2011 Air Quality Progress Report

Limavady Borough Council

In fulfillment of the Environment (Northern Ireland) Order 2002 - Local Air Quality Management

Date May 2011

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Report Reference number	R&A May 11
Date	May 11

Executive Summary

The Environment (Northern Ireland) Order 2002 places a statutory duty on local authorities to review and assess the air quality within their area and take account of Government Guidance when undertaking such work. This Progress Report is a requirement of the Review and Assessment and is a requirement for all local authorities. The Report has been undertaken in accordance with the Technical Guidance LAQM.TG (09) and associated tools (as updated in 2010).

This Progress Report considers all new monitoring data and assesses the data against the Air Quality Objectives. It also considers any development changes that may have an impact on air quality as well as updating on any relevant strategy and policy changes.

Having considered the latest monitoring data and development updates, it is concluded that the air quality objectives for benzene, 1,3-butadiene, carbon monoxide, lead, PM10 and sulphur dioxide will be met. There is no requirement to undertake a detailed assessment for these pollutants.

Monitoring of air quality within Limavady Borough Council in recent years has focussed on air quality issues within the declared AQMA and in three 'narrow congested streets', namely Linenhall Street and Irish Green Street in Limavady and Main Street Ballykelly. A continuous monitor has been installed within the AQMA and NO2 passive diffusion tubes are also located within its boundary. Air quality monitoring within the three 'narrow congested streets' was undertaken in light of recent amendments to Technical Guidance TG(09). Triplicate diffusion tubes are used to gauge annual mean concentrations of NO2.

From the data collected by the continuous monitor levels of NO2 remain high. This is reinforced by the passive diffusion tube results. The figures obtained whilst not annualised indicate that levels remain above or just slightly below the air quality objective levels. With regard to the narrow congested streets identified as requiring further assessment the assessment of air quality has not been completed and will continue for several more months.

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1 Introduction

1.1 Description of Local Authority Area

The Borough of Limavady is situated in the north-west of the Province. The map below shows it location in relation to the rest of the Province. It covers an area of approximately 239 square miles and has a resident population of almost 33,000 people. The main centre of population within the Borough is Limavady town itself. Its population is in the region of 13,000 and is mainly residential in character with a small commercial base. Limavady was previously a market town but in recent years has developed into a commuter base for residents working in the neighbouring towns of Coleraine and Londonderry. Outside Limavady town are the smaller communities of Dungiven, Ballykelly, Greysteel, Bellarena and Drumsurn. These smaller areas predominately rely on agriculture as a source of revenue. Limavady Borough Council is bordered to the west by Derry City Council, one of the largest authorities in Northern Ireland, Coleraine Borough Council to the east and Magherafelt District Council to the south.

1.2 Purpose of Progress Report

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 Local Air Quality Management process.

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 exceedence of an Air Quality Objective, the Local Authority (LA) should undertake a Detailed Assessment immediately, and not wait until the next round of Review and Assessment.

1.3 Air Quality Objectives

The air quality objectives applicable to LAQM in Northern Ireland are set out in the Air Quality Regulations (Northern Ireland) 2003, Statutory Rules of Northern Ireland 2003, no. 342, and are shown in Table 1.1. This table shows the objectives in units of microgrammes per cubic metre μg/m^3 (milligrammes per cubic metre, mg/m^3 for carbon monoxide) with the number of exceedences in each year that are permitted (where applicable).

Table 1.1 Air Quality Objectives included in Regulations for the purpose of Local Air Quality Management in Northern Ireland.

Pollutant	Concentration	Measured as	Date to be achieved by
Benzene	16.25 μg/m^3	Running annual mean	31.12.2003
	3.25 μg/m^3	Running annual mean	31.12.2010
1,3-Butadiene	2.25 μg/m^3	Running annual mean	31.12.2003
Carbon monoxide	10.0 mg/m^3	Maximum daily running 8-hour mean	31.12.2003
Lead	0.5 μg/m^3	Annual mean	31.12.2004
	0.25 μg/m^3	Annual mean	31.12.2008
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 35 times a year	24-hour mean	31.12.2004
	40 μg/m^3	Annual mean	31.12.2004
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

1.4 Summary of Previous Review and Assessments

Stage 1 Review and Assessment

In 1998 Limavady Borough Council completed stage 1 of its Review and Assessment. This desktop exercise evaluated the position with regard to air quality within the Borough and established if there were any areas where pollutant levels required further investigation. In line with the technical guidance at that time it was determined that further investigation of nitrogen dioxide, sulphur dioxide and particulate matter was required.

Stage 2 Review and Assessment

Modelling

Nitrogen dioxide (NO_2)
Traffic emissions were identified as a source of nitrogen dioxide within the Borough. Several roadways were seen as possible areas where the national air quality objectives for nitrogen dioxide could be exceeded. Council employed consultants to carry out DMRB modelling to determine if exceedences of the national air quality objectives existed. The modelling indicated that no exceedences were likely in the vicinity of several of these roads where relevant exposure was of concern.

Sulphur dioxide (SO_2) and Particulate matter (PM_{10})
The desktop exercise indicated that there was the possibility of sulphur dioxide and particulate matter objectives being exceeded in several housing developments where solid/smokeless fuel was being burnt. Council commissioned a fuel use survey within three residential areas within Limavady town and Dungiven. The information gleaned from this survey was then used to model emissions and determine if the areas concerned were experiencing problems with pollution. The modelling determined that none of the areas surveyed was affected by elevated levels of sulphur dioxide or particulate matter. This modelling was carried out in accordance with the technical guidance available at that time. The guidance required assessment of pollutant levels within a 1km x 1km area. It was felt that if less than 100 dwellings within this area were burning solid/smokeless fuel then there was unlikely to be exceedences of the national air quality objectives. This guidance was then changed and Councils were again required to reassess the situation. The revised guidance required Councils to look at 500m x500m square areas and determine if there were more than 50 properties within the square using solid/smokeless fuel as a source of fuel. On reassessing the situation it was determined that pollutant levels within Dungiven and one of the areas within Limavady were satisfactory and were below the thresholds for both pollutants. There was a suggestion however that PM_{10} levels within the remaining area in Limavady were high and that further investigation was required.

Monitoring

Nitrogen Dioxide
As no monitoring of nitrogen dioxide had been undertaken within the Borough passive diffusion tubes were erected at various locations within the Borough. They were located along several of the main arteriole routes within the Borough where housing/relevant exposure was in close

proximity to the kerbside. Areas monitored included Greysteel, Ballykelly, Limavady & Dungiven. The monitoring indicated two areas of concern:

Linenhall Street, Limavady

At the time all traffic using the A2 (Londonderry to Limavady) to access the A37(Limavady to Coleraine) road came through Linenhall Street. In addition local traffic used this road to access other parts of the town centre. At the time traffic volumes would have been in the region of 13000 vehicles per day. Housing in this street is within 1 metre of the kerbside. Relevant exposure was probable.

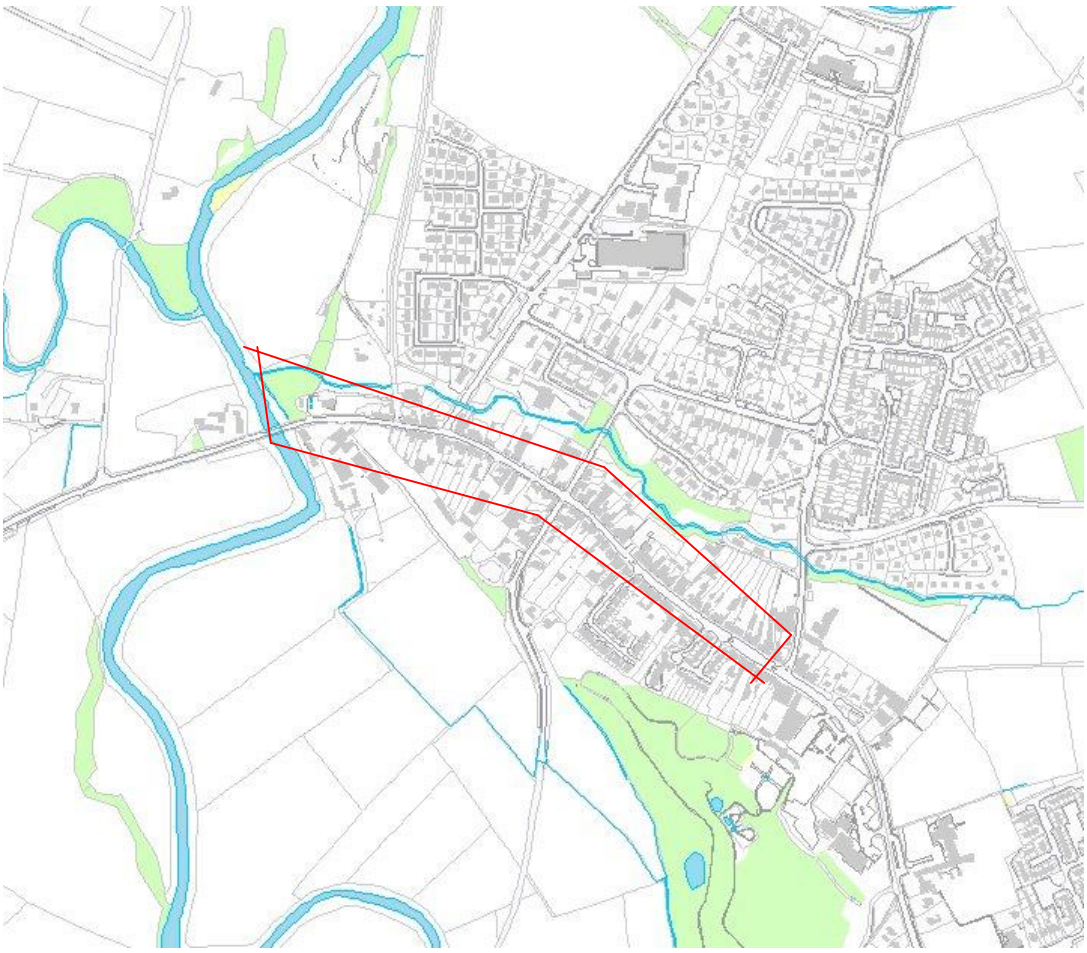
Main Street, Dungiven

Passive monitoring indicated levels in excess of the annual mean concentration of 40ugm^{-3}. The volume of traffic along this road which forms part of the main A6 road from Londonderry to Belfast was estimated at 13500 vehicles per day and housing again was, in places, within 1m of the kerbside.

The problem in Linenhall Street, Limavady was dramatically improved by the construction of the Limavady bypass which opened in June 2004. Traffic volumes have reduced significantly and now it is mostly local traffic as opposed to through-traffic which accesses this street.

The elevated levels in Main Street Dungiven led to it being declared an Air Quality Management Area (AQMA) in 2006. The AQMA, shown below, initially covered the area from the Roe Bridge to 89/102 Main Street Dungiven. This has since been extended to include the area from the Roe Bridge to the Main Street/ Garvagh Road junction.

Figure 1.1 Map of AQMA Dungiven



Previous reports have been submitted by Council in recent years. These reports can be viewed on www.airqualityni.co.uk

2 New Monitoring Data

2.1 Summary of Monitoring Undertaken

2.1.1 Automatic Monitoring Sites

The NO2 monitor is located within the AQMA in Dungiven's Main Street. Its location is denoted by the red diamond on figure 2.1. Manual calibrations are carried out on a once monthly basis though an auto-calibration occurs daily. Site audits have been carried out over the past year by Envirotechnology plc although this service is now being undertaken by Supporting U. Data management and QA/QC is carried out by AEA Technology who validate and ratify all data. Monitoring data is available from November 2010.

Figure 2.1 Map(s) of Automatic Monitoring Sites (if applicable)

Main Street Dungiven

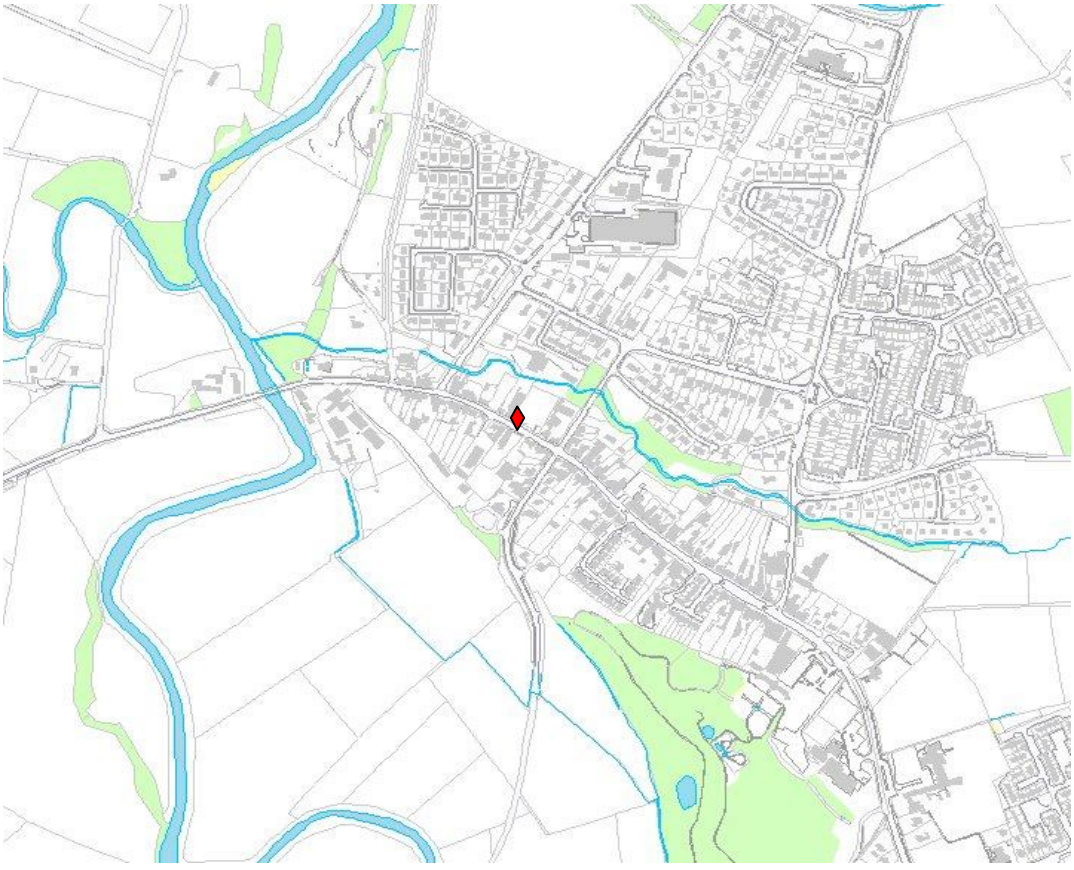


Table 2.1 Details of Automatic Monitoring Sites

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	Monitoring Technique	In AQMA?	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Does this location represent worst-case exposure?
Dungiven AQMA	**Urban**	**6888**	**0949**	**NO2**	**Chemi - luminescense**	**Y**	**Y**	**1m**	**Y**

2.1.2 Non-Automatic Monitoring Sites

Triplicate passive diffusion tubes have been located at several locations within the existing AQMA. A background site has also been selected beyond the AQMA boundary. The tubes are analysed by Gradko International, the preparation method is 20% TEA in water and are supplied by Enirotechnology plc. The diffusion tubes have been tested within the scope of the suppliers Lab Quality Procedures. The laboratory analysing the tubes is accredited. Gradko International participates in the WASP scheme and appears on the DEFRA QA/QC framework document (100%).

With regard to the three narrow congested streets identified as requiring further assessment triplicate passive diffusion tubes have been located within each street. Figure 2.2(b) indicates the two locations within Limavady and Figure 2.2(c) indicates the monitoring location within Ballykelly

Figure 2.2 indicates the relative positions of these monitoring sites within the AQMA. The green arrow denotes the site of the background monitoring location.

Figure 2.2 Map(s) of Non-Automatic Monitoring Sites (if applicable)

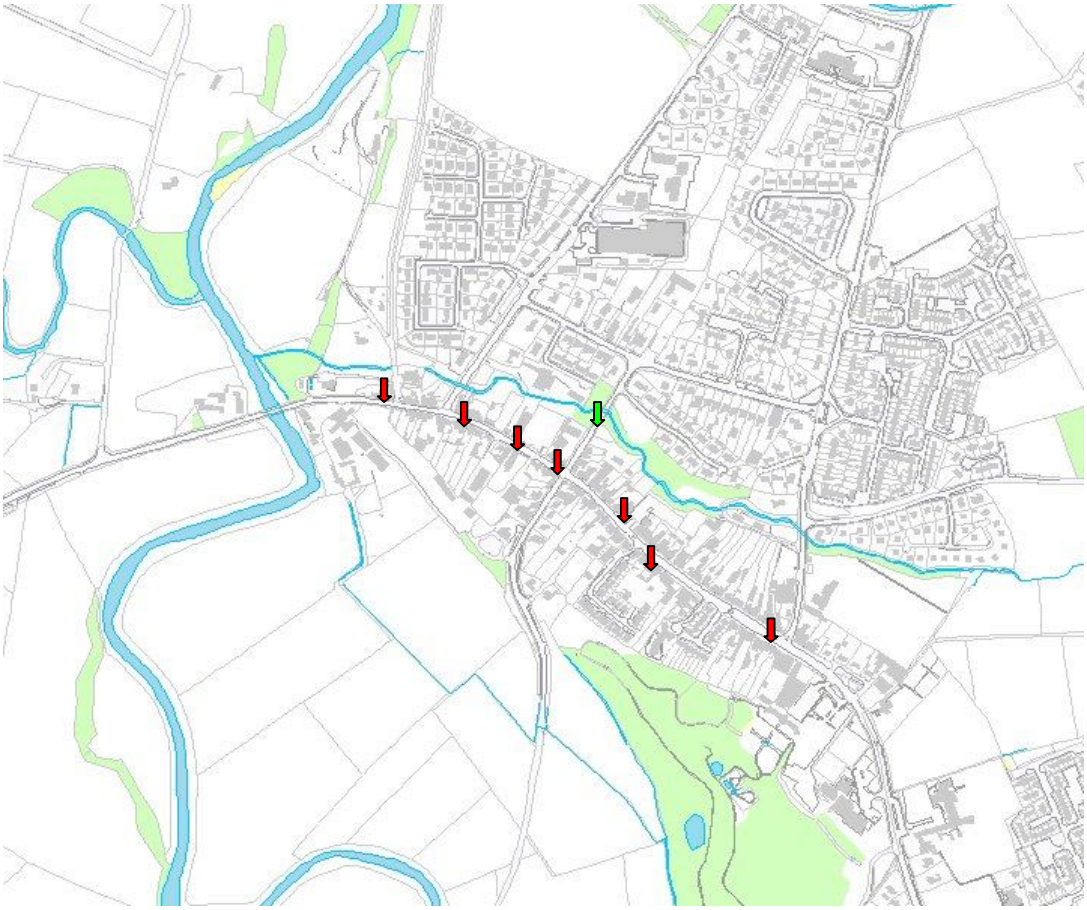
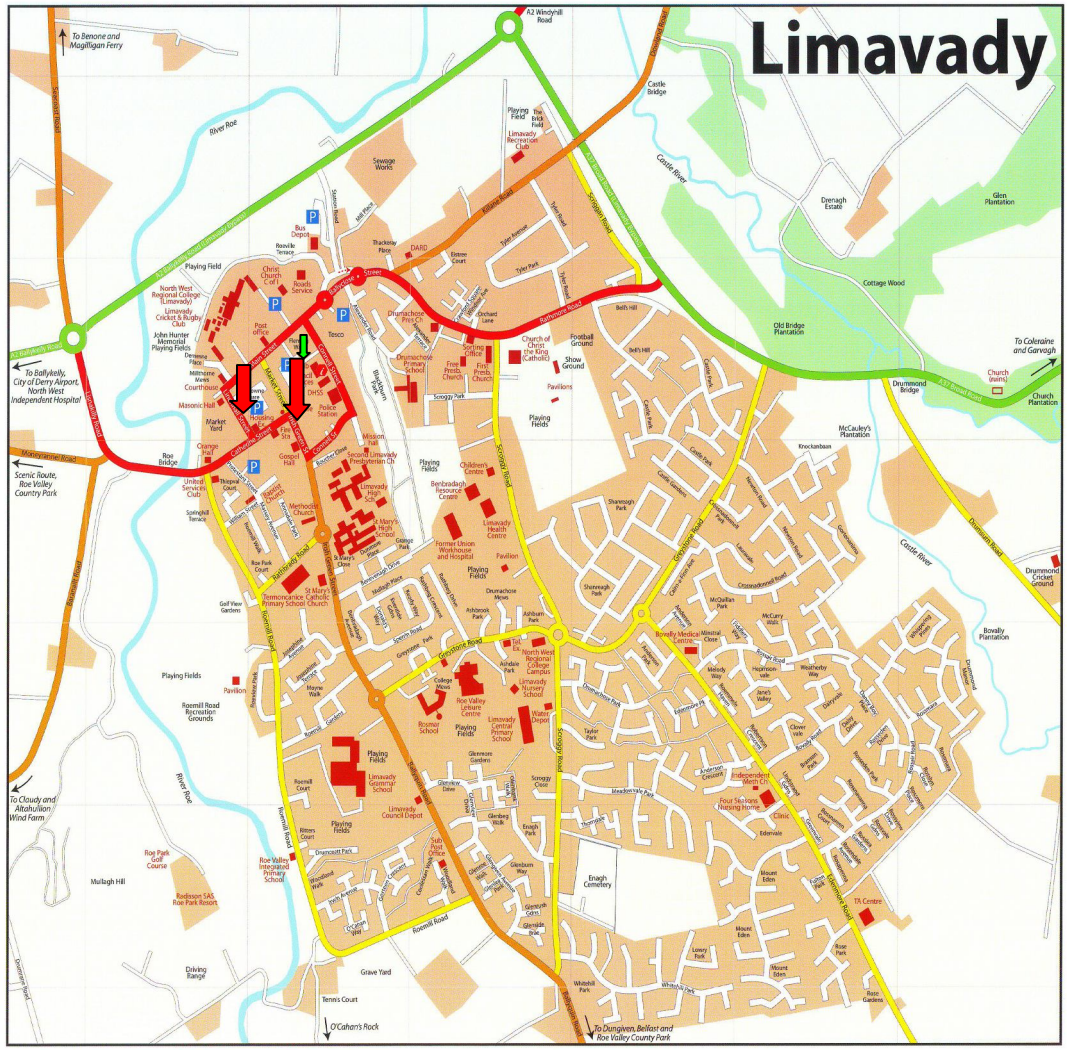


Figure 2.2(b) Monitoring sites within Limavady



Map of monitoring site Main Street Ballykelly

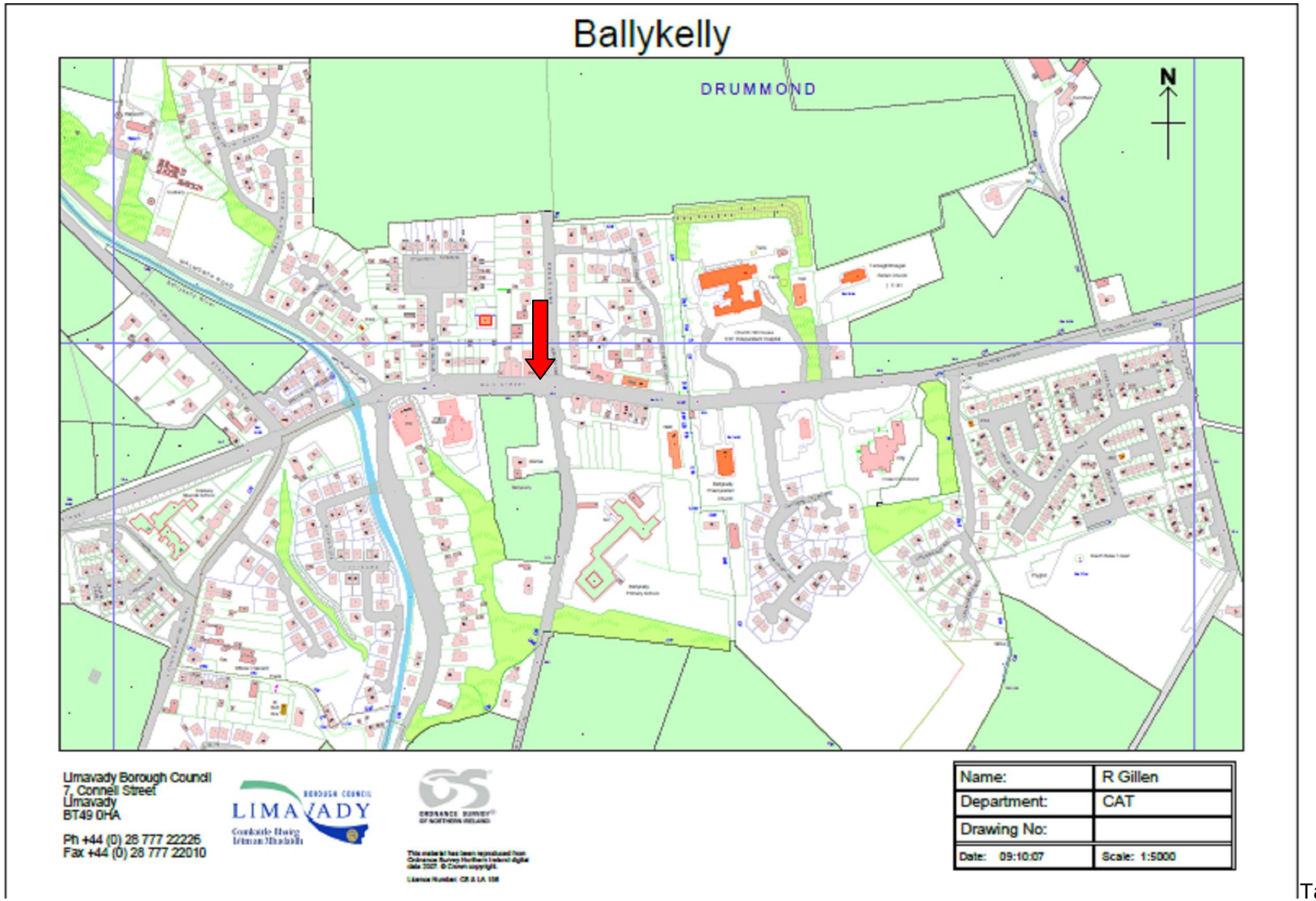


Table 2.2 Details of

Non- Automatic Monitoring Sites

Site Name	Site Type	OS Grid Ref		Pollutants Monitored	In AQMA ?	Relevant Exposure? (Y/N with distance (m) to relevant exposure)	Distance to kerb of nearest road (N/A if not applicable)	Worst-case Location?
A	Urban	268650	409566	NO_2	Y	Y (1m)	1m	Y
B	urban	268860	409501	NO_2	Y	Y (1m)	1m	Y
C	Urban	268717	409555	NO_2	Y	Y (1m)	1m	Y
D	Urban	268854	409485	NO_2	Y	Y (1m)	1m	Y
E	Urban	268992	409372	NO_2	Y	Y (1m)	1m	Y
F	Urban	269198	409213	NO_2	Y	Y (1m)	1m	Y
G	Urban	269064	409327	NO_2	Y	Y (1m)	1m	Y
H	Urban	262859	422379	NO_2	N	Y (1m)	2m	Y
I	Urban	266971	423117	NO_2	N	Y (1m)	1m	Y
J	Urban	267161	423030	NO_2	N	Y (1m)	2m	Y
K	Urban bkgd	267185	423157	NO_2	N	Y (1m)	10m	N
L	Urban bkgd	268944	409522	NO_2	N	Y (1m)	1m	N

2.2 Comparison of Monitoring Results with Air Quality Objectives

2.21 Nitrogen Dioxide

Monitoring data from the automated site within Dungiven's AQMA commenced in November 2010. Data supplied by AEA Technology indicates that for November and December of 2010 the annual mean concentration of NO2 was 59ugm-3 (not annualised). Data supplied for the period January to October 2011 indicates that the annual mean concentration is 42ugm-3. A full calendar year's figures will be available in January 2012.

Automatic Monitoring Data

The data provided by AEA Technology for the periods November –December 2010 is shown below.

LIMAVADY DUNGIVEN
15 November to 31 December 2010

These data have been fully ratified by AEA

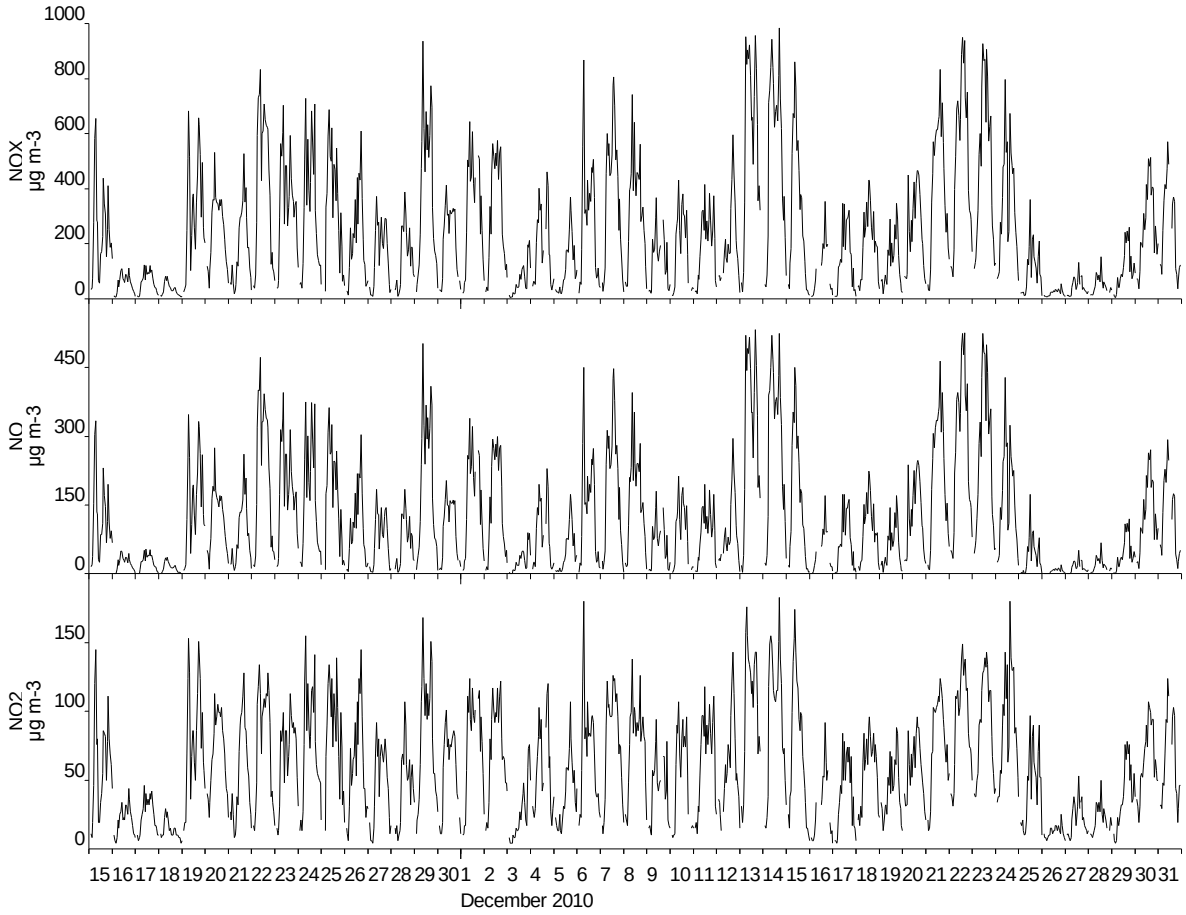
POLLUTANT	NO_X	NO	NO_2
Number Very High	-	-	0
Number High	-	-	0
Number Moderate	-	-	0
Number Low	-	-	1055
Maximum 15-minute mean	1341 µg m^{-3}	766 µg m^{-3}	239 µg m^{-3}
Maximum hourly mean	984 µg m^{-3}	533 µg m^{-3}	183 µg m^{-3}
Maximum running 8-hour mean	829 µg m^{-3}	451 µg m^{-3}	140 µg m^{-3}
Maximum running 24-hour mean	570 µg m^{-3}	307 µg m^{-3}	102 µg m^{-3}
Maximum daily mean	568 µg m^{-3}	305 µg m^{-3}	102 µg m^{-3}
Average	244 µg m^{-3}	121 µg m^{-3}	59 µg m^{-3}
Data capture	93.5 %	93.5 %	93.5 %

All gaseous pollutant mass units are at 20'C and 1013mb. Particulate matter concentrations are reported at ambient temperature and pressure.
NO_X mass units are NO_X as NO_2 µg m-3

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Exceedences	Days
Nitrogen Dioxide	Annual mean > 40 µg m^{-3}	-	-
Nitrogen Dioxide	Hourly mean > 200 µg m^{-3}	0	0

Note: For a strict comparison against the objectives there must be a data capture of >90% throughout the calendar year

Limavady Dungiven
Hourly Mean Data for 15 November to 31 December 2010



Similarly for the period January 2011 to October 2011 the data provided is as follows

LIMAVADY DUNGIVEN
01 January to 26 October 2011

These data are provisional from 01/07/2011 and may be subject to further quality control

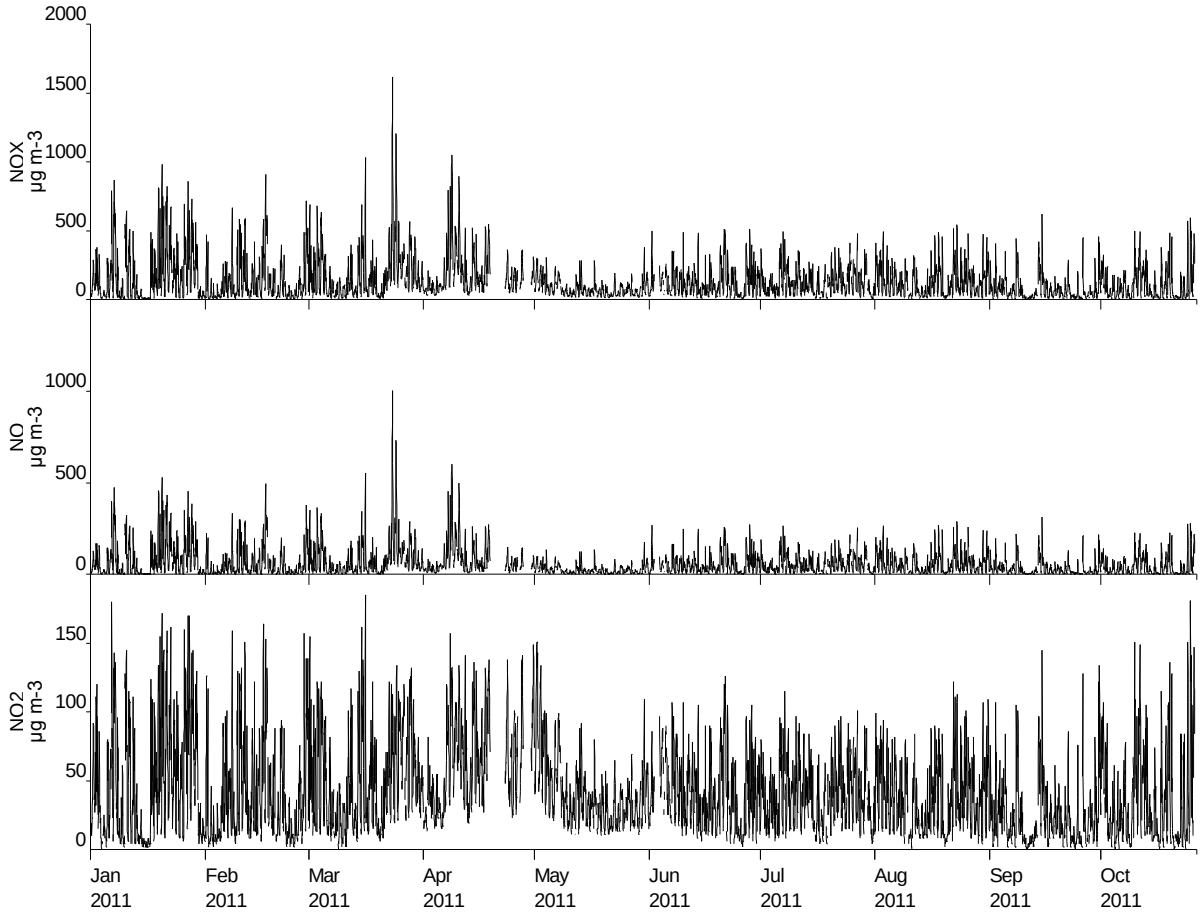
POLLUTANT	NO_X	NO	NO_2
Number Very High	-	-	0
Number High	-	-	0
Number Moderate	-	-	0
Number Low	-	-	6429
Maximum 15-minute mean	1706 µg m^{-3}	1051 µg m^{-3}	218 µg m^{-3}
Maximum hourly mean	1620 µg m^{-3}	1004 µg m^{-3}	185 µg m^{-3}
Maximum running 8-hour mean	1137 µg m^{-3}	688 µg m^{-3}	143 µg m^{-3}
Maximum running 24-hour mean	618 µg m^{-3}	361 µg m^{-3}	110 µg m^{-3}
Maximum daily mean	579 µg m^{-3}	336 µg m^{-3}	101 µg m^{-3}
99.8th percentile of hourly means	-	-	159 µg m^{-3}
Average	130 µg m^{-3}	58 µg m^{-3}	42 µg m^{-3}
Data capture	89.6 %	89.6 %	89.6 %

All gaseous pollutant mass units are at 20'C and 1013mb. Particulate matter concentrations are reported at ambient temperature and pressure.
NO_X mass units are NO_X as NO_2 µg m-3

Pollutant	Air Quality Regulations (Northern Ireland) 2003	Exceedences	Days
Nitrogen Dioxide	Annual mean > 40 µg m^{-3}	-	-
Nitrogen Dioxide	Hourly mean > 200 µg m^{-3}	0	0

Note: For a strict comparison against the objectives there must be a data capture of >90% throughout the calendar year

Limavady Dungiven
Hourly Mean Data for 01 January to 26 October 2011



Annualisation of this data is not possible at this time. It will be available in January 2012

Diffusion Tube Monitoring Data

Passive monitoring has been undertaken within Dungiven AQMA and in three 'narrow congested streets since March 2011. The table below indicates the monthly averages and these have been annualised and bias adjusted. Levels of NO2 remain in and around the 40 ugm-3 threshold level. At present levels within the three narrow congested streets are below the 40 ugm-3 air quality objective level

	March	April	May	June	July	Aug	Bias adjusted (x 0.92)
A-Main St Dungiven	**44.3**	**45.4**	24.3	**46.9**	**43.19**	38.72	37.23
B- Main St Dungiven	**48.9**	**47.6**	32.0	**58.4**	**51.58**	**49.14**	**44.05**
C- Main St Dungiven	**54.8**	**50.9**	**49.7**	**59.2**	**42.92**	**47.80**	**46.81**
D- Main St Dungiven	**48.3**	**41.1**	**43.6**	**41.0**	37.85	**43.43**	39.19
E -Main St Dungiven	39.1	34.1	36.3	**42.9**	35.90	**42.34**	35.36
F -Main St Dungiven	31.8	24.5	27.7	30.4	26.50	27.79	25.86
G -Main St Dungiven	**44.1**	**47.5**	25.3	-	**46.74**	**44.30**	38.25
H-Main St Ballykelly	**48.8**	36.6	30.9	**54.3**	**53.58**	**48.30**	**41.78**
I– Linenhall Street Limavady	**42.5**	36.4	22.7	**45.9**	29.60	33.80	32.33
J – Irish Green Street Limavady	32.4	27.3	15.5	30.0	27.25	23.94	23.98
K –Connell Street Limavady (background)	14.2	10.5	6.1	9.3	7.57	8.88	8.67
L(Dungiven background)	28.3	15.2	17.0	22.0	19.84	-	18.83

Figures in red – Dungiven monitoring sites (average level for triplicate tubes)
Bold red figures – denote exceedence of annual mean objective level in Dungiven
Site L – Dungiven background site
Figures in black – relate to a further assessment within Limavady town and Ballykelly village
- denotes missing tubes

http://laqm.defra.gov.uk/documents/Diffusion_Tube_Bias_Factors-v09_11.xls

(It has not been possible to annualise these figures – this will be possible in January 2012)

2.2.1 PM_{10}

No monitoring of PM_{10} is undertaken within Limavady Borough. Previous assessments have indicated that there are no exceedences of PM_{10} national air quality objectives.

2.2.2 Sulphur Dioxide

No monitoring of sulphur dioxide is undertaken within Limavady Borough Council. Previous assessments indicated that the national air quality objectives were not being exceeded

2.2.3 Benzene

No monitoring of benzene is undertaken within Limavady Borough Council. Previous assessments indicated that the national air quality objectives for benzene were not being exceeded.

2.2.4 Other pollutants monitored

No monitoring of other pollutants is carried out within Limavady Borough Council. Ozone levels are being monitored nationally.

2.2.5 Summary of Compliance with AQS Objectives

Limavady Borough Council has examined the results from monitoring in Limavady Borough. NO2 levels remain high within the AQMA. One site outside the AQMA (site H, Main Street Ballykelly) has a bias adjusted mean which exceeds the annual mean objective level slightly. This may however reduce when the annualised figure is calculated. Monitoring will continue at this site and a decision can then be made on the basis of the additional data obtained as to whether or not an AQMA should be declared.

3 New Local Developments

3.1 Road Traffic Sources

The previous USA indicated that there were no issues arising from

- **Busy streets where people may spend one hour or more close to traffic.**
- **Roads with a high flow of buses and/or HGVs.**
- **Junctions.**
- **New roads constructed or proposed since the last Updating and Screening Assessment.**
- **Roads with significantly changed traffic flows.**
- **Bus or coach stations.**

With the changes which were made to the technical guidance with regard to narrow congested streets and a reduction in annual average traffic flows three streets within the Borough were identified as requiring monitoring. This commenced in February 2011 and is expected to continue until February 2012. Some data has been received with regard to NOx levels but as yet it is too early to say if the air quality objectives are being exceeded. Upon receipt of sufficient data a decision can be made if a detailed assessment will be required.

Other Transport Sources

There are no new airports, railway stations or ports within Limavady Borough.

3.2 Industrial Sources

There have been no new industrial installations, fuel storage depots, petrol stations or poultry farms constructed within the Borough since the last USA report was compiled. With regard to planning applications for such installations Council has not received any applications for such facilities since the last USA was submitted in 2009.

3.3 Commercial and Domestic Sources

Having considered the information which this department and Building Control retain Limavady Borough Council do not foresee that emissions from biomass combustion will be excessive.

3.4 New Developments with Fugitive or Uncontrolled Sources

There have been no new landfills, quarries, haulage roads accessing industrial sites, waste transfer stations which have commenced operation in Limavady Borough since the last USA report was submitted.

Limavady Borough Council confirms that there are no new or newly identified local developments which may have an impact on air quality within the Local Authority area.

Limavady Borough Council confirms that all the following have been considered –

- **Road traffic sources**
- **Other transport sources**
- **Industrial sources**
- **Commercial and domestic sources**
- **New developments with fugitive or uncontrolled sources.**

4 Local / Regional Air Quality Strategy

No formalised strategy has been drawn up by Council but work is ongoing with DRDNI towards the development of one. At present discussions are focussing on the proposed bypass for Dungiven and its viability given the current economic climate.

5 Planning Applications

Limavady Borough Council has reviewed those planning applications received and is not aware of any future developments within the Borough which will to the best of its knowledge have an adverse impact on air quality.

The only issue which Council is aware of is a major road improvement scheme of the existing A6 linking the city of Derry to Belfast. A feature of this scheme will be the inclusion of a bypass of Dungiven town which will have a positive impact on air quality within the existing AQMA. This scheme is in its infancy and it may be a few years until it reaches fruition

6 Air Quality Planning Policies

Planning policy within Northern Ireland is the responsibility of DOE Planning Service. Limavady Borough Council, in its role as a statutory consultee to Planning Service, highlights any issues which would adversely impact on air quality within the Borough and would strive to control through planning conditions such impacts to ensure air quality is not compromised by development.

Planning Service in Northern Ireland has produced its Regional Development Strategy 2025 – Shaping the Future. It is a strategic and long term perspective on future development within Northern Ireland. The content of the document is not just limited to land use planning but recognises that policies for physical development have an important bearing on other matters such as developing a strong spatially based economy, a healthy living environment and an inclusive society which tackles inequalities relating to health, education and living standards. The amendments to the RDS 2025 is the 5-year review of the existing RDS. The RDS strategy for Limavady is the improvement and the enhancement of the natural environment, the economic and social opportunities and the encouragement of tourism to the area through improvements in the built environment and transport infrastructure and linkage to the natural gas network. The rural community has greater relevance to maintain the rural way of life whilst providing transport and economic opportunities in a sustainable way. Its overall aim is:

- **"to develop an attractive and prosperous rural area, based on a balanced and integrated approach to the development of town, village and countryside, in order to sustain a strong and vibrant rural community, contributing to the overall well-being of the Region as a whole."**

Specifically, changes in regard to air quality are covered in policy ENV 6.1 - improve air quality by:

- **ensuring a level of ambient air quality in public places, which poses no significant risk to health or quality of life, through implementation of the National Air Quality Strategy;**
- **identifying and addressing air pollution problems through the implementation of the Local Air Quality Management systems (LAQM) introduced via the Environment (NI) Order 2002;**
- **ensuring that industrial emissions are minimised and effectively controlled,**
  promoting more sustainable energy sources and a diversification of fuel supplies; and
  changing travel patterns to reduce the growth of traffic with potential benefits for air quality

7 Local Transport Plans and Strategies

The Department of Regional Development (DRDNI) is responsible in Northern Ireland for the formulation and implementation of transportation Strategies. The current Regional Transport Strategy (RTS) – 2025 examines in detail the various projections which DRDNI would hope to achieve by 2025. This document focuses on enhancing accessibility for all, examining all forms of transport, moving people and goods rather than vehicles, educating the public on the impact and full cost of their transport choices and on reducing their need to travel. In terms of the national perspective car ownership is growing at the fastest rate in Northern Ireland. It is DRDNI's belief at meeting the levels of future demand by improvements alone, particularly for unrestrained car use in larger urban centres and their hinterlands, is not a sustainable option in the future.

The RTS aims to further develop policies and measures to reduce the inverse environmental impact of transport and contribute to sustainable patterns of development and movement through support for the role of public transport, walking, cycling and more responsible use of the car.

Chapter 11 of the RTS sets out DRD's aims and objectives in the coming years. DRDNI aim to develop a Regional Transportation Strategy which will create an integrated transportation system which in turn will not only contribute to the economy and promote access to jobs services and facilities but which will also reduce the adverse environmental impact of transport and contribute to sustainable patterns of development and movement through support for public transport, promotion of alternatives to the car, and more responsible use of the car. They hope through a strategic approach to traffic management to achieve wider planning and transportation aims including more responsible car use in urban and rural areas.

Areas which they will focus on include:

- **Awareness campaigns to highlight the adverse environmental impact of car use**
- **Encourage the development and implementation of travel plans by major employers through partnership with business and the wider community**
- **Promote an integrated approach to reducing car use**
- **Promote higher car occupancy**
- **Develop and promote the use of "park and share sites" at key nodes on the road network**
- **Strengthen traffic law enforcement particularly in relation to illegal parking and road safety**
- **Channel major freight movements on to the road network and identify urban and rural feeder routes for heavy lorries to facilitate local businesses and protect residential amenity.**

8 Climate Change Strategies

The Northern Ireland Climate Change Impacts Partnership (NICCIP) was established following the release of the 2007 DOE/Scotland and Northern Ireland Forum for Environmental Research (SNIFFER) report "Preparing for Climate Change in Northern Ireland". The NICCIP membership includes business, voluntary and government sectors to widen knowledge and impacts of climate change in Northern Ireland. It promotes adaptation of business and society to climate change and the development of discussion and ideas for the possibility and relevance of mitigation measures and cross-community strategies. The NICCIP produces a regular newsletter and is in the process of compiling a web-based list of contacts in Northern Ireland. It has also published "Climate Change: what will you do?" which is the findings of a survey of people, politicians and key decision makers. The SNIFFER report on climate change addressed the two key challenges: to reduce emissions and to mitigate emissions. It outlined the likely future impacts on rain, soil moisture, weather patterns and wind speeds and sea level. It also outlined the impacts of climate change on:

- **Biodiversity**
- **Agriculture**
- **Forestry**
- **Fisheries**
- **Water resources**
- **Coastal and flood risk**
- **Buildings, construction and planning**
- **Economic infrastructure – business, insurance, transport, tourism and energy**
- **Social wellbeing – health, sport and recreation,**

The report recommended a multi-party approach to adapt to the climate change through the assessment of adaptive capacity and the delivery of adaptive actions:

- **Adaptive Capacity**
- **Increasing awareness, training and knowledge;**
- **Contribute to the development and use of climate change, and socio-economic scenarios;**
- **Review the regulatory and legislative frameworks with respect to climate change and the provision of incentives for adaptation;**
- **Contingency/ emergency planning;**
- **Incorporation of climate change into models, and impacts and adaptations into scheme –specific assessments;**
- **Consideration of cross-sector implications of responses.**

Delivery of Adaptive Actions

- Increasing resilience through diversification and buffer zones;

- Avoidance of losses (e.g. altering building materials) and the acceptance of unavoidable losses;

- Embracing changes through maximising opportunities, and exploiting new opportunities e.g. forestry management;

- Planning for risks and opportunities in new infrastructure projects (e.g. transport and construction);

- Changes to management practices to accommodate climate change; Managing heat gain, energy use and water and environmental deficiencies in building design and construction;

- Enhance health surveillance and responses to heat waves.

Limavady Borough Council is committed to ensuring a better quality of life for the people living, working and visiting the Borough Council area. The Council recognises that in pursuing its activities it can also have an impact on the local, regional and global environment.

Limavady Borough Council is fully committed to its involvement in improving the local and global environment and will use its influence and resources to achieve a local environment which it will be proud to pass on to future generations.

Limavady Borough Council has devised its Sustainable Environment Policy action plan in which it sets out what steps it will take to protect the environment on both a local regional and global scale.

- **The Council operates within all statutory requirements in relation to environmental performance.**
- **It uses a greater proportion of local produce, materials and expertise in order to reduce our carbon footprint.**
- **Council takes steps to ensure, as far as possible, that Council buildings contribute to sustainable development.**
- **It makes efficient use of energy and water.**
- **Staff minimise the environmental impact of travelling on Council business**
- **Council's waste production is minimized as far as is practicable - reuse or recycle waste where possible.**
- **Council will lobby for investment in, and encourage the use of, public and community transport and facilities for cyclists and pedestrians**
- **Council will protect, restore and enhance the diversity of the Borough's wildlife and countryside including responsible management of the countryside.**
- **It will maintain and manage the Council's facilities and land holdings in an environmentally sensitive way.**
- **Promote a sense of responsibility and understanding for environmental issues within the local community through education, information provision and open consultation.**

9 Implementation of Action Plans

Whilst the construction of a bypass may be the solution to the existing NO_2 problem attempts can be made by Limavady Borough Council to lead by example and to encourage such things as the use of public transport and car-pooling.
As a local authority Limavady Borough Council will endeavour to:

- **contribute to development policies within Council to ensure that sustainable development is taken into consideration**
- **continue monitoring of pollutant levels throughout the AQMA to assist the relevant authority and inform the public**
- **car-pooling by staff of Limavady Borough Council will be promoted to lead by example. It is Council's intention to highlight through local media the problems which exist in Dungiven and promote car pooling by both residents of Dungiven and the outlying hamlets and also those commuters who live outside the Borough.**

-It is Council's intention to publicise current pollution levels and disseminate information to the public

- **continue to gauge emission levels to determine the necessary reduction in traffic volume which is required to achieve the national air quality objective for nitrogen dioxide**
- **promote responsible car ownership and use within the Borough**
- **propose on-the-spot testing of vehicles in collaboration with DRD Roads Service to highlight and identify any maintenance issues with regard to vehicles**
- **promote walking and cycling initiatives within Dungiven and encourage residents to leave their cars at home for short local journeys.**

The ability to measure the effects of such measures may be difficult to assess and indeed it is challenging to change human behaviour in the long term. Any success may be short lived and given that we are dealing with through traffic initiatives such as walking or cycling will inevitably have little impact. Any effect may be reflected in monitoring values but a concerted effort will be made to promote 'greener' travel.

Table 9.1 Action Plan Progress

No.	Measure	Focus	Lead authority	Planning phase	Implementation phase	Indicator	Target annual emission reduction in the AQMA	Progress to date	Progress in last 12 months	Estimated completion date	Comments relating to emission reductions
1	Measure emission levels within AQMA	Evaluate NO2 levels	Limavady Borough Council	Completed	Ongoing			Ongoing	ongoing	2013	
2	Vehicle emissions testing	Assess feasibility of testing vehicle emissions when routine servicing carried out/compliance with MOT emissions criteria	Limavady Borough Council	Completed	Ongoing	Reduce no: of highly polluting vehicles on the road		Ongoing	ongoing	ongoing	Identification of highly polluting vehicles in fleet and reduction in emissions of NO2
3	**Cleaning up Council vehicles**	**Fitting pollution abatement equipment to older HGV's depending on EURO classification**	**Limavady Borough Council**	**Completed**	**ongoing**	**Reduction in pollution emissions from Council vehicles**		**Abatement not fitted – rolling programme of EURO compliant replacement vehicles**	**Rolling programme of EURO compliant replacement vehicles**	**2-5 years**	
4	**Vehicle upgrading programme to comply with EURO emission standards**	**Replacement programme for council vehicles**	**Limavady Borough Council**	**completed**	**ongoing**	**Reduction in pollution emissions from Council vehicles**		**Purchase vehicles that comply with prevailing EURO standards – rolling programme**	**ongoing**		

10 Conclusions and Proposed Actions

10.1 Conclusions from New Monitoring Data

Levels of NO2 remain high within the designated AQMA. This is borne out by the data collected by the continuous monitor and the passive diffusion tubes. Passive monitoring within the three 'narrow congested streets' whilst not completed indicates that levels are high within one area, namely Main Street Ballykelly but the true extent will not be determined until this monitoring has been completed in February 2012.

10.2 Conclusions relating to New Local Developments

Council is not aware of any new developments at present which will require further consideration.

10.3 Other Conclusions

Discussions are ongoing with DRDNI regarding the future of the proposed Dungiven bypass given the current economic climate. Focus is being placed on the decoupling of the bypass from the larger A6 dualling scheme

10.4 Proposed Actions

The data gathered to date does not suggest that there is a need to declare any additional AQMA'S within Limavady Borough. No further detailed assessments are required. The boundary of the existing AQMA does not need to be adjusted or extended. Levels however indicate that it should remain in place.

11 References

- Local Air Quality Management Technical Guidance LAQM.TG(09). February 2009. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland
- Local Air Quality Management Policy Guidance LAQM.PG(09). February 2009. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland
- Diffusion Tubes for Ambient NO_2 Monitoring: Practical Guidance for Laboratories and Users, Report to Defra and the Devolved Administrations , Feb 2008
- EU Emissions Trading Scheme Charging Scheme Northern Ireland. Department for the Environment, November 2009
- Preparing for Climate Change in Northern Ireland. DoE/ Scotland and Northern Ireland Forum for Environmental Research, 2007.
- Shaping Our Future: Adjustments to the Regional Development Strategy (RDS) 2025. Department for Regional Development, June 2008
- Sub-Regional Transport Plan 2015. Department for Regional Development, March 2007.
- The Northern Ireland Climate Change Partnership. http://www.sniffer.org.uk/ourwork/climate-change/niccip.aspx

Appendix A: QA:QC Data

QA/QC of automatic monitoring

AEA Energy and Environment undertook the Quality Assurance/Quality Control (QA/QC) procedures at the continuous monitoring site in Dungiven during its operation, ensuring that measurements from the analysers are as accurate as possible, and that measurements recorded at this site may be compared with other sites.

Manual calibration of the automatic monitor is undertaken every four weeks by Limavady Borough Council officers. This allows the instrument drifts to be fully quantified and documented using traceable calibration gas standards and the results are used to scale data. All calibration records are sent to AEA Energy and Environment who conduct the QA/QC checks.

The analysers were checked and serviced every six months by Envirotechnology plc and this contract has now been assigned to Supporting U. The reports are sent to AEA Energy and Environment.

QA/QC of diffusion tube monitoring

Envirotechnology PLC participates in the Workplace Analysis Scheme for Proficiency (WASP) programme, operated by the Health and Safety Laboratory (HSL). The tubes used (20% TEA in water) are supplied by Gradko International and are analysed by them. Their precision is deemed good.

Gradko also participate in the WASP and AEA Intercomparison schemes