Annual Progress Report (APR)

2020 Air Quality Annual Progress Report (APR) for
Shetland Islands Council

In fulfilment of Part IV of the
Environment Act 1995

Local Air Quality Management

June 2020

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Executive Summary: Air Quality in Our Area

Air Quality in Shetland Islands Council

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

Since the council's annual progress report for 2019 there has been fulfilment of projects as detailed in table 2.2 that will have a positive impact on local air quality. Ongoing initiatives for 2020 are detailed in this table which will result in a positive impact on local air quality together with feeding into future planning for further carbon reduction within the local authority.

The marked recession in the offshore oil and gas industry operating throughout the islands together with a continued absence of any major civil works, at this time, will have a positive impact on local air quality. Air transport and infrastructure movements have seen changes in oil and gas support operations while normal passenger transport remains relatively stable, resulting in a minimal reduction in impact on local air quality. Significant changes announced within this reporting period regarding the closure of Scatsta airport will realise a significant reduction in air transport operations within the islands in the year ahead.

Ongoing planning approvals for specific areas of the infrastructure for major wind farm developments has continued to offer the potential significant reductions of fossil fuel generated electricity supplies throughout the islands. Most of the planning and national funding considerations required before the developments can be progressed have been finalised, though no formal announcement has been made as to the commencement of works for these projects.

There are future projects being brought to the planning stage that may impact local air quality, these are subject to environmental impact assessments and will be considered for their impacts on local air quality as a part of the normal planning process.

This annual progress report 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 exceedances of national air quality objectives are likely to occur within the local authority area. Furthermore, reductions in the oil and gas exploration and process industry and linked reductions in the aviation support for this sector will result in a decrease in pollutants being released to atmosphere. Furthermore overall reductions can be attributed to a continued downturn in economic activity combined with technical developments within existing local industry to reduced levels of emissions through effective carbon management. These factors combined support the Shetland Islands Council's current position.

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, Old Anderson High School, Lovers Loan, Lerwick, Shetland, ZE1 0BA, 01595 745 250, to get information on local air quality or to report any concerns they have.

Local Air Quality Management

This report provides an overview of air quality in Shetland Islands Council local authority area during 2019. 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 0.1 – 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

1. Actions to Improve Air Quality

1.1 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

1.2 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 2019 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 1.1. More detail on these measures can be found in the Shetland Islands council Carbon Management Strategy, Carbon Management Plan 2015-2020.

Reduction measures which are complete:

- Introduction of Council fleet vehicles tracking system, achieving substantial reduction in fuel usage and thus reductions in target emissions.
- An extension of the primary introduction of EV charging points to greater extend the option of EV uptake throughout the islands group.
- Introduction of kerbside recycling to reduce waste going to incineration and landfill.
- Development and implementation of a waste recycling facility to sort recyclables from the waste stream that would normally be incinerated or land filled, reducing target emissions associated with these forms of disposal.

Ongoing reduction measures are:

- Further investment in electric fleet vehicles, with options to provide electric pool vehicles for essential car users to reduce overall emissions.
- Replacement of old in-efficient lighting systems within council buildings with modern LED systems to reduce consumption of oil fired generated electricity.
- Renewal of street lighting with low energy LED street lighting units to reduce target emissions
- Continued review of a pool fleet of vehicles provided for council staff against the number of business mile driven ensuring efficient use of pool vehicles.
- The SIC is continuing to promote the Cycle to Work Scheme to encourage the reduced short journey use of staff vehicles when commuting to work.

New reduction measure to be implemented:

No significant new reduction measures have been implemented during the reporting period, emphasis has been placed instead on accessing the effectiveness of previous and ongoing reduction initiatives. The effective monitoring reporting and validation of existing reduction measures are essential to evaluate their effectiveness and will provide qualified feedback into future policy decisions aimed at achieving further reductions in carbon use as detailed in the carbon management plan.

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, together with supporting the community in energy reduction initiatives, resulting in reductions in target emissions as detailed in Table 1.1.

Table 1.1 – 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. Ongoing	April 2020	
2	Investment and development of the local authority vehicle fleet to low emission vehicles	Vehicle fleet efficiency	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	Implemented with option to expand, subject to ongoing review	Rolling program till 2020	Ongoing
3	Investment and development of low energy lighting systems within the local authority's 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	Ongoing
4	Investment and development of low energy street lighting systems within the local authority's area.	Policy guidance and development control	Replacement of old inefficient street lighting throughout the local authority area	Building Services	Fanatical Year 2016-2017	Rolling program till completed		Target reduction on CO2 tonnes equivalent with an potential reduction in AQM target emissions	Works Underway	Year end 2020	Ongoing

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
5	Introduction of Islands wide kerbside recycling.	Policy guidance and Development Control	Implementing central Government policy for kerbside recycling. Intended reductions to Landfill and incineration of waste.	Waste management	Year end 2017	Year end 2018		Target reduction on CO2 tonnes equivalent with an potential reduction in AQM target emission	Complete	Year end 2018	Implemented on schedule, need for monitoring and re-enforcement
6	Construction and commissioning of a waste recycling facility to sort recyclable materials removing them from the disposal routes including incineration and landfill.	Policy guidance and Development Control	To sort recyclable materials, removing them from the disposal routes normally including incineration and landfill.	Waste management	March 2018	2nd & 3rd Quarter 2019		Target reduction on CO2 tonnes equivalent with a potential reduction in AQM target emission through reductions in burning waste and production of landfill gasses.	Ongoing	Year end 2019	Building and plant in place, commissioning ongoing, but delayed due to COVID-19
7	Expansion of Councils fleet of pool vehicles for essential car users employed within the local authority.	Promoting low emission transport	Provision of pool transport for essential car users, with low emission vehicles	Fleet management	4th Quarter 2018	1st Quarter 2019		Target reduction on CO2 tonnes equivalent with a potential reduction in AQM target emission through reductions in business miles driven with older less efficient vehicles	Ongoing	Year end 2019	Ongoing review and revision of pool fleet vehicles to ensure maximum efficiency for carbon plan.

1.3 Cleaner Air for Scotland

Cleaner Air for Scotland – The Road to a Healthier Future (CAFS) is a national cross-government strategy that sets out how the Scottish Government and its partner organisations propose to reduce air pollution further to protect human health and fulfil Scotland's legal responsibilities as soon as possible. A series of actions across a range of policy areas are outlined, a summary of which is available at https://www.gov.scot/Publications/2015/11/5671/17. Progress by Shetland Islands Council against relevant actions within this strategy is demonstrated below.

1.3.1 Transport – Avoiding travel – T1

All local authorities should ensure that they have a corporate travel plan (perhaps within a carbon management plan) which is consistent with any local air quality action plan. Shetland Islands Council has a carbon management plan, available on line at; http://www.shetland.gov.uk/energy_advice/documents/CarbonManagementPlan.pdf and has a recently reviewed its transport strategy, also available on line at; https://www.zettrans.org.uk/site/assets/files/1100/shetland_transport_strategy_delivery_plan_2019-20.pdf

1.3.2 Climate Change – Effective co-ordination of climate change and air quality policies to deliver co-benefits – CC2

Scottish Government expects any Scottish local authority which has or is currently developing a Sustainable Energy Action Plan to ensure that air quality considerations are covered. Shetland Islands Council fulfils the need to develop a sustainable energy action plan through the Council's Economic Development Strategy 2018-2022. This strategy document details strategies for the development of renewable energy technologies, together with reducing the reliance on fossil fuels to lower the overall CO2 emissions for the local authority area. These strategies will have the effect of reducing the already minimal impacts on local air quality, in keeping with national air quality objectives.

http://www.shetland.gov.uk/economic_development/documents/EconomicDevelopmentDraftStrategy2018-2022.pdf

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

2.1 Summary of Monitoring Undertaken

2.1.1 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 authority's area. This is due to past monitoring results indicating that concentrations were all below the national objectives, thus negating the need for further monitoring.

2.1.2 Non-Automatic Monitoring Sites

Shetland Islands Council does not undertake any non-automatic (passive) monitoring of NO2 within the authority's 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. Individual pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for annualisation and bias.

3.1.1 Nitrogen Dioxide (NO_2)

Shetland Islands Council does not undertake any non-automatic (passive) monitoring of NO2 within the authority's 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 Particulate Matter (PM_{10})

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

3.1.3 Particulate Matter ($PM_{2.5}$)

Shetland Island Council does not currently carry out monitoring of PM2.5 and has no plans for future monitoring.

3.1.4 Sulphur Dioxide (SO_2)

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

3.1.5 Carbon Monoxide, Lead and 1,3-Butadiene

Shetland Islands Council does not undertake any monitoring for CO, Lead and 1,3-Butadiene within the authority's area and has no plans for future monitoring.

4. New Local Developments

4.1 Road Traffic Sources

Shetland has no new transport sources within the local authority area

4.2 Other Transport Sources

During the 2019/2020 reporting period, it was announced that Scatsta airport would be closing as an operational airport from the 30th June 2020. This was due to the long-term downturn in the offshore oil and gas industry and a renewal of the transport contract with an existing operator based at Sumburgh. Coupled with the closure of Scatsta there was a further reduction in movements at Shetland's airports in the final part of Q4 due to the COVID-19 pandemic. Virtually all movements stopped from February 2020 through to July 2020. The full impact of this reduction in emissions will be reported in the 2020-2021 annual review.

This decrease in passenger numbers at Scatsta has as stated resulted from a significant downturn in the oil and gas industry leading to a reduction of terminal passenger numbers of 37% from 174,934 passengers in 2018 to 109,480 in 2019, this reduction continued into 2020.

Terminal passenger numbers at Sumburgh have increased during 2019, rising 9% from 245,934 passengers in 2018 to 267,420. This was set to continue in 2020 due to the movement of offshore transportation operations to Sumburgh. However, this will be tempered due to the passenger movement restrictions caused by the COVID-19 pandemic. In contrast, regarding freight tonnage, Scatsta saw an increase of 43% during 2019 while Sumburgh reported a 3.6% decrease in freight tonnage. Due to reasons previously explained this trend will be set to change significantly through 2020 as the new airport arrangements settle in.

Finally, Tingwall (Lerwick), Shetland's inter-island airport, has reported a 15% reduction in passenger numbers form 3,881 in 2018 to 3,309 in 2019. No figures are reported for freight tonnage carried on the inter-island air service.

Overall all airports in Shetland have never come close to the specified criteria indicating that a detailed assessment would be necessary and with the overall reduction in movement levels throughout the islands airports the need for further consideration remains unnecessary.

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 has no new developments with fugitive or uncontrolled sources within the local authority area.

5. Planning Applications

Planning applications for large scale developments within the local authority area have reduced during this reporting year. Work continues on finalising variations associated with the major wind farm developments throughout the island. Further work has been considered for the interconnector cable planned to export wind generated electricity to the mainland national grid. This only received Ofgem approval in April 2020 and, as such, no major works have yet begun.

All these developments were considered for their impacts on air quality both during construction and operational phases, and were thought to have little negative impact on local air quality during both phases. There is however a significant potential benefit for the developments to help reduce target emissions in the long term within Shetland and beyond due to the reduced reliance on fossil fuel generated electricity locally and nationally.

Finally, there has been pre-application contact with the SIC's Planning Team for a proposed new Space Centre to be located on the island of Unst, to the north of the mainland. As yet no formal planning applications have been submitted for the development but there have been discussions relating to all areas of this development that may impact the local environment. It is expected that the formal planning process will commence in Q3/Q4 of 2020 and so this matter will be reported more fully in the next annual AQM review process.

6. Conclusions and Proposed Actions

6.1 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 exceedances and as such negates the need for further monitoring. Therefore as no new data has been collected no new AQMAs can be considered.

6.2 Conclusions relating to New Local Developments

Within the Shetland Islands Council local authority area there are a number of ongoing and forthcoming developments that will impact local air quality. Multiple large scale wind farm developments and major changes to the transport provision for the oil and gas industry within the islands have the potential for reducing target emissions in the medium to long term, through reduced use and reliance on fossil fuel for aircraft operations and electricity generation.

6.3 Proposed Actions

As a part of the Shetland Islands Council's development strategy and its own internal efficiency and reductions initiatives, there will be ongoing monitoring of the identified activities in Table 2.2. This monitoring will be feed back into the Council's efficiency savings process ensuring key performance indicators are being achieved and where necessary a refocussing the initiative to deliver the planned outcomes.

The Council has no plans to introduce any active monitoring of airborne pollutants at this time. Our next course of action will be to submit the 2021 Annual Progress Report.

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
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

1. Shetland Islands Council – Carbon Management Plan 2015 - 2020, Web address; http://www.shetland.gov.uk/energy_advice/documents/CarbonManagementPlan.pdf

2. Shetland Transport Strategy Delivery Plan 2019-2020, Web address; https://www.zettrans.org.uk/site/assets/files/1100/shetland_transport_strategy_delivery_plan_2019-20.pdf

3. CAA air passenger and air freight information access via the Civil Aviation Online web data files, web link for air passengers; https://www.caa.co.uk/uploadedFiles/CAA/Content/Standard_Content/Data_and_analysis/Datasets/Airport_stats/Airport_data_2019_annual/Table_09_Terminal_and_Transit_Passengers.pdf and for air freight: https://www.caa.co.uk/uploadedFiles/CAA/Content/Standard_Content/Data_and_analysis/Datasets/Airport_stats/Airport_data_2019_annual/Table_14_International_and_Domestic_Freight.pdf