

12 December 2024

Statement on the Scottish Government and SEPA’s response to Environmental Standards Scotland’s report ‘Particulate Matter in Scotland’

1. Background

1.1. In February 2024, Environmental Standards Scotland published its report on ‘Particulate Matter in Scotland – an assessment of the evidence, ambition and prospects’. The report set out that Scotland, along with most other countries, does not currently meet the latest WHO guidelines for particulate matter. ESS made four recommendations to the Scottish Government and the Scottish Environment Protection Agency (SEPA) to improve the effectiveness of air quality regulation in Scotland.

1.2. The Scottish Government and SEPA have responded to ESS’ recommendations. A copy of the Scottish Government’s response can be found [here](#) and a copy of SEPA’s response can be found [here](#). This statement sets out ESS’ view on the Scottish Government and SEPA’s responses and the action that it intends to take to monitor implementation (section 2). A summary of the latest trends in particulate matter pollution in Scotland is also provided in section 3.

2. Response to recommendations

2.1. ESS welcomes the constructive dialogue that has taken place with the Scottish Government and SEPA since publication of ESS’ report. ESS’ view on the responses to each recommendation is set out below.

Recommendation 1: The Scottish Government should, as soon as possible, bring forward proposals for new statutory standards for particulate matter currently set

as limits under the Air Quality Standards (Scotland) Regulations 2010 (as amended), in recognition of the WHO Air Quality Guidelines updated in 2021.

2.2. ESS notes the Scottish Government's commitment to consider the WHO guidelines as part of the development of a successor to the Cleaner Air for Scotland 2 strategy (CAFS2), which expires in 2026, and SEPA's ongoing technical support to this process. ESS notes that the Scottish Government has delayed starting the process of reviewing CAFS2 until summer 2025 on the basis that this would allow for completion of research projects and longer-term actions. ESS will assess the extent to which its recommendations to bring forward proposals for new statutory standards for particulate matter currently set as limits under the Air Quality Standards (Scotland) Regulations 2010 (as amended) are included within the next strategy once it is available for consultation. ESS will continue to engage with the Scottish Government during the development of the next strategy. Additionally, ESS urges the Scottish Government to avoid any additional delay or slippage to the revised timeline for reviewing CAFS2 and producing of a new strategy.

Recommendation 2: The Scottish Government and the Scottish Environment Protection Agency (SEPA) should work with local authorities to consider how to make the Scottish PM monitoring network more responsive to the changing pattern of emissions sources.

2.3. ESS notes that the Scottish Government, in its written responses and subsequent dialogue with ESS, has committed to working with SEPA to continue to review its monitoring approach as new evidence emerges and following international best practice. To determine whether the monitoring network, in ESS' view, remains fit for purpose, ESS will continue to review emerging evidence on particulate matter emissions e.g. from the European Union and the UK Clean Air research programme.

ESS will assess the extent to which its recommendations on monitoring are addressed within the successor to CAFS2 or at an appropriate point preceding this according to emerging evidence and/or any significant developments in air quality policy.

Recommendation 3: The Scottish Government should clarify when it will conduct and publish its planned review of the Clean Air Act 1993. ESS expects this to cover Smoke Control Areas (given the need for more focus on emissions from residential and other combustion) and to clarify when it will legislate for updated objectives.

2.4. ESS notes the Scottish Government's confirmation that its commitment to review the Clean Air Act 1993 will be taken forward in 2024 and that outcomes from the review will inform the timeline for amendments (if any) to the Act. ESS will follow-up with the Scottish Government in early 2025 to understand the outcome of the review and its proposed next steps.

Recommendation 4: The Scottish Government should consider how best to fill the gap left by the UK Government's revocation of Regulations 9 and 10 of the National Emissions Ceiling Regulations 2018. Any replacement should ensure appropriate public scrutiny of Scotland's planned policies to address future emissions projection needs. Any replacement must also include a robust mechanism for delivering a proportionate contribution to UK emissions reductions.

2.5. ESS notes that the UK Government, with the Scottish Government and other devolved administrations, has progressed development of a joint UK replacement approach following revocation of Regulations 9 and 10 of the 2018 Regulations. However, ESS shares the concerns expressed by the Scottish Government in June

2024 about the proposal by the UK Government not to make information public. ESS believes that it is important that this information continues to be made publicly available.

3. Latest trends in particulate matter pollution

3.1. The ESS Particulate Matter report was based on analysis of air quality data up until 2022. Since publication of the report, ESS has continued to monitor air quality data. A summary of recent air quality based on data for 2023 is provided below.

Annual average PM₁₀ concentration

3.2. In 2023, 98.7% of monitoring sites (where data capture > 75%) recorded annual mean concentrations of PM₁₀ below the 2021 WHO guidelines of 15 µg m⁻³. This compares to 97.4% in 2022. In 2023, one site (Perth Atholl Street) exceeded the Scottish annual mean concentration objective of 18 µg m⁻³ for PM₁₀ set under the Air Quality (Scotland) Regulations 2000 (as amended). This compares to zero exceedances in 2022 and represents the first exceedance of the PM₁₀ objective since 2018.

Annual average PM_{2.5} concentration

3.3. In 2023, 42.1% of monitoring sites (where data capture > 75%) recorded annual mean concentrations of PM_{2.5} equal to or below the 2021 WHO guidelines of 5 µg m⁻³. This is a marked improvement on the figure of 10.7% in 2022. There were no exceedances in 2023 of the Scottish annual mean objective of 10 µg m⁻³ for PM_{2.5} set under the Air Quality (Scotland) Regulations 2000 (as amended).

Sectoral contributions to Scotland's PM₁₀ and PM_{2.5} emissions

3.4. The analysis of sectoral contributions to particulate matter pollution included in ESS' report used data from the National Atmospheric Emission Inventory (NAEI) for the period 2005-2021, published in 2023. In October 2024, NAEI published an updated inventory of air pollutants that included 2022 data and a reanalysis of 2005 and 2021 data. The reanalysis led to revised estimates of the absolute and relative contributions of sectors to particulate matter emissions, which differ in places to those reported by ESS in February 2024. Notable differences from the reanalysis of 2005-2021 data include:

- **higher absolute emissions for some sectors.** The emissions (measured in kilotons) from waste and transport in 2021 were higher than previously reported for PM₁₀ and PM_{2.5}. Additionally, for PM_{2.5}, the emissions from energy industries were higher in 2021 than previously reported. For all other sectors, emissions were recalculated to be lower in 2021 than previously reported.
- **the relative contribution of sectors to PM emissions.** The relative contribution from the transport sector to PM emissions in 2021 was higher than previously reported and transport now represents the second, rather than third, highest contributing sector to both PM_{2.5} and PM₁₀ emissions in 2021, contributing 27.9% and 22.4% respectively. In contrast, the relative contribution from industrial combustion to PM_{2.5} emissions in 2021 was lower than previously reported (revised from 21.1% to 8.5%), ranking it the fifth largest contributing sector, rather than second.
- **the rate of sector-specific decreases between 2005 and 2021.** The reduction in PM_{2.5} emissions from residential and other combustion between 2005 and 2021 was recalculated at 44.8 % which is greater than the previously reported figure of a 26.6% reduction. Similarly, the reduction in emissions from industrial

combustion between 2005 and 2021 was recalculated to be 53.2% for PM_{2.5} and 53.0% for PM₁₀, which is a greater decrease than the previously reported figures of 11.8% for PM_{2.5} and 12.6% for PM₁₀. In contrast, the reduction in emissions of both PM_{2.5} and PM₁₀ from waste was much less than previously reported, with reductions of 13.8% and 12.7% respectively, compared to previous figures of 31.8% and 33.3%.

3.5. Despite the revision to the sectoral data, the conclusions from ESS' report remain valid. Namely, that attention needs to be broadened beyond transport to other sectors which are sources of particulate matter, and that industrial processes, residential and other combustion and agriculture are sectors with scope for significant improvement, given their relative contributions and the policy levers available to the Scottish Government to drive change.

3.6. The relative sectoral contributions to particulate matter emissions in 2022 were largely consistent with the (revised) contributions in 2021. The emissions from residential and other combustion, industrial combustion and energy industries were lower in 2022 than 2021. However, the emissions of PM_{2.5} and PM₁₀ from industrial processes and transport increased in 2022 relative to 2021. Emissions of PM_{2.5} from waste also increased from 2021 to 2022. Agricultural emissions of PM₁₀ increased to 1.81 Kt in 2022, which means that PM₁₀ emissions from the agricultural sector are now 2.3% higher than in 2005.