West Lothian Council

2012 Air Quality Updating and Screening Assessment for *West Lothian Council*

Non Technical Summary

Local Air Quality Management (LAQM) in West Lothian

Air Quality Objectives

The air quality objectives applicable to LAQM in Scotland are set out in the Air Quality (Scotland) Regulations 2000 and the Air Quality (Scotland) (Amendment) Regulations 2002, and are shown in Table 1, Appendix A. This table shows the objectives for a number of pollutants in units of micrograms per cubic metre ($\mu g/m^3$) (or milligrammes per cubic metre (mg/m^3) for Carbon Monoxide) with the number of exceedences in each year that are permitted (where applicable).

All local authorities are required to regularly review and assess air quality in their areas against objectives for a number of air pollutants of particular concern for human health.

The regulations require the local authority to undertake a Progress Report every year, except every 3rd year when an Updating and Screening Assessment (USA) is needed. The USA, which has recently been completed, reviews air quality to the end of 2011.

Where exceedences of any air quality objectives are considered likely, 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.

Monitoring in Broxburn during 2010 resulted in an AQMA being declared on 29th March 2011 for exceedences of annual average objectives for fine particulates (PM_{10}) and Nitrogen dioxide (NO_2). Further information on the AQMA including the geographical boundary can be viewed at www.westlothian.gov.uk/law-licensing/1101/airquality2/broxburnaqma.

Air Quality Monitoring

During the reporting period, there were three automatic monitoring sites in West Lothian:

- East Main Street Broxburn;
- High Street Linlithgow; and
- Whitburn Cross.

These sites are included in the Scottish Government's Scottish Air Quality database for Scotland and the Scottish Air Quality Website. Data and information on the monitoring sites can be viewed at www.scottishairquality.co.uk

All three sites are roadside locations, which monitor PM_{10} and NO_2 which are the main pollutants associated with road traffic.

West Lothian Council has continued monitoring NO_2 with passive diffusion tubes. The diffusion tube survey comprises a total of 14 sites around the district and includes both roadside and urban background locations.

Sources of Air Pollution

The main source of air pollution is associated with road traffic. Both the pollutants PM_{10} and Nitrogen dioxide are by-products of the petrol and diesel engines. Proportionally, heavy-duty vehicles (buses and Heavy Goods Vehicles (HGVs)) contribute greater emissions of PM_{10} and NO_2 than cars. All three roadside monitoring stations are therefore directly measuring road traffic pollution.

Comparison with Air Quality Objectives

A comparison with the Air Quality Objective values is shown graphically in the attached Appendix B. The graphs show the PM_{10} and NO_2 data results from the automatic monitoring stations.

The NO_2 diffusion tube screening survey has not indicated any potential exceedence of the air quality objectives other than in the Broxburn AQMA.

Main findings of the Updating and Screening Assessment

The Updating and Screening Assessment process has highlighted that monitoring data from the station located at East Main Street Broxburn, within the declared AQMA, continues to exceed the 2012 annual Air Quality Objective for PM_{10} and NO_2. The AQMA process will therefore proceed as planned. There are no other exceedences of any of the Air Quality Objectives for the pollutants monitored.

Although monitoring at Linlithgow indicates that the annual PM_{10} level is below objective levels, the current site has been identified as not being in the worst case position in Linlithgow for air quality. SEPA and the Scottish Government have recommended this monitor be moved within Linlithgow to a site more representative of air pollution levels found in the High Street.

Conclusion

No new sources were identified for which there was a need to proceed to a Detailed Assessment.

Monitoring will continue for both PM_{10} and NO_2 concentrations within the Broxburn AQMA with a Further Assessment will be carried out to apportion emission sources to inform the Air Quality Action Plan.

Contact Details

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Appendix A

Table 1 Air Quality Objectives included in Regulations for the purpose of Local Air Quality Management in Scotland.

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Carbon monoxide	10.0 mg/m^3	Running 8-hour mean	31.12.2003
Nitrogen dioxide	200 μg/m^3 not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 μg/m^3	Annual mean	31.12.2005
Particles (PM_{10}) (gravimetric)	50 μg/m^3, not to be exceeded more than 7 times a year	24-hour mean	31.12.2010
	18 μg/m^3	Annual mean	31.12.2010
Sulphur dioxide	350 μg/m^3, not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 μg/m^3, not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 μg/m^3, not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

Appendix B

Figure 1 Trends in Annual Mean Nitrogen dioxide Concentration Measured at Automatic Monitoring Sites.

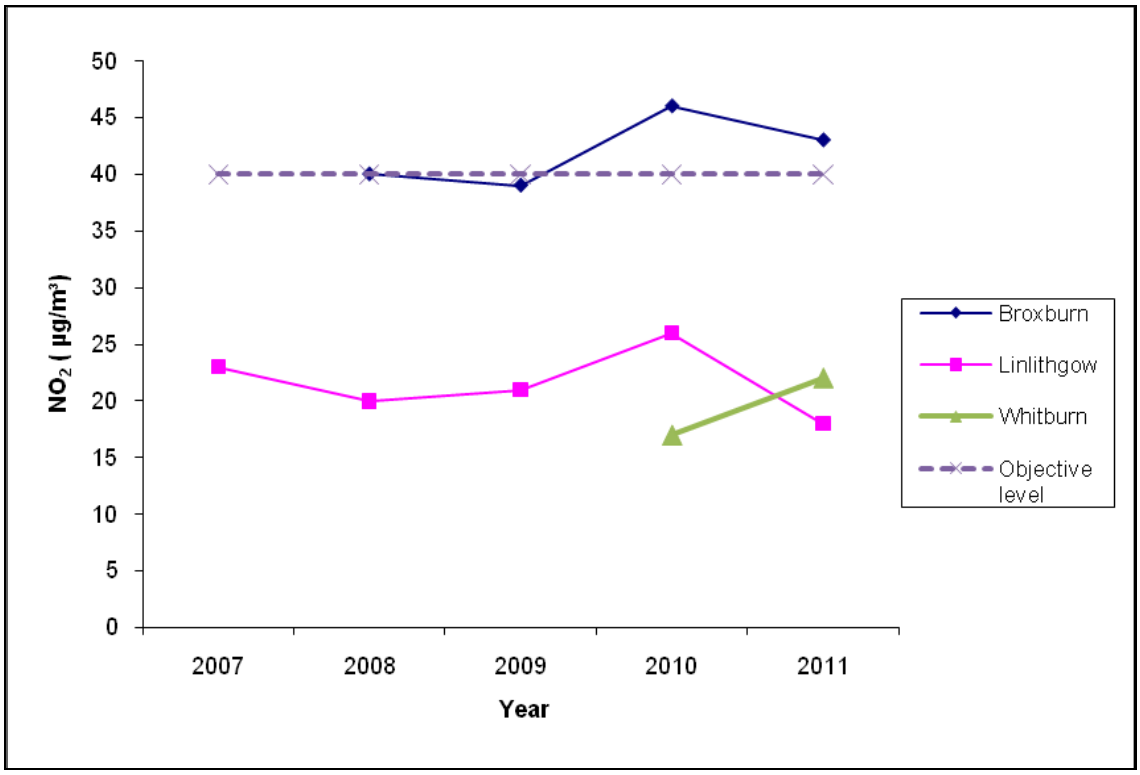

Figure 2 Trends in Annual Mean PM_{10} measured at automatic monitoring sites