AQ grounds if required. This should link with the work currently being undertaken on the Planning Bill.
- 6.21 Other existing guidance such as the EPS and RTP1 “Delivering Cleaner Air for Scotland – Development Planning & Development Management” document is widely used to assess magnitude and significance of impacts of development on AQ, but is not statutory guidance for the purposes of LAQM under Section 88(1) of the EA95. It may be beneficial to ‘mine’ this and other relevant guidance for appropriate measures which could then be included in a revised PG(S)(16) which has statutory status. This would also provide consistency in assessing AQ impacts and would support AQ LDP policies as many tend to say “should not have a significant adverse impact on AQ”.

LAQM Helpdesk

- 6.22 Scotland would benefit from its own specific LAQM helpdesk (rather than being aligned to the Defra system operated by Bureau Veritas). This would enable advice to be provided to Scottish LAs specifically on policy/technical matters as they relate to Scotland and reflect the significant divergences between UK and Scottish management of AQ.
- 6.23 There are major practical issues with using the UK LAQM helpdesk such as lack of access to submitted reports (an ongoing issue), the consultants having little knowledge of the Scottish situation and duplication of effort (e.g. letters in response to LAs). Having a Scotland-specific LAQM Helpdesk ensures streamlining of effort and process and allows the maximum benefit to be made of local knowledge and experience.

Funding

- 6.24 A formal mechanism for committing government funding for AQMAs and NLEF measures must be put in place giving LAs the certainty/time/resources to implement the measures. This would also help commercial bodies (e.g. bus operators, businesses) with investment cycles.
- 6.25 More narrowly define what applications for AQAP funding can be used for (avoid using limited resources for actions which may be of little overall benefit). Funding applications should only be for measures which are agreed in the AQAP (with SG/SEPA) and will demonstrably contribute to meeting the objectives of the AQAP. The LA should clearly reference which measure(s) in the AQAP the bid for funding is in relation to and demonstrate that the funding has been used appropriately (this links to previous points). SG and SEPA should agree on release of funding only when these criteria have been met.
- 6.26 Where funding is proposed for AQ monitoring/modelling activities, ensure this is only provided for approved methodologies which will help achieve the CAFS objectives (e.g. for input into the NMF) or adhere to UKG/SG guidance (e.g. TG 16) unless they are to be used for citizen science initiatives (i.e. purely for awareness-raising and not for compliance purposes). A review of the annual spend on fleet recognition schemes is required. A disproportionate amount of AQAP funding is spent on these types of

scheme, potentially at the expense of other measures (these schemes should be partnerships or a nationally funded scheme, rather than individual to LAs). SG and SEPA should consider limiting these bids for funding and directing resources to more appropriate bids.

- 6.27 Scottish Government should consider redesigning the overall scheme for funding LAs. Now that many LA AQMAs are showing >3 years compliance with previously failing objectives the funding scheme could be redesigned so that there are two parts; one ring-fenced specifically for monitoring and AQAP in AQMAs and the other to maintain and enhance more general AQ monitoring networks and for AQ citizen science projects. This would allow other LAs access to funds not currently available to them (as they do not have AQMAs).
- 6.28 Funding must continue for monitoring in revoked AQMAs where appropriate. This will ensure continued compliance in future years and provide long-term data sets on AQ for trend analysis. This will also counter potential reluctance by LAs to revoke AQMAs for fear that funding will be lost. As suggested in the point above, were a separate funding stream to be made available for non-AQMA LAs (including where AQMAs have been revoked) the LA would continue to get support to maintain/enhance their monitoring network. This would allow LAs to continue AQ monitoring, so trends can still be observed over time across Scotland without the need to hold on to AQMA declarations. New, non-AQMA monitoring sites could also be added to fill any identified gaps.

Enforcement/Governance

- 6.29 Provide enforcement provisions under Section 87(2) of the EA 1995 for the Air Quality (Scotland) Regulations 2000 (and Amendment Regulations 2002 and 2016). Even if the presumption were against using these, their existence could provide a more robust deterrent for LAs who are not complying with the provisions of, and duties required under, Part IV of the Act. This would also remove a legal anomaly from the legislation (and save SG/SEPA from having to explain why we do not/cannot take action against LAs). This could also help define what “work towards meeting the objectives” means in reality.
- 6.30 Under Section 85(1) of the EA95 SEPA, in its role as “the appropriate authority”, has reserve powers to act with the approval of the Scottish Ministers. The Scottish Government could direct SEPA that it has tacit approval to use its reserve powers to ensure LAs are fulfilling their duties under Part IV of the Act (currently SEPA has to approach the Scottish Government on each occasion it wishes to use these powers and to date they have never been used). This would provide SEPA with a more autonomous role, allow streamlining of the process for use of reserve powers and ensure the powers available are used to maximum benefit.
- 6.31 Strict enforcement of delivery of the AQAP no later than one year after declaration of the AQMA (this timescale could also be reduced as LAs should be working on their AQAPs from the early stages of deciding to declare an AQMA). A similar process put in place for production of APRs has worked very effectively. This links to previous points above.
- 6.32 Look at the requirements of Clean Air Act 1993 (in relation to smoke) and Environmental Protection Act 1990, Part III (in relation to nuisance) to determine their fitness for purpose moving forward, and how they could be used/updated to best effect. These provisions are the responsibility of LAs and are rarely used and could become increasingly important to control the impact of emissions from domestic

combustion which the CAA93 was originally designed for (currently domestic wood burning stoves are not covered by the CAA93, but would be under EPA90 Part III).

- 6.33 There is currently an inconsistency between the CAA93 and regulation of Medium Combustion Plant (MCP) under PPC. Currently, CAA93 provisions do not apply to an activity which is permitted under PPC (any installation over >1MW – except those which are exempt). However, the PPC permits issued for MCP cannot currently require a height assessment for appropriate stacks or an Air Quality Impact Assessment (AQIA). Therefore, stack heights can be required under CAA (until the installation becomes PPC) but not for new or transitional installations under PPC (unless a requirement of an Appropriate Assessment under the Habitats requirements). This is a gap in the legislation which would benefit from being resolved.
- 6.34 Specific controls over MCP specified generators (e.g. Short-term Operating Reserve (STOR)) should be adopted in Scotland and PPC and LAQM guidance updated (to give SEPA advice on permitting and LAs guidance on assessing impact). The Environment Agency (EA) already have guidance which could be assessed for applicability (or reviewed) for use in Scotland.

Monitoring/Data

- 6.35 SG should build a more integrated AQ monitoring network with better data quality which meets stakeholder needs rather just assessing for compliance. SG should also look at expanding and assimilating with other networks such as the National Ammonia Monitoring Network (NAMN) in response to the change in pollutant composition (e.g. reduction of SO₂ and the increase of NH₃/NH₄).
- 6.36 LAs need guidance on low cost sensor monitoring to ensure they are used appropriately and the data collected is useful to LAQM given that funding is often awarded to purchase such sensors (AQEG has provided some initial guidance on the application of low-cost sensors for air pollution <https://uk-air.defra.gov.uk/library/aqeg/pollution-sensors.php>). Data collected from low cost sensor methods should not be used to inform decisions on AQMA status but instead used for indicative purposes or citizen science/awareness raising, etc. LAs also need better and more consistent training in order for them to deal with a changing environment concerning monitoring technology and assessing AQ impact from new/emerging activities.
- 6.37 Guidance/clarification is needed on the reporting of data captured through the use of low cost sensors and other non-reference methodologies. Some 2018 APRs have included sensor data alongside approved methods to determine compliance with objectives with no appropriate QA/QC. There is currently no guidance on this for LAs. Guidance for Scotland on the use, analysis and interpretation of diffusion tubes for NO₂ would also be beneficial to ensure consistency of approach between LAs.

Citizen science

- 6.38 A SG-supported national programme of citizen and community science for AQ should be developed at the earliest opportunity. To date SEPA has worked with the European Environment Agency (EEA), schools, local authorities, the Glasgow Science Centre and others on specific citizen science initiatives, however this work would have benefitted from dedicated resource (both personnel and funding), a formal structure/work programme and national coordination/communications in order to maximise benefits.

6.39 A nationally-organised campaign would allow maximum coverage of the population within resource limitations and also provide an opportunity to share knowledge and experience with partners (e.g. the work SEPA is currently involved with via the EEA and European environment agencies). More focus needs to be placed on preventing AQ problems through behaviour change, rather than trying to solve breaches of objectives once they have been detected.

AQ service providers

6.40 SG should investigate having a single service provider for installation, maintenance and upkeep of AQ monitoring stations, QA/QC of data received and also the platform hosting the Scottish Air Quality Database (SAQD). A single, national approach should be taken which would potentially achieve savings which could be redirected into other components of the AQ funding streams. This would also ensure a consistency of approach and avoid competing interests between providers.

Table 1 – Summary of opportunities to update LAQM from the CAFS review

Opportunity	Type	Method	Benefit
Standards and Objectives			
SG commission a study with a view to establishing possibly more relevant AQ standards for Scotland.	Evidence	Research project	More relevant AQ standards Greater level of health/environmental protection
Current requirements for O ₃ (both standards and objectives) are not currently assessed by Scottish LAs an SG should investigate how this situation could be improved.	Evidence/Process	Guidance change	Greater level of health/environmental protection
Scope of Assessment			
Investigate the potential for applying LAQM AQ objectives to all places of public access (including impact of change on LAs).	Evidence/Process	Process/Guidance	More representative assessment of exposure Greater level of health/environmental protection
Annual Progress Reporting			
Place NLEF Stage 1 screening assessment into APRs.	Process	Template/Guidance change	Streamlined process
AQAP reporting in APRs amended to measure progress against agreed and specified timelines.	Process	Template/Guidance change SG/SEPA to approve	Streamlined process and greater accountability placed on LAs
Provision of commercial and domestic sources (currently Section 4.4	Process	Template/Guidance	More knowledge obtained on the

of the APR) broadened to include information on all combustion plants		change	scale/location of emissions
Air Quality Action Planning – Process			
Streamline and standardise AQAP as per APRs (provide a template for completion defining content, specified timescales for completion, submission and review, etc.).	Process	Would need new template Guidance change	Prescription and approval tightens up process and gives less margin for delay and ineffective AQAPs
Ensure AQAP measures are linked directly with CAFS objectives.	Governance	SG/SEPA to approve measures as CAFS aligned	Greater policy cohesion and consistency Should help achieve multiple policy benefits
Where the LA has determined LEZs/VARs are a suitable intervention AQAP should automatically be reviewed and updated to contain these measures.	Process/Governance	Template/Guidance change SG/SEPA to approve revised AQAP	Prescription and approval tightens up process and gives less margin for delay and ineffective AQAPs
Make guidance explicit as to whether a Strategic Environmental Assessment (SEA) is required (or not) for an AQAP	Process	Template/Guidance change	Guidance becomes unambiguous
AQ Action planning – Measures and interventions			
For transport-related AQMAs ensure AQAP considers specific transport options and provide a justification for their uptake/exclusion (annual reappraisal of exclusions).	Process	Template/Guidance change SG/SEPA to approve measures	Prescription and approval tightens up process and gives less margin for delay and ineffective AQAPs
AQAP objectives should be directly linked to the source apportionment study undertaken as part of the AQAP process.	Process/Governance	Template/Guidance change SG/SEPA to approve objectives	Ensures measures are based on evidence and solutions are robust
AQAP measures must be committed to (i.e. should be quantifiable in their contribution to		Template/Guidance change	Prescription and approval tightens up

improve AQ, must take place, by a certain time (and be time-bound), to a certain level and must be assessed for their effectiveness).	Process/Governance	SG/SEPA to approve measures	process and gives less margin for delay and ineffective AQAPs
Where a LA is missing AQAP targets or not making sufficient progress SEPA should use its powers under Section 85(4)(f) and (g) of the EA95 to require modification and implementation of AQAP requirements..	Governance	Enforcement	Ensures LAs fulfil their duties under the EA95 in an appropriate and timely manner
AQMAs			
Tighten procedures for declaring an AQMA after a detailed/additional assessment.	Process/Governance	Guidance change	Prescription and approval tightens up process and ensures AQMAs are fit for purpose
All AQMAs should be time-bound for removal.	Process/Governance	SG/SEPA to agree on terms of AQMA	
AQMAs <u>must</u> be revoked at the earliest possible stage when compliance with objectives is secured.	Process/Governance		
Guidance on revocation/declaration of AQMAs should be made clearer.	Process	Guidance change	Guidance becomes unambiguous
Where a LA is not revoking an AQMA within specified timescales SEPA should use its powers under Section 85(d) of the EA95 to direct the LA to revoke the AQMA.	Governance	Enforcement	Ensures LAs fulfil their duties under the EA95 in an appropriate and timely manner
Guidance			
Review LAQM Policy Guidance for Scotland (including some/all of updates suggested) and merge the NLEF into the reviewed guidance. Make guidance comprehensive and web-based.	Guidance	Template/Guidance change	Guidance becomes unambiguous
Section 11 (Air Quality			

and Planning) of PG(S)(16) should be updated to ensure all LAs are required to have an AQ policy in their LDPs along with accompanying supplementary guidance.	Guidance	Template/Guidance change	Greater linkages made between AQ and planning process Guidance becomes unambiguous
Review and 'mine' relevant guidance for appropriate measures which could then be included in a revised PG(S)(16) which has statutory status.	Guidance	Template/Guidance change	Guidance becomes statutory Greater consistency and coherence of approach
LAQM Helpdesk			
Develop a Scotland-specific LAQM Helpdesk.	Process/Governance	System/Guidance change	Streamlines processes Focus on local knowledge and expertise
Funding			
A formal mechanism for committing government funding for AQMAs and NLEF measures must be put in place.	Process/Governance	SG process change (could be difficult to guarantee funding) SG/SEPA to agree on funding bids	Provides certainty over funding cycles and commitments to expenditure
More narrowly define what the applications for AQAP funding can be used for and link to CAFS measures.	Governance	Guidance change SG/SEPA to agree on funding bids	Funding is allocated to appropriate and effective measures and interventions which have demonstrable impact on improving AQ
Where funding is proposed for AQ monitoring/modelling activities, ensure this is only provided for approved methodologies.	Process/Governance	Guidance change SG/SEPA to approve funding bids	
A review of the annual spend on fleet recognition is required.	Governance	SG would need to discuss potential for national scheme with EcoStars (may not be possible to change)	
SG should consider redesigning the overall scheme for funding LAs so that there are two parts; one ring-fenced specifically for monitoring and AQAP	Process/Governance	SG to develop new funding structure SG/SEPA to	Ensures funding is allocated appropriately and in a targeted manner

in AQMAs and the other to maintain and enhance more general AQ monitoring networks and for AQ citizen science.		approve funding	Ensures LA confidence that funding continues
Enforcement/Governance			
Provide enforcement provisions under Section 87(2) of the EA 1995 for secondary legislation.	Legal	Change to secondary legislation Guidance/Procedure change	Removes legal anomaly Provides a mechanism to secure LA compliance
SG to give SEPA tacit agreement to use of Section 85 reserve powers.	Legal	SG issue Direction to SEPA Guidance/Procedure change	Allows SEPA to act autonomously on poor LA performance Streamlines enforcement procedures
Strict enforcement of production of the AQAP no later than one year after declaration of the AQMA.	Process/Guidance	Guidance change SEPA to enforce timescales	Prescription and approval tightens up process and gives less margin for delay and ineffective AQAPs
Look at the requirements of CAA93 (in relation to smoke) and EPA90, Part III (in relation to nuisance) to determine their fitness for purpose.	Legal	Changes to primary (UK) legislation Guidance/Procedure changes	Ensure full suite of powers are used by LAs to improve AQ Provide wider coverage of installations and activities
Resolve legal gaps between CAA93 and PPC2012 for MCP installations.	Legal	Changes to secondary legislation Guidance/Procedure changes	Remove legal loopholes Make legislation more coherent and effective
Specific controls over MCP specified generators (e.g. Short-term Operating Reserve (STOR) should be adopted in Scotland and PPC and LAQM guidance updated			
Monitoring/Data			
SG should build a more integrated AQ monitoring network with better data quality which meets	Technical/Process	Changes to SG policy	More representative coverage of AQ monitoring network

stakeholder needs rather just operating monitors designed for compliance.		Guidance/Procedure changes	Better data quality
LAs need guidance on low cost sensor monitoring and reporting of data captured using non-reference methods (particularly in relation to NO ₂ analysis and interpretation of data)	Guidance	Guidance change	Guidance becomes unambiguous Correct use of data becomes unambiguous
Citizen Science			
A national programme of citizen and community science for AQ should be developed and implemented at the earliest opportunity	Process/Guidance	Develop a specific programme of CS activities	Provides education, awareness-raising and behaviour change for citizens
AQ Service Providers			
A single service provider for all aspects of the AQ monitoring network and reporting	Legal/contractual Process/Guidance	Change to SG policy Change to systems	Cost savings Streamlining of processes Consistency of approach