



West Lothian  
Council

## 2015 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 microgrammes per cubic metre ( $\mu\text{g}/\text{m}^3$ ) (or milligrammes per cubic metre ( $\text{mg}/\text{m}^3$ ) 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 3<sup>rd</sup> year when an Updating and Screening Assessment (USA) is needed. The USA, which has recently been completed, reviews air quality to the end of 2014.

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 29<sup>th</sup> March 2011 for exceedences of annual average objectives for fine particulates ( $\text{PM}_{10}$ ) and Nitrogen dioxide ( $\text{NO}_2$ ). Further information on the AQMA including the geographical boundary can be viewed at <http://www.scottishairquality.co.uk/>

### Air Quality Monitoring

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

- East Main Street Broxburn;
- High Street Linlithgow; and
- Newton Main Street.

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](http://www.scottishairquality.co.uk)

All three sites are roadside locations, which monitor  $\text{PM}_{10}$  and  $\text{NO}_2$  which are the main pollutants associated with road traffic.

West Lothian Council has continued monitoring  $\text{NO}_2$  with passive diffusion tubes. The diffusion tube survey comprises a total of 20 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  $\text{PM}_{10}$  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  $\text{PM}_{10}$  and  $\text{NO}_2$  than cars. All three roadside monitoring stations are therefore directly measuring road traffic pollution.

## **Trends in Air Quality**

A comparison of trends in air quality is shown graphically in the attached [Appendix B](#). The green lines indicate the air quality objective for each pollutant. The graphs show the PM<sub>10</sub> and NO<sub>2</sub> data results from the automatic monitoring stations.

The NO<sub>2</sub> diffusion tube screening survey has not indicated any potential exceedences. NO<sub>2</sub> diffusion tubes within the Broxburn AQMA were below the annual mean objective level after bias adjustment.

## **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, does not exceed the 2014 annual Air Quality Objective for NO<sub>2</sub> or PM<sub>10</sub>. However, the AQMA will remain due to the planned extensive residential development which is part of the Core Development Area (CDA) in Broxburn and Newton.

Monitoring data from the station located at Newton Main Street has indicated that measured levels of PM<sub>10</sub> concentration have exceeded the Air Quality Objective. In contrast, the measured levels of NO<sub>2</sub> concentration did not exceed the 2015 Air Quality Objective at the station or diffusion tube monitoring sites in Newton.

Monitoring data from the station located at High Street, Linlithgow indicated that measured levels of PM<sub>10</sub> concentration once distance corrected remained at the Air Quality Objective level. In similar circumstances to Broxburn and Newton the measured levels of NO<sub>2</sub> concentration in Linlithgow did not exceed the 2014 Air Quality Objective at the station or diffusion tube monitoring sites.

## **Conclusion**

The Air Quality Objectives for PM<sub>10</sub> and NO<sub>2</sub> have not been exceeded at Broxburn, however, the AQMA and monitoring will remain due to two large CDAs proposed. An Air Quality Action Plan is being drafted for Broxburn which will look at ways to reduce air pollutants.

The Air Quality Objective for PM<sub>10</sub> has been exceeded in Newton and remained at the air quality objective level in Linlithgow. Detailed Assessments are currently being carried out for both areas which will include detailed dispersion modelling.

## **Contact Details**

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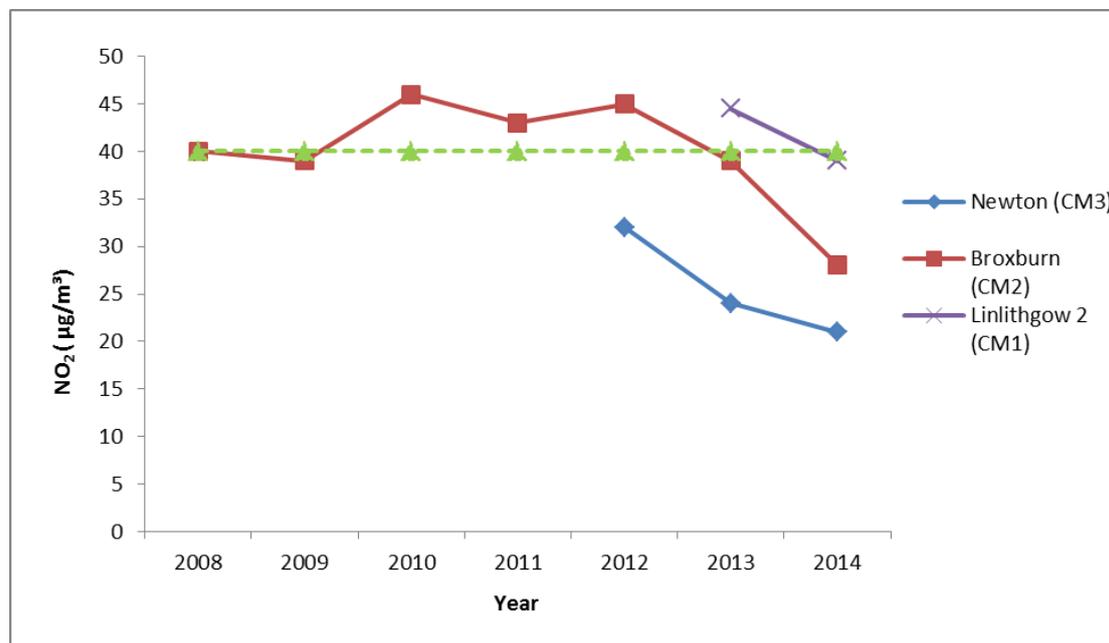
## Appendix A

**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	
<b>Carbon monoxide</b>	10.0 mg/m <sup>3</sup>	Running 8-hour mean	31.12.2003
<b>Nitrogen dioxide</b>	200 µg/m <sup>3</sup> not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
	40 µg/m <sup>3</sup>	Annual mean	31.12.2005
<b>Particles (PM<sub>10</sub>) (gravimetric)</b>	50 µg/m <sup>3</sup> , not to be exceeded more than 7 times a year	24-hour mean	31.12.2010
	18 µg/m <sup>3</sup>	Annual mean	31.12.2010
<b>Sulphur dioxide</b>	350 µg/m <sup>3</sup> , not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
	125 µg/m <sup>3</sup> , not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
	266 µg/m <sup>3</sup> , not to be exceeded more than 35 times a year	15-minute mean	31.12.2005

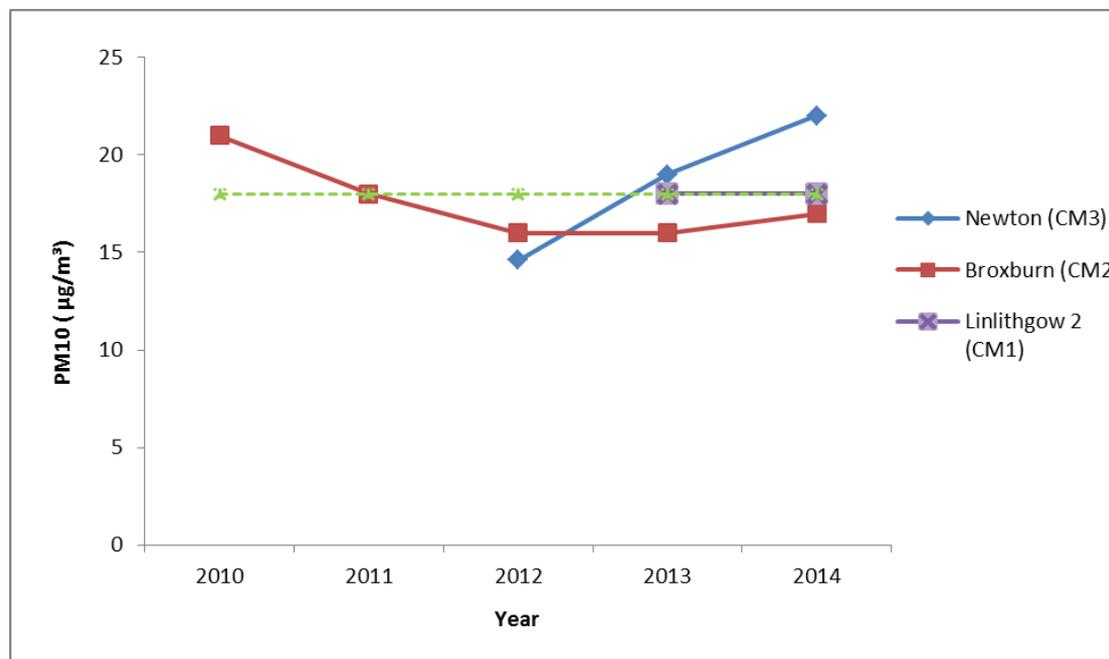
## Appendix B

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



\*The green lines indicates the NO<sub>2</sub> air quality objective

**Figure 2 Trends in Annual Mean PM<sub>10</sub> measured at automatic monitoring sites**



\*The green line indicates the PM<sub>10</sub> air quality objective