TORBAY COUNCIL

2025 Air Quality Annual Status Report (ASR)

In fulfilment of Part IV of the Environment Act 1995 Local Air Quality Management, as amended by the Environment Act 2021

Date: June, 2025

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Local Responsibilities and Commitment

This ASR was prepared by the Community Safety Department of Torbay Council with the support and agreement of the following officers and departments:

Public Health

This ASR has been approved by:

Tara Harris Divisional Director, Communities and Customer Service

This ASR has not currently been signed off by a Director of Public Health. The Public Health team have been involved in the production of this document.

If you have any comments on this ASR please send them to Alex Bulleid at:

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Executive Summary: Air Quality in Our Area

Air Quality in Torbay

Breathing in polluted air affects our health and costs the NHS and our society billions of pounds each year. Air pollution is recognised as a contributing factor in the onset of heart disease and cancer and can cause a range of health impacts, including effects on lung function, exacerbation of asthma, increases in hospital admissions and mortality.

Air pollution particularly affects the most vulnerable in society, children, the elderly, and those with existing heart and lung conditions. Low-income communities are also disproportionately impacted by poor air quality, exacerbating health and social inequalities.

Table ES 1 provides a brief explanation of the key pollutants relevant to Local Air Quality Management and the kind of activities they might arise from.

Table ES 1 - Description of Key Pollutants

Pollutant	Description
Nitrogen Dioxide (NO_2)	Nitrogen dioxide is a gas which is generally emitted from high-temperature combustion processes such as road transport or energy generation.
Sulphur Dioxide (SO_2)	Sulphur dioxide (SO_2) is a corrosive gas which is predominantly produced from the combustion of coal or crude oil.
Particulate Matter (PM_{10} and $PM_{2.5}$)	Particulate matter is everything in the air that is not a gas. Particles can come from natural sources such as pollen, as well as human made sources such as smoke from fires, emissions from industry and dust from tyres and brakes. PM_{10} refers to particles under 10 micrometres. Fine particulate matter or $PM_{2.5}$ are particles under 2.5 micrometres.

Actions to Improve Air Quality

Whilst air quality has improved significantly in recent decades, there are some areas where local action is needed to protect people and the environment from the effects of air pollution. Key actions by Torbay Council in 2024 include:

- Production of a draft Air Quality Strategy with a supporting Evidence Report. Action to improve air quality requires partnerships both within the Council and with external agencies. The Air Quality Strategy is being produced with officers from the following departments:
  - Community Safety
  - Public Health
  - Planning
  - Highways
  - Trading Standards
  - Climate Change

  The draft Strategy is currently going through the Council's governance processes for approval before submission to DEFRA. This will be concluded within the next 6 months.

- The creation of the Devon and Torbay Combined Authority, with a Transportation remit. The new authority will have greater powers than Torbay and Devon Council do alone. It aims to improve the delivery of measures that enhance growth and bring forward sustainable development.
- A joint response to the draft fourth round Local Transport Plan (LTP4) between the officers from Environmental Protection and Public Health.
- Continuing vegetation clearance on Hele Road to improve dispersion of pollution (an ongoing measure from the AQAP for the former Hele Road AQMA).
- Review of the diffusion tube monitoring network to ensure that monitoring is focused at expected hot spots and relevant worst-case locations.

Torbay Council expects the following measures to be completed over the course of the next reporting year:

- Publication of the Air Quality Strategy and submission to DEFRA in the next 6 months.
- As part of the publication of the Strategy and Evidence Report, the air quality content of the Council's website will be reviewed and updated. Together with the documents themselves, this will provide greater and more accessible information for the public and decision makers about air quality in the Bay.
- The new Devon and Torbay Combined Authority will develop its role to deliver improved public transport and meet net zero ambitions. These are both of relevance to air quality.

- Work will continue at pace to understand and prepare for proposed local government reorganisation.

Conclusions and Priorities

The nitrogen dioxide monitoring data shows that no locations measured an exceedence of the proxy for the hourly objective in 2024 (an annual average of 60µg/m^3) or the long term, annual average objective of 40µg/m^3. The highest concentration measured was 35.9 µg/m^3 (DT11 182 Kings Ash Road), which is just below 90% of the objective level.

No new AQMA is therefore required in Torbay and the decision to revoke the two former AQMAs at Hele and in Brixham is fully justified.

The general trend in the data for all the monitoring sites is a slight increased from 2020 to 2021 (likely caused by low traffic flows in 2020 as a result of Covid lockdowns), and then a significant reduction since 2021. Concentrations in 2024 are generally lower than they were in 2020. This is likely caused by changes in traffic flows as a result of COVID-19 and new travel & working behaviours, as well as ongoing improvements in vehicle emission technologies and the impact of measures in the former Air Quality Action Plans. Some inter-annual variability is also expected as a result of road works, weather patterns etc.

At the two monitoring sites on Kings Ash Road, concentrations in 2024 were similar to or higher than in 2020. This area was subject to significant roadworks during the year, which may have affected the results. The trend in this area will be kept under review in future reports.

Minor changes are proposed to the monitoring network for 2025. These are discussed later in the report. They are intended to improve coverage and it is not expected that the objective levels will be exceeded at any of the new locations.

No new developments are expected to have a significant impact on air quality moving forward.

Torbay Council's priority for the coming year is to publish and implement the new Air Quality Strategy. However, this will be in the context of a time of significant change in local government as well as changes to planning policy and significant new targets for house building. The impact of these changes on air quality will become clearer over time, but it seems likely that consolidation of plans and policies across current local authority boundaries will accelerate. The annual Air Quality Status Reports will discuss this in detail each year, if relevant.

How to get Involved

Torbay Council would like to ensure that the air quality continues to improve within the bay, with everyone having a role in making this happen. Small changes that we can all make, including residents, will help; such as walking or taking the bus instead of using the car for short journeys. Finding alternative routes when cycling and walking away from busy roads can help reduce the pollution that is breathed in.

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Figures

Tables

1 Local Air Quality Management

This report provides an overview of air quality in Torbay during 2024. It fulfils the requirements of Local Air Quality Management (LAQM) as set out in Part IV of the Environment Act (1995), as amended by the Environment Act (2021), 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 order to achieve and maintain the objectives and the dates by which each measure will be carried out. This Annual Status Report (ASR) is an annual requirement showing the strategies employed by Torbay Council to improve air quality and any progress that has been made.

The statutory air quality objectives applicable to LAQM in England are presented in Table E.1.in the Executive Summary.

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 should prepare an Air Quality Action Plan (AQAP) within 18 months. The AQAP should specify how air quality targets will be achieved and maintained and provide dates by which measures will be carried out.

Torbay Council currently does not have any declared AQMAs (two previous AQMAs were revoked in 2024 because action by the Council had been successful in ensuring that concentrations of nitrogen dioxide were consistently below the objective). A draft Air Quality Strategy has been produced which will describe the Council's approach to reducing the impact of air pollution.

2.2 Progress and Impact of Measures to address Air Quality in Torbay

Defra's appraisal of last year's ASR concluded:

The report is well structured, detailed, and provides the information specified in the Guidance. The following comments are designed to help inform future reports:

1. The Council have correctly applied QA/QC protocols for annualisation and have selected an appropriate bias adjustment factor using a national factor.
2. The graphical trends showing the changes in annual mean NO_2 concentrations from non-automatic monitoring are well presented and accurately demonstrate the annual mean concentrations compared against the corresponding air quality objective for NO_2.
3. The air quality initiatives discussed in the ASR are presented in a consistent format between the ASR document (section ii) and the supplementary Excel ASR Table (Table 2.2).
4. The Council have not yet produced an Air Quality Action Plan within the last five years. It is recommended that the Council work towards sharing details of an Air Quality Action Plan, or an Air Quality Strategy in the absence of any AQMAs, for the next ASR submission in 2025.

5. Figures presented in the report are well-labelled and allow the reader to see which non-automatic sites are present with the AQMAs within the Council's jurisdiction.
6. This ASR has not received Director of Health approval. Defra recommends that Directors of Public Health approve draft ASRs.
7. There are a couple of pages in Appendix A with only a single sentence of text, it may be a bit tidier for future submissions to reduce the amount of blank space between different tables and figures included in the Appendices.

Of these points, only numbers 4, 6 and 7 required action. These have all been addressed in this report.

Torbay Council has taken forward a number of direct measures during the current reporting year of 2024 in pursuit of improving local air quality. Details of all measures completed, in progress or planned are set out in Table 2.1. Four measures are included within Table 2.1, with the type of measure and the progress Torbay Council have made during the reporting year of 2024 presented. Where there have been, or continue to be, barriers restricting the implementation of the measure, these are also presented.

More detail on these measures can be found in the Local Plan, and the draft LTP4. Key completed measures are:

- Drafting an Air Quality Strategy and its supporting Evidence Report.
- The creation of the Devon and Torbay Combined Authority. There is further information in the Air Quality Strategy, but the authority will have greater powers than Torbay and Devon Council do alone. It aims to improve the delivery of measures that enhance growth and bring forward sustainable development.
- A joint response to the draft fourth round Local Transport Plan (LTP4) between the officers from Environmental Protection and Public Health.
- Ongoing vegetation clearance on Hele Road to improve dispersion of pollution (an ongoing measure from the AQAP for the former Hele Road AQMA.
- Review of the diffusion tube monitoring network to ensure that monitoring is focused at expected hot spots and relevant worst-case locations (further information is available in section 3.2.1).

Torbay Council worked to implement these measures in partnership with the following stakeholders during 2024:

- Devon County Council Highways and the Combined Authority (joint draft LTP4)
- Devon and Somerset Trading Standards (regulation of the sale of solid fuels)

Torbay Council expects the following measures to be completed over the course of the next reporting year:

- Publication of the Air Quality Strategy. The strategy will be published in the next 12 months having been approved by the Council's governance processes.
- As part of the publication of the Strategy and Evidence Report, the air quality content of the Council's website will be reviewed and updated. Together with the documents themselves, this will provide greater and more accessible information for the public and decision makers about air quality in the Bay.
- The new Devon and Torbay Combined Authority will develop its role to deliver Improved public transport and meet net zero ambitions. These are both of relevance to air quality.
- Work will continue at pace to understand and prepare for proposed local government reorganisation.

Torbay's priorities for the coming year are to publish the Air Quality Strategy and continue to raise the profile and awareness of air quality amongst decision makers and the public.

The principal challenges and barriers to implementation that Torbay anticipates facing are associated with the fact that it is a time of significant change in local government. The impact of these changes on the delivery of air quality improvements will become clearer over time, but it seems likely that consolidation of plans and policies across current local authority boundaries will accelerate. The future annual Air Quality Status Reports will discuss this in detail each year, if relevant.

Torbay Council anticipates that the measures stated above and in Table 2.1 will maintain the current compliance with local air quality objectives going forward.

Table 2.1 – Progress on Measures to Improve Air Quality

Measure No.	Measure Title	Category	Classification	Year Measure Introduced in AQAP	Estimated / Actual Completion Date	Organisations Involved	Funding Source	Funding Status	Estimated Cost of Measure	Measure Status	Reduction in Pollutant / Emission from Measure	Key Performance Indicator	Progress to Date	Comments / Barriers to Implementation
1	Air Quality Strategy	Policy Guidance and Development Control	Other Policy	2025	2030	Torbay Council, Combined Authority	Existing resources, Developer and Grant Funding and 'Polluter Pays'	Funded	£1m to £10m of spending within the existing Plans and Policies that the Strategy will refer to (e.g. Local Transport Plan, Local Plan, Climate Change plans etc)	Implementation	Benefits to society of up to £200k may be delivered.	Publication and implementation of the strategy	Draft strategy produced, prior to going through the Council's governance processes	Work within the associated plans may be subject to operational constraints, but will be monitored through their own governance processes to ensure deliverability.
2	Local Government Reorganisation and Devolution	Policy Guidance and Development Control	Regional Groups Co-ordinating programmes to develop Area wide Strategies to reduce emissions and improve air quality	2025	2030	All Devon Local Authorities and the Combined Authority	Existing resources (To Be Confirmed)	To Be Confirmed	To Be Confirmed	Implementation	None directly	To Be Confirmed	N/A	This action is included to reflect the significant opportunities (as well as risks) that these changes to local government will introduce. Economies of scale and work across former authority boundaries have the potential to facilitate positive change. Ensuring that air quality remains a priority will be the challenge.
3	Making greater and more accessible information available to the public and stakeholders	Public Information	Other	2025	2030	Torbay Council	Existing resources	Funded	<£10k	Implementation	None directly	Web site updated first (in 2025)	N/A	This action will make use of the Air Quality Strategy and Evidence report to prompt a step change in the information available to the public and stakeholders
4	Vegetation clearance on Hele Road	Traffic Management	Other	2012	Ongoing	Torbay Council	Existing resources	Funded	<£10k	Implementation	None directly, but improved dispersion of pollution	Work continues every year	N/A	

2.3 $PM_{2.5}$ – Local Authority Approach to Reducing Emissions and/or Concentrations

As detailed in Policy Guidance LAQM.PG22 (Chapter 8) and the Air Quality Strategy[1], local authorities are expected to work towards reducing emissions and/or concentrations of fine particulate matter ($PM_{2.5}$). There is clear evidence that $PM_{2.5}$ (particulate matter smaller 2.5 micrometres) has a significant impact on human health, including premature mortality, allergic reactions, and cardiovascular diseases.

Public Health England's Public Health Outcomes Framework tool shows that in Torbay in 2023 the fraction of mortality attributable to particulate air pollution was 4.1%. This is just below the regional figure for the south west (4.3%) and below the national level of 5.2%. Torbay therefore has levels of particulate matter which are causing harm, but this problem is less severe than in the majority of the country. The data is available at this link. The modelling on which this is based suggests that average PM2.5 concentrations in Torbay in 2023, the latest year for which data is available, were 5.4 μg/m^3. This is below the southwest level of 5.7 and the national figure of 7.0 μg/m^3. The DEFRA-run PM2.5 monitoring network proposes to instal capacity for direct monitoring of PM2.5 in Torquay, but no date is yet available for when this will be operational. Further information is presented in the Evidence report for the Air Quality Strategy.

The annual average EU limit value for PM2.5 is 25 μg/m3 so there is no suggestion that this level is being exceeded in the district. The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023 introduce a target for national government of 10 μg/m³ as an annual mean, to be achieved by 2040. Plans to achieve this will be brought forward by DEFRA on behalf of HM Government. The Regulations also introduce a population exposure reduction target for national government; that there is at least a 35% reduction in population exposure by the end of 31st December 2040, as compared with the average population exposure in the three-year period from 1st January 2016 to 31st December 2018.

Despite these being targets for central government, Torbay Council still has a duty to reduce emissions of and exposure to this pollutant. During 2024, the Council will be taking

[1] Defra. Air Quality Strategy – Framework for Local Authority Delivery, August 2023

the measures described in Table 2.1 that will address PM2.5 as well as NO2. Further information is available in the Air Quality Strategy.

3 Air Quality Monitoring Data and Comparison with Air Quality Objectives and National Compliance

This section sets out the monitoring undertaken within 2024 by Torbay Council and how it compares with the relevant air quality objectives. In addition, monitoring results are presented for a five-year period between 2020 and 2024 to allow monitoring trends to be identified and discussed.

3.1 Summary of Monitoring Undertaken

3.1.1 Automatic Monitoring Sites

Torbay Council does not operate any automatic (continuous) monitoring sites

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3.1.2 Non-Automatic Monitoring Sites

Torbay Council undertook non-automatic i.e. passive, monitoring of NO_2 at 16 sites during 2024. Table A.1 in Appendix A presents the details of the non-automatic sites.

Maps showing the location of the monitoring sites are provided in Appendix D. Further details on Quality Assurance/Quality Control (QA/QC) for the diffusion tubes, including bias adjustments and any other adjustments applied,e.g. annualisation and/or distance correction, are included in Appendix C.

3.2 Individual Pollutants

The air quality monitoring results presented in this section are, where relevant, adjusted for bias, annualisation (where the annual mean data capture is below 75% and greater than 25%), and distance correction. Further details on adjustments are provided in Appendix C.

3.2.1 Nitrogen Dioxide (NO_2)

Table A.2 in Appendix A compares the ratified and adjusted monitored NO_2 annual mean concentrations for the past five years with the air quality objective of 40µg/m^3. Note that the concentration data presented represents the concentration at the location of the

monitoring site, following the application of bias adjustment and annualisation, as required (i.e. the values are exclusive of any consideration to fall-off with distance adjustment).

For diffusion tubes, the full 2024 dataset of monthly mean values is provided in Appendix B. Note that the concentration data presented in Table B.1 includes distance corrected values, only where relevant. Figure A.1 shows trend graphs for the past 5 years.

The national bias adjustment figure (0.84, from the April spreadsheet) has been used to correct the diffusion tube data. The data shows that no locations measured an exceedence of the proxy for the hourly objective in 2024 (an annual average of 60µg/m^3) or the long term, annual average objective of 40µg/m^3. The highest concentration measured was 35.9 µg/m^3 (DT11 182 Kings Ash Road), which is just below 90% of the objective level.

No new AQMA is therefore required in Torbay and the decision to revoke the two former AQMAs at Hele and in Brixham is fully justified.

The general trend in the data for all the monitoring sites is a slight increased from 2020 to 2021. This is likely caused by low traffic flows in 2020 as a result of Covid lockdowns, and then significant a reduction since 2021. Concentrations in 2024 are generally lower than they were in 2020 as illustrated in Figure A.1 and the data in Table A.4. This is likely caused by changes in traffic flows as a result of COVID-19 and new travel & working behaviours as well as ongoing improvements in vehicle emission technologies and the impact of measures in the former Air Quality Action Plans. Some inter-annual variability is also expected as a result of road works, weather patterns etc.

At the two monitoring sites on Kings Ash Road, concentrations in 2024 were similar to or higher than in 2020. This area was subject to significant roadworks during the year, which may have affected the results. The trend in this area will be kept under review in future reports.

The Council considers that it has good coverage of all areas where exceedences might occur at a relevant location as well as any areas which might be expected to see significant traffic growth, as a result of new development etc. Monitoring is focused at expected hot spots and relevant worst-case locations. For 2025, the network has been amended as follows:

- A new location has been included at the busy junction of Manor Road and Torquay Road in Preston, where there are flats close to the kerbside. It is not expected that

concentrations at this location will exceed the objective level. A monitoring site had been added to improve the data available in this area.

- The monitoring site at Windy Corner has been moved to the façade of a property, to give more accurate data at a relevant receptor.
- The monitoring locations at Kings Ash Road and Tweenaway Cross have been reviewed to extend coverage of this section of busy road. A second monitoring point has been added at Tweenaway Cross. The diffusion tube at 194 Kings Ash Road has been removed and replaced by two new locations, one outside 222 Kings Ash Road and one outside 133 Kings Ash Road. The purpose of these changes are to ensure that any exceedance of the objective along this stretch of road would be identified. The location which traditionally measured the highest concentrations, 182 Kings Ash Road has been retained.

Regular review of the network will continue to ensure that monitoring is taking place at all areas of potential exceedance at locations of relevant exposure.

3.2.2 Particulate Matter (PM_{10})

Torbay Council does not undertake monitoring of PM10 concentrations.

3.2.3 Particulate Matter ($PM_{2.5}$)

Torbay Council does not undertake monitoring of PM2.5 concentrations.

3.2.4 Sulphur Dioxide (SO_2)

Torbay Council does not undertake monitoring of SO_2 concentrations.

Appendix A: Monitoring Results

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

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT06	17 Hele Rd	Roadside	291198	65972	NO2	No	0.0	5.0	No	2.0
DT04	33 Hele Rd	Roadside	291124	65999	NO2	No	0.0	6.0	No	2.0
DT07	Orchard Rd	Roadside	290870	66135	NO2	No	0.0	2.0	No	2.2
DT09	156 Hele Rd	Roadside	290708	66133	NO2	No	0.0	6.0	No	2.0
DT08	103 Hele Rd	Roadside	290913	66136	NO2	No	0.0	4.0	No	2.0
DT10	Hele Church	Roadside	291118	66018	NO2	No	0.0	4.0	No	2.0
DT05	Con Club	Roadside	290995	66080	NO2	No	0.0	6.0	No	2.0
DT11	182 Kings Ash Rd	Roadside	287289	60824	NO2	No	0.0	8.0	No	1.5
DT12	194 Kings Ash Rd	Roadside	287237	60891	NO2	No	0.0	11.0	No	1.5

Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) (1)	Distance to kerb of nearest road (m) (2)	Tube Co-located with a Continuous Analyser?	Tube Height (m)
DT15	Tweenaway Cross	Roadside	287250	59982	NO2	No	2.0	2.0	No	2.0
DT02	Windy Corner	Roadside	288851	56955	NO2	No	5.0	20.0	No	2.0
DT18	Middle St Brixham	Roadside	287241	59923	NO2	No	0.0	1.5	No	2.2
DT01	Bolton St Brixham	Roadside	292418	55814	NO2	No	2.0	1.0	No	1.5
DT19	Old Mill Rd	Roadside	290477	64187	NO2	No	15.0	1.0	No	2.0
DT14	Brixham Town Hall	Roadside	292340	56049	NO2	No	0.0	2.0	No	1.6
DT17	Bookers	Roadside	287301	59700	NO2	No	8.0	2.0	No	2.0

Notes:

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

(2) N/A if not applicable.

Table A.2 – Annual Mean NO_2 Monitoring Results: Non-Automatic Monitoring (µg/m^3)

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
DT06	291198	65972	Roadside	98.4	98.4	26.5	29.4	28.5	26.9	25.9
DT04	291124	65999	Roadside	89.5	89.5	25.3	26.7	26.1	24.7	23.7
DT07	290870	66135	Roadside	98.4	98.4	26.4	26.6	26.3	23.7	21.9
DT09	290708	66133	Roadside	98.4	98.4	20.7	22.2	22.4	19.6	18.8
DT08	290913	66136	Roadside	89.5	89.5	-	20.5	21.8	20.0	21.7
DT10	291118	66018	Roadside	98.4	98.4	22.6	23.1	23.2	21.2	20.2
DT05	290995	66080	Roadside	98.4	98.4	17.2	19.0	18.9	17.1	16.6
DT11	287289	60824	Roadside	98.4	98.4	35.3	**40.6**	37.3	33.4	35.9
DT12	287237	60891	Roadside	72.0	72.0	22.4	27.4	26.1	23.8	29.0
DT15	287250	59982	Roadside	98.4	98.4	24.5	23.8	24.2	22.4	22.0
DT02	288851	56955	Roadside	81.1	81.1	-	-	-	-	7.3

Diffusion Tube ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Site Type	Valid Data Capture for Monitoring Period (%) (1)	Valid Data Capture 2024 (%) (2)	2020	2021	2022	2023	2024
DT18	282856	56962	Roadside	98.4	98.4	18.1	21.5	17.0	15.8	16.5
DT01	292418	55814	Roadside	90.6	90.6	18.7	20.6	19.4	20.1	16.8
DT19	290477	64187	Roadside	86.8	86.8	16.4	17.8	17.0	15.2	14.9
DT14	292340	56049	Roadside	91.1	91.1	17.1	20.2	19.4	13.4	11.4
DT17	287301	59700	Roadside	26.4	26.4	-	-	-	-	13.4

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22**

☒ **Diffusion tube data has been bias adjusted.**

☒ **Reported concentrations are those at the location of the monitoring site (bias adjusted and annualised, as required), i.e. prior to any fall-off with distance correction.**

Notes:

The annual mean concentrations are presented as µg/m^3.

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

Means for diffusion tubes have been corrected for bias. All means have been "annualised" as per LAQM.TG22 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

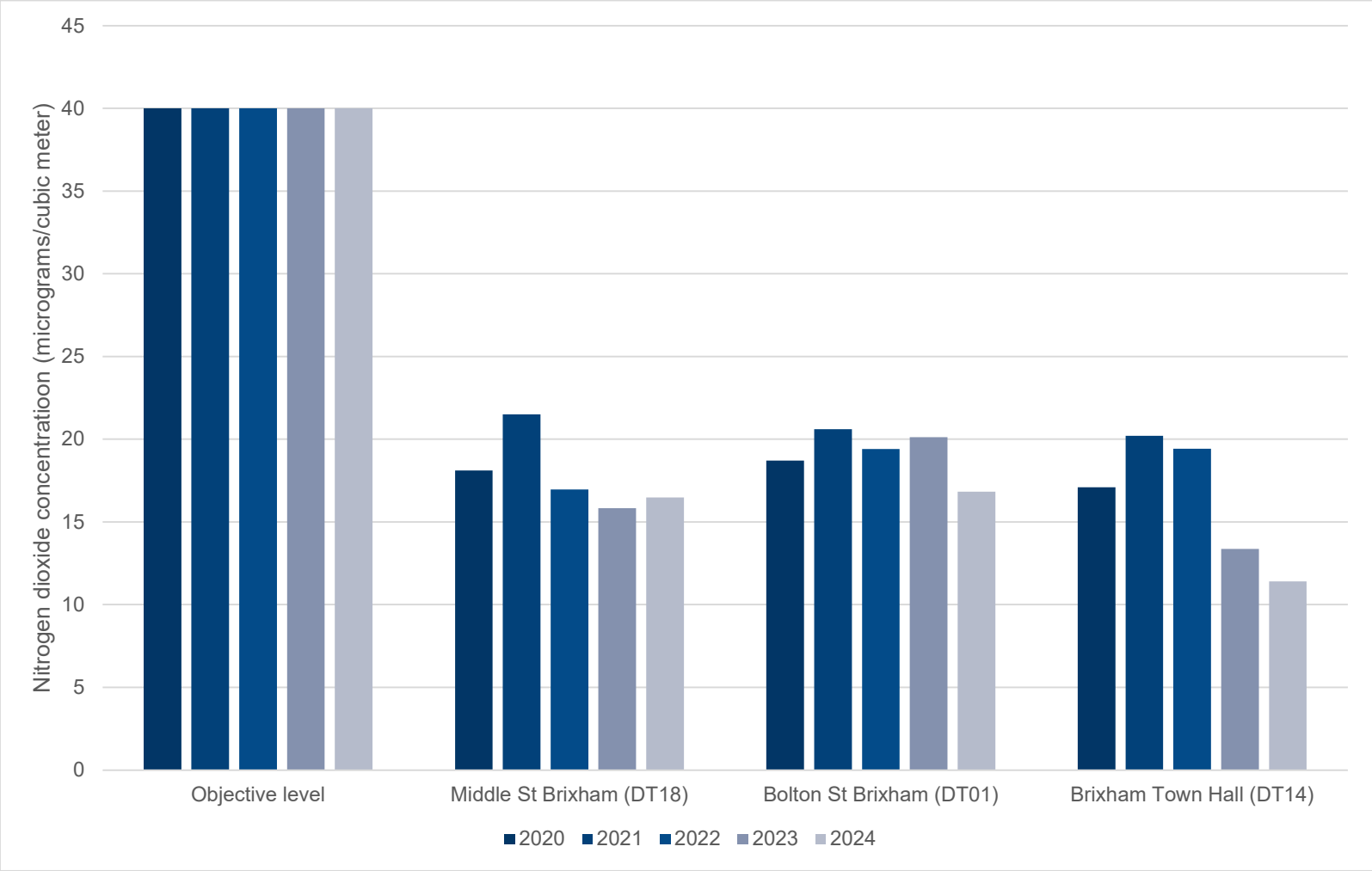
Concentrations are those at the location of monitoring and not those following any fall-off with distance adjustment.

(1) Data capture for the monitoring period, in cases where monitoring was only carried out for part of the year.

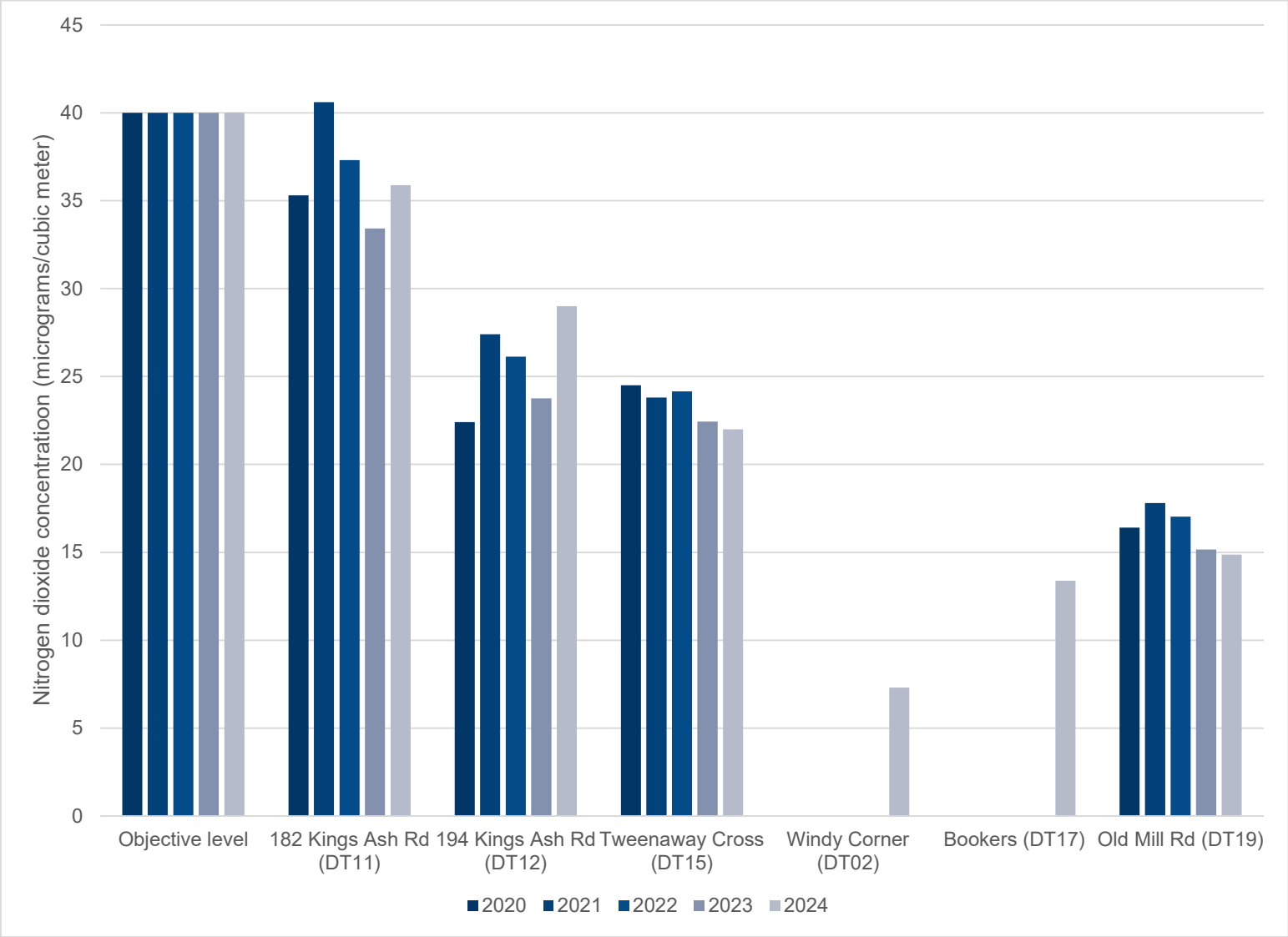
(2) Data capture for the full calendar year (e.g. if monitoring was carried out for 6 months, the maximum data capture for the full calendar year is 50%)

Figure A.1 – Trends in Annual Mean NO_2 Concentrations

Monitoring sites in the former AQMA in Brixham



Other Monitoring Sites



Appendix B: Full Monthly Diffusion Tube Results for 2024

Table B.1 – NO_2 2024 Diffusion Tube Results (µg/m^3)

DT ID	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean: Raw Data	Annual Mean: Annualised and Bias Adjusted (0.84)	Annual Mean: Distance Corrected to Nearest Exposure
DT06	291198	65972	32.0	32.7	28.4	31.9	31.7	26.4	27.3		35.8	32.3	33.8	28.6	30.8	25.9	-
DT04	292124	65999	32.0	32.0	27.0	27.2		27.2	19.6		28.3	32.4	32.1	27.3	28.2	23.7	-
DT07	290870	66135	33.4	30.9	28.0	26.8	24.6	21.6	14.6		21.9	30.0	31.1	29.3	26.1	21.9	-
DT09	290708	66133	27.5	26.3	23.9	20.8	20.0	18.8	19.6		20.2	22.8	24.6	23.2	22.4	18.8	-
DT08	290913	66136	27.1	26.3	18.9	22.8		33.1	22.9		25.3	26.8	30.3	24.2	25.9	21.7	-
DT10	291118	66018	28.8	27.0	21.2	22.2	25.1	19.4	22.9		25.6	24.2	26.2	23.2	24.1	20.2	-
DT05	290995	66080	23.8	21.4	15.4	18.1	19.2	15.0	16.7		21.0	23.2	25.5	19.8	19.8	16.6	-
DT11	287289	60824	41.7	46.8	46.1	46.6	39.4	39.6	40.7		43.5	42.5	45.3	39.9	42.7	35.9	-
DT12	287237	60891	28.8	30.9	29.5	29.8	31.4	30.2	30.4		34.9				30.8	29.0	-
DT15	287250	59982	31.9	31.4	30.1	23.4	23.2	20.8	23.1		24.8	26.3	30.0	25.6	26.2	22.0	-
DT02	288851	56955		8.1	5.8	8.2	11.8	4.6	8.1		12.7	-	12.0	7.6	8.7	7.3	-
DT18	287241	59923	24.4	20.5	14.3	17.2	18.6	15.1	18.8		23.2	19.4	23.4	21.2	19.6	16.5	-
DT01	292418	55814		22.6	20.1	19.5	18.0	13.8	17.9		21.7	23.6	25.4	19.4	20.0	16.8	-
DT19	290477	64187	17.5	21.0	13.6	15.7	12.7	15.8			14.5	19.4	25.6	20.9	17.7	14.9	-
DT14	292340	56049	6.9	12.1	9.2		14.7	11.6	12.4		9.7	19.8	21.8	17.5	13.6	11.4	-
DT17	287301	59700	-	-	-	-	-	-	-	-	-	19.8	24.1	15.5	19.5	13.4	-

☒ **All erroneous data has been removed from the NO_2 diffusion tube dataset presented in Table B.1.**

☒ **Annualisation has been conducted where data capture is <75% and >25% in line with LAQM.TG22.**

☐ **Local bias adjustment factor used.**

☒ **National bias adjustment factor used.**

☒ **Where applicable, data has been distance corrected for relevant exposure in the final column.**

☒ **Torbay Council confirm that all 2024 diffusion tube data has been uploaded to the Diffusion Tube Data Entry System.**

Notes:

Exceedances of the NO_2 annual mean objective of 40µg/m^3 are shown in **bold**.

NO_2 annual means exceeding 60µg/m^3, indicating a potential exceedance of the NO_2 1-hour mean objective are shown in **bold and underlined**.

See Appendix C for details on bias adjustment and annualisation.

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

New or Changed Sources Identified Within Torbay During 2024

Torbay Council has not identified any new sources relating to air quality within the reporting year of 2024.

Additional Air Quality Works Undertaken by Torbay Council During 2024

An Evidence Report has been compiled to support the Air Quality Strategy. This is available with the Strategy on the Council's website at this link.

QA/QC of Diffusion Tube Monitoring

Torbay Council uses Gradko diffusion tubes (20% TEA in water). Gradko laboratories (GRADKO International Ltd., St. Martins House, 77 Wales Street, Winchester, Hants. SO23 0RH) hold UKAS accreditation, follow the procedures set out in the Harmonisation Practical Guidance and their performance was satisfactory in the centralised AIR NO2 PT scheme for quality assurance and quality control.

The tube exposure period used generally follows the Diffusion Tube Monitoring Calendar provided by the Air Quality Support Helpdesk, i.e. an exposure time of 4 or 5 weeks, with an allowed variation in exposure time of ± 2 days. During 2024, the monitoring was completed in broad adherence with the 2024 Diffusion Tube Monitoring Calendar.

The tubes are stored in a fridge before they are exposed. Location sites and fixings follow the recommendations in the DEFRA practical guidance on the use of diffusion tubes for NO2 monitoring, published in 2008.

Data from the tubes are ratified and suspect data rejected by Torbay Council, following the procedure in the DEFRA practical guidance. Random checks of the data in the reporting spreadsheet are also undertaken to ensure that no mistakes were made when inputting the data.

Diffusion Tube Annualisation

Annualisation was required for two non-automatic monitoring sites, Bookers (DT17) and 194 Kings Ash Road (DT12). This was because these sites had data capture of between 25 and 75%. The data was annualised using the Diffusion Tube Data Processing Tool, using two AURN background continuous monitoring sites within 50 miles (Yarner Wood and Plymouth Centre)

Table C.1 – Annualisation Summary (concentrations presented in µg/m^3)

The output from the annualisation tool within the Diffusion Tube Data Processing spreadsheet is shown below.

Site ID	Annualisation Factor Yarner Wood	Annualisation Factor Plymouth Centre	Average Annualisation Factor	Raw Data Annual Mean	Annualised Annual Mean
DT12	1.1292	1.1123	1.1208	30.8	34.5
DT17	0.7922	0.8421	0.8171	19.5	15.9

Diffusion Tube Bias Adjustment Factors

The diffusion tube data presented within the 2025 ASR have been corrected for bias using an adjustment factor. Bias represents the overall tendency of the diffusion tubes to under or over-read relative to the reference chemiluminescence analyser. LAQM.TG22 provides guidance with regard to the application of a bias adjustment factor to correct diffusion tube monitoring. Triplicate co-location studies can be used to determine a local bias factor based on the comparison of diffusion tube results with data taken from NO_x/NO_2 continuous analysers. Alternatively, the national database of diffusion tube co-location surveys provides bias factors for the relevant laboratory and preparation method.

Torbay Council have applied a national bias adjustment factor of 0.84 to the 2024 monitoring data. A summary of bias adjustment factors used by Torbay over the past five years is presented in Table C.2. With no local co-location study the national factor has always been used.

Table C.2 – Bias Adjustment Factor

Monitoring Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2024	National	04/25	0.84
2023	National	03/24	0.81

2022	National	03/23	0.83
2021	National	09/19	1.01
2020	National	06/18	1.05

NO_2 Fall-off with Distance from the Road

Wherever possible, monitoring locations are representative of exposure. However, where this is not possible, the NO_2 concentration at the nearest location relevant for exposure should be estimated using the NO_2 fall-off with distance calculator if the annual mean concentration is greater than 36µg/m^3.

No diffusion tube NO_2 monitoring locations within Torbay required distance correction during 2024.

Appendix D: Map(s) of Monitoring Locations and AQMAs

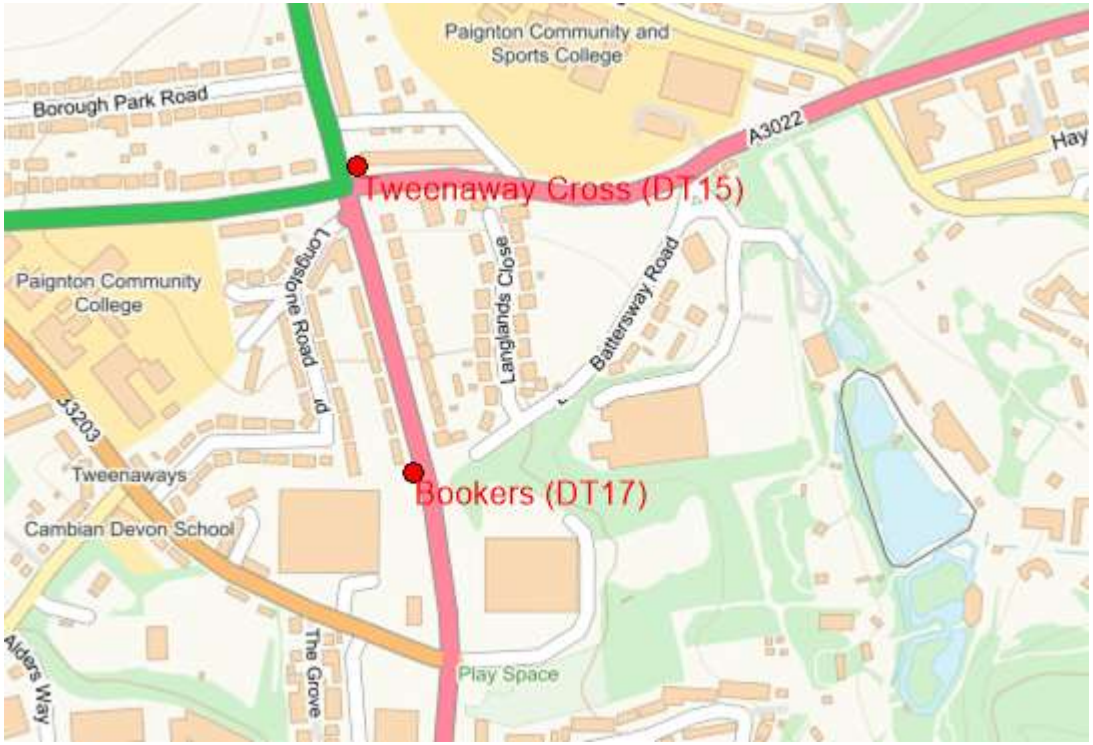
Figure D.1 – Map of Non-Automatic Monitoring Site

Hele area monitoring sites

Old Mill Road Monitoring Site

Kings Ash Road Monitoring Sites

Tweenaway Cross and Bookers Monitoring Sites



Windy Corner Monitoring Site

Brixham monitoring sites

Appendix E: Summary of Air Quality Objectives in England

Table E.1 – Air Quality Objectives in England[2]

Pollutant	Air Quality Objective: Concentration	Air Quality Objective: Measured as
Nitrogen Dioxide (NO_2)	200µg/m^3 not to be exceeded more than 18 times a year	1-hour mean
Nitrogen Dioxide (NO_2)	40µg/m^3	Annual mean
Particulate Matter (PM_{10})	50µg/m^3, not to be exceeded more than 35 times a year	24-hour mean
Particulate Matter (PM_{10})	40µg/m^3	Annual mean
Sulphur Dioxide (SO_2)	350µg/m^3, not to be exceeded more than 24 times a year	1-hour mean
Sulphur Dioxide (SO_2)	125µg/m^3, not to be exceeded more than 3 times a year	24-hour mean
Sulphur Dioxide (SO_2)	266µg/m^3, not to be exceeded more than 35 times a year	15-minute mean

[2] The units are in microgrammes of pollutant per cubic metre of air (µg/m^3).

Glossary of Terms

Abbreviation	Description
AQAP	Air Quality Action Plan - A detailed description of measures, outcomes, achievement dates and implementation methods, showing how the local authority 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
ASR	Annual Status Report
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by National Highways
LAQM	Local Air Quality Management
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxides
PM_{10}	Airborne particulate matter with an aerodynamic diameter of 10µm 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

- Local Air Quality Management Technical Guidance LAQM.TG22. August 2022. 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.PG22. August 2022. Published by Defra in partnership with the Scottish Government, Welsh Assembly Government and Department of the Environment Northern Ireland.
- Chemical hazards and poisons report: Issue 28. June 2022. Published by UK Health Security Agency
- Air Quality Strategy – Framework for Local Authority Delivery. August 2023. Published by Defra.