

Annual Progress Report (APR)



2016 Air Quality Annual Progress Report (APR) for

Shetland Islands Council

In fulfilment of Part IV of the
Environment Act 1995

Local Air Quality Management

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Executive Summary: Air Quality in Our Area

Air Quality in Shetland Islands Council Area

This report considers local air quality management in Shetland, taking into account relevant policy and technical guidance documents.

New industrial developments are now completed and in production, e.g. Shetland Gas Plant (SGP), which will increase the number of sources of emissions, however, predictive modelling completed during the planning phase suggested no exceedences should occur resulting from these developments.

As SEPA are regulating these developments no further action is to be take unless operational monitoring results indicate further action is needed, a copy of the most recent monitoring data from the newest site in included in this report.

Commercial biomass boilers have increased in numbers across the islands and have been considered in detail in this assessment.

Fugitive or uncontrolled sources from civil construction projects have also been considered in detail in this assessment.

This updating and screening assessment concludes that detailed assessments are not required for any pollutant at this time.

Actions to Improve Air Quality

Shetland Islands Council currently has no AQMA's or action plans and is not undertaking any other air quality related activities. This position is qualified by historic sampling data indicating no exceedences having occurred together with reductions in commercial sector operations due to the downturn in economic activity and new developments in existing industry leading to reduced levels of emissions.

Local Priorities and Challenges

Shetland Islands Council is committed to maintaining and improving local air quality within the local authority area. To achieve this goal the council aims to actively assess all new developments submitted to the local Authority Planning department to ensure they comply with national air quality objectives and maintaining Shetlands high standard of air quality.

How to Get Involved

The general public can contact the Shetland Island council Environmental Health and Trading Standards Department, Charlotte House, Commercial Road, Lerwick, ZE1 0LX, 01595 745 250, to get information on local air quality or to report any concerns they have.

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1. Local Air Quality Management

This report provides an overview of air quality in Shetland Islands Council during 2016. 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 Shetland Islands Council 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

Air Quality Management Areas (AQMAs) are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority must prepare an Air Quality Action Plan (AQAP) within 12 months, setting out measures it intends to put in place in pursuit of the objectives.

Shetland Islands Council currently does not have any AQMAs. The Shetland Islands Council does not have a published air quality strategy document as past evidence indicates no exceedances exist within the local authority area. This situation may be reviewed in the future.

2.2 Progress and Impact of Measures to address Air Quality in Shetland islands Council

Shetland Islands Council has taken forward a number of measures during the current reporting year of 2016 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.2. More detail on these measures can be found in the Shetland Islands council Carbon Management Strategy, Carbon Management Plan 2015-2020.

Key completed measures are:

Introduction of island wide Electric Vehicle (EV) Charging points, to encourage the uptake and use of EV's within the island group to reduce target emissions within the island group.

Council investment in EV vehicles, both for pool transport and commercial uses to reduce target emissions.

Replacement of lighting systems within council buildings to reduce consumption of oil fired generated electricity.

Shetland Islands Council is only currently one year in to their carbon management plan and as such the perceivable benefits will not be fully developed. Although this management plan is not strictly focussed on Local Air quality the measures contained within the plan will have an impact on improving local air quality as it seeks to reduce the Councils reliance on fossil fuels and the resulting reduction in target emissions as detailed in table 1.1.

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	Development and introduction of Carbon Management Plan	Policy guidance and development control	Formal Adoption and embedding of local Carbon Management Plan for the SIC	Full Council	April 2015	To April 2020		Target reduction on CO2 tonnes equivalent with an potential reduction in AQM target emissions	Ratified and adopted with ongoing implementation	April 2020	
2	Investment and development of a Islands wide EV charging system	Promoting low emission transport	Introduction of island wide Electric Vehicle (EV) Charging points	Estate Operations	Financial year 2014-2015	Financial year 2015-2016		Targeted reduction on CO2 tonnes equivalent with an potential reduction in AQM target emissions	Partially complete	Year end 2016	
3	Investment and development of the local authority vehicle fleet to low emission vehicles	Promoting low emission transport	Council investment in EV vehicles	Fleet Management Unit	Financial year 2014-2015	Rolling program till 2020		Targeted reduction on CO2 tonnes equivalent with an potential reduction in AQM target emissions	Partially complete	Rolling program till 2020	
4	Investment and development of low energy lighting systems within the local authorities estates infrastructure.	Policy guidance and development control	Replacement of lighting systems within council buildings	Building Services	Financial year 2014-2015	Rolling program till 2018		Target reduction on CO2 tonnes equivalent with an potential reduction in AQM target emissions	Partially complete	Year end 2020	

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.

Shetland Islands Council does not undertake any automatic (continuous) monitoring within the authorities area. This is due to past monitoring results indicating that concentrations were all below the national objectives, thus negating the need for further monitoring.

3.1.2 Non-Automatic Monitoring Sites

Shetland Islands Council does not undertake any non-automatic (passive) monitoring of NO₂ within the authorities area. This is due to past monitoring results indicated that concentrations were all below the national objectives, thus negating the need for further monitoring.

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)

Shetland Island Council does not currently carry out non- automatic (passive) monitoring of NO₂ due to past monitoring results indicated that concentrations were all below the national objectives, thus negating the need for further monitoring.

3.2.2 Particulate Matter (PM₁₀)

Shetland Island Council does not currently carry out monitoring of PM₁₀ due to past monitoring results indicated that concentrations were all below the national objectives, thus negating the need for further monitoring.

3.2.3 Particulate Matter (PM_{2.5})

Shetland Island Council does not currently carry out monitoring of PM_{2.5} and has no plans for future monitoring.

3.2.4 Sulphur Dioxide (SO₂)

Shetland Islands Council does not undertake any monitoring of SO₂ within the authorities area. This is due to past monitoring results indicated that concentrations were all below the national objectives, thus negating the need for further monitoring.

3.2.5 Carbon Monoxide, Lead and 1,3-Butadiene

Shetland Islands Council does not undertake any monitoring for CO, Lead and 1,3-Butadiene within the authorities area.

4. New Local Developments

4.1 Road Traffic Sources

There are no new/newly identified road traffic sources within the local authority area.

4.2 Other Transport Sources

Shetland has no new transport sources within the local authority area.

It can be noted that due to the down turn in oil related business within the North Sea sector both of Shetland main airports have see a significant drop in terminal passenger numbers and freight throughput. Sumburgh has seen reductions of 23% in the first three months of 2016 and Scatsta has seen reductions of 39% in the first three months of 2016.

Airports in Shetland have never come close to the specified criteria indicating that a detailed assessment would be necessary and with this down turn the need for further consideration has reduce further.

4.3 Industrial Sources

Shetland has no new industrial sources within the local area.

4.4 Commercial and Domestic Sources

Shetland has no new commercial and domestic sources within the local authority area.

4.5 New Developments with Fugitive or Uncontrolled Sources

Shetland Island council has approved one new development with fugitive or uncontrolled Sources; Proposed mineral extraction, siting of plant and machinery and concrete batching plant, and recycling area, Vatster Quarry Tingwall Shetland ZE2 9SG, 2011/387/PPF

5. Conclusions and Proposed Actions

5.1 Conclusions from New Monitoring Data

Shetland Island council does not conduct active or passive monitoring, historic monitoring data confirms the local Authority area does not have any exceedences and as such negates the need for further monitoring. Therefore no new data has been collected and no new AQMAs can be considered.

5.2 Conclusions relating to New Local Developments

Monitoring data contained in appendix C, received from TOTAL, plant operators, Shetland Gas Plant (SGP), relates to the SGP and its NO₂ passive monitoring program. The data indicates that the plant does not contribute to a local air quality exceedance in the area and as such no further action will be taken in relation to this development

5.3 Proposed Actions

The next course of action will be to submit the 2017 Annual Progress Report.

No Detailed Assessment for any pollutant is required and no further monitoring will be carried out.

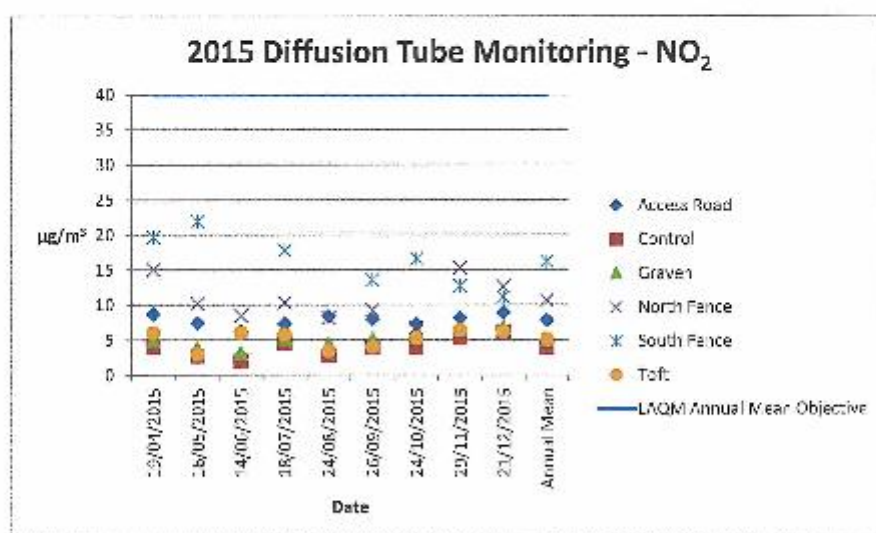
Appendix C: Supporting Technical Information / Air Quality Monitoring Data QA/QC

Shetland Gas Plant – NO₂ Diffusion Tube Monitoring Data for 2015

Date	Access Road	Control	Graven	North Fence	South Fence	Toft
19/04/2015	8.87	4.00	5.00	15.00	19.57	6.00
16/05/2015	7.40	2.67	3.83	10.13	21.87	3.00
14/06/2015	6.27	2.00	3.20	8.47	-	6.03
18/07/2015	7.30	4.57	5.27	10.33	17.77	5.73
24/08/2015	8.37	2.77	4.47	8.17	-	3.47
26/09/2015	7.97	3.83	5.20	9.27	13.57	4.00
24/10/2015	7.23	3.83	5.43	6.77	16.83	5.26
29/11/2015	8.13	5.27	6.5	15.3	12.67	6.43
21/12/2015	8.90	6.23	6.87	12.63	11.13	6.20
Annual Mean	7.80	3.91	5.09	10.67	16.19	5.12

Notes:

- Triplicate diffusion tubes – average used in table and graph
- Date is change out date – results calculated on exposure hours
- "South Fence" data missing on two occasions due to construction activities



Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the LA intends to achieve air quality limit values'
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
EV	Electric Vehicles
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
FDMS	Filter Dynamics Measurement System
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

Shetland Islands Council, Carbon Management Strategy, Carbon Management Plan 2015-2020, April 2015- Revision 1.6,