

Air Quality

1. Aim

1.1 This information sheet provides an update on local air pollution levels and monitoring in Stroud District and recent legislative changes.

2. What has changed since the last air quality briefing (23rd November 2022)

2.1 The national Air Quality Strategy: a Framework for Local Authority Delivery was published on 28th April 2023: <https://www.gov.uk/government/publications/the-air-quality-strategy-for-england/air-quality-strategy-framework-for-local-authority-delivery#:~:text=All%20local%20authorities%20are%20expected,in%20their%20Air%20Quality%20Strategy>. It fulfils the statutory requirement of the Environment Act 1995 (as amended by the Environment Act 2021) for Government to publish an Air Quality Strategy setting out air quality standards, objectives, and measures for improving ambient air quality every five years. The Strategy sets out the powers and responsibilities of local authorities, and further actions that the government expects to be undertaken. In summary:

- District and unitary authorities still have a duty to assess the quality of air and address air quality exceedances in their area and, where necessary, to declare Air Quality Management Areas and publish Air Quality Action Plans setting out the measures that will be taken to come back into compliance.
- District local authorities are now also expected to take proactive and preventative action to improve air quality through a local Air Quality Strategy, rather than waiting for a legal limit to be breached. Local authorities without an Air Quality Management Area should specify the proactive measures they will take in their Air Quality Strategy, the publication of which is required by the end of 2023. No template will be provided. It is not yet known what penalties might be levied at non-compliant local authorities.
- Air Quality Strategies should be informed by monitoring and assessments and should set out an enforcement strategy which prioritises reduction of population exposure, including in areas experiencing disproportionately high levels of pollution. Directors of Public Health should be involved in the preparation of Air Quality Strategies.
- The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 introduced new legally binding targets for fine particulate matter known as PM2.5, which local authorities must contribute to <https://www.legislation.gov.uk/uksi/2023/96/contents/made>.
- All English local authorities (including County Councils), the Environment Agency and designated relevant public authorities, **must have regard to the national strategy when exercising functions of a public nature that could affect the quality of air.**

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- The national Strategy also states that ‘Local authorities should integrate climate change mitigation and adaptation measures with measures which improve air quality, being mindful to avoid trade-offs and tensions where possible’.

2.2 No guidance was issued to local authorities with regard the implementation of the Clean Air Strategy 2019. The clean air chapter of the national Environmental Improvement Plan 2023 extends and updates the 2019 Clean Air Strategy and sets out Government’s delivery plan to achieve air quality and other environmental targets.

<https://www.gov.uk/government/publications/environmental-improvement-plan>.

2.3 National Highways is now expected to contribute to local authority air quality strategies and action plans. There was already a requirement for County Councils to do so in two-tier areas.

2.4 Officers are reviewing the new National AQ monitoring requirements and will be making requests for any new budget that is necessary to meet these requirements.

3. Air Quality Standards and Objectives

3.1 Emission targets measure how much pollution is released into air. Concentrations are the levels at which pollutants are present in air and can be affected by emissions from neighbouring counties and countries, weather and natural sources. Concentration limits apply nationally and locally.

3.2 Most of the Air Quality Objectives applicable to local authorities are enshrined in the Air Quality (England) Regulations 2000 (as amended 2002).

<https://www.gov.uk/government/publications/the-air-quality-strategy-for-england/air-quality-strategy-framework-for-local-authority-delivery#annex-a-tables-of-pollutants-and-limits>

3.3 The Environment Act 2021 is the UK’s new framework of environmental protection following the EU exit and allowed the UK to enshrine new binding targets into law, including for air quality, water, biodiversity, and waste reduction. The Act set new legally-binding long-term targets to reduce concentrations of PM2.5.

<https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

3.4 The new PM2.5 targets (Figure 1) relate to a reduction in the annual mean concentration (‘ambient levels’) and a reduction in population exposure. The rationale is that these targets will help drive reductions in the worst PM2.5 hotspots, whilst ensuring nationwide action to improve air quality for everyone. However, there is a risk that funding streams will be naturally aligned to the districts or unitary authorities in hotspot areas, making it difficult for localities like Stroud district to compete for a share of the funding. The aim of interim targets is to drive early action.

Figure 1: Extract from Annex A of the National Air Quality Strategy: PM2.5 Targets

Pollutant & metric	Target	Target year
PM2.5 annual mean concentration	Interim target: 12 µg/m ³	2028
PM2.5 annual mean concentration	Legally binding target: 10 µg/m ³	2040
PM2.5 population exposure	Interim target: 22% reduction in exposure compared to 2018	2028
PM2.5 population exposure	Legally binding target: 35% reduction in exposure compared to 2018	2040

4. The Gloucestershire perspective

4.1 Update on progress against Gloucestershire Air Quality and Health Strategy

In 2022, GCC reported on progress against the Air Quality and Health Strategy for Gloucestershire. GCC are the lead for this non-statutory strategy. In addition, each district must now produce its own AQ strategy under the new Act.

4.2 Summary of Gloucestershire districts Air Quality Meeting July 2023

- Recognition that the county is probably not going to be prioritised for funding as air quality is generally ‘good’ (compliant) compared to areas with more hotspots and higher concentration levels.
- A new Automatic Urban & Rural Network (AURN) location is indicated to be likely in Gloucester, which may satisfy their PM2.5 monitoring requirements.
- Tewksbury are continuing with their existing network for nitrogen dioxide and are currently considering the challenges if they were to expand to measure PM2.5
- Cheltenham have engaged an AQ officer, funded by GCC (following the Ministerial Direction on CBC), and are currently using mesh pods to monitor PM 2.5 (relatively low-cost sensors but unreliable).

4.3 Air quality data for Gloucestershire

4.3.1 The county is already compliant in terms of the new PM2.5 targets (less than 8 µg/m³ compared to national target of 12 µg/m³). Targeted action should be proportionate in terms of levels of pollution however it is important to also recognise the Government’s intention that all local authorities must still be proactive in the reduction of pollution, particularly with regard PM2.5.

4.3.2 Anthropogenic sources are the ones most within the local authority’s ability to influence – however, the relative low ratio of anthropogenic PM2.5 in the district indicates that action purely on those sources would have limited effect on overall concentration levels in the district.

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4.3.3 Around half the PM_{2.5} emissions in the UK come from anthropogenic sources such as domestic wood burning and tyre and brake wear from vehicles. Non-anthropogenic sources include pollen and sea spray.

5. Air quality in Stroud district

5.1 Air quality monitoring results for Stroud District 2022

5.1.1 The concentrations in the district for nitrogen dioxide do not exceed the nationally set levels (and the results are not within 15% of the limit).

5.2 Nitrogen Dioxide results

5.2.1 In 2022, even without distance corrections there were no exceedances of the hourly or annual air quality limits/objectives in the district and the highest annual average was 32.4 µg/m³ (the location was at 1, Signal House).

5.2.2 In 2022, nitrogen dioxide concentrations decreased at 17 monitoring locations from the concentrations reported in 2021. The average decrease was 1.3 µg/m³. Comparatively, 16 monitoring locations reported increases in nitrogen dioxide levels against those from 2021, with an average increase of 1.2 µg/m³. There were 2 monitoring locations where the nitrogen dioxide concentrations stayed the same. Therefore, across all sites, there is an average decrease in nitrogen dioxide concentrations of 0.1 µg/m³. The general downward trend in previous years appears to have stalled in 2022.

5.3 Annual Status Report

5.3.1 The annual status report (ASR) for 2022 data has been submitted, and a link to the previous year's ASR is available here: <https://www.stroud.gov.uk/media/1784427/2021-air-quality-status-report.pdf>

5.4 Particulate matter monitoring – PM_{2.5}

5.4.1 The council does not have any particulate matter monitors. As discussed in the last air quality briefing, the cost of equipment varies according to the scientific validity of it. A reliance on data from only low-cost sensors would mean the Council could not demonstrate that it is reducing local pollution, but the sensors themselves are much more user-friendly, accessible, real-time and flexible, meaning that the community can participate in measuring and monitoring which could trigger fundamental behaviour change. Any use of low-cost sensors should be combined with a scientifically robust PM_{2.5} monitoring capability to allow for the cross-reference and validation of data.

5.5 Local action on PM2.5

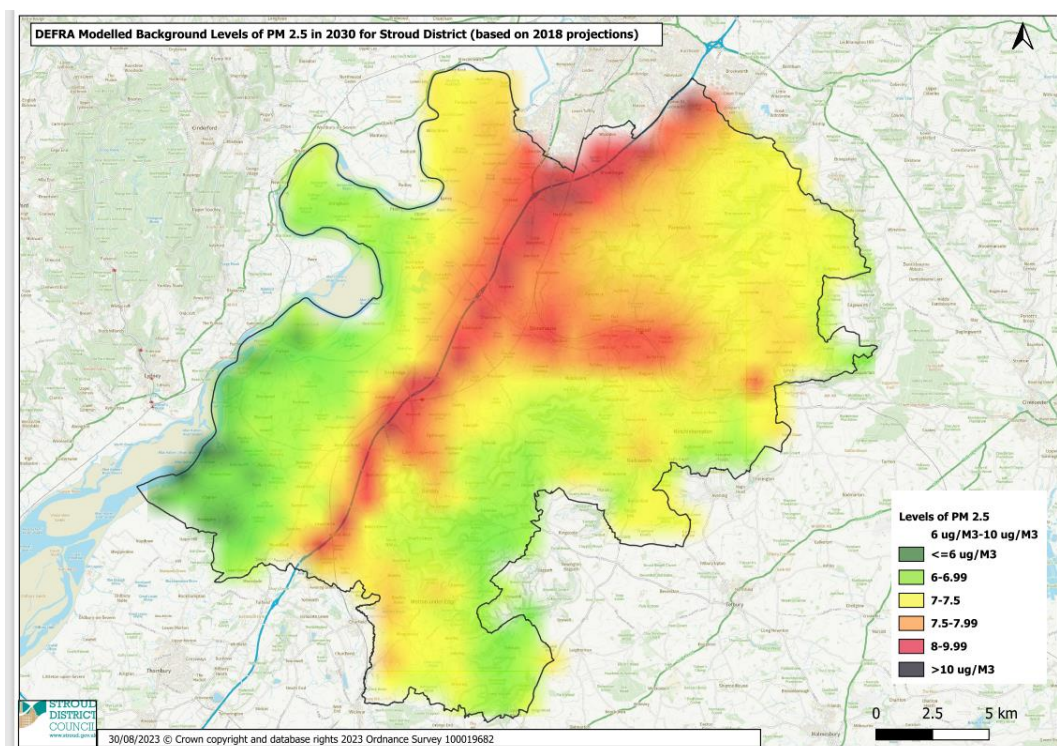
5.5.1 All local authorities should support the delivery of national PM2.5 targets by taking action to reduce emissions from sources within their control. The annual mean concentration target will drive action in the worst-polluted areas and the population exposure reduction target requires concentrations be driven down everywhere, including where they are already below 10µg/m³. If Government considers action taken by local authorities to reduce PM2.5 emissions to be insufficient, they will consult on introducing a standalone statutory duty on local authorities to take action.

5.6 DEFRA predictions for PM2.5 levels in Stroud district in 2030

5.6.1 Figure 2 is a pictorial representation of DEFRA's modelled data for levels of PM2.5 across Stroud district in 2030 (projections were based on 2018 baseline). The data shows that all areas of the district are projected to be in early compliance with the 2040 PM2.5 target of 10 ug/m³ and indicates where council and community efforts should be focused to further improve local air quality. It can be seen that the most polluted areas are around the M5 corridor and the A roads. National emphasis on cleaner vehicles and fuels should contribute towards a significant reduction in these levels.

5.6.2 The small area in red to the East of the district is Chalford.

Figure 2: Population-weighted annual mean PM2.5 concentration projections for 2030



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5.7 Community Engagement

5.7.2 The monitoring work carried out by UBB Energy from Waste Community Liaison Group has provided good learning for the Council to consider further community participation.

5.7.3 Officers will work to identify other existing and potential community action in relation to air quality, beginning with an evening session with the CN2030 Community Engagement Board on 27th September 2023.

6. Funding

6.1 DEFRA annual Air Quality Grant Scheme 2023 - 2024

6.1.1 As noted in previous briefings, funding for air quality initiatives tends to be pitched towards local authority areas which are breaching statutory limits or are close to doing so. This year's grant was delayed, and the round opened on 4th August 2023 with the deadline for applications being 29th September 2023.

6.1.2 SDC is not prioritised for Lot 1 as it does not have an Air Quality Management Area. Lot 2 is for projects that will improve public awareness in local communities about the risks of air pollution, and projects for measures that deal with particulate matter, and reduce personal exposure. The detailed criteria for this Lot are not publicly available, an application would need to be started on DEFRA's online tendering system. Officers will review potential for an application when further details are available.

6.2 GCC funding

6.2.1 None currently available in relation to air quality.

6.3 SDC funding

6.3.1 There is not a separate air quality budget, air quality monitoring is incorporated into the sampling budget within the Environmental Services budget. Officers are reviewing the new National AQ monitoring requirements and will be making requests for any new budget that is necessary to meet these requirements. Any new budgetary requirements will be included in future budget setting reports to committee, for decision by members.