

ENVIRONMENT COMMITTEE

5 DECEMBER 2019

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Report Title	UPDATE ON AIR QUALITY IN STROUD DISTRICT
Purpose of Report	To provide information on the current position regarding air quality within the Stroud District.
Decision(s)	The Committee RESOLVES to endorse the approach taken with respect to Local Air Quality Management as set out in the Report.
Consultation and Feedback	DEFRA
Financial Implications and Risk Assessment	The recommended additional automated monitoring will attract additional costs (p 3.3). These costs can be met within the current 19/20 budget due to in year savings within the service. Adele Rudkin, Accountant Tel: (01453) 754109 E-mail: adele.rudkin@stroud.gov.uk
Legal Implications	There are no legal implications arising from this report. Patrick Arran Interim Head of Legal Services and Monitoring Officer Tel: (01453) 754368 Email: patrick.arran@stroud.gov.uk
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Options	N/A
Performance Management Follow Up	Ongoing monitoring of air quality.
Background Papers/ Appendices	Appendix 1: Summary of Air Quality Objectives Appendix 2: Annual Status Report Appraisal (DEFRA) Appendix 3: NO ₂ Results for 2018 Appendix 4: Monitoring Location Map Appendix 5: Results of Javelin Park EfW Monitoring

1. **Background:**

- 1.1 Under the terms of the Environment Act 1995, the UK Government's Local Air Quality Management (LAQM) frameworks require local authorities to submit an Annual Status Report (ASR) every year to DEFRA to report progress on the monitoring of air quality within the District and assess current air quality against statutory Air Quality Objectives. A summary of these Objectives is attached as Appendix 1.
- 1.2 Additionally, the ASR identifies any areas within the District which may be close to or likely to exceed the Air Quality Objectives. The 2019 ASR for Stroud District was submitted to DEFRA in July 2019 and an Appraisal Report accepting its findings and proposals was received on 25th October 2019. The ASR Appraisal Report is attached as Appendix 2.

- 1.3 Where preliminary monitoring data identify exceedances of an Air Quality Objective for a particular pollutant and subsequent detailed assessment verifies earlier findings, the local authority is required to declare an Air Quality Management Area (AQMA) and to prepare an Air Quality Action Plan (AQAP) setting out strategies to improve air quality in that area.
- 1.4 An Air Quality Action Plan describes measures that it is proposed to implement to improve air quality in the affected locations, such that pollutant levels are reduced to meet relevant Air Quality Objectives.
- 1.5 There are currently no AQMAs declared within the Stroud District.

2. Summary of 2019 Annual Status Report:

- 2.1 This Report addresses the air quality across the District in the previous year, i.e. 2018. In broad terms, air quality experienced across the District is generally very good. Concerns are largely limited to areas of traffic congestion where consequent NO₂ levels can approach or exceed Air Quality Objectives.
- 2.2 Consequently, the 2018 monitoring programme consisted of 22 monitoring points across the District measuring concentrations of NO₂ at locations selected for assessment. The results are set out in Appendix 3 and the monitoring locations are shown in Appendix 4. An additional 7 sites have been introduced in relation to the Javelin Park Energy from Waste (EfW) site (see section 4 below).
- 2.3 Over the longer term, NO₂ levels have been slowly declining across the District. Specific information is available in individual annual reports from 2014 on the SDC website at <https://www.stroud.gov.uk/environment/environmental-health/pollution-and-nuisance/air-quality>. However, for 2018 these levels generally increased across the District. In discussion with DEFRA, it is felt that this increase was very likely to be connected to analytical methodology rather than significantly increased exposures.
- 2.4 As a consequence of this, diffusion tube results exhibited small exceedances of the 40 µg/m³ annual objective for NO₂ at two monitoring points at one location - Signal House, Dudbridge. This will be considered in greater detail later in this Report at section 3 below.
- 2.5 Two other monitoring points exhibited NO₂ levels within 10% of the Air Quality Objective, at Bowbridge and (again) at Signal House.
- 2.6 DEFRA Technical Guidance removes any requirement to monitor for carbon monoxide, benzene, lead and 1,3-butadiene as all nationwide objectives have been met over a number of years and results were well below limit values. The results of previous assessments have informed that, with traffic being the primary pollution source, NO₂ sampling represents a suitable surrogate for particulates and no major sources of SO₂ have been identified to date.

3. Signal House, Dudbridge Hill:

- 3.1 The situation at this location has been the subject of monitoring for NO₂ since 2010. Over that time, levels have fluctuated closely around the Air Quality Objective annual mean concentration of 40 µg/m³, but with a generally downward trend in results.
- 3.2 The overall rise in NO₂ levels exhibited for 2018 has elevated two monitoring points at the site to levels exceeding 40 µg/m³. The two points in question relate to the Western end of the building nearest to the junction and the corrected levels are 40.3 and 41.6 µg/m³ (0.75%

and 4% exceedances) respectively.

- 3.3 As recently approved by DEFRA, it is now proposed to undertake detailed assessment of NO₂ levels at the Signal House site, utilising both diffusion tubes and continuous automatic monitoring. This latter will come at a significant cost (estimated to be £10K to £20K) but will be vital in providing increased confidence as to exposure levels at the site.

4. Energy from Waste (EfW) Facility at Javelin Park, Haresfield:

- 4.1 The newly constructed EfW facility at Javelin Park commenced commissioning works over the Summer and Autumn of 2019. It was expected to commence formal operations in late October / November. The facility itself and the emissions from the combustion and associated processes are regulated by the Environment Agency by means of conditions laid down within an Environmental Permit for the installation.
- 4.2 As part of the permitting considerations, the impact of the facility on both air quality and human health were assessed by the Environment Agency, including a comprehensive assessment of existing background concentrations of relevant pollutants. It concluded that *“no significant effects on air quality are predicted as a result of the construction or operation of the proposed facility”*.
- 4.3 The Environmental Permit, in addition to other controls, requires monitoring of all stack emissions for relevant parameters to ensure compliance with Emission Limit values. Such monitoring will ensure that pollutant levels will be measured in accordance with recognised standards prior to dispersion in order to fully consider “pollution” as a whole from the incineration process.
- 4.4 In preparation for the operation of the EfW facility, three NO₂ diffusion tube sites were installed at three relevant locations in the area in 2016 – near the facility entrance (ref: 20), near the Cross Keys roundabout (ref: 21) and at Hunts Grove (ref: 6). This has allowed background levels to be assessed over a prolonged period and will allow comparison with the situation when the EfW is fully operational.
- 4.5 Furthermore, the Environmental Protection team acts as a “contractor” to undertake air quality monitoring on behalf of the Javelin Park Community Liaison Group (CLG). Again, the intention was to establish background levels prior to the EfW operating, for subsequent comparison purposes. This has resulted in the establishment of 7 further NO₂ diffusion tube sites (from September 2018) and 2 particulate matter monitoring sites (from October 2018). Results of the monitoring are made publicly available by the CLG at <https://glosclg.weebly.com/> and summary results are attached in Appendix 5.

5. Conclusions:

The current level of air quality monitoring in the District is considered to be adequate in light of the information provided above. However, additional automated monitoring will be required in the area around Signal House, Dudbridge to more precisely verify NO₂ levels and establish whether there is a need to declare an Air Quality Management Area.