Environment, Climate Change and Land Reform Committee

Inquiry into air quality in Scotland

Written submission from The Scottish Environment Protection Agency (SEPA)

SEPA welcomes the opportunity to submit evidence on the Inquiry on Air Quality to the Environment, Climate Change and Land Reform Committee of the Scottish Parliament. SEPA has previously provided a written submission on 24th April 2017\(^1\), appeared at the evidence session of 2\(^{nd}\) May 2017\(^2\) and provided supplementary evidence on 18\(^{th}\) May 2017 and this submission should be used in conjunction with the previous evidence provided.

**Does Scotland have the right polices (Clean Air for Scotland Strategy), support and incentives in place to adequately tackle air pollution?**

Scotland has a robust set of policy and legal measures in place in order to protect and improve air quality. However, due to the complexity of the policy and legislation, the different roles and responsibilities and lack of integration of measures this may not have been as successful as initially intended in providing suitable protection of air quality. Cleaner Air for Scotland (CAFS) provides the framework to improve the coherence and effectiveness of air quality (and related) policy and legislation and should deliver significant improvements in air quality. The main legal measures controlling air pollution in Scotland are briefly described in Annex 1 to this document.

**Cleaner Air for Scotland (CAFS)\(^3\)**

Scottish Government, through CAFS, sought for the first time, to bring together the major policy instruments concerning air quality and related policy areas (e.g. climate change, transport) under one overarching strategy, along with the main stakeholders (i.e. those with the relevant responsibilities and those with access to the solutions). CAFS, in conjunction with the existing legal instruments available, should provide the mechanism for necessary improvements in air quality in Scotland. While progress to date has been slower than anticipated, this is expected to improve as the objectives of CAFS are implemented and wider capacity in the related policy areas (such as transport, land-use planning and place-making) is built.

CAFS has placed a greater focus on delivering air quality improvements through evidence-based actions, such as those informed by the National Modelling Framework (NMF) and the development of appropriate measures – complimented by the existing LAQM regime. Previously it was recognised there had been significant success in identifying air quality problems, but local authorities had lacked the support and resources to implement suitable measures. CAFS hopefully now provides this support through the main partners involved in the strategy, greater political will and access to new/additional resources.

SEPA is of the opinion that the legislation surrounding air quality could be streamlined, and made simpler, with greater clarity on roles and responsibilities.

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\(^2\) [http://www.parliament.scot/S5_Evironment/Minutes/20170502_Minutes.pdf](http://www.parliament.scot/S5_Evironment/Minutes/20170502_Minutes.pdf)

While it is acknowledged that transport is the major contributor to poor air quality in Scotland, smaller, localised activities still give rise to air quality problems (e.g. the AQMA declared for Newton (West Lothian) which is mainly due to emissions from domestic fuel combustion) and therefore a variety of controls (such as exempt appliances and authorised fuels) need to be retained which also compliment CAFS.

How does the Scottish policy fit with the UK and EU policy on air quality?

CAFS has the vision of “Scotland’s air quality will be the best in Europe”. Within the strategy there are many objectives which seek to ensure, and go beyond compliance with the current European Union (EU) and UK legal and policy objectives (contained within Directive 2008/50/EC on ambient air quality and cleaner air for Europe and the UK air quality strategy). While Scotland is not currently fulfilling some of its legal requirements from a EU (in the case of NO₂) or domestic perspective (in the case of NO₂ and PM₁₀) the measures contained within CAFS and the supporting policy and legislation will move a long way towards achieving compliance at the earliest opportunity.

Are the policies sufficiently ambitious?

SEPA is of the opinion that the policy introduced by CAFS and the measures and objectives contained within it, in conjunction with the existing air quality policy and legislation in Scotland are sufficiently ambitious at this time.

Individual CAFS objectives such as the introduction of World Health Organisation (WHO) guideline value for PM₂.₅ and the retention of the Scottish objective for PM₁₀ (which goes beyond the WHO guideline value) are the most stringent in Europe and Scotland is the only country within the EU to have set these standards. It should also be recognised that all AQMAs declared for PM₁₀ in Scotland are for the Scottish annual mean objective (18µgm⁻³) and Scotland is fully complying with the less strict EU and UK annual mean limit value/objective of 40µgm⁻³.

Are the powers and resources of local authorities and SEPA to address air pollution adequate?

Under the Environment Act 1995 (EA95) all local authorities are required to review and assess, on a regular basis, the air quality in their area against the requirements (objectives) set out in the Air Quality (Scotland) Regulations of 2000 and amendments of 2002 and 2016 (they must also work towards meeting these objectives beyond their achievement date). Ultimately local authorities cannot be held legally liable for not meeting these objectives (as some sources of air pollution are outwith local authority control – such as trunk roads and SEPA-regulated activities) and there are no enforcement provisions to ensure compliance.

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4 https://uk воздух.defra.gov.uk/assets/documents/reports/car07/1609130909_Devolved_Administrations_Air_Quality_Pollutant_ Inventories_1990-2014_Issue1.1.pdf
8 http://www.legislation.gov.uk/sdsi/2016/9780111030837/contents
SEPA has reserve powers (acting with the approval of Scottish Ministers) under Section 85 of the EA95 to require local authorities to take action where they may not be fulfilling their duties or are failing to make sufficient progress. SEPA can direct local authorities to conduct a review and assessment of air quality, repeat a review and assessment, designate, revoke or modify an air quality management area (AQMA) and prepare, modify or implement an air quality action plan. However, there are currently no enforcement provisions associated with Section 85 and to date SEPA has not approached Scottish ministers to use these powers. SEPA has always worked closely with Scottish Government and local authorities to provide support, advice and guidance on air quality and currently does not feel that further powers are required. The reserve powers are viewed as a measure of last resort and SEPA only considers using these where all other avenues have been exhausted.

SEPA recognises that while the review and assessment aspect of LAQM has been effective, the implementation of measures and action planning has been less successful. This may be due to a variety of reasons such as resourcing (financial and technical), lack of a robust evidence-base (e.g. air quality modelling), political will and commitment and lack of acknowledgement of the scale, significance and importance of the problem.

As a consequence, one of the main intentions of CAFS has been to provide the support required by local authorities (and others) to implement effective actions and to provide strong national and local political leadership to help deliver air quality improvements. One of the central components of CAFS is the development of two new technical frameworks, the National Modelling Framework (NMF) and the National Low Emissions Framework (NLEF). SEPA is leading the development of the NMF and working closely with local authorities, providing technical assistance by developing robust air quality modelling, and the subsequent evidence, for the four initial cities (Glasgow, Edinburgh, Aberdeen and Dundee). The intention is that these outputs will provide some of the evidence required for NLEF.

As CAFS has moved into its second year of implementation, progress will continue to gain momentum and in conjunction with the recently revised LAQM legal, policy and technical framework SEPA believes that additional measures will be established which are effective in improving Scotland’s air quality. CAFS remains a robust policy initiative, and provided all partners participate in a collaborative and inclusive manner (and embrace the spirit in which CAFS was intended) significant improvements in air quality should be achieved.

Are the policies and delivery mechanisms (support and incentives) being effectively implemented and successful in addressing the issues?

As CAFS is still in the relatively early stages of implementation it is difficult to quantify current effectiveness as much of the delivery will occur in coming years. SEPA believes the existing policy mechanisms in Scotland (such as LAQM) are robust and will be more effective in conjunction with measures contained within CAFS. SEPA has little current influence over external sources of resources, funding and incentives, but is confident that with the increased political and financial commitment to improving air quality in Scotland significant improvements will be achieved.
SEPA also believes that local authorities, having the greatest local knowledge and access to many of the solutions should be provided with as much support (political, financial and technical) as practicable to ensure effective measures are put in place. Care also needs to be taken to ensure the correct partner organisations are engaged and involved at the most appropriate stage of the process and that they, in all cases, work collaboratively and supportively with the local authorities in question.

Is Scotland on target to have a pilot low emission zone (LEZ) in place by 2018 and should there be more than one LEZ pilot?

SEPA believes Scotland is on target to implement a LEZ by 2018; however concerted action is required immediately to ensure this timescale does not slip. Due to the length of the lead-in time for making a LEZ operational including aspects such as local authority committee agreement, legal considerations, financing, procurement, installation and staffing, implementation must be actioned at the earliest appropriate time.

CAFS proposes a process, through the NLEF, for a local authority to follow in determining whether a LEZ is a suitable measure to improve air quality. SEPA has been leading on the NMF, which is intended to inform the NLEF, and this has been successfully delivered within timescale and specification. There have been delays in the delivery of some of the tools, such as the NLEF, and this has proved a significant barrier for local authorities to take work forward. SEPA has welcomed the positive work carried out by local authorities during this time of uncertainty and also welcomes the current political commitment (both from Scottish Government and local authorities) to deliver LEZs during 2018 and beyond.

How should the improvement of air quality be prioritised in areas where there have been persistent breaches of NO₂ limit values?

Whilst the UK’s system for managing local air quality and the requirements of EU air quality Directives have similar aims, the process for assessing and determining compliance are very different and therefore care must be taken when comparing their requirements. Section 9 of the Scottish Government’s Policy Guidance on Part IV of the Environmental Act 1995 Local Air Quality Management PG(S)16 provides a detailed description of the relationship between EU and domestic air quality regimes.

In relation to compliance with NO₂ EU Limit Values, the current situation in Scotland has been identified in the air quality plan for nitrogen dioxide (NO₂) in UK (2017) published by the UK Government in July 2017 and the associated Zone Plans: Zone 24: Glasgow Urban Area Zone Plan, Zone 25: Edinburgh Urban Area Zone Plan, Zone 37: Central Scotland Zone Plan; and Zone 38: North East Scotland Zone Plan. These area zone plans contain specific measures to achieve compliance and
the additional measures contained within CAFS should assist in bringing Scotland into compliance within the shortest possible time.

Addressing the local NO\textsubscript{2} problems identified by the LAQM process will be challenging. As the main source of NO\textsubscript{2} is transport and the main areas affected are urban centres, a suite of measures identified and implemented by local authorities as being most appropriate and effective for the specific AQMAs declared will be required. Where a local authority has identified an area exceeding the domestic NO\textsubscript{2} objective the subsequent air quality action plan will identify the necessary measures required to gain compliance. This, in conjunction with the additional measures contained within CAFS, should assist local authorities in meeting the NO\textsubscript{2} objectives. Local authorities with NO\textsubscript{2} problems should already be implementing many of these measures and therefore no prioritisation is likely to be necessary or beneficial.

**Is adequate consideration given to air pollution from agriculture?**

As with the rest of the UK, the major source of ammonia (NH\textsubscript{3}) in Scotland is from agriculture, contributing over 80% of emissions to atmosphere. NH\textsubscript{3} can have a range of impacts on the environment and human health including the acidification of soils and the nitrogen enrichment of semi-natural areas leading to a decrease in species diversity. In relation to air quality, NH\textsubscript{3} can induce the formation of secondary pollutants including PM\textsubscript{2.5}.

Agricultural activities can also result in the emissions of various "greenhouse" gases, such as carbon dioxide (CO\textsubscript{2}), methane (CH\textsubscript{4}) and nitrous oxide (N\textsubscript{2}O), which contribute to climate change, whilst methane also contributes to tropospheric ozone (O\textsubscript{3}) formation. Unlike other ozone precursors, methane has a longer residence time in the atmosphere (approximately 10 years) and therefore has a much wider global effect. SEPA considers that such control strategies for CH\textsubscript{4} should be addressed at the transboundary and international scale.

The United Nations Economic Commission for Europe (UNECE) Gothenburg Protocol includes commitments to reduce emissions of ammonia from agriculture. One of its requirements is that each signatory country “shall establish, publish and disseminate an advisory code of good agricultural practice to control ammonia emissions”\textsuperscript{15}. In comparison to other air pollutants, the UK Government has not prioritised emissions of NH\textsubscript{3} within the current air quality strategy. Linked to this, the Directive on the reduction of national emissions of certain atmospheric pollutants, amending Directive 2003/35/EC and repealing Directive 2001/81/EC\textsuperscript{16} (National Emission Ceilings Directive or NECD) sets national emission ceilings and reduction targets for the main causal factors of acidification, eutrophication and ground-level ozone, including NH\textsubscript{3}. It could be argued that the current reductions set for NH\textsubscript{3} are not as ambitious as those set for other pollutants (i.e. an 8% reduction compared with 2005 levels for any year from 2020 to 2029\textsuperscript{17}).

\textsuperscript{17} http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016L2284&from=EN
The current PPC regime provides the regulatory framework for intensive agriculture installations (i.e. pig and poultry installations above a specific capacity threshold). This ensures that activities associated with the release of NH$_3$ from these installations are permitted and controlled by SEPA. However, these activities are not the biggest contributor to total NH$_3$ emissions to atmosphere from agriculture and SEPA believes that it is already well-regulated as a sector.

Nitrogen management plans can decrease the nitrogen surplus and increase efficiency of nitrogen use, leading to reduced NH$_3$ emissions. However, such management plans (i.e. Fertilizer and Manure Plans) are only mandatory in Nitrate Vulnerable Zones (NVZs) with the aim to protect surface water and groundwater. Currently, the wider use of best practice within the agricultural sector is voluntary, and it is difficult to assess how and where best practice approaches are being adopted.

SEPA would encourage the development of a national nitrogen strategy that could bring together the many regulations and codes of practice that aim to reduce emissions of nitrogen (including NH$_3$) across the various agricultural sectors and activities. Such a strategy could help to identify any policy gaps and provide the mechanisms for setting appropriate actions to bring about meaningful reductions in NH$_3$ emissions, whilst taking account of the concerns of the agricultural community.

Are there conflicts in policies or barriers to successful delivery of the air quality objectives?

Historically, air quality policy has been developed in isolation from other national or local policy and as a consequence may not have been considered in the development of cross-cutting policy areas. Examples such as transport and infrastructure (e.g. continued funding for roads with less support for active travel), development planning (e.g. approval of developments accessible mainly by car, such as out-of-town shopping centres and residential developments) and climate change (e.g. incentivisation of diesel, untargeted scrappage schemes) illustrate where policies have been introduced which have had consequential (detrimental) impacts on air quality.

One of the main objectives of CAFS has been to identify these linked, or inter-dependent, policy areas and ensure where possible that unintended consequences are avoided, or where trade-offs have to be made that the negative impacts of these are minimised.

CAFS also acknowledges the potential multiple benefits of improvements in Scotland’s air quality and the linkages to other government policy areas such as Low Carbon Scotland: Meeting Our Emissions Reduction Targets 2013-2027 – The Second Report on Proposals and Policies$^{18}$, the current Draft Climate Change Plan – the draft Third Report on Policies and Proposals 2017 – 2032$^{19}$ and Scotland’s Economic Strategy$^{20}$, and recognises that many of the solutions for reducing air pollution do not lie within specific air quality policy. Only working together across

19 http://www.gov.scot/Publications/2017/01/2768/0
policy areas, interdepartmentally and with the many partners involved will secure further improvements in Scotland’s air quality.

SEPA believes that given time to mature, and with the required political support through continued commitment and resourcing, CAFS will ensure that air quality benefits are identified across a range of policy areas and that these in conjunction with specific air quality policies will work together to deliver the necessary improvements in Scotland’s air quality.

Annex 1 – Current Scottish legislation covering air quality

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

SEPA regulates industrial activities which may require a permit under PPC. Permits contain measures to control emissions to air and suitable emission limit values (ELVs). Permits will control both point and fugitive sources of emissions to air for certain substances, and require monitoring to be conducted which SEPA assesses for compliance. In setting permit conditions SEPA must have regard to the requirements of the UK air quality strategy for England, Scotland, Wales and Northern Ireland (2007)\(^2\) (the air quality strategy) to meet relevant environmental quality standards for emissions to air.

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

Under the EA95 local authorities are required to regularly review and assess air quality against the objectives contained in the air quality strategy. Air quality objectives are prescribed for benzene, 1,3–butadiene, carbon monoxide, lead, nitrogen dioxide, particulate matter (PM\(_{10}\) and PM\(_{2.5}\)) and sulphur dioxide. This is the main mechanism for protecting Scotland’s local air quality.

Where a local authority identifies a risk of an air quality objective being exceeded at a relevant location this may lead to the declaration of an Air Quality Management Area (AQMA) after which the local authority must prepare an action plan on how it proposes to tackle the issues of concern. SEPA has reserve powers under Section 85 of the EA95 (with the approval of Scottish Ministers), to direct local authorities to fulfil their duties under LAQM.

**Clean Air Act 1993 (CAA93)**

Emissions to air which are not captured by PPC may be controlled under the provisions of the CAA93. This is not a permitting-type regime, but action is taken by local authorities 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. Local authorities can monitor for air pollution from these activities and take action via investigations, notices and prosecutions. SEPA currently has no regulatory powers under the CAA93.

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Environmental Protection Act 1990 Part III (EPA90)\textsuperscript{25} & Public Health etc (Scotland) Act 2008\textsuperscript{26}

Under the EPA90 Part III, where an activity is causing a nuisance (known as a Statutory Nuisance) a local authority 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 local authorities can monitor for pollution from these activities and also take action via investigations, notices and prosecutions. The Public Health etc. (Scotland) Act 2008 updated the nuisance provisions as well as making other changes including how the Act is enforced. SEPA currently has no regulatory powers under this legislation.

\textsuperscript{25} http://www.gov.scot/Topics/Environment/waste-and-pollution/Pollution-1/Noise-Nuisance/17661
\textsuperscript{26} http://www.legislation.gov.uk/asp/2008/5/contents