PE2123: Update air quality standards in Scotland to align with 2021 World Health Organisation guidelines

Submission from City of Edinburgh Council, Local Air Quality Management, 2 July 2025

Question 1. Do you support amending the Air Quality Standards (Scotland) Regulations 2010 to align with the 2021 WHO air quality guidelines? Please explain your reasoning.

Response:

The WHO's revised Air Quality Guidelines (AQGs) are a welcome policy focus within local air quality management, and we support their adoption into regulation, as a minimum.

If adopted, the AQGs could be regarded as long-term targets, which would inform ambitious policy that would result in public health benefit.

We note however, that there is increasing evidence that even very low concentrations of certain pollutants (below WHO AQGs) can have impacts on human health and the natural environment. Continued improvement beyond the guidelines would be necessary in the future.

Adoption of the guidelines into regulation could be challenging - practically and technologically. For example, monitoring capabilities may need to be advanced to record low concentrations of pollution. Additionally, agreeing interventions could be difficult, due to concerns about affordability or financial impacts. But with the right public messaging and policy integration, especially around Climate Change and public health, improvements can be made. We have seen local communities support significant interventions such as the Low Emission Zone based on the aims to improve public health and reduce local and global emissions.

It is anticipated that concerns about tighter regulation would not out-weigh the public health benefit, which is at the core of the City of Edinburgh Council's City planning and business priorities, especially around poverty prevention and health and wellbeing of residents, visitors and workers.

In Scotland, local authorities have been obliged to work towards tighter standards for fine particles (PM_{10} and $PM_{2.5}$) in comparison to the rest of the UK (and Europe) through the national air quality objectives. For example, for PM_{10} the annual mean objective in Scotland is 18ug/m3, compared with 40ug/m^3 in the rest of the UK (and Europe). The 2005 WHO AQG were 20ug/m^3. Scotland had gone further than any other country in the world on the quest for clean air.

The current Cleaner Air for Scotland Strategy 2 says the vision for Scotland is to have the best air quality in Europe. The EU have recently updated the EU ambient air quality directive; however it falls short of the full set of WHO guidelines. Scotland has the history of the tightest standards in the rest of the UK and Europe, hence this would be another opportunity to remain in a position of advantage in terms of health inequalities, if we were to adopt the guidelines in full.

Ambitious standards and objectives through legislation are necessary to work towards improvements for the benefit of public health.

Targeted funding and national leadership will be essential to enable local authorities to meet these more ambitious standards. Constructive learning should be taken from the governance, funding and delivery of schemes such as the Low Emission Zones.

In addition, and to support a Just Transition, national support funding should be made available to those most impacted using a means-testing approach and impact appraisal approach.

Question 2. What progress has been made in reducing nitrogen dioxide and fine particulate matter in Scotland since 2022/23, when we last sought views on this?

Response:

In terms of assessing air quality improvements in the Council's administration area, typically considers long-term. The Council reports on an annual basis and these can be found here; Local air quality management – The City of Edinburgh Council Note – the most recently report data is 2023.

Generally, there is a decreasing trend of nitrogen dioxide at most monitoring locations, with concentrations lower than pre-pandemic level and stabilising in recent years. There are no locations where the air quality objectives are currently being breached. In respect to Air Quality Management Areas (AQMAs) for this pollutant, the Council has revoked one, amended (reduced) another and will consider further revocations in the current year. Four AQMAs remain in place.

Long-term trends in Particulate Matter (PM) have remained relatively stable at some sites and show a decreasing trend at others. There is a risk of exceedance of PM_{10} in the only AQMA the Council has declared for this pollutant.

Question 3. To what extent has scientific and public health evidence about air quality evolved since the current standards were adopted? In your answer you could refer, for instance, to impacts on nitrogen dioxide or fine particulate matter on particular groups of people, the effect of Low Emission Zones (or other interventions of a similar nature) on air quality, or any new information or data about the effect of burning particular types of fuel.

Response:

It would not be possible for us to list the significant amount of growing evidence in respect to the health implications of air pollution, however a few local, significant and recent reports and news articles are highlighted below;

- Locally, significant research has been undertaken by Dr Mark Miller, Research Fellow from the University of Edinburgh and Professor David Newby, British Health Foundation (BHF) Duke of Edinburgh Chair of Cardiologyin Edinburgh (with other collaborators) to understand the effects of various pollutants on the cardiovascular system; https://impact.ed.ac.uk/research/future-health-and-care/getting-to-the-heart-of-air-pollution/.
- More recently research into how air pollution effects the brain has been researched and published; https://www.gov.uk/government/publications/air-pollution-cognitive-decline-and-dementia
- This press story reflects on an evaluation of the effects of low emission zones in Brussels, Antwerp and Ghent, finding that the zones worked. https://www.theguardian.com/environment/2025/may/16/low-emission-zones-successful-cutting-air-pollution-researchers-find?CMP=Share_AndroidApp_Other
- In June 2025 the Scottish Health Equity Research Unit (SHERU) published a report on inequalities and air pollution in Scotland; https://scothealthequity.org/air-pollution-and-inequality-in-scotland/

The Council continues to work closely with public health organisations, particularly NHS Lothian, to understand how evidence can be collated on the public health impacts of significant schemes such as the Low Emission Zone. It would be helpful to understand if national guidance could be provided to set out opportunities and ensure robust and consistent approaches to measuring this into the future.

Question 4. The Scottish Government is currently reviewing the CAFS2 strategy with the goal of establishing a long-term policy framework to replace the strategy once it expires. What practical steps can the Scottish Government set out in its new strategy to reduce nitrogen dioxide and fine particulate matter levels?

Response:

- Support CAFS2 attempts at policy integration - Air quality cannot be addressed in isolation. Actions should be imbedded in Local Development Plans (e.g. Town Centre plans), local Climate Strategies/action plans, Local Transport Strategies etc

- CAFS2 introduced the idea of Zero-Carbon City Centres – this requires to be explored more. Could it link with LEZ? Could it include all sources of emissions e.g. power and heating?

- More robust agricultural policies to reduce ammonia emissions which lead to secondary PM_{10} formation are required.

- In consideration of advancement and improvements in industry, ensure the regulatory system for emission release compliments the local air quality management tighter Scottish (or new AQG) standards and objectives. Currently there is some disconnect is this field, whereby emissions controlled

from PPC (Pollution Prevention and Control) permitting processes, which are regulated by SEPA, are set to the higher, rest of UK/European, standards.

- Clarity around the status of freeports, and potential emissions / concerns over the ability to adequately control or regulate their activities.

- Funding for interventions and actions is essential and needs clarity and commitment from the Scottish Government to support local authority policy development, communication, delivery and monitoring, especially for sustainable travel. More support is necessary to decarbonise the public transport sector, develop good parking policies and encourage active travel.

- The Low Emissions Zones in Scotland were considered a significant development within local air quality management. The implementation of the schemes was supported by Transport Scotland and Scottish Government through a governance structure that ensured consistency of application of legislation and good practice. The governance also ensured efficient working with the Scottish Environment Protection Agency (SEPA) and the four cities involved in introducing the LEZ, with oversight from a Scottish Government minister-led 'Leadership Group'. Consideration of this type of governance structure would be welcome for other significant interventions as necessary within the new CAFS Strategy.