

NEWCASTLE-UNDER -LYME BOROUGH COUNCIL
EXECUTIVE MANAGEMENT TEAM'S
REPORT TO

Licensing and Public Protection Committee
05 December 2022

Report Title: Environment Act 1995 – Part IV Local Air Quality Management – Annual Status Report 2022

Submitted by: Head of Regulatory Services & Environmental Protection Team Manager

Portfolios: Environment and Recycling

Ward(s) affected: All

Purpose of the Report

To advise Committee of the findings of the statutory Annual Status Report (ASR) for 2022 which covers the 2021 calendar year in respect of air quality within the Borough.

Recommendation

That

1. Committee notes the content of the ASR 2022 and approves it for submission to DEFRA
2. Committee receives a further report should DEFRA's appraisers not accept the ASR 2022.

Reasons

1. To inform committee of the state of local air quality within the Borough for 2021 and action being taken to monitor and improve local air quality in respect of transport related Nitrogen Dioxide levels and also particulate matter exposure.

1. **Background**

- 1.1 Air quality is the largest environmental health risk in the UK. It shortens lives and contributes to chronic illness. Health can be affected both by short-term, high-pollution episodes and by long-term exposure to lower levels of pollution.
- 1.2 Local authorities in the UK have a statutory duties for managing local air quality under Part IV of the Environment Act 1995. District Councils have been required to review and assess air quality within their areas since 1997 for compliance against a range of pollutant objectives.
- 1.3 The Council has been carrying out reviews of air quality since December 1997; these involve measuring air pollution and trying to predict how it will change over the next few years. The review process aims to make sure that the national air quality objectives prescribed in the Air Quality Regulations http://uk-air.defra.gov.uk/assets/documents/National_air_quality_objectives.pdf will be achieved throughout the UK by the relevant deadlines. These objectives have been put in place to protect people's health and the environment. The Council has been carrying out reviews of air quality since December 1997; these involve measuring air pollution and trying to predict how it will change over the next few years. The review process aims to make sure that the national Air Quality Objectives prescribed in the Air Quality Regulations http://ukair.defra.gov.uk/assets/documents/National_air_quality_objectives.pdf will be achieved throughout the UK by the relevant deadlines. These objectives have been put in place to protect people's health and the environment. In relation to people, the objectives apply at the facades of relevant receptors, generally dwellings, hospitals, schools. Workplaces are excluded.
- 1.4 The Council is also undertaking a separate study for a different regulatory purpose in conjunction with Stoke-on-Trent City Council under a 2018 Ministerial Direction to understand and assess compliance with EU Limit Values under the Ambient Air Quality Directive, across the two local authority areas. The study is principally concerned with assessing compliance with nitrogen dioxide annual mean levels at locations within 4 metres of the roadside, locations within 25 metres of a major junction are out of

scope. Although there is reference to this work in the ASR21, it is not covered by the ASR reporting requirements. The updates to and outcomes of the Ministerial Direction work will be the subject of a future reports to Cabinet.

- 1.5 In terms of costs to society recent research commissioned by Public Health England, “found that the health and social care costs of air pollution (PM2.5 and NO₂) in England could reach £5.3 billion by 2035. This is a cumulative cost for diseases which have a strong association with air pollution: coronary heart disease; stroke; lung cancer; and childhood asthma.
- 1.6 When diseases with weaker evidence of association are also added, including chronic obstructive pulmonary disease; diabetes, low birth weight, lung cancer, and dementia, the costs could reach £18.6 billion by 2035. When all diseases are included, air pollution is expected to cause 2.4 million new cases of disease in England between now and 2035. PM2.5 alone could be responsible for around 350,000 cases of coronary heart disease and 44,000 cases of lung cancer in England over that time.
- 1.7 Even small changes can make a big difference, just a 1µg/m³ reduction in PM2.5 concentrations this year could prevent 50,000 new cases of coronary heart disease and 9,000 new cases of asthma by 2035.” (Source CLEAN AIR STRATEGY 2019 DEFRA, 2019).
- 1.8 The World Health Organisation, estimates that poor air quality within the UK costs the economy circa £54 billion which is equivalent to 3.7% of British GDP (based on 2010 data). It also accounts for 29,000 premature deaths annually. (Source: WHO Regional Office for Europe, OECD (2015). Economic cost of the health impact of air pollution in Europe: Clean air, health and wealth. Copenhagen: WHO Regional Office for Europe.
<http://www.euro.who.int/en/mediacentre/events/events/2015/04/ehp-mid-term-review/publications/economic-cost-of-the-healthimpact-of-air-pollution-in-europe>)
- 1.9 At the local level, estimated costs of the health impacts of air pollution from ultra-fine particulate matter alone is thought to be between £20 - 47 million for Newcastle-under-Lyme and between £39 – 93 million for Stoke-on-Trent. Costs to the NHS and Social Care are thought to be between £96 – 176 thousand for Newcastle-under-Lyme and between £189 – 349 thousand for Stoke-on-Trent. (Source: https://fingertips.phe.org.uk/documents/PHE_Air_Pollution_Setup.exe)
- 1.10 Local authorities therefore have an important role in bringing about improvements in air quality and ensuring compliance with statutory requirements to reduce the impact on health and associated costs to the National Health Service and the wider economy
- 1.11 The findings of the previous reviews and assessments undertaken by your Officers were last reported to committee in 2021 and are available to view online at <https://www.newcastle-staffs.gov.uk/protection/air-quality-management>

Issues

- 2.1 **Annual Status Report 2022 (ASR'22)**
- 2.2 In accordance with its statutory duties, the Borough Council has recently completed its Annual Status Report for 2022 which is concerned with a retrospective review of air quality within the Borough for the 2021 calendar year. A copy of the report can be found on line at <https://www.newcastlestaffs.gov.uk/all-services/environment/environmental-protection/air-quality-newcastle-underlyme>
- 2.3 Previous assessments have identified nitrogen dioxide (NO₂) as the pollutant of concern, with a number of locations within the Borough exceeding the NO₂ annual mean objective. This is principally due to road traffic emissions
- 2.4 This ASR22 considers all new monitoring data and assesses the data against the Air Quality Strategy (AQS) objectives.

- 2.5 It also considers any changes that may have an impact on air quality.
- 2.6 The review of new diffusion tube monitoring data has not identified any locations outside of the four existing Air Quality Management Areas (AQMA's), declared in December 2014 within the Borough where the AQS annual NO₂ objective was exceeded in 2021.
- 2.7 Monitoring of NO₂ concentration in the AQMA's and at a variety of locations across the Borough during 2021 shows, that there has been a general decrease in NO₂, with the majority of areas now being under the annual mean objective. There are however a number of hotspots within the Town Centre and Kidsgrove and Maybank, Wolstanton and Porthill AQMA's which have exceeded in previous years or are at risk of exceedance in future years.
- 2.8 The monitoring results for 2021 are to be treated with caution given the emergence from Covid-19 lockdowns

2.8 Town Centre AQMA

- 2.9 Air Quality in this area is influenced by local road traffic and traffic utilising the major arterial routes, which converge on the town centre. There are a number of relevant receptors where the objective applies located at the back of pavement. The network is heavily congested at peak times of the day with high volumes of low speed mixed stop start traffic. The location of this AQMA can be found online at https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=170
- 2.10 Part of the AQMA, the A53 corridor from Sandy Lane to Etruria Roundabout, is covered by two ministerial directions relating to exceedances of the EU NO₂ annual mean limit value. The related work and actions, although discussed in the ASR, do not form part of the of the statutory LAQM function because of the differing criteria for measurement locations.
- 2.11 The town centre is experiencing a period of regeneration with provision for developments to provide around 3000 student bed spaces in the coming years. The former Civic Offices and Sainsburys' site is likely to be redeveloped for mixed use in the future including residential accommodation and car parking / office space.
- 2.12 In addition, a number of office spaces are able to convert to residential use without requiring consideration of air quality. This has resulted in significant increases in the numbers of relevant receptors within the area where the Council is unable to influence development.
- 2.13 The rural areas of the Borough are facing increased demands for applications for residential development, with people in these areas heavily reliant on cars to access services and employment opportunities within the town centre and wider areas.
- 2.14 Within the Town Centre, NO₂ concentrations have generally decreased each year from 2012 onwards. However, for the past five years, results have been within 10% of the UK NO₂ annual mean objective across a number of sites and some have shown exceedances prior to 2020, in particular London Road, King Street, Lower Street (Belong Care Home).
- 2.15 Accordingly, this AQMA is required to remain in place until all sites measure an annual mean NO₂ concentration that is consistently below the NO₂ annual mean legal objective for five years running, we will also maintain our monitoring network and undertake a review of the measures within the associated air quality action plan by 2024.

2.16 Porthill-Wolstanton-Maybank AQMA

- 2.17 Air Quality in this area is influenced by local road traffic and traffic utilising the junctions associated with the A500 dual carriageway. Relevant receptors in this location are mainly located at the back of footway. The main route through the area is single carriageway with traffic lighted junctions, signal controlled crossings, on street bus stops and significant sections of on street parking. Porthill Bank and Grange Lane are on significant gradients which causes strain on engines and an increase in emissions. The location of this AQMA can be found online at https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=170

- 2.18 There has been a steady decrease in NO₂ concentrations at the established diffusion tube monitoring sites within this AQMA over the past 6 years with levels for the past five years being at least 10% below the NO₂ annual mean legal objective.
- 2.19 Air quality modelling undertaken in connection with the Ministerial Direction work for the A53 has not identified any exceedances of the NO₂ annual mean objective from the current traffic schemes in the area (A500 Wolstanton to Porthill junction improvements and widening, Etruria Valley Link Road) nor the introduction of the proposed bus gate restrictions on the A53 at peak times of the day to meet with the Ministerial Direction requirements (impacts on traffic flows and composition around the surrounding road network were factored in).
- 2.20 Based on the potential impacts on traffic in this area, we propose to adopt a precautionary approach to air quality in this area. We recommend that the AQMA remain in place until all sites measure an annual mean NO₂ concentration that is consistently greater than 10% below the NO₂ annual mean legal objective for five years running (once all traffic related schemes identified above are embedded). For this purpose we will also maintain our monitoring network and undertake a review of the measures within the associated air quality action plan by 2024.

2.21 Kidsgrove AQMA

- 2.22 Air Quality in this location is heavily influenced by traffic using the A34 Liverpool Road and local traffic accessing side roads from Liverpool Road within the centre of Kidsgrove. Relevant receptors are located back of footway and in close proximity to junctions and areas of congestion. The location of this AQMA can be found online at https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=170
- 2.23 NO₂ concentrations have decreased each year from 2012 onwards within this AQMA. However the results for the last five years have hovered around the NO₂ annual mean objective.
- 2.24 Staffordshire County Council undertook a number of highway related measures aimed at reducing congestion which it is hoped will also have a complimentary effect on air quality. Plans are in place for Kidsgrove Station to be upgraded to incorporate a transport interchange and additional car parking. This scheme has the potential to increase traffic movements through this AQMA.
- 2.25 We recommend that the AQMA remains in place until all sites measure an annual mean NO₂ concentration that is consistently greater than 10% below the NO₂ annual mean legal objective for five years running. For this purpose, we will also maintain our monitoring network and undertake a review of the measures within the associated air quality action plan by 2023.

2.26 Little Madeley AQMA

- 2.1 Air Quality in this location is heavily influenced by traffic using the M6 motorway which runs within 20 metres of the nearest receptor at Collingwood, 3 Newcastle Road. The location of this AQMA can be found online at https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=170
- 2.2 The NO₂ concentrations at this location dropped dramatically in 2016 and have been greater than 20% below the UK NO₂ annual mean objective for the past five years.
- 2.3 Given that this location has been complaint for the past five years and in accordance with DEFRA guidance and advice to the Council, it is recommended to revoke this AQMA. This is the subject of a further report on this Agenda.

2.4 Wider Borough – Outside AQMA's

- 2.5 There has been a general decrease in the annual NO₂ concentrations across the Borough over the past five years and no new areas of actual or at risk of exceedance have been identified.
- 2.6 We will continue to undertake monitoring and screening of activities across the wider Borough.

2.7 Particulate Matter (PM₁₀ and PM_{2.5})

2.8 Particulate matter, or PM, is the term used to describe particles found in the air, including dust, dirt and liquid droplets. PM comes from both natural and man-made sources, including traffic emissions, burning and Saharan-Sahel dust. These particles can be suspended in the air for long periods of time, and can travel across large distances. PM can aggravate lungs, with the finer fractions, PM_{2.5} and below being able to pass from the lungs into the blood stream, potentially leading to a wide range of health effects including premature mortality, allergic reactions, and cardiovascular diseases.

2.9 Although PM₁₀ and PM_{2.5} levels within Staffordshire remain below the relevant UK objectives and EU Limit values, based on data compiled for Public Health Outcomes Framework indicator D015, and the latest available data for 2019, there were estimated to be 60 deaths in persons over 30 years within the Borough attributable to PM_{2.5}.

2.10 The 2021 Environment Act saw the UK Government formally declare a PM_{2.5} limit based on WHO recommendations and which is more stringent than current EU requirements. Analysis of data from DEFRA and monitoring undertaken for Walleys Quarry does not show any background exceedances or monitored actual exceedances within the Borough.

3. **Proposal**

3.1 Committee notes the content of the ASR 2022 and approves it for submission to DEFRA.

3.2 Committee receives a further report should DEFRA's appraisers not accept the ASR 2022.

4. **Reasons for Proposed Solution**

4.1 The Council is required to take the action outlined in this report in order to fulfil its statutory duties under Part IV of the Environment Act 1995

5. **Options Considered**

5.2 Nil

6. **Legal and Statutory Implications**

6.1 The Council is required to produce and submit to DEFRA an Annual Status Report in partial fulfilment of its duties under Environment Act 1995.

7. **Equality Impact Assessment**

7.1 The Environment Act 1995, Part IV requires the production of the Annual Status Report and submission to DEFRA for approval on an annual basis. The Act also requires the declaration and maintenance of an Air Quality Management Area where the statutory air quality objectives are at risk of / are being breached along with the production of a statutorily required Air Quality Action Plan.

7.2 The work does not impact on any protected groups or characteristics.

8. **Financial and Resource Implications**

8.1 There are no direct financial or resource implications coming out of this report with the production of the ASR currently met from internal budgets. The bodies responsible for delivery and funding the action plan measures are identified. A large number of the measures are reliant on significant financial resources to deliver with all potential funding streams including government grants identified where possible.

9. **Major Risks**

9.1 A specific GRACE risk assessment has been prepared for this line of work. Those considered to be the most significant are identified below. Appropriate controls are in place to reduce these risks from being realised.

9.1 Failure to have adequate controls in place to enable the council to comply with its legal obligations under Part IV of the Environment Act 1990 could see the Council being formally Directed by the relevant minister to undertake any of the actions they see fit, in line with the Act.

9.2 Public bodies including local Authorities may also be subject to legal action for breach of a person's human rights specifically Article 2 Right to Life and Article 8: Respect for your private and family life.

10. **UN Sustainable Development Goals (UNSDG)**

10.1 The monitoring and assessment of local air quality, and the requirement for air quality management areas and associated air quality action plans contributes towards the following UN Sustainable Development Goals.



The following areas of the Council Plan are also contributed towards

- Priority 1 – A clean, safe and sustainable borough •
- Priority 3 – A healthy and active community •
- Council Plan Outcome 1.3 The negative impact that the Council, residents and local businesses have on the environment will have reduce

11. **Key Decision Information**

11.1 This is not a key decision.

12. **Earlier Cabinet/Committee Resolutions**

12.1 There are none relating to this item.

13. **List of Appendices**

13.1 The Annual Status Report 2021 is available to view online at <https://www.newcastlestaffs.gov.uk/all-services/environment/environmental-protection/air-quality-newcastleunder-lyme>

14.2 Air quality Management Area Maps for Newcastle under Lyme can be found online at https://uk-air.defra.gov.uk/aqma/local-authorities?la_id=170

14. **Background Papers**

14.1. Environment Act 1995 – Part IV <https://www.legislation.gov.uk/ukpga/1995/25/part/IV>

14.3 Local Air Quality Management Technical Guidance (LAQM.TG.16) (available at <http://laqm.defra.gov.uk/documents/LAQM-TG16-April-16-v1.pdf0>)

14.4 Air Quality Reports completed since 1997 available from <https://www.newcastlestaffs.gov.uk/all-services/environment/environmental-protection/air-quality-newcastleunder-lyme>