



FIFE COUNCIL'S WRITTEN SUBMISSION TO THE SCOTTISH PARLIAMENT NET ZERO, ENERGY AND TRANSPORT COMMITTEE MEETING

18 APRIL 2023 AT 10:45

1. Introduction



1.1 The air that we breathe is fundamental to human life and the quality of our environment. Despite the undoubted improvements in air quality over recent years, continued and systemic action will be required to ensure we are addressing known and emerging risks.

1.2 Since Fife Council's Air Quality Strategy was first published in 2015 (covering the period 2015-2020) we have made significant steps in improving air quality in the Fife area. This has been particularly relevant in our work in tackling road traffic pollution. These actions have all been detailed in our annual progress reports which are available at www.fife.gov.uk/airquality

1.3 Our updated Air Quality Strategy for 2021-2025 sets out the proposals for delivering further air quality improvements over the next five years and is set around the 9 key areas of approach of the Cleaner Air for Scotland 2 document¹ (2020). In doing so, we seek to ensure consistency in the approach in tackling air quality issues across Scotland. It is believed that a coherent and integrated outlook is key to avoid the risk of health-related impacts. Minimising air pollution levels will bring lasting benefits, with positive effects on public health, economic development, and population wellbeing. Our updated Air Quality Strategy seeks to contribute to Fife becoming a healthier, more sustainable, prosperous, and desirable place to live, work and visit.

1.4 However, we understand that the work is not complete and there is still more to be done as even low levels of air pollution have a detrimental effect on human health and the environment. As our understanding of other pollutants and sources of pollutants improves, we must continue to be proactive to ensure that any impacts are minimised as much as possible.

1.5 Our Strategy provides a framework which sets out how Fife Council will work with other organisations within Fife to build on the achievements already seen in reducing air pollution. This will be achieved through the promotion of best practice, use of the best available technology, awareness raising and encouraging behavioural change.

1.6 The good progress made in implementing the aims and objectives of our first Air Quality Strategy was acknowledged at the Convention of Scottish Local Authorities (COSLA) excellence awards 2017. Fife Council received a bronze award in the category of "Tackling Inequalities and Improving Health". With this Strategy we aim to continue this good work. For over 15 years Fife Council has been successfully tackling the issue of air pollution in the region through its proactive commitment to the Local Air Quality Management (LAQM) regime. This Strategy is a commitment to seeking further improvements through a holistic approach.

2. Background to Fife Council's LAQM and AQ Strategy

2.1 Fife Council is required by environmental legislation to periodically review and assess air quality in relation to statutory objectives. Our Air Quality Team within Protective Services undertakes extensive automatic and diffusion tube air quality monitoring throughout Fife. Pollution from road vehicle emissions is the key air quality issue in Fife, with Nitrogen Dioxide (NO₂) and Particulate Matter) being the pollutants of concern.

Air Quality Management Areas

2.2 Where exceedances of air pollutant objectives are identified or considered likely the local authority must declare an Air Quality Management Area (AQMA) and prepare

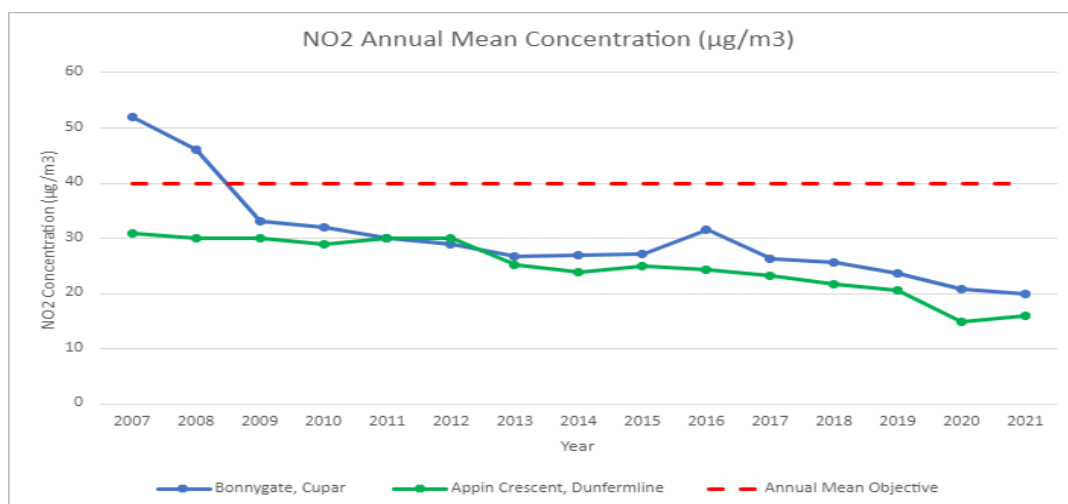
¹ <https://www.gov.scot/publications/cleaner-air-scotland-2-towards-better-place-everyone/documents/>

an Air Quality Action Plan (AQAP) setting out the measures it intends to put in place to achieve the objectives. Air Quality Action Plans have been prepared and updated as appropriate for the Bonnygate, Cupar² and Appin Crescent, Dunfermline³ Air Quality Management Areas (originally declared in 2008 and 2011 respectively).

2.3 The development of each action plan began with an inception meeting, which was attended by several local authority officers and representatives from relevant organisations, forming the Air Quality Steering Group. This Group considered a comprehensive set of action plan measures in seeking the necessary air quality improvements. This included traffic management, fleet (includes Fife ECO Stars scheme), behavioural (e.g., walking/cycling initiatives) and strategic (local development plans) measures. This Group is referred to as the Fife Core Air Quality Steering Group and meets quarterly to ensure adequate progression of action plan measures for tackling air quality issues.

2.4 Both the Appin Crescent and Bonnygate Air Quality Action Plans have been successful in improving air quality in these Air Quality Management Areas and the Action Plans have been subject to numerous updates over the years. Action Plan measures include the introduction of road traffic management measures such as a “co-ordinated traffic queue relocation system” (more specifically the implementation of new Urban Traffic Management and Control system and changes to pedestrian crossings) in Bonnygate, Cupar in 2009 and revised lane markings and associated road traffic signage in Appin Crescent, Dunfermline in 2012. The subsequent air quality improvements have allowed for the amendment of the official Air Quality Management Area Orders to remove the pollutant Nitrogen Dioxide because of the significant decline in concentrations of this pollutant (see Figure 1).

Figure 1 - NO₂ automatic monitoring results for 2007 to 2021 in Cupar and Dunfermline



² https://www.fife.gov.uk/data/assets/pdf_file/0027/252864/AQAP_Appin-Crescent_200721.pdf

³ https://www.fife.gov.uk/data/assets/pdf_file/0028/252865/AQAP_Bonnygate_2021-2025_200721.pdf

Annual Progress Reports

2.5 The results of our Fife-wide monitoring and progress with our Action Plan measures are reported annually.

2.6 The latest Air Quality Annual Progress Report for 2022⁴ assesses the data collected in 2021 and discusses the implications for air quality management in Fife.

- Nitrogen Dioxide (NO₂)

Fife Council carry out monitoring of nitrogen dioxide (NO₂) at four automatic stations in Cupar, Dunfermline, Kirkcaldy and Rosyth. Non-automatic monitoring of NO₂ was carried out using diffusion tubes at 42 sites (total of 58 tubes). All NO₂ concentrations measured during 2021 were below the annual mean objective of 40 micrograms per cubic metre (µg m⁻³).

- Particulate Matter (PM₁₀ & PM_{2.5})

PM₁₀ and PM_{2.5} is measured at the four automatic sites within Fife at Cupar, Dunfermline, Kirkcaldy and Rosyth. During 2021 all concentrations were below the annual mean objective of 18 µg m⁻³ for PM₁₀ and 10 µg m⁻³ for PM_{2.5}.

- Carbon Monoxide, Sulphur Dioxide, 1,3-Butadiene and Benzene

The review of all available data relating to carbon monoxide (CO), sulphur dioxide (SO₂) and benzene monitoring during 2021 indicates that it is unlikely that any air quality objectives relating to these pollutants were exceeded during 2021.

2.7 The 2020 Mossmorran & Braefoot Bay Independent Air Quality Monitoring Review Group Annual Report has now been published (delays due to COVID) and new Expert Advisory Groups (includes Air Quality) established. Based on the available data reviewed in 2020, it is concluded that the emissions from the Shell and ExxonMobil plants at Mossmorran and Braefoot Bay continue to pose no significant risk from air pollution to the health of members of the local community. The full 2020 Annual Report can be viewed at [Mossmorran and Braefoot Bay | Fife Council](#)

Fife's Air Quality Strategy

2.8 Fife's Air Quality Strategy outlines our continued intention to maintain and improve air quality in Fife.

2.9 As noted above, the Strategy aligns itself with the Cleaner Air for Scotland 2 document by raising awareness of air quality issues, promoting our best practice work, and is centred around the nine keys areas:

⁴ https://www.fife.gov.uk/data/assets/pdf_file/0027/252864/AQAP_Appin-Crescent_200721.pdf

1. Health – Protecting residents and visitors from the harmful effects of air pollution.
2. Integrated Policy – Integrating air quality within Council plans and strategies.
3. Placemaking – Meet the future environmental, economic, and social needs of its residents and maintain good air quality.
4. Data – Provide high quality data that will accurately inform mitigation decision making.
5. Public Engagement and Behaviour Change – Engage with people about how air pollution affects them and what they can do to make a difference.
6. Industrial – Support the control and reduction of air pollution from industrial sources.
7. Non-transport – Control and reduce air pollution from non-transport sources such as domestic household biomass boilers and agricultural emissions.
8. Transport – Maintain the reductions achieved in NO₂ and PM₁₀ concentrations from road traffic.
9. Governance – Deliver improvement to air quality in partnership with key stakeholders.

2.10 Our Strategy for 2021-2025 has received a commitment from key Fife Council stakeholders as well as a range of external organisations.

2.11 Both the Scottish Government, and their official appraisers of Annual Reports on Air Quality, have cited the production of our Strategy as an example of “best practice” and Environmental Standards Scotland in their “Air Quality Investigation Improvement Report” September 2022⁵ submitted to the Scottish Parliament have identified certain positive approaches taken by Fife Council in tackling air quality issues including the formation of a Core Air Quality Steering Group.

3. Progress and Ongoing Work

3.1 Full details of progress and work actioned in 2021/22 can be found in our Annual Progress Report for 2022. However, a summary of progress and work actioned in 2021/22 is provided below:

- Increased membership of Fife’s ECO Stars scheme This is a free, voluntary scheme which provides recognition, guidance, and advice on operational best practice to fleet operators. To date, there are 270 commercial fleet members (9460 vehicles) and 150 taxi and private hire operator members (622 vehicles). These schemes are currently funded by Scottish Government air quality grant which is the subject of a competitive bidding process each financial year.

⁵ [20220929-ESS-AIR-QUALITY-INVESTIGATION-REPORT-IESS.21.013.pdf](https://www.environmentalstandards.scot.nhs.uk/20220929-ESS-AIR-QUALITY-INVESTIGATION-REPORT-IESS.21.013.pdf)
([environmentalstandards.scot](https://www.environmentalstandards.scot))

Photograph 1 Fife ECO Stars launch event at Town House, Kirkcaldy 16th October 2014



- By the end of the 2021/22 period Fife Council's Fleet Operations had 55 full electric vehicles and 19 hybrid vehicles in service. The size of the Fife Council fleet decreased in 2021 (to 1398 vehicles) and now stands at 1355 (a 3% reduction) in vehicles.
- In the last 5 years Fife Council have reduced their diesel consumption by over 1 million litres this equates to over 2,500 tonnes of CO₂. This is as a result of a combination of factors i.e., reduced fleet, purchase of new fleet items with better emission technology, adoption of alternative fuel vehicles, modern vehicle telematics and smarter ways of working (e.g., mobile working, route planning, depot rationalisation and hybrid working).
- For Clean Air Day 2021, Fife Council provided two primary schools (Southwood Primary School, Glenrothes and Pupil Support Services, Glenrothes Campus – Rimpleton) with an educational package, including materials to carry out their own monitoring studies.
- The "Walk Once a Week" Campaign is a partnership between Fife Council and Living Streets Scotland that continues to promote active travel. 2021/22 saw a maximum of 19 school and 4,207 pupils take part.
- The Hands Up Scotland is a joint survey (funded by Transport Scotland) between Sustrans and the 32 Scottish local authorities. Each September, schools complete the survey by asking their pupils 'How do you normally travel to school?' and the results provide a valuable annual snapshot of typical school travel habits. The results for 2021 show that there was a slight decrease in

active travel within Fife Primary schools from 59.4% in 2020 (50.1% walking, 4% cycling and 5.3% scooter/skate) to 53.9% in 2021 (46.4% walking, 3.3% cycling and 4.2% scooter/skate). In association with this decrease in active travel there was an increase in pupils being driven to school (from 19% in 2020 to 23.1% in 2021) and those opting to park and stride (from 15.4% in 2020 to 16.5% in 2021).

- Cycling is promoted through encouraging active schools and is further promoted within schools via the Bikeability scheme. Over 2021 the number of pupils signed up to take part across Levels 1 and 2 of Bikeability were: Level 1 – 1,357 pupils from 31 schools (100% of pupils passed) and Level 2 – 1,240 pupils from 28 schools (100% of pupils passed). The Cycle Training Assistant course is now being offered to enable Bikeability training be provided to more schools.
- An electric vehicle purchased via Scottish Government grant to replace a diesel van in the Council fleet used for Meals-on-Wheels.
- The Northern Link Road Dunfermline dispersion model was updated in March 2022 using the most recent available data. These results show that no exceedances of the annual mean NO₂, PM₁₀ and PM_{2.5} Scottish air quality objectives within the Appin Crescent Air Quality Management Area (AQMA) are predicted for any of the future scenarios assessed. Fife Council will utilise the updated model to consider air quality issues in and around Dunfermline as part of the planning process.
- A Real-World Driving Emissions Study was undertaken over one week within the Appin Crescent and Bonnygate AQMAs in February/March 2022 and gathered data from nearly 13,000 and 12,000 vehicles respectively. The data from these monitoring studies will be used to inform future decision making and policy changes.
- A survey on domestic fuel use within both AQMAs was undertaken in March 2022. This survey looked specifically at identifying the extent of solid fuel burning in and around the AQMAs, and whether open fireplaces, solid-fuel stoves and biomass boilers are used as a source of heat by householders and businesses. Of the 2,020 surveys sent out a total of 556 responses were received, 339 (24%) from the Bonnygate area and 217 (37%) from the Appin Crescent area, meaning an overall response rate of 28%. Of the responses received, 24 (12%) from Bonnygate and 36 (17%) from Appin Crescent answered 'yes' to using solid fuel burning as a heat source. Around a third of survey respondents want to learn more on the best practice in terms of running and maintaining their appliance. The findings of this fuel use survey will aid in the production of such promotional materials.

3.2 Fife Council will continue to progress with its Local Air Quality Management duties and Action Plan measures. A summary of works to be actioned is provided below:

- Ongoing monitoring of nitrogen dioxide and relevant particulate matter concentrations and the publication of the Annual Progress Report in 2023.
- Continued implementation of Action Plan measures. Monitoring of both Nitrogen Dioxide and fine Particulate Matter will continue within the two AQMAs to assess the effectiveness of action plan measures.
- Await the outcomes of the Scottish Government intercomparison study of particulate monitors (anticipated in 2023) to inform decision regarding the possible full revocation of both AQMAs (as reported to the Environment and Protective Services Sub-Committee on 18th November 2021⁶).
- Deployment of new portable AQMesh units at key areas of concern (City Road, St Andrews and St Clair Street, Kirkcaldy) and an additional unit to be deployed in the Bonnygate AQMA to further inform the revocation decision making process.
- Continued implementation of Fife Council's travel plan, encouraging walking and cycling infrastructure and initiatives. Undertaken by Roads & Transportation Services, this forms part of a wider programme to encourage active travel through the provision of improved infrastructure and promotion of the benefits of active travel. Fife Council Travel Plan encourages employees to consider alternatives to car use for personal and business travel. Periodic employee surveys are carried out to gauge employee views and travel choices.
- Continuation of Fife ECO Stars recognition schemes (fleet and taxis). This initiative continues to attract significant membership and is seen as an integral part of Fife's Air Quality Strategy.
- As part of Clean Air Day 2022, Fife Council received Scottish Government grant funding to have EnviroTechnology Services' Smogmobile visit three primary schools in Dunfermline (Carnegie, St Margaret's RC and Duloch / Calaiswood). The Smogmobile gave pupils the opportunity to learn about air quality and monitoring techniques in an interactive manner and included the use of a mobile monitoring van which gave the children a chance to see air quality monitoring equipment in action (see below Photograph 2). Fife Council intends to promote future Clean Air Day activities subject to Scottish Government grant funding.

⁶ [Agenda-and-Papers-for-Meeting-of-Environment-and-Protective-Services-Sub-Committee-of-18-November-2021.pdf \(fife.gov.uk\)](#)

Photograph 2 The Smogmobile at Carnegie Primary School, Dunfermline during Clean Air Day 2022



- Building of an air quality and climate change co-benefits evidence base to evaluate the likely impact and benefits of actions being considered by Fife Council in relation to the Fife Council Climate Action Plan 2020-30⁷.
- Undertake a two-part anti-idling engine campaign. An educational package is being provided to primary schools along-side a competition to produce posters and banners with an air quality and anti-idling theme. The winning banner and posters are to be produced and displayed at the winning schools, with additional posters being produced for placement across the Fife area. Members of Fife's ECO Stars schemes will be encouraged to publicly support the anti-idling campaign via social media. The campaign aims to complement educational activities, ECO Stars and Clean Air Day.

4. Conclusions

4.1 Fife Council is demonstrating its ongoing commitment to improving air quality through the production of its Air Quality Strategy 2021-2025.

4.2 It has been confirmed that air quality has improved in Fife's two Air Quality Management Areas because of completed and ongoing Air Quality Action Plan measures.

4.3 Fife Council has been commended for its efforts by the Scottish Government, SEPA, Environmental Standards Scotland and Defra and cited as demonstrating "best practice" in this field of work.

⁷ https://www.fife.gov.uk/data/assets/pdf_file/0017/193121/ClimateActionPlan2020_summary.pdf

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