



Shared Regulatory Services (SRS)

Environment (Enterprise and Specialist Services)

Air Quality Management Area (AQMA), Windsor Road, Cogan, Penarth

REF: **Detailed Assessment;** Revocation of Windsor Road, Cogan, Penarth Air Quality Management Area (AQMA)

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Background to Local Air Quality Management (LAQM) in Vale of Glamorgan

Shared Regulatory Services (SRS) on behalf of Vale of Glamorgan Council (VoGC) has a statutory duty under Part IV of the Environment Act 1995 & Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 to ensure a programme of Local Air Quality Management (LAQM) is implemented.

Under Section 82 of the Environment Act 1995 every local authority has an obligation to regularly review and assess air quality in their areas, and to determine whether or not air quality objectives are likely to be achieved.

The air quality objectives applicable to LAQM in Wales are set out in the Air Quality (Wales) Regulations 2000, No. 1940 (Wales 138) and Air Quality (Amendment) (Wales) Regulations 2002, No 3182 (Wales 298).

Table 1- National air quality objectives contained in the Air Quality (Wales) Regulations 2000, as amended by the Air Quality (Wales) (Amendment) Regulations 2002.

Pollutant	Air Quality Objective	
	Concentration	Measured as
Benzene	16.25 µg/m ³	running annual mean
	5 µg/m ³	annual mean
1,3-Butadiene	2.25 µg/m ³	running annual mean
Carbon Monoxide	10 mg/m ³	maximum daily running 8-hour mean
Lead	0.25 µg/m ³	annual mean
Nitrogen dioxide	200 µg/m ³ not to be exceeded more than 18 times per year	1-hour mean
	40 µg/m ³	annual mean
Particles (PM ₁₀) (gravimetric)	50 µg/m ³ , not to be exceeded more than 35 times per year	24-hour mean
	40 µg/m ³ (WHO guideline 20 µg/m ³)	annual mean
Sulphur Dioxide	266 µg/m ³ , not to be exceeded more than 35 times per year	15-minute mean
	350 µg/m ³ , not to be exceeded more than 24 times per year	1-hour mean
	125 µg/m ³ , not to be exceeded more than 3 times per year (WHO guideline 20 µg/m ³)	24-hour mean

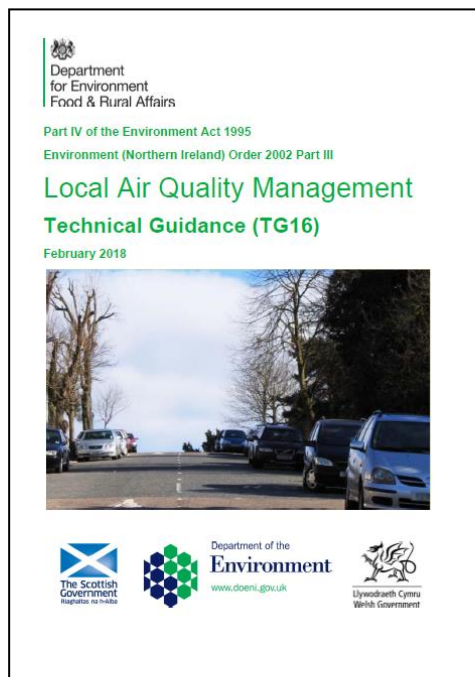
Where the air quality reviews indicate that the air quality objectives are not being achieved, or are not likely to be achieved, Section 83 of the 1995 Act requires local authorities to designate an Air Quality Management Area ('AQMA'). Section 84 of the Act ensures that action must then be taken at a local

level which is outlined in a specific Air Quality Action Plan (AQAP) to ensure that air quality in the identified area improves.

The Department for Food, Environment and Rural Affairs (Defra) has produced a guidance document which provides a framework to all local authorities undertaking local air quality management “**Local Air Quality Management Technical Guidance (TG 16).**” The guidance lists UK pollutants and their associated air quality objectives, as well as where these air quality objectives should apply.

In line with this guidance, SRS on behalf of VoGC currently undertakes regular monitoring at specifically allocated locations across the Vale using automated and non-automated principles for ambient air Nitrogen Dioxide (NO₂) and Particulate Matter (PM₁₀).

With regards to prioritising ambient air quality sampling locations, the Council adopts a risk based approach to any allocation of monitoring sites, considering the requirements of Local Air Quality Management Technical Guidance 16, February 2018. The designated monitoring locations have been assigned based on relevant exposure and where the certain Air Quality Objective levels for a particular pollutant applies. The document states that annual mean objectives should apply at “All locations where members of the public might be regularly exposed. Building facades of residential properties, schools, hospitals, car homes etc.”



Box 1.1 – Examples of Where the Air Quality Objectives Should Apply

Averaging Period	Objectives should apply at:	Objectives should generally not apply at:
Annual mean	All locations where members of the public might be regularly exposed. Building façades of residential properties, schools, hospitals, care homes etc.	Building façades of offices or other places of work where members of the public do not have regular access. Hotels, unless people live there as their permanent residence. Gardens of residential properties. Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.
24-hour mean and 8-hour mean	All locations where the annual mean objective would apply, together with hotels. Gardens of residential properties ¹⁰ .	Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.
1-hour mean	All locations where the annual mean and 24 and 8-hour mean objectives apply. Kerbside sites (for example, pavements of busy shopping streets). Those parts of car parks, bus stations and railway stations etc. which are not fully enclosed, where members of the public might reasonably be expected to spend one hour or more. Any outdoor locations where members of the public might reasonably be expected to spend one hour or longer.	Kerbside sites where the public would not be expected to have regular access.
15-min mean	All locations where members of the public might reasonably be exposed for a period of 15 minutes or longer.	

Declaration of an Air Quality Management Area (AQMA)

Welsh Government's (WG) Policy Guidance¹ states;

4.8 A Local Authority must by order designate as an AQMA any part of its area in which it appears one or more of the national air quality objectives is not being achieved, or is not likely to be achieved.

4.11 Local Authorities should declare or extend an AQMA as soon as possible after recognising the need for it to be declared or extended. A copy of the new or amended AQMA order should be submitted to the Welsh Government and Defra, together with a GIS shape file of the AQMA boundary. The order must also be made public and drawn to the attention of people living and working within the AQMA boundary.

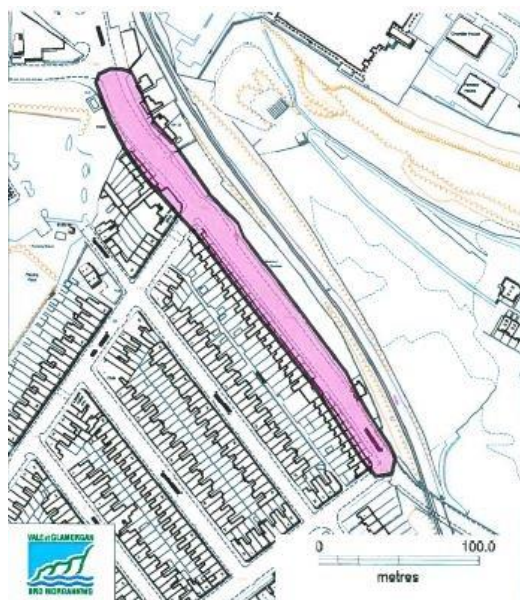
Based on elevated and exceeding annual average levels of NO₂, in accordance with WG's Policy Guidance and Section 83 of the Environment Act 1995, SRS/ VoGC were required to legally declare an Air Quality Management Area (AQMA) for Windsor Road, Cogan, Penarth, and in doing so raise an AQMA order that defines the detail and locality of the AQMA.

Windsor Road, Cogan, Penarth Air Quality Management Area (AQMA)

Based on monitoring results and further detailed assessments, there is currently one Air Quality Management Area (AQMA) declared in The Vale of Glamorgan, declared due to exceedances of the annual mean nitrogen dioxide (NO₂) Air Quality Standard (**40ug/m³**), known to be road transport derived NO₂.

The boundary of the Windsor Road, Cogan, Penarth AQMA incorporates those properties numbered 100 to 172 evens and 15-163 odds of Windsor Road, Cogan, Penarth.

Figure 1- Windsor Road, Cogan, Penarth AQMA (declared 1st August 2013)



¹ <https://gov.wales/docs/desh/publications/170614-policy-guidance-en.pdf>

Decision to Revoke the Windsor Road, Cogan, Penarth AQMA

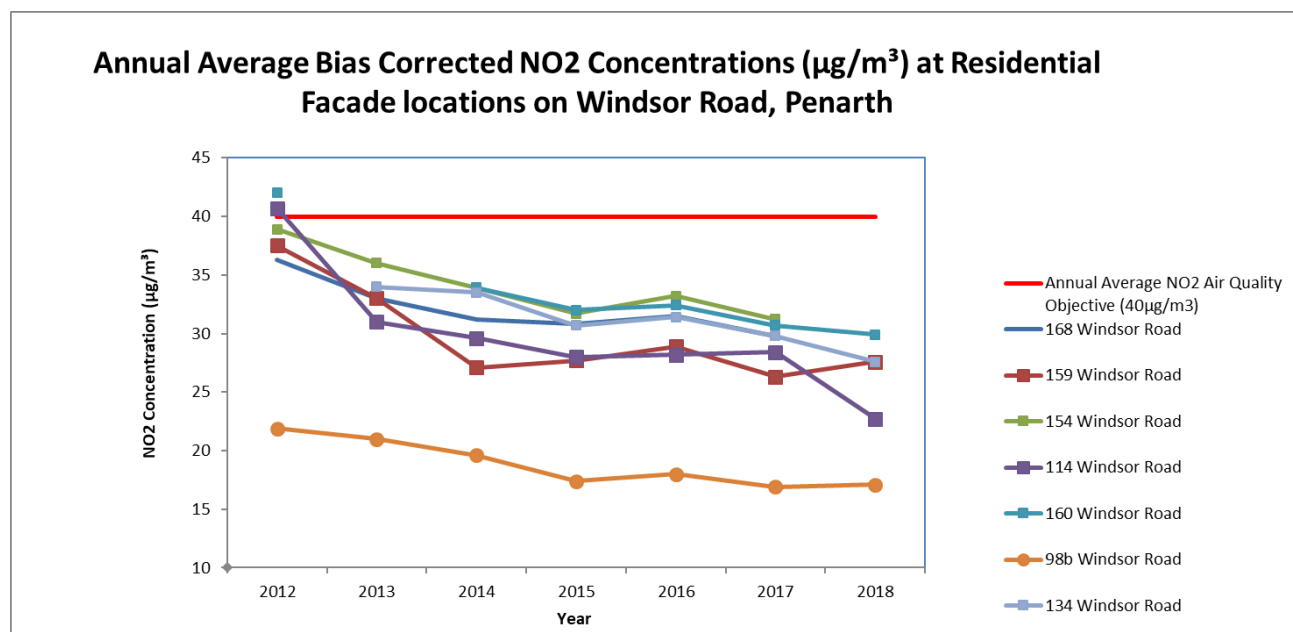
Welsh Government's (WG) Local Policy Guidance, "Local Air Quality Management in Wales" June 2017 states;

4.14 *Local Authorities wishing to revoke or reduce an AQMA should only do so with the approval of the Welsh Government following a review and consultation with the local communities affected. The review should clearly demonstrate national air quality objectives are being met and will continue to be met. In other words, the Local Authority should have confidence the observed improvements will be sustained. Typically this requires three years or more of full compliance, but once the revocation or reduction has been agreed by the Welsh Government, it should occur without delay. Following a revocation, the Local Authority should ideally put in place a local or regional air quality strategy to ensure air quality remains a high-profile issue and conditions are prevented from deteriorating in future.*

Since 2014 NO₂ concentrations, specifically along Windsor Road have stabilised below the Air Quality Standard (AQS) limit values (annual average 40µg/m³ & 1-hour average 200µg/m³ not be exceeded more than 18 times per year. Due to continued compliance, in accordance with Local Air Quality Management in Wales, Policy Guidance, June 2017, the Vale of Glamorgan Council (VoGC) wish to revoke the Windsor Road, Penarth AQMA.

Figure 2 illustrates the annual average NO₂ datasets recorded at residential facades within the Windsor Road AQMA. The graph indicates compliance with the annual average objective at every monitored location since 2013.

Figure 2. Annual average levels of NO₂ examined at residential façades on Windsor Road, Penarth



In order to proceed with the formal revocation of the Windsor Road, Cogan, Penarth AQMA, in line with the requirements of WG, a detailed report has been produced to finalise the decision to revoke the AQMA.

Detailed Assessment and Conclusions

External professional air quality consultants were commissioned by the VoGC to complete a detailed air quality modelling study to inform the decision as to whether the revocation of the Windsor Road, Cogan, Penarth AQMA is required.

The assessment undertaken utilised best practise techniques and guidance to ensure a conservative outcome. In accordance with the Welsh Air Quality Standards, concentrations of NO₂ and PM₁₀ were examined at 28 sensitive receptor locations geographical placed within and in close proximity to the established AQMA boundary. The report takes into consideration previous reporting levels as well as uses air quality dispersion modelling software (ADMS-Roads, Version 4.1.1) and latest emission factors (Version 9.0) to look at current pollutant concentrations and projected concentrations. Three modelling year scenarios were chosen for this study (2018, 2023 and 2028).

The predicted concentrations of NO₂ and PM₁₀ at all modelled receptors within the Windsor Road, Cogan, Penarth AQMA are well below both the annual mean and short term AQS objectives for all modelled year scenarios.

As continued compliance with the air quality standards is likely it is recommended to revoke the Windsor Road, Cogan, Penarth AQMA.

Next steps

- The VoGC/ SRS will initiate the decision to revoke the Windsor Road, Cogan, Penarth AQMA;
- The detailed assessment and decision notice to revoke the AQMA will be made publically available for a 6 week consultation. All information supporting the public consultation will be advertised via SRS'/ VoGC's webpages. Persons will be able to respond to the public consultation to a dedicated email address which will be managed by SRS' Specialist Services Team;
- The VoGC cabinet members will be briefed following the consultation period and pending approval of the recommendation to revoke the Windsor Road, Cogan, Penarth AQMA, the decision notice to revoke the AQMA will be formally submitted to WG;
- Non- automated monitoring with the use of diffusion tubes will continue along Windsor Road, Penarth, however the Windsor Road automated monitoring site will be decommissioned and replaced at an alternative location.

Preliminary Timeline

