
THE CITY OF CARDIFF – DRAFT 2016 AIR QUALITY PROGRESS REPORT

Purpose of Report

1. To provide Members with the opportunity to scrutinise ‘The City of Cardiff – Draft 2016 Air Quality Progress Report’ prior to it being considered by Cabinet this autumn.

Background

2. Air quality is the term used to describe and classify the concentration of certain pollutants in the air. These pollutants have the potential to adversely affect human health at elevated concentrations. The Council has the responsibility to monitor and review air quality standards in Cardiff. These are delegated to the Council through several regulations and pieces of legislation.

The Environment Act 1995 introduced legislation for the local management of air quality. Part IV of the Act introduced a statutory duty for local authorities to review and assess the air quality within their boundaries and to monitor local air quality in comparison with health based standards and objectives.

3. The National Air Quality Strategy was published in March 1997, establishing standards for eight key pollutants and outlining national and international policies to reduce air pollution levels by 2005. The eight key pollutants were benzene, 1,3-butadiene, carbon monoxide, lead, nitrogen dioxide, fine particles (PM10), sulphur dioxide and ozone.

4. The National Air Quality Strategy evolved over time and has been revised and republished as 'The Air Quality Strategy for England, Scotland, Wales and Northern Ireland - Working Together for Clean Air', 2000.
5. The Air Quality (Wales) Regulations 2000 set the statutory objectives for local authorities for seven air pollutants to be achieved by 2005 (ozone was omitted on the basis that national, rather than local action, would best reduce ozone levels due to the trans-boundary nature of the pollutant). The objectives were based on the effects of the pollutant on human health.
6. The main pollutants of concern in the United Kingdom are particulate matter (PM), oxides of nitrogen, and ground level ozone and ammonia. Road transport, large fuel-burning plants such as power stations, and agriculture are key sources for one or more of these pollutants.
7. The economic cost from the impacts of air pollution in the UK is estimated at between £9 billion and £19 billion every year. This is comparable to the economic cost of obesity (over £10 billion). Poor air quality is often associated with traffic derived pollution with urban areas close to busy roads being susceptible to exceeding the health based standards for Nitrogen Dioxide and Particulate Matter.
8. Estimates indicate that air pollution reduces life expectancy in the UK by an average of six months. Particulate Matter (PM) is one of the pollutants which is closely associated with health effects. PM consists of microscopically small solid particles or liquid droplets suspended in the air. The smaller the particles, the deeper they can penetrate into the respiratory system and the more hazardous they are to breathe. The source of PM can include traffic emissions and pollutants emitted from industrial processes, it can also be transported long distances and across national boundaries. The World Health Organization (WHO) advises there is no safe exposure level to PM. For people with lung and heart conditions, elevations in particulate air pollution can worsen their symptoms.

9. The short term health effects of nitrogen dioxide (NO₂) are also well established. At higher concentrations it can cause irritation of the lungs and can exacerbate existing lung conditions including asthma. However it is unlikely that such high levels of NO₂ will be reached in the United Kingdom. Ground level ozone (O₃) is formed when other pollutants react in sunlight, and can cause breathing problems and reduced lung function. There is also strong epidemiological evidence associating long term chronic exposure to high levels of NO₂ with respiratory effects in adults and reduced lung function in children.

10. Air pollution can affect plants and animals in the natural environment, impacting on biodiversity and sensitive environments. It can also reduce agricultural crop yields. Links between air quality and climate change actions are critical; it is believed that many of the actions to mitigate against climate change will also reduce air pollution in the long term.

The City of Cardiff – 2016 Draft Air Quality Progress Report

11. Once adopted, 'The City of Cardiff – 2016 Draft Air Quality Progress Report' (attached to this report as **Appendix 1**) will help the Council to fulfil the requirements of the Local Air Quality Management (LAQM) process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents.

12. The LAQM process places an obligation on all local authorities to regularly review and assess air quality in their areas, and to determine whether or not the air quality objectives are likely to be achieved. Where it is considered likely that target pollution levels will be exceeded, the local authority must then declare an Air Quality Management Area (AQMA), and prepare an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place in pursuit of the objectives.

13. For local authorities in Wales, Progress Reports are required in the intervening years between the three-yearly Updating and Screening Assessment reports. Their purpose is to maintain continuity in the LAQM process.
14. They are not intended to be as detailed as Updating and Screening Assessment Reports, or to require as much effort. However, if the Progress Report identifies the risk of exceeding an Air Quality Objective, the local authority should undertake a Detailed Assessment immediately, and not wait until the next round of Review and Assessment.

Air Quality Objectives

15. The air quality objectives applicable to LAQM in Wales are set out in the Air Quality (Wales) Regulations 2000, No. 1940 (Wales 138), Air Quality (Amendment) (Wales) Regulations 2002, No 3182 (Wales 298), and set out in Table 1.1 of **Appendix 1**. This table shows the objectives in units of microgrammes per cubic metre ($\mu\text{g}/\text{m}^3$), (milligrammes per cubic metre, $[\text{mg}/\text{m}^3]$ for carbon monoxide) with the number of occasions each year it is permissible to exceed target (where applicable).

Previous Review & Assessment

16. The Local Air Quality Management regime commenced with the Air Quality Regulations 1997, which came into force in December of that year. These Regulations were revoked and superseded by the current Air Quality (Wales) Regulations 2000 (as subsequently amended in 2002).
17. The 2015 Updating & Screening Assessment Report is referred to in **Appendix 1** as the start of 'Phase 6', i.e. it is the sixth Updating & Screening Assessment Report period which has been undertaken since the scheme commenced in 1997. Details of each 'Phase' (1 to 6) can be seen on pages 7 to 11 of **Appendix 1**.

Air Quality Management Areas

18. **Appendix 1** identifies four areas in Cardiff where it is likely that pollution levels will exceed target (described as 'exceedences') in terms of air pollution are considered likely. To deal with these exceedences four Air Quality Management Areas (AQMA's) have been established in Cardiff, these are:

- Cardiff City Centre AQMA
- Ely Bridge AQMA
- Stephenson Court AQMA
- Llandaff AQMA.

19. At present Cardiff Council has one finalised Air Quality Action Plan (AQAP) for Ely Bridge. As stated in the Progress Report there are three Interim Air Quality Action Plans. Therefore I think it would be best to outline this is the point; "To combat the air quality issues in each of these areas Air Quality Action Plans (AQAP's), which includes Finalised and Interim Action Plans, have been created which set out the measures required to address the problem. Details of the AQAP's for Cardiff's four AQMA's can be viewed on pages 98 to 103 of Appendix 1."

Automatic & Non Automatic Monitoring Sites

20. Cardiff has one automatic air quality monitoring site which is located at Frederick Street in the city centre (adjacent to Queen Street). The site constantly measures and reports on air quality at that location and feeds data directly into DEFRA's AURN network. This includes similar stations located in towns and cities across the United Kingdom. This site is run by a third party and provides a live urban background air quality summary for the city centre. The results of this live air quality monitoring can be viewed online at <http://www.welshairquality.co.uk>. Further information on the automatic monitoring sites can be viewed on pages 16 to 18 of **Appendix 1**.

21. There are 73 non automatic monitoring sites across Cardiff which monitor levels of Nitrogen Dioxide (NO₂). These are supported and maintained by the Council. The non automatic sites do not provide live data; instead they consist of diffusion tubes which

are placed at each of the sites (typically on lampposts or properties next to busy areas) then collected and replaced each month. The used tubes are sent to a laboratory for analysis; the analysed data is used to provide an air quality picture for Nitrogen Dioxide for each of the 73 locations across the city. Further information on the non automatic monitoring sites can be viewed on pages 19 to 48 of Appendix 1.

Key Policies Impacting on Air Quality

22. **Appendix 1** discusses a number of key policies which impact on air quality in Cardiff. These fall under three sub headings which are:

- **Air Quality Planning Policies** – this includes Cardiff’s Local Development Plan (2006 – 2026) which was adopted in early 2016 and which acts as the basis for land use planning in Cardiff. The Plan contains two policies which are particularly relevant to air quality, these are KP18 which deals with ‘Natural Resources’ and EN13 which addresses air, noise, light pollution and contaminated land states. These are detailed on page 95 of **Appendix 1**.
- **Local Transport Plans & Strategies** – this includes ‘The Local Transport Plan (LTP) – 2015 to 2020. The LTP focuses on a range of measures common to all parts of Cardiff which will have an impact upon traffic movements, growth and emissions (and hence air quality). Further details can be seen on page 96 of **Appendix 1**.
- **Climate Change Strategies** – the Council published the ‘Carbon Lite Cardiff Action Plan’ in June 2010. This has since been replaced by ‘One Planet Cardiff’ which has its own dedicated website with a vision document and delivery plan.

Planning Applications

23. As a large city Cardiff is continually evolving and new developments are constantly being passed through the planning system. These new developments could potentially have a negative impact on local air quality; therefore, the Council has a duty to include air quality as a part of the planning consultation process. Once a development is approved the Council has an ongoing obligation to monitor the impact of recent developments already underway or in use to ensure that suitable air quality levels are maintained. **Appendix 1** has a section on 'Planning Applications' on pages 91 to 94 of the report. This provides examples of five developments which 'may either be of significance in respect of local air quality or be a proposed development where air quality is a consideration', they are:

- Central Business District / Central Bus Station;
- Windsor House Student Accommodation;
- BBC Broadcasting House, Llantrisant Road, Llandaff;
- Glossop Road;
- The Mill Development at the former Paper Mill Site, Sanatorium Road, Canton.

Report Findings Summary & Future Proposed Actions

24. Since the 2015 Updating and Screening Assessment the Council has continued its monitoring of nitrogen dioxide in specific areas situated within Cardiff. The monitoring has been able to provide results to assist with quantifying the potential impacts of planning applications and significant industrial developments on local air quality.

25. The 2015 nitrogen dioxide monitoring data presented in the report shows a number of sites representative of relevant exposure with exceedences of the $40\mu\text{g}\text{m}^3$ annual mean objective. These sites are predominantly contained within the declared AQMAs. However, there are two monitoring locations (Site IDs- 74 [Station Terrace] & 172 [Ocean Way]) which are not located within AQMAs, but it should be noted that annual

exceedences are not out of character for these sites and are in locations not representative of relevant exposure.

26. Following the completion of this 2016 Progress Report a detailed assessment is scheduled to be compiled to investigate the elevated concentration of NO₂ levels for Kingsway/ Duke Street/ Castle Street link area. This assessment will essentially confirm whether the current City Centre AQMA needs to be extended to include these streets.
27. Monitoring data for 2015 indicates that annual mean concentrations of nitrogen dioxide were not unduly elevated during the year, and that in some locations concentrations may have been lower than expected. A detailed assessment will follow this 2016 Progress Report to determine the potential expansion of the City Centre AQMA to encompass Kingsway/Duke Street/Castle Street link past Cardiff Castle.
28. Following this report, the finalisation of Action Plans for Cardiff City Centre AQMA, Llandaff AQMA and Stephenson Court AQMA is a priority. The Shared Regulatory Service has devised Interim Action Plans for these AQMAs and these actions will be undertaken, in particular the potential to undertake of detailed assessments for Llandaff and Stephenson Court AQMAs following a review of 2016's NO₂ data.
29. After this report is adopted it is anticipated that the Shared Regulatory Service and the Council will undertake the following proposed actions:
 - Continue monitoring within and around the existing AQMAs and other areas of concern;
 - Proceed to a detailed assessment for Kingsway/Duke Street/Castle Street link and based on findings, expand the City Centre AQMA to encompass these areas;
 - Continue to drive Air Quality as a major aspect to be considered during any planning applications, most importantly Cardiff Central Development;

- Continue to work towards the development of Final Action Plans for Cardiff City AQMA, Llandaff AQMA and Stephenson Court AQMA;
- Continue monitoring within the Stephenson Court AQMA to assess the impact, if any, of the road-layout changes completed at the start of 2015. Following review of 2016's data, either proceed to develop a viable Air Quality Action Plan or proceed to a Detailed Assessment with the potential outcome of the AQMA being revoked;
- Continue monitoring within the Llandaff AQMA. Following review of 2016's data, either proceed to develop a viable Air Quality Action Plan or proceed to a Detailed Assessment with the potential outcome of the AQMA being revoked;
- Submit a Progress Report in 2017.

Way Forward

30. Officers from the Shared Regulatory Service have been invited to attend to give a presentation and to answer Members' questions. The meeting will provide the Environmental Scrutiny Committee with the opportunity to scrutinise and comment on 'The City of Cardiff Council – Draft 2016 Air Quality Progress Report' prior to it being considered at Cabinet.

Legal Implications

31. The Scrutiny Committee is empowered to enquire, consider, review and recommend but not to make policy decisions. As the recommendations in this report are to consider and review matters there are no direct legal implications. However, legal implications may arise if and when the matters under review are implemented with or without any modifications. Any report with recommendations for decision that goes to Cabinet/Council will set out any legal implications arising from those recommendations. All decisions taken by or on behalf of the Council must (a) be within the legal powers of the Council; (b) comply with any procedural requirement imposed by law; (c) be within the powers of the body or person exercising powers on behalf of

the Council; (d) be undertaken in accordance with the procedural requirements imposed by the Council e.g. Scrutiny Procedure Rules; (e) be fully and properly informed; (f) be properly motivated; (g) be taken having regard to the Council's fiduciary duty to its taxpayers; and (h) be reasonable and proper in all the circumstances.

Financial Implications

32. The Scrutiny Committee is empowered to enquire, consider, review and recommend but not to make policy decisions. As the recommendations in this report are to consider and review matters there are no direct financial implications at this stage in relation to any of the work programme. However, financial implications may arise if and when the matters under review are implemented with or without any modifications. Any report with recommendations for decision that goes to Cabinet/Council will set out any financial implications arising from those recommendations.

RECOMMENDATIONS

The Committee is recommended to:

- Consider the information in the report and appendices, and provided at the meeting;
- Decide whether they would like to make any comments to the Cabinet;
- Decide the way forward for any future scrutiny of the issues discussed.

DAVID MARR

Interim Monitoring Officer

31 August 2016