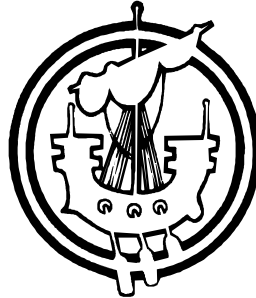


Annual Progress Report (APR)



2016 Air Quality Annual Progress Report (APR) for
Comhairle nan Eilean Siar

In fulfilment of Part IV of the
Environment Act 1995

Local Air Quality Management

29th June 2016

Comhairle nan Eilean Siar

Local Authority Officer	Ruth Macaskill
Department	Consumer & Environmental Services, Development Department
Address	Comhairle nan Eilean Siar, Sandwick Road, Stornoway, Isle of Lewis HS1 2BW
Telephone	01851 822 694
E-mail	ruth-macaskill@cne-siar.gov.uk
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Executive Summary: Air Quality in Our Area

Air Quality in Comhairle nan Eilean Siar

This report considers local air quality management in the Western Isles, examining relevant policies and technical guidance documents.

As in previous submissions there are no significant changes and no new air pollution sources have been identified. The Outer Hebrides Local Development Plan (Adopted Plan) 2012 demonstrates a shift in transport infrastructure to incorporate new footpaths and more cycle routes in and around settlements and improve bicycle storage at new public buildings, schools, housing developments and commercial and community developments to encourage the use of non-motorised transport. This plan is currently under review and a new plan is to be produced by 2017-18.

Passive diffusion tube monitoring for Nitrogen Dioxide (NO₂) was carried out in 2015. This was undertaken to verify that the pollutant levels were still below the action levels. Comhairle nan Eilean Siar works closely with SEPA and has in place a Development Strategy which considers environmental impacts on the local authority area and transport infrastructure. There are currently no air quality issues within this local authority area.

This report concludes that detailed assessments are not required for any pollutant. There are no AQMA's declared within the local authority area.

Local Priorities and Challenges

Our aim is to complete the 12 month monitoring programme for Nitrogen Dioxide (NO₂) this will be completed in August 2016. There will be no further monitoring once this has been completed if it is shown that the results are well below the action levels for this pollutant.

How to Get Involved

The public can access further information on air quality through the Council website at www.cne-siar.gov.uk/envserv/airquality.asp

Table of Contents

Executive Summary: Air Quality in Our Area	i
Air Quality in the Western Isles	i
Local Priorities and Challenges.....	i
How to Get Involved.....	i
1. Local Air Quality Management	1
2. Actions to Improve Air Quality	2
2.1 Air Quality Management Areas.....	2
2.2 Progress and Impact of Measures to address Air Quality in the Western Isles	2
3. Air Quality Monitoring Data and Comparison with Air Quality Objectives	4
3.1 Summary of Monitoring Undertaken	4
3.1.1 Automatic Monitoring Sites	4
3.1.2 Non-Automatic Monitoring Sites.....	4
3.2 Individual pollutants.....	4
3.2.1 Nitrogen Dioxide (NO ₂).....	4
3.2.2 Particulate Matter (PM ₁₀).....	5
3.2.3 Particulate Matter (PM _{2.5})	5
3.2.4 Sulphur Dioxide (SO ₂)	5
3.2.5 Carbon Monoxide, Lead and 1,3-Butadiene	5
4. New Local Developments	6
4.1 Road Traffic Sources.....	6
4.2 Other Transport Sources	6
4.3 Industrial Sources.....	6
4.4 Commercial and Domestic Sources	6
4.5 New Developments with Fugitive or Uncontrolled Sources.....	6
5. Conclusions and Proposed Actions	7
5.1 Conclusions from New Monitoring Data.....	7
5.2 Conclusions relating to New Local Developments	7
5.3 Proposed Actions	7
Appendix A: Monitoring Results	8
Appendix B: Full Monthly Diffusion Tube Results for 2015	12
Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC	13
Glossary of Terms	14
References	15

List of Tables

Table 1.1 – Summary of Air Quality Objectives in Scotland 1
Table 2.1 – Progress on Measures to Improve Air Quality 3
Table A.1 - Details of Non-Automatic Monitoring Sites..... 10
Table A.2 - 2007 Monitoring Results..... 11

List of Figures

Appendix A Map of Monitoring Locations in Stornoway..... 9
Appendix B Full Monthly Diffusion Tube Results for 2015..... 13
Appendix C Supporting Technical Information/Air Quality (QA/QC)..... 14

1. Local Air Quality Management

This report provides an overview of air quality in the Western Isles during 2015. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995) and the relevant Policy and Technical Guidance documents.

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 an exceedance is considered likely the local authority must 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. This Annual Progress Report (APR) summarises the work being undertaken by Comhairle nan Eilean Siar to improve air quality and any progress that has been made.

Table 1.1 – Summary of Air Quality Objectives in Scotland

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Nitrogen dioxide (NO ₂)	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
Particulate Matter (PM ₁₀)	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
Particulate Matter (PM _{2.5})	10 µg/m ³	Annual mean	31.12.2020
Sulphur dioxide (SO ₂)	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
Benzene	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	Running 8-Hour mean	31.12.2003

Pollutant	Air Quality Objective		Date to be achieved by
	Concentration	Measured as	
Lead	0.25 µg/m ³	Annual Mean	31.12.2008

2. Actions to Improve Air Quality

2.1 Air Quality Management Areas

Comhairle nan Eilean Siar currently does not have any AQMAs and there is no Air Quality Strategy in place. We propose to have an air quality strategy in place for 2017.

2.2 Progress and Impact of Measures to address Air Quality in the Western Isles

Comhairle nan Eilean Siar expects the following measures to be completed over the course of the next reporting year:

Passive diffusion tube monitoring for Nitrogen Dioxide (NO₂) is to stop in August 2016, this monitoring has been ongoing for a year.

Comhairle nan Eilean Siar have a corporate Travel Policy in place which promotes the use of electric cars and sustainable travel improving the local environment and encouraging healthier and safer lifestyles at <http://www.cne-siar.gov.uk/committees/policyandresources/agendas/august2011/Travel%20Policy%202011.pdf>

Comhairle nan Eilean Siar propose to have an Air Quality Strategy in place by 2017 to demonstrate how air quality is being addressed in the Western Isles.

Table 2.1 – Progress on Measures to Improve Air Quality

Measure No.	Measure	Category	Focus	Lead Authority	Planning Phase	Implementation Phase	Key Performance Indicator	Target Pollution Reduction in the AQMA	Progress to Date	Estimated Completion Date	Comments
1	Title	Select from the 9 categories in blue box	Description of Measure	Name of Council department(s) with responsibility for action implementation	Date	Date	.	Anticipated reduction in concentration, based on the result of quantitative appraisal (using dispersion modelling and/or screening tools)		Date	Comments relating to target pollution reductions (link to Action Plan for more details)
	CnES Corporate Travel Policy	Promoting travel alternatives	Promoting use of electric cars and sustainable travel improving local environment and encouraging healthier and safer lifestyles			Ongoing		No AQMA			
	Local Development Plan	Policy Guidance and development control	Promotion of sustainable economic development	Development	New plan to be complete 2017/18	Adopted plan in place until revised plan complete		No AQMA			

3. Air Quality Monitoring Data and Comparison with Air Quality Objectives

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

This section sets out what monitoring has taken place and how local concentrations of the main air pollutants compare with the objectives.

Comhairle nan Eilean Siar did not undertake any automatic monitoring in 2015.

3.1.2 Non-Automatic Monitoring Sites

Comhairle nan Eilean Siar undertook non- automatic (passive) monitoring of NO₂ at 4 sites during 2015. Table A.1 in Appendix A shows details of the sites.

There is one background sampling location and 3 kerbside locations. The passive diffusion tubes are in place for 4 weeks then sent off to Glasgow Scientific Services for analysis. The laboratory carries out the analysis in accordance with the report “Diffusion Tubes for Ambient NO₂ Monitoring: Practical Guidance for Laboratories and Users; Report to DEFRA and the Devolved Administrations, ED48673043, Issue 1a, February 2008’. The results are calculated using a diffusion coefficient at 11 °C. The results reported in mass units (µg/m³ or ppb) are based on a temperature of 20 °C and a pressure of 101.3kPa.

Maps showing the location of the monitoring sites are provided in Appendix A. Further details on Quality Assurance/Quality Control (QA/QC) and bias adjustment for the diffusion tubes are included in Appendix C.

The results show that there have been no exceedances during monitoring in 2015. There is therefore no evidence to support declaring an AQMA as the pollutant levels are not actionable.

3.2 Individual pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for annualisation and bias. Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO₂)

Table A.2 in Appendix A compares the ratified and adjusted monitored NO₂ annual mean concentrations for the past 5 years with the air quality objective of 40µg/m³.

For diffusion tubes, the full 2015 dataset of monthly mean values is provided in Appendix B. The last monitoring carried out for NO₂ was in 2007 these results are shown in Table A.2.

In previous years sampling was carried out using diffusion tubes at 4 locations in Stornoway. The tubes were collected at 4 weekly intervals and sent to Glasgow Scientific Services for analysis.

Monitoring of NO₂ stopped in 2007 as pollutant levels were well below the action levels. It was decided to carry out a year of NO₂ monitoring starting in June 2015 to verify that the NO₂ levels were still well below the action levels. Following a complaint made regarding the ferry it was decided to have two monitoring points around the harbour area. Monitoring has been ongoing and due to stop in August 2016, the results show that there have been no exceedances.

3.2.2 Particulate Matter (PM₁₀)

There is no monitoring of PM₁₀ within the Western Isles.

3.2.3 Particulate Matter (PM_{2.5})

There is no monitoring of PM 2.5 in the Western Isles.

3.2.4 Sulphur Dioxide (SO₂)

There is no monitoring for SO₂ within the Western Isles.

3.2.5 Carbon Monoxide, Lead and 1,3-Butadiene

There has been no monitoring for these pollutants in the Western Isles.

4. New Local Developments

There are no new developments in the Western Isles that may affect air quality.

4.1 Road Traffic Sources

There are no traffic sources, as specified and no significantly changed traffic flows within the Western Isles.

4.2 Other Transport Sources

There are no new transport sources within the Western Isles.

4.3 Industrial Sources

There are no new industrial sources within the Western Isles.

4.4 Commercial and Domestic Sources

Comhairle nan Eilean Siar has identified a biomass combustion plant in a new assisted living hostel and centre that is currently under construction, due to be completed in 2016. The new Ardsheilach Centre will be situated on the outskirts of the town of Stornoway in the Isle of Lewis. The wood pellet boiler has a maximum output of 240kW and has been assessed under the Clean Air Act.

There are no other new commercial or domestic sources within the Western Isles.

4.5 New Developments with Fugitive or Uncontrolled Sources

There are no new fugitive or uncontrolled sources within the Western Isles.

5. Conclusions and Proposed Actions

5.1 Conclusions from New Monitoring Data

There have been no exceedances identified therefore a detailed assessment is not required.

5.2 Conclusions relating to New Local Developments

There have been no new developments identified in the Western Isles that may impact on the air quality.

5.3 Proposed Actions

Comhairle nan Eilean Siar does not have any evidence to support creating an AQMA within the Western Isles. However, an Air Quality Strategy is going to be produced in 2017 to demonstrate how air quality is being addressed in the Western Isles.

Appendix A: Monitoring Results

Map showing Diffusion Tube Monitoring Locations in Stornoway, Isle of Lewis

● Diffusion Tube 2007

★ Diffusion Tube 2015

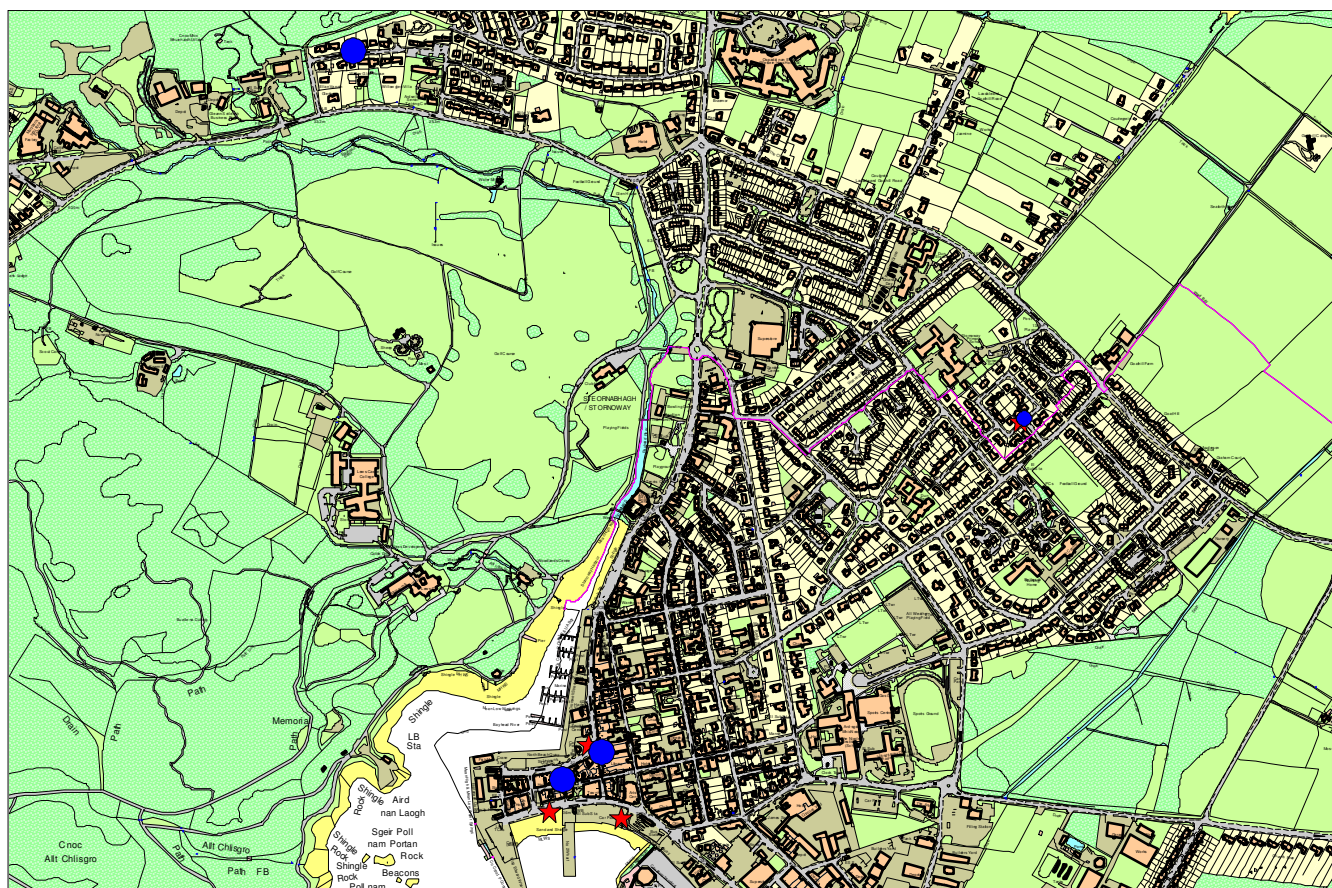


Table A.1 – Details of Non-Automatic Monitoring Sites

Site ID	Site Name	Site Type	X OS Grid Ref	Y OS Grid Ref	Pollutants Monitored	In AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube collocated with a Continuous Analyser?
DT1	Name1	Roadside	332395	433175	NO ₂	Y	1	3	Y
B1	Barony Square	Background	143142	933490	NO ₂	N	3	3	N
K1	South Beach Carpark	Kerbside	142372	932726	NO ₂	N	5	1	N
K2	South Beach	Kerbside	142232	932739	NO ₂	N	5	1	N
K3	Perceval Square	Kerbside	142309	932867	NO ₂	N	5	1	N

(1) 0 if the monitoring site is at a location of exposure (e.g. installed on/adjacent to the façade of a residential property).

(2) N/A if not applicable.

Table A.2 – Annual Mean NO₂ Monitoring Results

Results for 2015 are for June – December 2015 and September's diffusion tubes went missing via Royal Mail, so there was only 50% of valid capture for the monitoring period which does not allow for an annual mean to be calculated.

The monitoring results for 2007 are shown below.

Location	Type of location	Raw NO ₂ annual mean concentration (µg/m ³)	NO ₂ annual mean concentration bias adjusted (1.09) (µg/m ³)	Data capture (%)
MacMillan Brae, Stornoway	Background	4.0	4.4	92
Barony Square, Stornoway	Background	2.7	2.9	83
Cromwell Street, Stornoway	Kerbside	21.1	23.0	100
Bank Street, Stornoway	Kerbside	14.4	15.7	100

Table A.3 – 1-Hour Mean NO₂ Monitoring Results

There are no automatic monitoring sites for NO₂ in the Western Isles.

Appendix B: Full Monthly Diffusion Tube Results for 2015

Table B.1 – NO₂ Monthly Diffusion Tube Results for 2015

Site ID	NO ₂ Mean Concentrations (µg/m ³)													Annual Mean	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Raw Data	Bias Adjusted (0.98) ⁽¹⁾	
	B1						3.3	3.6	4.7	-	9.7	6.0			1.6
K1						15.6	15.0	16.6	-	27.2	8.6	6.9	14.9	14.6	
K2						22.7	21.2	34.5	-	42.0	14.1	21.2	25.9	25.4	
K3						16.2	18.3	18.6	-	35.0	13.5	16.2	19.6	19.2	

(1) See Appendix C for details on bias adjustment

Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC

There is one background sampling location and 3 kerbside locations. The passive diffusion tubes are in place for 4 weeks then sent off to Glasgow Scientific Services for analysis. The laboratory is UKAS accredited and carries out the analysis in accordance with the report “Diffusion Tubes for Ambient NO₂ Monitoring: Practical Guidance for Laboratories and Users; Report to DEFRA and the Devolved Administrations, ED48673043, Issue 1a, February 2008’. The results are calculated using a diffusion coefficient at 11 °C. The results reported in mass units (µg/m³ or ppb) are based on a temperature of 20 °C and a pressure of 101.3kPa.

To determine the bias adjustment the National Diffusion Tube Bias Adjustment Factor Spreadsheet was used (March 2016). The bias adjustment used for Glasgow Scientific Services is 0.98.

Glossary of Terms

Abbreviation	Description
AQMA	Air Quality Management Area – An area where air pollutant concentrations exceed / are likely to exceed the relevant air quality objectives. AQMAs are declared for specific pollutants and objectives
APR	Air quality Annual Progress Report
AURN	Automatic Urban and Rural Network (UK air quality monitoring network)
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
LAQM	Local Air Quality Management
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of 10µm (micrometres or microns) or less
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of 2.5µm or less
QA/QC	Quality Assurance and Quality Control
SO ₂	Sulphur Dioxide

References

Comhairle nan Eilean Siar, The Outer Hebrides Local Development Plan (Adopted Plan) 2012 <http://www.cne-siar.gov.uk/planningservice/documents/ldp/Outer%20Hebrides%20Local%20Development%20Plan.pdf>

Comhairle nan Eilean Siar, Travel Policy Statement (2011) <http://www.cne-siar.gov.uk/committees/policyandresources/agendas/august2011/Travel%20Policy%202011.pdf>