



Torfaen County Borough Council
Economy and Environment
Housing Safety and Environmental Protection

2023 Air Quality Progress Report

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

Date: September 2023

Torfaen County Borough Council

<i>Information</i>	Torfaen County Borough Council
<i>Local Authority Officer</i>	Peter Oates
<i>Department</i>	Economy and Environment Housing Safety and Environmental Protection
<i>Address</i>	Torfaen County Borough Council Civic Centre Pontypool NP4 6YB
<i>Telephone</i>	01633 647290
<i>E-mail</i>	peter.oates@torfaen.gov.uk
<i>Report Reference number</i>	TCBC PR 2023
<i>Date</i>	September 2023

Executive Summary: Air Quality in Our Area

Air Quality in Torfaen County Borough Council

Air pollution results from the introduction of a range of substances into the atmosphere from a wide variety of sources. It can cause both short term and long term effects on health, but also on the wider environment. The air quality in Wales is generally better now than it has been at any time since before the Industrial Revolution.

These improvements have been achieved through the introduction of legislation enforcing tighter controls on emissions of pollutants from key sources, notably industry, domestic combustion and transport. However, despite the improvements made, air pollution is still recognised as a risk to health, and many people are concerned about pollution in the air that they breathe.

Government statistics estimate that air pollution in the UK reduces the life expectancy of every person by an average of 7–8 months, with an associated cost of up to £20 billion each year. Legislation and policies aiming to further minimise and track the impact of air pollution on health and the environment have been introduced in Europe, the UK and Wales.¹

Air Quality Management Areas (AQMAs) can be declared when there is an exceedance or likely to be an exceedance of an air quality objective. In 2019 in Torfaen, a single, air quality monitoring, diffusion tube breached the national objective of 40 $\mu\text{g}/\text{m}^3$ with an annual average of 47 $\mu\text{g}/\text{m}^3$. The local authority decided that we needed more information and data in order to establish the spatial extent of any potential breach of the national objective, before moving forward to declare an AQMA. In 2020. The diffusion tube network was expanded around the identified 'hotspot' and although 2020 results did not reveal any further national objective breaches, we considered that, the reductions in traffic pollution due to pandemic lockdowns, gave atypical results. Comparisons of traffic pollution levels, between years with and without lockdowns, were examined in the appendices of the 2021 Torfaen Air quality Progress Report.

Torfaen Council continuously monitors ozone, particulates and the oxides of nitrogen at an automatic, urban background site, located in Croesyceiliog comprehensive school. Each month in 2022, we also deployed 28 passive diffusion tubes on lampposts to monitor nitrogen dioxide across the borough.

The automatic site had a consistently high level of data collection for particulates and oxides of Nitrogen. The data collection for the Ozone monitor was not as high as previous years due to a leak which meant that over 3 months data was rejected as part of the QA/QC verification process. Out of the 327 diffusion tubes deployed over the year, 3 went missing.

In 2022 we continued with our co-location study for nitrogen dioxide at the automatic Urban Background site. This involved siting three of the diffusion tubes in close proximity to the automatic station's sample inlet. Results between the different types of monitoring are then compared and appropriate bias adjustments calculated. These bias adjustments are used when calculating diffusion tube results for this report.

Monitoring data shows the background trend of particulates since 2004 to be quite static. Background nitrogen dioxide has remained quite static since 2006.

The 2022 diffusion tube results are very similar to the 2021 data set and have not shown a repeat of the 2019 exceedance of the national objective.

In conclusion, the 2022 monitoring results do not show any exceedances of any of the national objectives.

[¹The Welsh Government Air Quality Website](#)

Actions to Improve Air Quality

Torfaen County Borough Council has not yet declared any AQMAs and is continuing to closely monitor the 'hotspot' area identified in 2019. The 2022 results for this area have not exceeded national objectives. The remainder of the borough generally has low traffic pollution levels. In November 2022 a Praxis/Urban, air quality sensor was installed on the same lamppost as the diffusion tube which recorded an objective exceedance of Nitrogen Dioxide levels in 2019. The sensor is considered a more accurate method of monitoring than diffusion tubes and monitors particulates as well as Nitrogen Dioxide.

Diffusion tubes have a 25% uncertainty the sensor has a 15% uncertainty. The sensor data will not be used to formally assess compliance with National objectives but will help inform decision making regarding the local air quality.

Results from the sensor will be reported next year's progress report when we have a whole year's data. Preliminary results indicate slightly lower levels than the diffusion tube results therefore also indicating no objective was breached although further data from the 2023 sensor data is needed to confirm this.

The Council also seeks to maintain and improve the current air quality enjoyed by its constituents through working relationships between the Welsh Government, other Council departments and external organisations, close Public Health scrutiny of planning applications, potentially detrimental to air quality, the monitoring of Environmental Permit emission limits along with Statutory Nuisance and Clean Air Act regulation and enforcement.

Torfaen County Borough Council also works with local industry and Natural Resources Wales through the Environmental Permitting regime to help manage air quality. The Council also plays an active role within the Welsh Air Quality forum.

The Public Health team deal with complaints of nuisance burning, dark and black smoke and provide advice on appropriate fuels for domestic wood burning stoves. The Council is also involved in a number of schemes to improve green infrastructure, to promote active travel and improve the active travel routes in the borough.

Local Priorities and Challenges

Torfaen County Borough Council is keen to increase its understanding of air quality in the borough. Since 2016 the Council has expanded the diffusion tube network every year from 13 tubes in 2016 to 28 tubes in 2022.

We have placed an air quality sensor in the area showing the highest traffic pollution in the borough, the results of which will be reported in the 2024 progress report.

Torfaen is continuing our co-location study for nitrogen dioxide at the Cwmbran Crownbridge site, the bias adjustment figures achieved from this study will be used to calculate the annual averages in this progress report.

How to Get Involved

Further information regarding air quality both in the Torfaen area and in general can be obtained by visiting the air quality section of our website here;

[Torfaen Council website \(pollution section\)](#)

By visiting the Welsh Government, air quality website here;

[The Cwmbran site on the Welsh Government Air Quality Website](#)

[The Welsh Government Air Quality Website](#)

If you have specific questions, you can contact the Public Health team by email;

public.health@torfaen.gov.uk

Alternatively, call us on 01495 762200.

Previous reports and Welsh translations of Executive summaries can be found on the

[Torfaen County Borough Council Website](#)

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1. Actions to Improve Air Quality

1.1 Previous Work in Relation to Air Quality

This report fulfils the requirements of the Local Air Quality Management process as set out in Part IV of the Environment Act (1995), the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007 and the relevant Policy and Technical Guidance documents. It represents Torfaen County Borough Council's thirteenth progress report. Results from monitoring in the Borough are presented and any potentially significant sources of air pollution are identified. The progress report evaluates those changes since the last assessment, which could lead to the risk of an air quality objective being exceeded.

.Table 1 Previous Reports

REPORT TITLE	PUBLISHED	OUTCOME
Updating and Screening Assessment 2003	October 2003	No breaches of Objectives
Air Quality Progress Report 2003	September 2004	No breaches of Objectives
Air Quality Progress Report 2004	August 2005	No breaches of Objectives
Updating and Screening Assessment 2006	November 2006	No breaches of Objectives
Air Quality Progress Report 2006	July 2007	No breaches of Objectives
Air Quality Progress Report 2007	April 2008	No breaches of Objectives
Updating and Screening Assessment 2009	April 2009	No breaches of Objectives
Air Quality Progress Report 2010	April 2010	No breaches of Objectives
Air Quality Progress Report 2011	April 2011	No breaches of Objectives
Updating and Screening Assessment 2012	April 2012	No breaches of Objectives

Air Quality Progress Report 2013	March 2013	No breaches of Objectives
Air Quality Progress Report 2014	April 2014	No breaches of Objectives
Updating and Screening Assessment 2015	April 2015	No breaches of Objectives
Air Quality Progress Report 2016	May 2016	No breaches of Objectives
Air Quality Progress Report 2017	May 2017	No breaches of Objectives
Air Quality Progress Report 2018	August 2018	No breaches of Objectives
Air Quality Progress Report 2019	September 2019	No breaches of Objectives
Air Quality Progress Report 2020	September 2020	Single diffusion tube breaches objective
Air Quality Progress Report 2021	October 2021	No breaches of Objectives
Air Quality Progress Report 2022	September 2022	No breaches of Objectives

1.2 Air Quality Management Areas

Air Quality Management Areas (AQMAs) are declared when air quality is close to or above an acceptable level of pollution (known as the air quality objective (Please see Appendix A)). After declaring an AQMA the authority must prepare an Air Quality Action Plan (AQAP) within 18 months setting out measures it intends to put in place to improve air quality to at least the air quality objectives, if not even better. AQMA(s) are seen by local authorities as the focal points to channel resources into the most pressing areas of pollution as a priority.

Torfaen County Borough Council is continuing to gather additional data to determine the implications of an exceedance of the National Objective for Nitrogen Dioxide in a single diffusion tube first deployed in 2019.

The Local Authority decided that more information was needed in order to establish the spatial extent of any potential exceedance of the National Objective before moving forward to declare an AQMA. This led to siting of an additional 4 tubes plus 2 re-sited tubes to the north and south of the original exceedance. The third full set of results for these tubes will be presented in this progress report. The overall result remains that no tubes exceeded the objective in 2022, however we will continue to closely monitor this area of road. Longer term monitoring is required to clarify the nature of this site and in November 2022, we began a project installing an air quality sensor at the location of the 2019 objective exceedance.

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

2.1 Summary of Monitoring Undertaken in 2022

2.1.1 Automatic Monitoring Sites

This section sets out what monitoring has taken place and how results compare with the objectives.

Torfaen County Borough Council undertook automatic (continuous) monitoring at the Cwmbran Crownbridge site in 2022. Table 2.1 presents the details of the site.

National monitoring results are available at;

[The Welsh Government air quality monitoring database](#)

Maps showing the location of the monitoring sites are provided in Figure 2.1. Further details on how the monitors are calibrated and how the data has been adjusted are included in Appendix C.

Torfaen County Borough Council currently operates one automatic monitoring site located in the grounds of Croesyceiliog Comprehensive School in the town of Cwmbran in the south of the County Borough. Nitrogen dioxide is monitored continuously as part of the National Automatic Urban and Rural Network (AURN) by means of a chemiluminescent analyser manufactured by API. Levels of PM₁₀ are continuously measured at the Cwmbran Crownbridge monitoring site using a Tapered Element Oscillating Microbalance (TEOM) monitor manufactured by Rupprecht and Pataaschnick. Ozone is also continuously monitored at the site as part of the National AURN using a dual cell ultra violet photometric analyser manufactured by Thermo Instruments.

Figure 2.1 shows the location of the Cwmbran Crownbridge automatic monitoring site and the NO₂ diffusion tube locations. More detailed tube location can be found in Appendix B. Figure 2.2 shows an Aerial map of the automatic monitoring site. Quality control procedures as detailed as in the AEA site operator's manual are followed. The analysers are calibrated once every four weeks using gases traceable to national standards. All data are scaled in line with four weekly calibration checks.

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The analysers also perform internal overnight checks and are serviced every 6 months. Routine monthly calibration visits are carried out by Torfaen County Borough Council. Other calibrations and audits are carried out by Bureau Veritas and Ricardo who also ratify the data. Services were also carried out twice a year by Enviro Technology Ltd. who also hold the repair contract for the site.

Table 2.1 – Details of Automatic Monitoring Sites

Site Name	Site Type	Associated with AQMA?	OS Grid Reference		Pollutants Monitored	Monitoring Technique	Inlet Height (m)	Distance from Monitor to Nearest Relevant Exposure (m) ⁽¹⁾	Distance from Kerb to Nearest Relevant Exposure (m)	Distance from Kerb to Monitor (m)
			X	Y						
Cwmbran Crownbridge	Urban Background	NO	330478	195480	NO ₂	Chemiluminesce	3.0	0	1	135
Cwmbran Crownbridge	Urban Background	NO	330478	195480	NO	Chemiluminesce	3.0	0	1	135
Cwmbran Crownbridge	Urban Background	NO	330478	195480	PM ₁₀	TEOM	3.0	0	1	135
Cwmbran Crownbridge	Urban Background	NO	330478	195480	O ₃	Ultra-violet-absorption	3.0	0	1	135

Notes:

(1) 0m indicates that the site monitor represents exposure and as such **no distance calculation is required**

Figure 2.1 – Map of Automatic Monitoring and Diffusion Tube Sites in Torfaen

(Red circles represent diffusion tubes; the green circle is the automatic monitoring station)

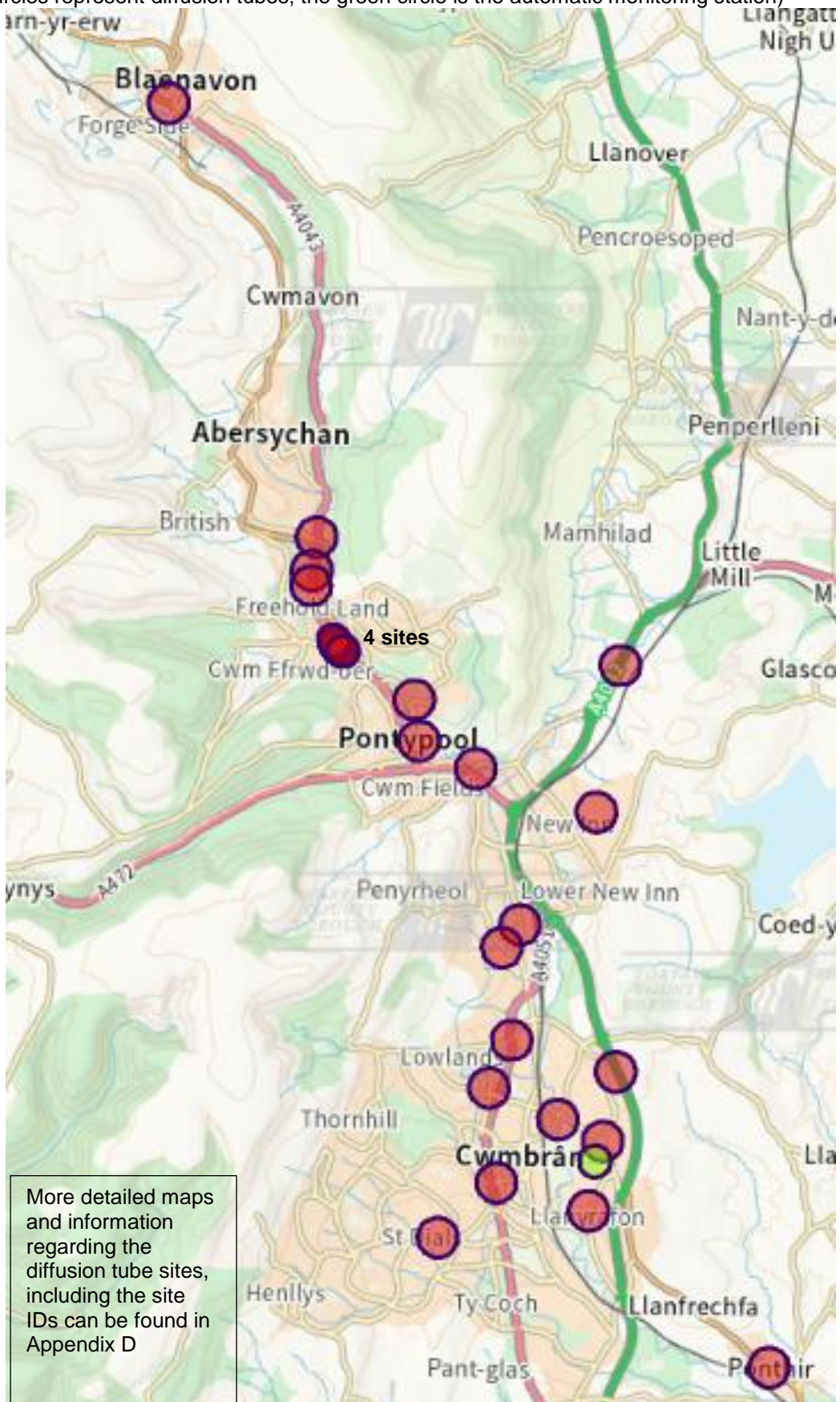


Figure 2.2 Ariel Photograph Cwmbran Crownbridge Monitoring Station Location (Red Ring)



2.1.2 Non-Automatic Monitoring Sites

Torfaen County Borough Council undertook non- automatic (passive) monitoring of NO₂ at 25 sites plus a triplicate tube, co-location study during 2022.

Appendix A presents more details of the results from these sites.

A map showing the location of all the monitoring sites is provided in Figure 2.1.

Individual site maps, results and trends are included in Appendix D.

Details on Quality Assurance/Quality Control (QA/QC) and bias adjustment for the diffusion tubes are included in Appendix C.

Table 2.2 – Details of Non-Automatic Monitoring Sites

Site ID	Site Name	Site Type	Associated with Named AMQA?	OS Grid Reference		Site Height (m)	Collocated with a Continuous Analyser?	Distance from Monitor to Nearest Relevant Exposure (m) ⁽¹⁾	Distance from Kerb to Nearest Relevant Exposure (m)	Distance from Kerb to Monitor (m)
				X	Y					
TCBC3	Pontypool Town Centre	Roadside	N/A	328264	200781	3	N	0	2	2
TCBC5	Cwmbran Drive Mosely Terrace	Roadside	N/A	329430	197006	3	N	4	5	1
TCBC6	Henllys Way	Roadside	N/A	328500	194522	3	N	5	7	2
TCBC8	Caerleon Rd Ponthir	Roadside	N/A	332672	192878	3	N	1	2	1
TCBC9	Llanyrafon Way	Roadside	N/A	330400	194857	3	N	N/A	N/A	3
TCBC10	Edlogan Way	Roadside	N/A	330011	196009	3	N	2	3	1
TCBC11	Golf Rd New Inn	Urban background	N/A	330498	199884	3	N	N/A	N/A	2
TCBC15	Station Rd Griffithstown	Roadside	N/A	329539	198464	3	N	1	2	1
TCBC16	Richmond Rd Pontnewydd	Roadside	N/A	329147	196408	3	N	1	2	1
TCBC17	Turnpike Rd Croesyceiliog	Roadside	N/A	330578	195735	3	N	10	5	1
TCBC18	Rockhill Rd Pontymoile	Roadside	N/A	328978	200434	3	N	1	2	1
TCBC19	21 Station St Abersychan	Roadside	N/A	326974	203354	3	N	1	1	0
TCBC20	Cwmbran Drive (Sainsbury)	Roadside	N/A	329240	195210	3	N	20	12	1
TCBC21	Pen y Lan Lane Mamhilad	Roadside	N/A	330801	201731	3	N	10	7	15

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Site ID	Site Name	Site Type	Associated with Named AMQA?	OS Grid Reference		Site Height (m)	Collocated with a Continuous Analyser?	Distance from Monitor to Nearest Relevant Exposure (m) ⁽¹⁾	Distance from Kerb to Nearest Relevant Exposure (m)	Distance from Kerb to Monitor (m)
				X	Y					
TCBC22	Church Road Blaenavon	Roadside	N/A	325111	208826	3	N	3.5	4.5	1
TCBC23	Sebastopol South Street	Roadside	N/A	329308	198177	3	N	0.5	1.5	1
TCBC24	Pontnewynydd St Lukes Road	Roadside	N/A	327274	201928	3	N	0.5	1	0.5
TCBC24/1	Nisa shop lamppost	Roadside	N/A	327237	201967	3	N	1	2	1
TCBC24/2	12 St Lukes Road	Roadside	N/A	327214	202005	3	N	3	4	1
TCBC24/3	1 Groveside Villas	Roadside	N/A	327187	202051	3	N	2	1	1
TCBC24/5	Flat 24 / Tonic Hairdressers	Roadside	N/A	327308	201912	3	N	1	1.5	1
TCBC25	Penygarn Hill	Roadside	N/A	328206	201300	3	N	6	4	1
TCBC26	A4042 Croyseyceiliog By-pass	Roadside	N/A	330743	196609	3	N	11.5	10.5	3
TCBC27	Snatchwood, 3 Hollyoake Terrace	Roadside	N/A	326914	202933	3	N	3	4	1
TCBC28	Snatchwood Rd 57	Roadside	N/A	326907	202741	3	N	4	5	1
COLO 1	Croesyceiliog AQMS 1	Urban Background	N/A	330478	195480	3	Y	0	1	135
COLO 2	Croesyceiliog AQMS 2	Urban Background	N/A	330478	195480	3	Y	0	1	135
COLO 3	Croesyceiliog AQMS 2	Urban Background	N/A	330478	195480	3	Y	0	1	135

Notes: (1) 0m indicates that the sited monitor represents exposure and as such **no distance calculation is required.**

2.2 2022 Air Quality Monitoring Results

Table 2.3 – Annual Mean NO₂ Monitoring Results (µg/m³)

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	NO ₂ Annual Mean Concentration (µg/m ³) ⁽³⁾				
					2018	2019	2020	2021	2022
Cwmbran	Urban background	Automatic	100	99	13	12	9	10	10
TCBC3	Roadside	Diffusion Tube	100	100	26	27	22	21	23
TCBC5	Roadside	Diffusion Tube	100	100	33	34	27	29	29
TCBC6	Roadside	Diffusion Tube	100	100	18	18	16	16	16
TCBC8	Roadside	Diffusion Tube	100	100	15	16	13	13	13
TCBC9	Roadside	Diffusion Tube	92	92	15	16	13	12	13
TCBC10	Roadside	Diffusion Tube	100	100	21	22	17	18	19
TCBC11	Urban background	Diffusion Tube	100	100	13	13	11	11	11
TCBC15	Roadside	Diffusion Tube	92	92	21	20	15	16	17
TCBC 16	Roadside	Diffusion Tube	100	100	29	31	22	24	25
TCBC17	Roadside	Diffusion Tube	100	100	18	20	13	14	14
TCBC18	Roadside	Diffusion Tube	100	100	30	31	23	24	25
TCBC19	Roadside	Diffusion Tube	100	100	31	29	25	24	24

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Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	NO ₂ Annual Mean Concentration (µg/m ³) ⁽³⁾				
					2018	2019	2020	2021	2022
TCBC20	Roadside	Diffusion Tube	100	100	30	30	24	26	27
TCBC21	Roadside	Diffusion Tube	100	100	17	16	13	13	13
TCBC 22	Roadside	Diffusion Tube	100	100	NA	17	13	13	14
TCBC23	Roadside	Diffusion Tube	100	100	NA	21	15	16	15
TCBC24	Roadside	Diffusion Tube	100	100	NA	47	37	37	39
TCBC24/1	Roadside	Diffusion Tube	92	92	NA	NA	30	30	29
TCBC24/2	Roadside	Diffusion Tube	100	100	NA	NA	33	34	34
TCBC24/3	Roadside	Diffusion Tube	100	100	NA	NA	29	31	31
TCBC24/5	Roadside	Diffusion Tube	100	100	NA	NA	30	32	32
TCBC25	Roadside	Diffusion Tube	100	100	NA	25	20	22	24
TCBC26	Roadside	Diffusion Tube	100	100	NA	30	23	26	27
TCBC27	Roadside	Diffusion Tube	100	100	NA	NA	33	33	31
TCBC28	Roadside	Diffusion Tube	100	100	NA	NA	29	30	30
COLO 1	Urban Background	Diffusion Tube	100	100	NA	NA	NA	9	10
COLO 2	Urban Background	Diffusion Tube	100	100	NA	NA	NA	9	9
COLO 3	Urban Background	Diffusion Tube	100	100	NA	NA	NA	9	10

Notes:

NA Data not available as tube not sited during year.

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

(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%).

(3) Means for diffusion tubes have been corrected for bias. All means have been “annualised” as per Boxes 7.9 and 7.10 in LAQM.TG16 if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Figure 2.3 – Trends in Annual Mean NO₂ Concentration

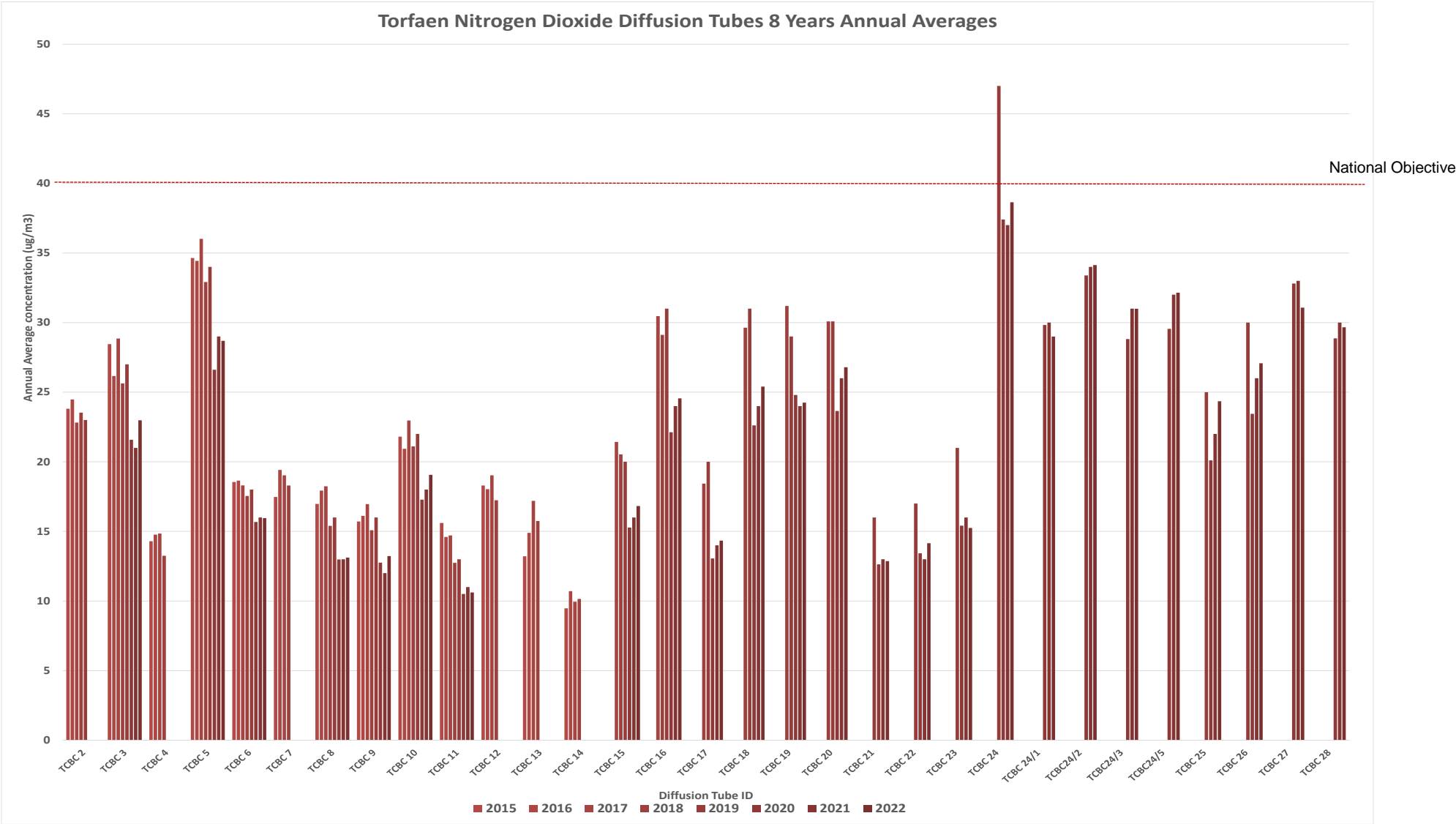


Table 2.4 – 1-Hour Mean NO₂ Monitoring Results

Site ID	Site Type	Monitoring Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	NO ₂ 1-Hour Means > 200µg/m ³ ⁽³⁾				
					2018	2019	2020	2021	2022
Cwmbran Crownbridge	Urban background	Automatic	99	99	0	0	0	0	0

Notes:

Exceedances of the NO₂ 1-hour mean objective (200µg/m³ not to be exceeded more than 18 times/year) are shown in **bold**.

(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%).

(3) If the period of valid data is less than 85%, the 99.8th percentile of 1-hour means is provided in brackets.

Table 2.5 – Annual Mean PM₁₀ Monitoring Results (µg/m³)

Site ID	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	PM ₁₀ Annual Mean Concentration (µg/m ³) ⁽³⁾				
				2018	2019	2020	2021	2022
Cwmbran Crownbridge	Urban Background	99	99	17.3	17.9	18 ⁽³⁾	18.5	20.2

Notes:

Exceedances of the PM₁₀ annual mean objective of 40µg/m³ are shown in **bold**.

(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%).

(3) All means have been “annualised” as per Boxes 7.9 and 7.10 in LAQM. TG16, if valid data capture for the full calendar year is less than 75%. See Appendix C for details.

Figure 2.5 – Trends in Annual Mean PM₁₀ Concentrations

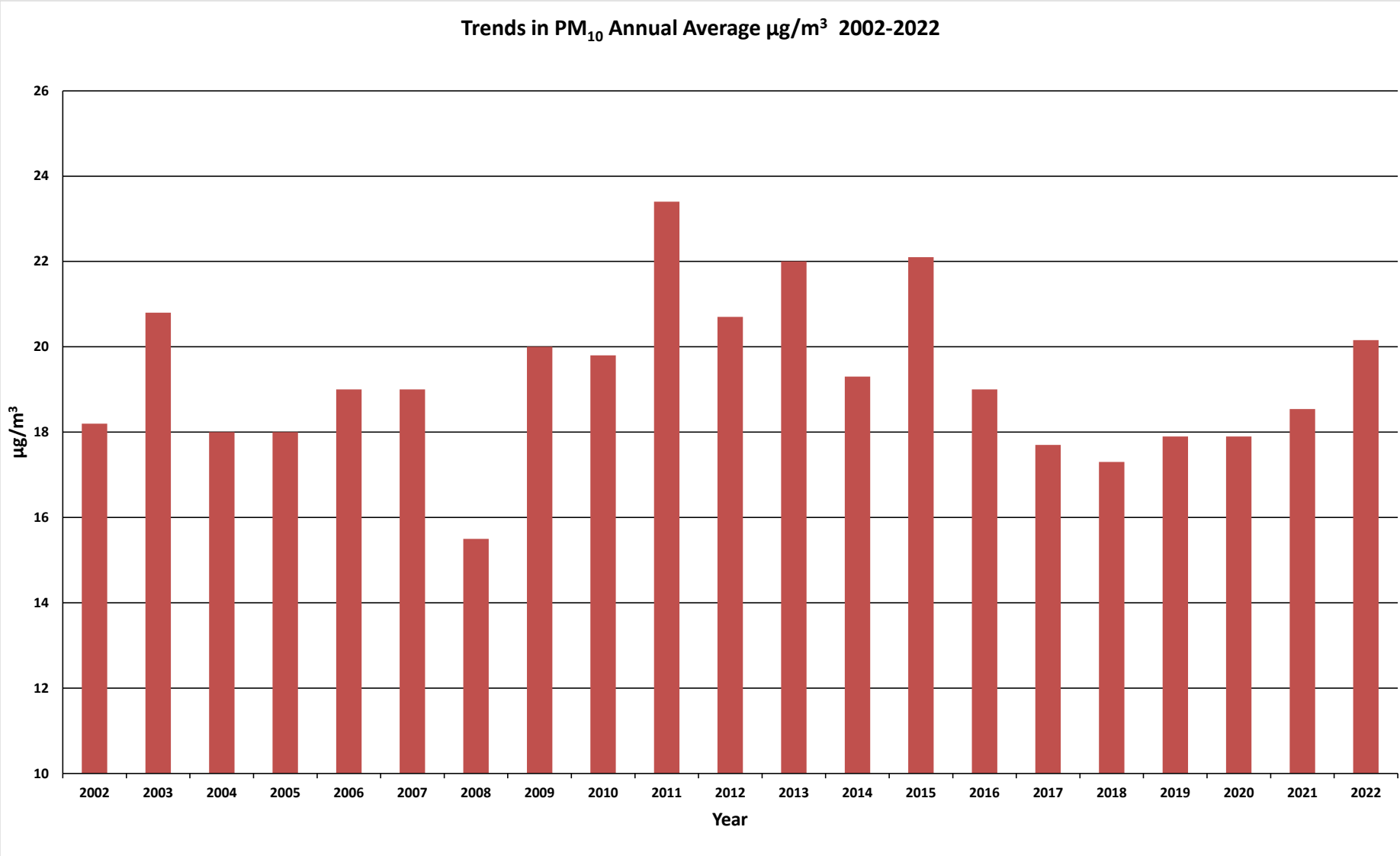


Table 2.6 – 24-Hour Mean PM₁₀ Monitoring Results, Number of PM₁₀ 24-Hour Means > 50µg/m³

Site ID	Site Type	Valid Data Capture for Monitoring Period (%) ⁽¹⁾	Valid Data Capture 2022 (%) ⁽²⁾	PM ₁₀ 24-Hour Means > 50µg/m ³ ⁽³⁾				
				2018	2019	2020	2021	2022
Cwmbran Crownbridge	Urban Background	99	99	0	4	2 (29)	2	1

Notes:

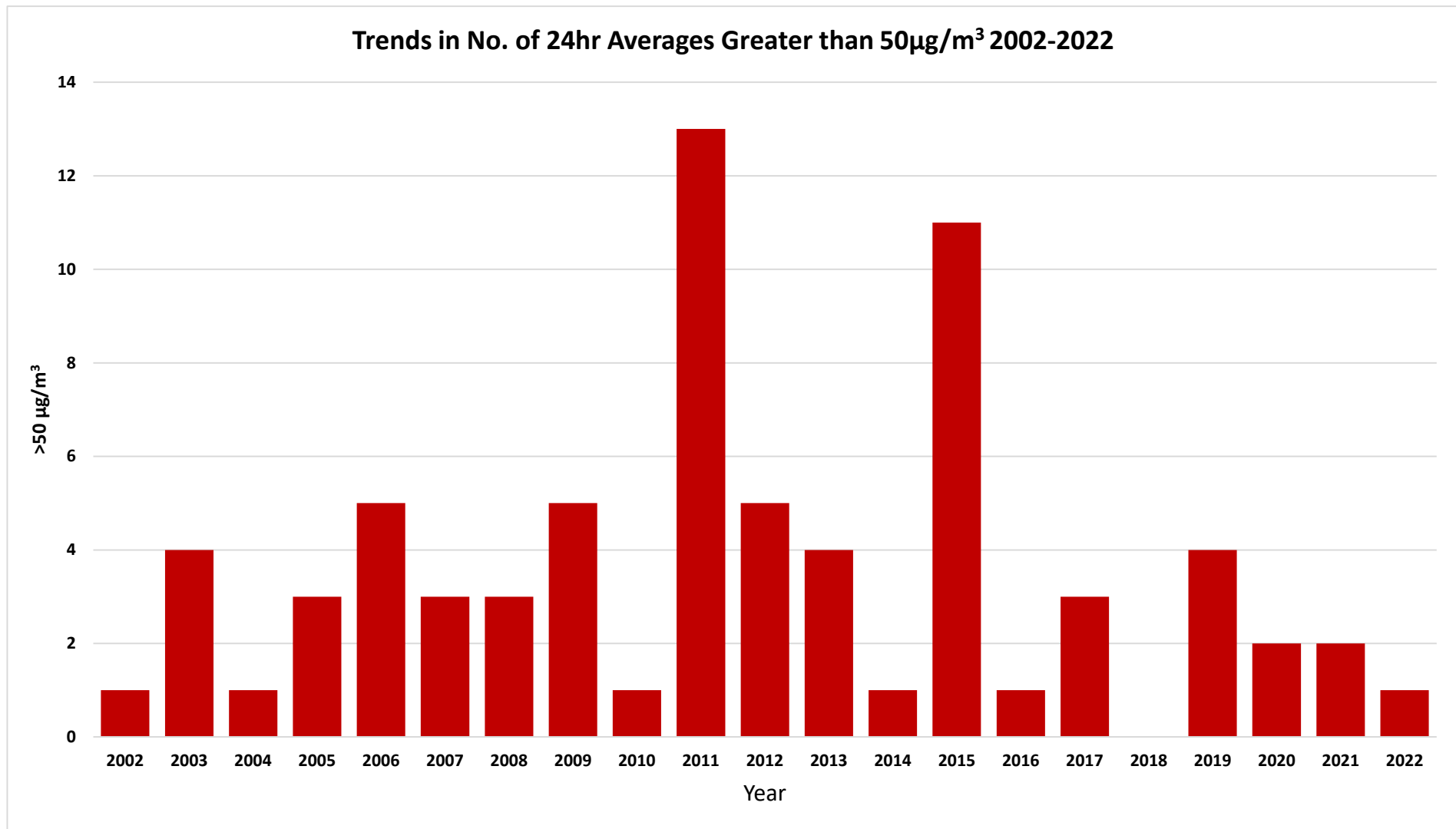
Exceedances of the PM₁₀ 24-hour mean objective (50µg/m³ not to be exceeded more than 35 times/year) are shown in **bold**.

(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%).

(3) If the period of valid data is less than 85%, the 90.4th percentile of 24-hour means is provided in brackets.

Figure 2.6 – Trends in Number of 24-Hour Mean PM₁₀ Results > 50µg/m³



2.3 Comparison of 2022 Monitoring Results with Previous Years and the Air Quality Objectives

2.3.1 Nitrogen Dioxide (NO₂)

Automatic and diffusion tube monitoring of nitrogen dioxide in Torfaen in 2022 has not identified any exceedances of the air quality objectives (Table 2.3)

Automatic Monitoring Data

The nitrogen dioxide results from the automatic monitor show that the annual mean and the hourly mean objectives have been met. The continuous nitrogen dioxide monitor performed well and data capture for the 2022 period was 99%. Trends have remained similar for the previous 5 years.

Diffusion Tube Monitoring Data

The nitrogen dioxide concentrations measured by diffusion tubes show that the annual mean objective has been met at all locations. There are still concerns that the results from the St Lukes Rd/ Snatchwood Rd tubes may exceed objectives in the 2023 data set. Torfaen will continue to site 7 tubes along this stretch to monitor this potential hotspot. A new air quality sensor has been sited at the spot, the results of which will be reported in the next progress report.

2.3.2 Particulate Matter (PM₁₀)

Automatic monitoring of PM₁₀ in Torfaen in 2023 has not identified any exceedance of the air quality objectives and there has been no need to declare an AQMA. Trends have remained fairly similar for the previous 12 years.

Tables 2.5 and 2.6 display the PM₁₀ monitoring results from the automatic monitor operated by Torfaen County Borough Council. These results show that both the annual mean and the 24-hour mean objectives for PM₁₀ have been met. Results for the previous eleven years up to and including 2020 have been corrected using the appropriate Volatile Correction Model (VCM) to provide a more accurate estimate of the gravimetric concentration. The 2021 and 2022 data set could not be corrected in this way due to a lack of TEOM Filter Dynamics Measurement System (FDMS) data. Section 7.149 of TG(16) states;

“It should be noted that due to the gradual withdrawal of TEOM-FDMS instruments and phased replacement with new compliant PM monitoring equipment on the AURN, the extent of data available to maintain the VCM has significantly reduced in recent years. As such, the extent of geographical coverage for the applicability and future viability of the VCM has become limited

Despite the recent modification the VCM correction website to allow FDMSs to be within 200km to be used for VCM correction (up from the previous 130 km), unfortunately Torfaen still had no know sites within the valid range of the correction model.

For 2022 data, we have therefore reverted to the historical recommendation of applying a 1.3 multiplication factor to the TEOM results, this being the best method available to account for the loss of volatile particulates in the monitor. Any comparisons made in this report of the 2022 data, with data prior to 2021, are therefore merely indicative.

2022 results indicate similar levels of PM₁₀ to previous years. Data shows only one days where the 24 hour average level was above 50µg/m³ well below the annual objective of 35 exceedances of the 24 hour average.

The particulate monitor performed well and data capture for the 2022 period was 99%.

PM₁₀ trends have remained similar over the previous 7 years

2.3.3 Particulate Matter (PM_{2.5})

Torfaen County Borough Council do not currently directly monitor PM_{2.5} at the Cwmbran Crownbridge site however this may change in the future when complying with the proposed new clean air legislation for Wales. A sensor with the capacity to monitor PM_{2.5} has been sited at the location of diffusion tube 24 on St Lukes Road. The results from the sensor will be reported in the 2023 progress report.

Using the methodology within the LAQM Technical Guidance (TG) Note 22, an estimate of PM_{2.5}, at the Cwmbran Crownbridge automatic site, can be derived from the PM₁₀ annual average and subtracting a nationally derived correction factor. This background site correction factor for 2022 is 5.5, which applied to the 2022 annual

average of $20.2 \mu\text{g}/\text{m}^3$ gives a $\text{PM}_{2.5}$ estimate of $14.7 \mu\text{g}/\text{m}^3$ for the site. This figure is indicative only.

For all years prior to 2021, the previous methodology as specified in LAQM.TG(16), is to multiply the ratio of 0.7 to the PM_{10} concentration.

Table 2.7 Estimates of PM_{2.5} Concentrations at Cwmbran Crownbridge Urban Background Site (Indicative Figures)

PM ₁₀ Annual Mean Concentration (µg/m ³)				
2018	2019	2020	2021	2022
17.3	17.9	18	18.7	20.2
Estimated PM _{2.5} Annual Mean Concentration (µg/m ³)				
2018	2019	2020	2021	2022
12.1	12.5	12.6	14.3	14.7

2.3.4 Ozone.

Automatic monitoring of Ozone continues at the Cwmbran site as part of the National AURN. In 2022 there were 15 days with exceedance of the 100µg/m³ maximum daily 8-hour running mean and 2 days with exceedance of 120 µg/m³ maximum daily 8-hour running mean. The 3-year average exceedance of 120 µg/m³ maximum daily 8-hour running mean was 4 days. Data capture was low at 70% due to data rejected as part of the QA/QC process after a leak was identified in the sample train.

Table 2.8 Ozone Automatic Monitoring: Comparison with 2005 Objective (2014 - 2022)

Location	Within AQMA?	Data Capture 2022 %	No of Days with Exceedances of the 100 µg/m ³ 8Hr Running Mean								
			2014	2015	2016	2017	2018	2019	2020	2021	2022
Cwmbran Crownbridge	N	70	8	5	12	14	28	14	26	13	15
2005 Objective 10 days ⁽¹⁾											

(1) The Air Quality Strategy Objective in 2005 for Ozone was a maximum daily 8 hour running mean > 100 micrograms per metre cubed on no more than 10 days. This Ozone objective is no longer in place. Exceedances of the discontinued objective are show in bold.

Figure 2.7 Trends in Number of Days over 100 $\mu\text{g}/\text{m}^3$ Ozone 8hr Running Mean for the Previous 19 Years

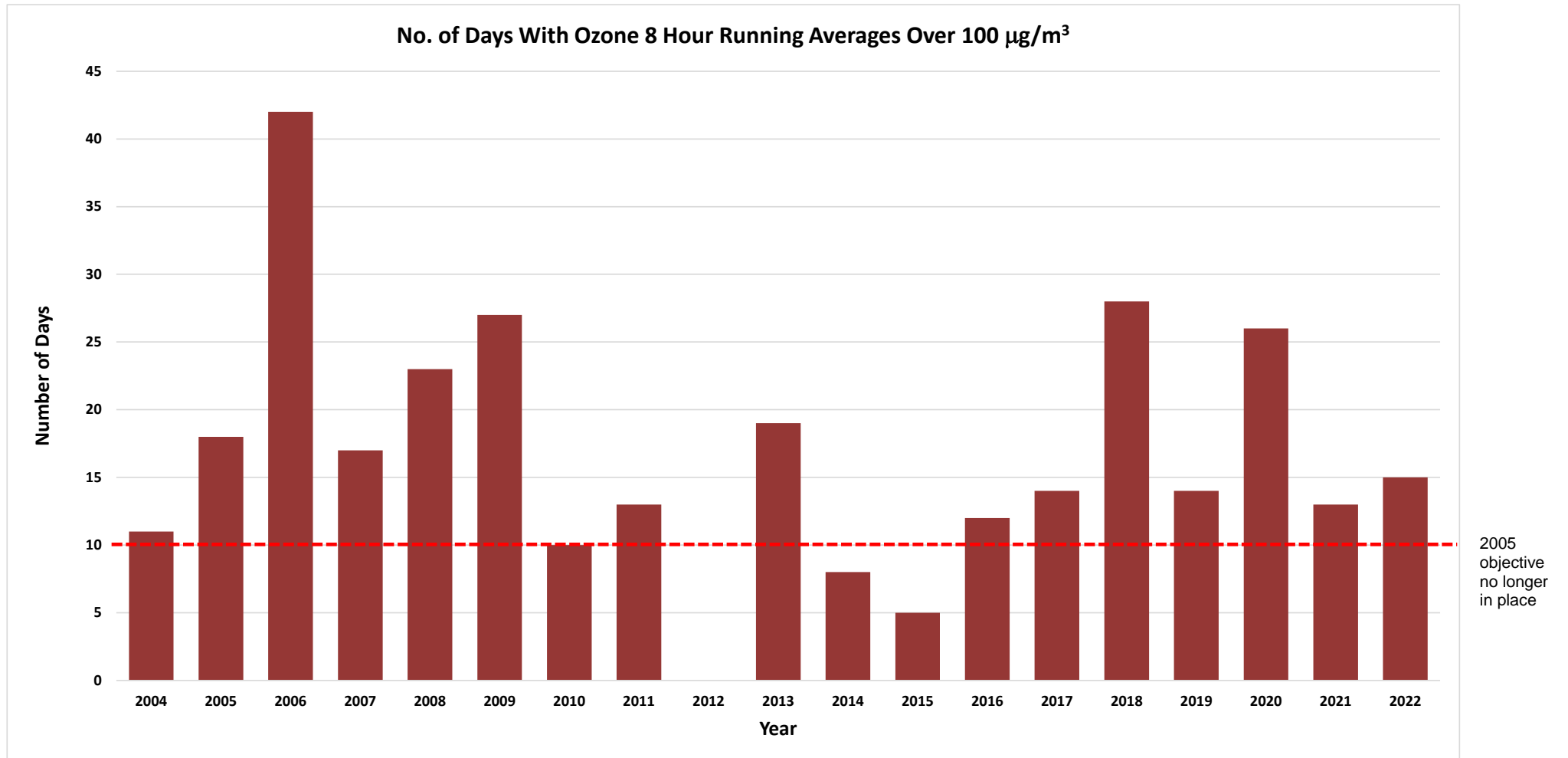
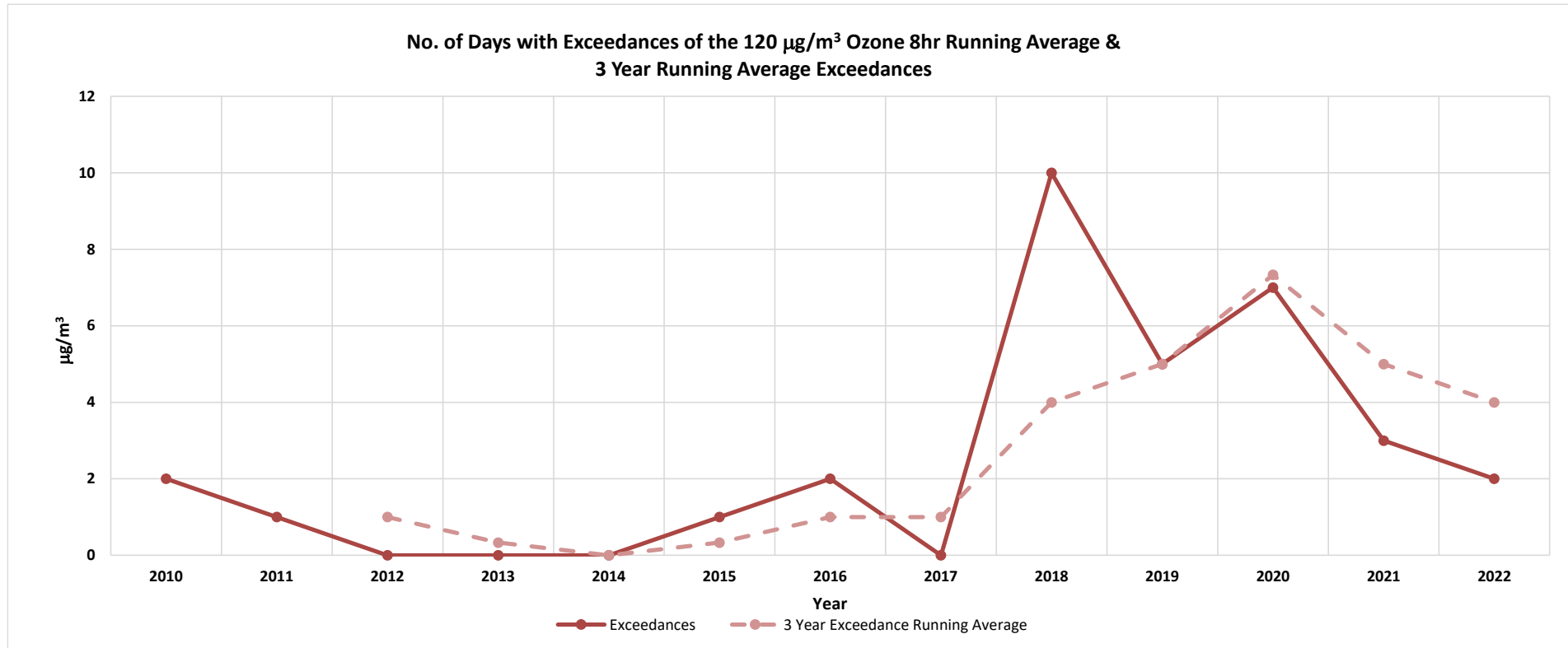


Table 2.9 Ozone Automatic Monitoring: Comparison with European Target 2010 (2011-2022)

Location	Within AQMA	Data Capture 2022 %	No of Days with Exceedances of the 120 µg/m ³ Maximum Daily Mean											
			2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Cwmbran Crownbridge	N	70	1	0	0	0	1	3	0	10	5	5	3	2
3 year Average					1	0.3	0	0.3	1.3	1.3	4	7	5	4
2010 Target 25 days ⁽¹⁾														

(2) *The European Commission 2010 current target value for Ozone is no more than 25 exceedances of 120 µg/m³ maximum daily 8-hour running mean per year as averaged over 3 years.*

Figure 2.8 Trends in Number of Days over 120 $\mu\text{g}/\text{m}^3$ Ozone 8hr Running Mean with 3 Year Running Average for the Previous 11 Years



2.4 Summary of Compliance with AQS Objectives as of 2022

Torfaen County Borough Council has examined the results from monitoring in the borough. Concentrations in some areas have been found to be close to the Objectives, therefore further investigation is required before deciding on whether action is necessary

3. New Local Developments

3.1 Road Traffic Sources (& other transport)

Torfaen County Borough Council has no new road junctions since the last assessment.

3.2 Industrial / Fugitive or Uncontrolled Sources / Commercial Sources

In the 2022 period within Torfaen County Borough Council there have been:

- No new or proposed industrial installations for which an air quality assessment has been carried out.
- No existing industrial installations where emissions have increased substantially or new relevant exposure has been introduced.
- No new or significantly changed industrial installations with no previous air quality assessment.
- No new major fuel storage depots storing petrol.
- No new petrol stations.
- No new poultry farms.

Regarding potential sources of fugitive or uncontrolled particulate matter in the borough, which are new since the last Assessment:

- There are no new landfill sites.
- There are no new quarries.
- There are no new unmade haulage roads on industrial sites.
- There are no new waste transfer stations.

Also there are no new:

- Biomass combustion plant – individual installations.
- Areas where the combined impact of several biomass combustion sources may be relevant.
- Areas where domestic solid fuel burning may be relevant.
- Combined Heat and Power (CHP) plant.

3.3 Planning Applications

Torfaen County Borough Council remains in receipt of one major planning application for which an environmental statement has been provided.

The application is for a residential development of up to 824 dwellings, retention of employment (Use Classes B1, B2 and B8) plus other existing uses and associated parking and servicing, provision of a Primary School, a neighbourhood centre (including a mix of uses - Use Classes A1, A2, A3, B1, C3, D1 and D2) access arrangements from the A4042 and Old Abergavenny Road, landscaping and areas of public open space and other associated infrastructure.

The application remains under consideration and the air quality section of the environmental statement can be located by copying and pasting the links below into a browser:

[17_P_0468_OUT-AMENDED_ES_CHP_10_AIR_QUALITY_ADDENDUM_FINAL-205228.pdf \(torfaen.gov.uk\)](#)

The application impinges on a highways authority trunk road, a section of which has been designated a noise action priority planning area by the Welsh Government.

3.4 Other Sources

There have been no significant pollution incidents reflected in monitoring data in Torfaen during 2022. The Public Health team respond to between 80 and 100 complaints of domestic and industrial smoke each year and this figure does not appear to be rising. Domestic wood burning stoves account for around 0.5% of these complaints and do not appear to be rising.

Torfaen County Borough Council confirms that there are no new or newly identified local developments which may have an impact on air quality within the Local Authority area.

Torfaen County Borough Council confirms that all the following have been considered:

- **Road traffic sources**
- **Other transport sources**
- **Industrial sources**
- **Commercial and domestic sources**
- **New developments with fugitive or uncontrolled sources.**

4. Polices and Strategies Affecting Airborne Pollution

4.1 Air Quality Planning Policies

Torfaen County Borough Council's approach to air quality and planning is considered within the sustainability appraisal objectives of the Local Development Plan (LDP). A statutory review of the LDP was completed in 2018 and the replacement plan is expected to be adopted in October 2026, the replacement plan will cover the 2022-2037 period with the section on air quality revised.

All planning applications are considered under the guidance of Planning Policy Wales, edition 11 that approaches air quality and planning more robustly in the light of The Well-being of Future Generations Act (Wales) 2015. It is also noted that the associated Technical Advice Note 11 on 'Noise' (October 1997) is expected to be replaced shortly with a new TAN11 on 'Air Quality, Noise and Soundscape'.

4.2 Local Transport Plans and Strategies

The South East Wales Valleys Local Transport Plan, which has been jointly produced by Blaenau Gwent, Caerphilly, Merthyr Tydfil, Rhondda Cynon Taff and Torfaen County Borough Councils, sets out the local authority's priorities for transport schemes in the five year period 2015 to 2020, and their medium and longer term aspirations up to 2030. The document also sets out the Councils' policies for safe, integrated, efficient and economic transport facilities and services to, from and within their area. Air quality is referenced within Table 1 (Issues, Opportunities and Interventions in the South East Valleys Area) and Table 17 (Monitoring and Evaluation Plan for Highway Improvement Schemes)

The Transport Plan can be found here.

[The South East Wales Valleys Local Transport Plan](#) ²

¹. <https://datamap.gov.wales/maps/active-travel-network-maps/view?center=3.1391008048778564,51.71690405429319&zoom=5#/>

². <https://www.torfaen.gov.uk/en/Related-Documents/Roads-Highways-and-Pavements/Local-Transport-Plan/South-East-Wales-Valleys-Local-Transport-Plan.pdf>

4.3 Active Travel Plans and Strategies

Fewer car journeys will generate less vehicle based traffic emissions and less pollution. We are encouraging people to choose to leave the car at home and walk, wheel or cycle for their everyday journeys to work, school and other local destinations. Since year 2000 Torfaen Highways have been actively developing our walking and cycling network initially with specific focus on walking and cycling routes to school. In 2008 this was broadened out to also include key destinations in the local communities. The introduction of the Active Travel (Wales) Act 2013 profoundly impacted the road user hierarchy and progressively funded a much greater expansion of the non-motorised transport network so that more people can more easily get around by bicycle or as a pedestrian, scooter, mobility scooter and wheelchair user.

The whole of Wales Active Travel Network Map (ATNM) Consultation was undertaken in 2021, following an extensive consultation process a final ATNM map identifying 175 future routes and 64 existing active travel routes was produced. The completed ATNM and supporting documentation was submitted to Welsh Government in March 2022 and approved on 1st December 2022. The ATNM became live and available for the public to view on DataMap Wales on 7 December 2022, which can be found here.

[Wales Active Travel Network Map](#) ¹

Road safety teams have led many initiatives to reduce school gate congestion and associated pollution from vehicle emissions. In recent years, this work is increasingly jointly promoted by active travel groups. A new generation Active Travel School Plans have been produced in conjunction with several schools in Torfaen. This has resulted in an increase in walking wheeling and cycling to our school sites at the majority of schools whom have taken part in the plans, evidence from the results of the annual Public Health Wales hands up surveys have shown.

To support sustainable travel and provide a viable alternate to car use, Cwmbran railway station was substantially redeveloped and expanded several years ago as a transport interchange. Plans to develop Pontypool & New Inn railway station as a second transport interchange are also progressing. This is an out of town location

that serves a wide catchment area including rural communities of Torfaen & neighbouring Monmouthshire and will offer the opportunity for multi-mode journeys through park & ride facilities, reducing the need for car journeys and associated vehicle pollution.

The Active Travel Plan can be found here.

[Torfaen Active Travel Plan](#) ²

² <https://www.torfaen.gov.uk/en/RoadsTravelParking/WalkingCycling/Active-Travel-Plan/Active-Travel-Plan.aspx>

4.4 Local Authorities Well-being Objectives

The Council has set nine interconnected well-being objectives in its which can be found here.

[County Plan 2022-27](#) ¹.

An update on progress towards achieving the Council's Well-being Objectives can be found here.

[2020/22 - Annual Well-being & Performance Report \(torfaen.gov.uk\)](#) ².

The Council's Climate and Nature Emergency Action Plan was approved by Cabinet in February 2022. The Plan forms part of the Council's Strategic Framework of strategies and policies that are supporting delivery of the County Plan and its Wellbeing Objectives. The Plan also responds to the Council's declaration of both climate and a nature emergency.

The Climate and Nature Emergency Action Plan's actions are set out under 4 workstreams, that reflect the Council's overall objectives in relation to the climate and nature emergency:

- 1: The Council itself becomes net zero carbon by 2030.
- 2: The Council leads, supports, facilitates, and encourages Torfaen's communities, residents, and businesses towards net zero carbon by 2050.
- 3: Our changing climate is factored into the way we plan, so that our communities and the services we deliver are resilient.

4: Torfaen's precious natural resources, and the biodiversity they support are protected and enhanced.

A wide range of officers from across the Council are involved in delivering the plan and many of the actions are contributing towards supporting good air quality in the borough.

During 2022-23, we have:

- Reduced carbon emissions from our buildings by 19% from the baseline year of 2019/20. Making good progress to reduce the carbon footprint of our buildings is critical to reaching our net zero goal.
- Installed a new 1MW substation at Ty Blaen. Upgrading the grid capacity at the council's depot will maximise the opportunities for electric vehicle charging and renewable energy.
- Recruited a Zero Emission Transport Officer. This role will develop and coordinate the Council's Net Zero Carbon Fleet Strategy.
- Established a working group to develop the Council's Net Zero Carbon Fleet Strategy and Action Plan. Bringing together officer expertise will help ensure work progresses with pace.
- Installed electric vehicle charging for 6 Council vehicles (2x double charges and 2x single chargers) at Ty Blaen. This reduces the carbon impact of our vehicles.
- Installed further electric vehicle charging for 12 Council vehicles (6 x double chargers) at Croesyceiliog Community Education Centre and the Powerstation. This reduces the carbon impact of our vehicles.
- Increased number of electric vehicles in the Council's fleet to 15 electric vehicles, representing 11% of the total fleet. This reduces the carbon impact of our vehicles.
- Continued to progress the upgrade of Pontypool and New Inn train station. Improving access to rail travel by improving bus, walking and cycling connectivity to the station will help reduce car journeys and carbon emissions.
- Developed an outline business case for a future funding bid in 2023/24 to take forward improvements at Cwmbryn railway station. Improving access to rail travel by

improving bus, walking and cycling connectivity to the station will help reduce car journeys and carbon emissions.

- Installed 11 double charging points in public car parks within the borough as part of a project with Welsh Government and Cardiff Capital Region. Providing charging for a further 22 vehicles will help reduce carbon emissions and air pollution.

- Begun design work to support the introduction of 20MPH zones in built-up areas, ready for implementation in 23/24. Welsh Government has made a policy commitment to make 20 Miles Per Hour the default speed in built-up areas. Reducing the speed of traffic in these areas will reduce air pollution and improve road safety for pedestrians and cyclists.

- Planted 2,382 trees across the borough funded through Gwent Green Grid and Local Places for Nature. Planting more trees will enhance biodiversity and trees can improve air quality.

Partnership working through the Public Services Board (PSB)

The 5 Public Services Boards in Gwent merged in September 2021 to form one regional PSB for Gwent simplifying and strengthening existing partnership arrangements.

The Torfaen Climate and Nature Emergency Action Plan can be found here:

[Climate and Nature Emergency Action Plan](#) ³.

Gwent PSB adopted its first Well-being Plan in July 2023, setting out how public services will collaborate to respond to some of the key issues identified in Gwent Well-being Assessment which included information on air quality and can be found here:

[Gwent Well-being Assessment](#) ⁴.

The plan sets out two interconnecting well-being objectives and five underpinning steps across the five-year delivery period of 2023-28. It also provides a framework for the next 25 – 30 years recognising that Gwent's well-being challenges are big and complex and will require much longer-term solutions that will begin with acting in the short and medium term.

During the first year of the plan, delivery plans will be prepared for the well-being steps at a regional and local level. Torfaen Local Delivery Group will develop the local delivery arrangements.

Partnership working through the Public Services Board (PSB)

The 5 Public Services Boards in Gwent merged in September 2021 to form one regional PSB for Gwent simplifying and strengthening existing partnership arrangements. The current Well-being Plans for each Local Authority area still run until May 2023 however, when they will be replaced by a new Well-being Plan for Gwent.

1. <https://www.torfaen.gov.uk/en/AboutTheCouncil/ImprovingTorfaen/County-Plan/County-Plan-2022-2027.aspx>
2. <https://www.torfaen.gov.uk/en/Related-Documents/Performance-Improvement/Our-Performance/2021-2022-Annual-Self-Assessment-and-Well-Being-Report.pdf>
3. <https://www.torfaen.gov.uk/en/Related-Documents/Climate-Change/Climate-and-Nature-Emergency-Action-Plan.pdf>
4. <https://www.gwentpsb.org/en/well-being-plan/well-being-assessment/>

4.5 Green Infrastructure Plans and Strategies

A PSB green infrastructure strategy to fulfil Objective 1 in the Torfaen Well-being Plan has been adopted which aims to bring all publicly owned land in Torfaen under prescriptive management regime aimed at maximising ecosystem services provision including improved air quality. The Strategy includes a 15 year Action Plan. This has informed Torfaen Council's own GI Assessment which looks at how the Council can implement the PSB GI Strategy on its own land. Opportunity mapping is underway to look at where interventions can take place to reduce flood risk and noise pollution and improve air quality through nature-based solutions. The Council has published the Tree Strategy for Torfaen which focuses on the multi-functional benefits of trees for society and future generations, including the role of trees in tackling air pollution. A review and updating of the Grounds Maintenance GIS layer has been undertaken to identify potential grassland sites which can be managed for biodiversity and this is now being used to inform grassland management regime. The Gwent Green Grid project and Local Places for Nature funding is increasing tree cover across the borough through a series of planting schemes with plans to improve the management of publicly owned woodlands. Through the auspices of the Torfaen Climate and Nature Emergency Plan, work is also taking place to assess the potential for enhanced tree planting on road verges and other urban green space within the county borough.

[The Full Torfaen Green Infrastructure Strategy can be found here](#) ¹.

Stakeholder consultations are underway on the Preferred Strategy for the Replacement LDP which aims to protect all existing green infrastructure assets from development.

A Green Infrastructure and separate Biodiversity Supplementary Planning Guidance (SPG) is being prepared to assist developers to protect and enhance existing GI on development sites and inform design decisions which will reduce impact of and amount of noise pollution on any site.

A joint draft Nature Recovery Action Plan (NRAP) has been produced setting out the priorities for the recovery of nature across Blaenau Gwent and Torfaen. The plan will highlight the important of urban green infrastructure and its contribution to mitigating the impacts air and noise pollution.

¹ <https://www.torfaen.gov.uk/en/Related-Documents/Green-Infrastructure/Green-Infrastructure-Strategy.pdf>

5. Conclusions and Proposed Actions

5.1 Conclusions from New Monitoring Data

This Progress Report confirms that measured air quality within Torfaen continues to meet national standards, as concentrations of all monitored pollutants are within the stipulated limits.

The exceedance of the annual objective for Nitrogen Dioxide recorded at St Lukes Road, Pontnewynydd (Tube TCBC 24) and reported in the 2020 Progress report was not repeated in the 2022 monitoring data despite traffic returning to pre-pandemic levels. The local authority has continued to closely monitor this section of highway in 2023, using the additional 6 diffusion tubes and sited along the stretch along with a new air quality sensor sited with Tube TCBC 24.

5.2 Conclusions relating to New Local Developments

There have been no new industrial installations and no new or substantially altered roads within Torfaen. There are no new fugitive sources of emissions. Emissions from domestic solid fuel burning have been assessed and the results indicate that there is an insufficient density of coal-fired homes to be considered significant. This assessment therefore determines that further investigation is not necessary.

5.3 Proposed Actions

This Progress Report confirms that during 2022 the Air Quality in Torfaen met national objectives. There is therefore no requirement to proceed to a fast track AQMA declaration.

Torfaen intends to continue the additional diffusion tube monitoring, which began in 2020.

Torfaen began a co-location study in April 2021, siting a triplicate of diffusion tubes at the Cwmbran Crownbridge automatic monitoring station, this study will continue for subsequent years. Comparisons between the tube results and the automatic results will lead to the calculations of more accurate bias factors in the future.

Torfaen have now placed an air quality sensor at the site of the diffusion tube (TCBC 24) which breached the 40 µg/m³ objective in 2019. This will bolster diffusion tube results and provide more accurate data for the 'hotspot'. The project has been

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running since October 2022 and results will be reported in the next progress report.
Funding has now been agreed to run the project for a further year.

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Appendice

Appendix A: Monthly Diffusion Tube Monitoring Results

Appendix B: A Summary of Local Air Quality Management

Appendix C: Air Quality Monitoring Data QA/QC

Appendix D: Individual Diffusion Tube Monthly Results for 2020 with Locations and Annual Trends.

Appendix A: Monthly Diffusion Tube Monitoring Results

Table A.1 – Full Monthly Diffusion Tube Results for 2022 ($\mu\text{g}/\text{m}^3$)

Site ID	NO ₂ Mean Concentrations ($\mu\text{g}/\text{m}^3$)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (0.74) and Annualised ⁽¹⁾	Distance Corrected to Nearest Exposure ⁽²⁾
TCBC3	39.1	38.0	30.9	24.6	24.7	26.3	26.5	25.7	29.2	35.1	38.0	32.7	30.9	23.0	21.1
TCBC5	52.1	35.2	45.7	35.1	29.2	26.0	36.1	36.5	38.7	38.9	46.2	43.2	38.6	28.7	29
TCBC6	37.3	19.1	26.3	20.1	14.6	15.6	18.6	16.9	21.1	19.6	21.9	26.4	21.5	16.0	15.8
TCBC8	29.6	18.1	22.2	16.1	10.6	12.3	13.4	14.6	16.8	16.8	17.3	23.9	17.6	13.1	13.2
TCBC9	32.7	17.5	23.1	13.9	10.1	10.8	12.7	10.5	Missing	17.0	20.5	26.9	17.8	13.2	12.3
TCBC10	38.5	25.8	28.3	23.5	18.8	21.8	23.5	22.7	24.4	26.2	25.0	29.1	25.6	19.1	17.5
TCBC11	26.3	16.8	14.1	11.2	8.5	9.7	8.5	8.2	10.4	16.0	20.4	21.2	14.3	10.6	11.1
TCBC15	33.2	19.6	31.0	20.4	13.3	15.6	18.5	18.0	19.9	Missing	27.0	32.3	22.6	16.8	15.8
TCBC16	50.0	30.9	36.5	19.2	26.1	26.5	28.0	27.4	31.2	35.2	40.7	44.5	33.0	24.6	23.5

Site ID	NO ₂ Mean Concentrations (µg/m ³)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (0.74) and Annualised ⁽¹⁾	Distance Corrected to Nearest Exposure ⁽²⁾
TCBC17	34.3	20.0	21.2	16.4	12.7	13.1	15.2	13.0	17.6	20.9	21.8	25.1	19.3	14.3	14.3
TCBC18	45.6	34.7	45.0	30.6	25.0	27.9	27.9	30.1	31.1	35.7	36.8	39.5	34.2	25.4	25.4
TCBC19	46.5	35.5	40.2	33.3	25.0	27.1	27.9	29.5	31.1	29.0	27.2	39.0	32.6	24.2	24.2
TCBC20	50.9	33.2	42.8	31.6	29.1	30.2	33.5	32.3	31.9	37.3	38.4	41.1	36.0	26.8	26.8
TCBC21	27.4	20.1	19.3	16.9	12.9	13.1	13.2	14.7	14.3	16.3	16.8	22.6	17.3	12.9	12.9
TCBC22	29.5	16.1	25.4	18.5	15.3	16.6	18.1	16.2	15.3	19.2	17.0	21.1	19.0	14.1	14.1
TCBC23	27.4	15.8	28.9	20.8	15.7	14.5	17.6	20.2	20.9	18.7	18.0	27.5	20.5	15.2	15.2
TCBC24	71.5	57.7	53.7	47.1	43.7	44.8	47.3	45.6	47.6	51.6	57.1	55.8	52.0	38.6	38.6
TCBC24/1	60.1	Missing	44.0	35.4	32.4	33.5	34.3	35.0	37.1	33.6	39.4	44.1	39.0	29.0	29.0
TCBC24/2	60.0	50.6	53.3	40.9	35.8	40.7	41.7	41.7	45.9	44.6	45.1	50.4	45.9	34.1	34.1
TCBC24/3	59.8	46.7	45.2	38.1	33.0	34.1	40.0	38.9	40.9	40.1	40.4	42.9	41.7	31.0	31.0

Site ID	NO ₂ Mean Concentrations (µg/m ³)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Mean		
													Raw Data	Bias Adjusted (0.74) and Annualised ⁽¹⁾	Distance Corrected to Nearest Exposure ⁽²⁾
TCBC24/5	56.5	44.4	54.7	47.5	33.6	34.2	40.5	40.6	44.5	41.1	31.2	50.0	43.2	32.1	32.1
TCBC25	41.5	31.4	40.7	31.8	27.0	28.2	28.7	30.1	31.9	33.7	31.2	36.7	32.7	24.3	24.3
TCBC26	67.5	23.5	44.2	39.3	26.5	26.4	33.1	35.6	37.1	33.7	31.8	38.2	36.4	27.1	27.1
TCBC27	55.0	43.5	48.4	37.7	33.7	36.0	37.8	39.6	38.9	39.5	45.0	46.3	41.8	31.1	31.1
TCBC28	53.4	40.7	45.9	36.8	31.6	31.1	40.1	33.7	38.6	35.1	42.4	49.3	39.9	29.7	29.7
COLO1	28.0	13.9	17.5	11.0	7.1	7.6	8.8	8.9	11.8	14.0	17.1	21.2	13.9	10.3	Not Applicable
COLO2	23.7	11.3	16.5	11.8	6.7	7.7	8.8	7.8	10.2	12.5	12.1	17.4	12.2	9.1	Not Applicable
COLO3	24.4	11.7	17.4	10.7	7.4	8.3	8.6	8.4	10.9	10.9	15.6	20.8	12.9	9.6	Not Applicable

Notes:

Exceedances of the NO₂ annual mean objective of 40µg/m³ are shown in **bold**.

NO₂ annual means exceeding 60µg/m³, indicating a potential exceedance of the NO₂ 1-hour mean objective are shown in **bold and underlined**.

(1) See Appendix C for details on bias adjustment and annualisation.

(2) Distance corrected to nearest relevant public exposure.

Appendix B: A Summary of Local Air Quality Management

Purpose of an Annual Progress Report

This report fulfils the requirements of the Local Air Quality Management (LAQM) process as set out in the Environment Act 1995, as amended by the Environment Act 2021, and associated government guidance. 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 being achieved. Where exceedances occur, or are likely to occur, the local authority must then declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) within 18 months of declaration setting out the measures it intends to put in place in pursuit of the objectives. Action plans must then be reviewed and updated no later than every five years; or if a local authority considers there is a need for further or different measures to be taken in order to achieve air quality standards; or if significant changes to sources occur within your local area.

For Local Authorities in Wales, an Annual Progress Report replaces all other formal reporting requirements and have a very clear purpose of updating the general public on air quality, including what ongoing actions are being taken locally to improve it if necessary.

Air Quality Objectives

The air quality objectives applicable to LAQM in Wales are set out in the Air Quality (Wales) Regulations 2000, No. 1940 (Wales 138), Air Quality (Amendment) (Wales) Regulations 2002, No 3182 (Wales 298), and are shown in Table B.1.

The table shows the objectives in units of microgrammes per cubic metre $\mu\text{g}/\text{m}^3$ (milligrammes per cubic metre, mg/m^3 for carbon monoxide) with the number of exceedances in each year that are permitted (where applicable).

Table B.1 – Air Quality Objectives Included in Regulations for the Purpose of LAQM in Wales

• Pollutant	• Air Quality Objective: Concentration	• Air Quality Objective: Measured as	• Date to be achieved by
Nitrogen Dioxide (NO₂)	200µg/m ³ not to be exceeded more than 18 times a year	1-hour mean	31.12.2005
Nitrogen Dioxide (NO₂)	40µg/m ³	Annual mean	31.12.2005
Particulate Matter (PM₁₀)	50µg/m ³ , not to be exceeded more than 35 times a year	24-hour mean	31.12.2010
Particulate Matter (PM₁₀)	40µg/m ³	Annual mean	31.12.2010
Sulphur dioxide (SO₂)	350µg/m ³ , not to be exceeded more than 24 times a year	1-hour mean	31.12.2004
Sulphur dioxide (SO₂)	125µg/m ³ , not to be exceeded more than 3 times a year	24-hour mean	31.12.2004
Sulphur dioxide (SO₂)	266µg/m ³ , not to be exceeded more than 35 times a year	15-minute mean	31.12.2005
Benzene	16.25µg/m ³	Running annual mean	31.12.2003
Benzene	5µg/m ³	Annual mean	31 12 2010
1,3 Butadiene	2.25µg/m ³	Running annual mean	31.12.2003
Carbon Monoxide	10.0mg/m ³	Maximum Daily Running 8-Hour mean	31.12.2003
Lead	0.25µg/m ³	Annual Mean	31.12.2008

Appendix C: Air Quality Monitoring Data QA/QC

QA/QC of Diffusion Tube Monitoring

Torfaen County Borough Council uses tubes provided and analysed by SOCOTEC (former Environmental Scientifics Group (ESG)) using 50% TEA (Triethanolamine) in acetone, which are typically exposed for four-week periods in accordance with the National NO₂ Network exposure calendar.

SOCOTEC is accredited to NAMAS and UKAS BS EN ISO 9001 and has implemented the methodology set out in the Harmonisation Practical Guidance. In the AIR PT¹ intercomparison scheme for comparing spiked Nitrogen Dioxide diffusion tubes, 100% of the available SOCOTEC results for 2022 scored the highest possible result of **satisfactory**.

Diffusion Tube Annualisation

All diffusion tube monitoring locations within Torfaen County Borough Council recorded data capture of 75% or more therefore it was not required to annualise any monitoring data.

Diffusion Tube Bias Adjustment Factors

Torfaen County Borough Council have applied a local bias adjustment factor of **0.74**, derived from triplicate diffusion tubes co-located at the Cwmbran Crownbridge automatic monitoring station. A summary of bias adjustment factors used by Torfaen County Borough Council over the past five years is presented in Table C.1

Table C.1 – Bias Adjustment Factor

Year	Local or National	If National, Version of National Spreadsheet	Adjustment Factor
2022	Local		0.74
2021	Local		0.74
2020	National	03/21	0.77
2019	National	06/20	0.75
2018	National	03/19	0.76
2017	National	06/18	0.77
2016	National	03/17	0.77

¹ Summary of Laboratory Performance in AIR NO₂ Proficiency Testing Scheme (May 2020 – June 2022).

² Summary of Precision Results for Nitrogen Dioxide Diffusion Tube Collocation Studies, by Laboratory

Table C.2 – Local Bias Adjustment Calculations

Checking Precision and Accuracy of Triplicate Tubes										Automatic Method		Data Quality Check	
Diffusion Tubes Measurements										Period Mean	Data Capture (% DC)	Tubes Precision Check	Automatic Monitor Data
Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 μgm^{-3}	Tube 2 μgm^{-3}	Tube 3 μgm^{-3}	Triplicate Mean	Standard Deviation	Coefficient of Variation (CV)	95% CI of mean				
1	05/01/2022	02/02/2022	28.0	23.7	24.4	25	2.3	9	5.7	20.5	99.4	Good	Good
2	02/02/2022	02/03/2022	13.9	11.3	11.7	12	1.4	11	3.5	7.0	95.5	Good	Good
3	02/03/2022	30/03/2022	17.5	16.5	17.4	17	0.6	3	1.4	15.4	100	Good	Good
4	30/03/2022	04/05/2022	11.0	11.8	10.7	11	0.6	5	1.4	9.4	99.9	Good	Good
5	04/05/2022	08/06/2022	7.1	6.7	7.4	7	0.4	5	0.9	6.0	99.9	Good	Good
6	08/06/2022	06/07/2022	7.6	7.7	8.3	8	0.4	5	0.9	4.9	99.7	Good	Good
7	06/07/2022	03/08/2022	8.8	8.8	8.6	9	0.1	1	0.3	5.9	90.1	Good	Good
8	03/08/2022	31/08/2022	8.9	7.8	8.4	8	0.6	7	1.4	5.8	99.9	Good	Good
9	31/08/2022	28/09/2022	11.8	10.2	10.9	11	0.8	7	2.0	6.6	99.9	Good	Good
10	28/09/2022	02/11/2022	14.0	12.5	10.9	12	1.6	12	3.9	7.5	100	Good	Good
11	02/11/2022	30/11/2022	17.1	12.1	15.6	15	2.6	17	6.4	11.9	99.9	Good	Good
12	30/11/2022	04/01/2023	21.2	17.4	20.8	20	2.1	11	5.2	15.2	100	Good	Good
13													

It is necessary to have results for at least two tubes in order to calculate the precision of the measurements

Overall survey -->	Good precision	Good Overall DC
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(Check average CV & DC from Accuracy calculations)

Site Name/ID:	Cwmbran Crownbridge
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Precision	12 out of 12 periods have a CV smaller than 20%
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Accuracy (with 95% confidence interval) without periods with CV larger than 20%	Bias factor A: 0.74 (0.67 - 0.83)	Bias B: 35% (20% - 49%)
Diffusion Tubes Mean:	13 μgm^{-3}	
Mean CV (Precision):	8	
Automatic Mean:	10 μgm^{-3}	
Data Capture for periods used:	99%	
Adjusted Tubes Mean:	10 (9 - 11) μgm^{-3}	

Accuracy (with 95% confidence interval) WITH ALL DATA	Bias factor A: 0.74 (0.67 - 0.83)	Bias B: 35% (20% - 49%)
Diffusion Tubes Mean:	13 μgm^{-3}	
Mean CV (Precision):	8	
Automatic Mean:	10 μgm^{-3}	
Data Capture for periods used:	99%	
Adjusted Tubes Mean:	10 (9 - 11) μgm^{-3}	

Version 04

Adjustment of DUPLICATE or TRIPLICATE Tubes										Data Quality Check	
Diffusion Tubes Measurements										Diffusion Tubes Precision Check	
Period	Start Date dd/mm/yyyy	End Date dd/mm/yyyy	Tube 1 μgm^{-3}	Tube 2 μgm^{-3}	Tube 3 μgm^{-3}	Triplicate Average	Standard Deviation	CV	95% CI mean		
1	05/01/2022	02/02/2022	28.0	23.7	24.4	25.4	2.31	9.10	5.73	Good	
2	02/02/2022	02/03/2022	13.9	11.3	11.7	12.3	1.40	11.38	3.48	Good	
3	02/03/2022	30/03/2022	17.5	16.5	17.4	17.1	0.55	3.21	1.37	Good	
4	30/03/2022	04/05/2022	11.0	11.8	10.7	11.2	0.57	5.09	1.41	Good	
5	04/05/2022	08/06/2022	7.1	6.7	7.4	7.1	0.35	4.97	0.87	Good	
6	08/06/2022	06/07/2022	7.6	7.7	8.3	7.9	0.38	4.81	0.94	Good	
7	06/07/2022	03/08/2022	8.8	8.8	8.6	8.7	0.12	1.32	0.29	Good	
8	03/08/2022	31/08/2022	8.9	7.8	8.4	8.4	0.55	6.58	1.37	Good	
9	31/08/2022	28/09/2022	11.8	10.2	10.9	11.0	0.80	7.31	1.99	Good	
10	28/09/2022	02/11/2022	14.0	12.5	10.9	12.5	1.55	12.44	3.85	Good	
11	02/11/2022	30/11/2022	17.1	12.1	15.6	14.9	2.57	17.18	6.37	Good	
12	30/11/2022	04/01/2023	21.2	17.4	20.8	19.8	2.09	10.55	5.19	Good	
13											

It is necessary to have results for at least two tubes in order to calculate the precision of the measurements

Site Name/ID:	Cwmbran Crownbridge
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Adjusted measurement (95% confidence level) Without periods with CV larger than 20%	Tube Precision: 8	Automatic DC: 99%
Bias factor A: 0.74 (0.67 - 0.83)		
Bias B: 35% (20% - 49%)		
Information about tubes to be adjusted		
Diffusion Tube average:	13 μgm^{-3}	
Average Precision (CV):	8	
Adjusted Tube average:	10 +/- 1 μgm^{-3}	

Adjusted measurement (95% confidence level) with all data	Tube Precision: 8	Automatic DC: 99%
Bias factor A: 0.74 (0.67 - 0.83)		
Bias B: 35% (20% - 49%)		
Information about tubes to be adjusted		
Diffusion Tube average:	13 μgm^{-3}	
Average Precision (CV):	8	
Adjusted Tube average:	10 +/- 1 μgm^{-3}	

Version 04

NO₂ Fall-off with Distance from the Road

No diffusion tube NO₂ monitoring locations within Torfaen County Borough Council required distance correction during 2022.

QA/QC of Automatic Monitoring

Torfaen County Borough Council operates one automatic monitoring site; Cwmbran Crownbridge, located in the grounds of Croesyceiliog Comprehensive School in the town of Cwmbran in the south of the County Borough. Quality control procedures as detailed in AEA Technology's site operator's manual are followed. The analysers are calibrated once every four weeks using gases traceable to national standards. All data are scaled in line with four weekly calibration checks. The analysers also perform an internal overnight span check and are serviced every 6 months. Routine monthly calibration visits are carried out by the Council. Site audits and QA/QC calibrations are carried out by Bureau Veritas and Ricardo and who also ratify the data. In 2022, one major and one minor services were also carried out by Enviro Technology Services Ltd.

PM Monitoring Adjustment

Levels of PM₁₀ are continuously measured at the Cwmbran monitoring site using a Tapered Element Oscillating Microbalance (TEOM) particulate monitor manufactured by Rupprecht and Pattaschnick. As in 2021, the 2022 data set could not be corrected as previous years by using a Volatile Correction Model (VCM). This was due to a lack of TEOM Filter Dynamics Measurement System (FDMS) data.

Section 7.149 of TG(16) states;

"It should be noted that due to the gradual withdrawal of TEOM-FDMS instruments and phased replacement with new compliant PM monitoring equipment on the AURN, the extent of data available to maintain the VCM has significantly reduced in recent years. As such, the extent of geographical coverage for the applicability and future viability of the VCM has become limited"

Despite the recent modification the VCM correction website to allow FDMSs to be within 200km to be used for VCM correction (up from the previous 130 km), unfortunately Torfaen still had no coverage.

For 2022 data, we have therefore reverted to the historical recommendation of applying a 1.3 multiplication factor to the TEOM results, this being the best method available to account for the loss of volatile particulates in the monitor. Any comparisons made in this report of the 2022 data, with data prior to 2021, are therefore merely indicative.

Automatic Monitoring Annualisation

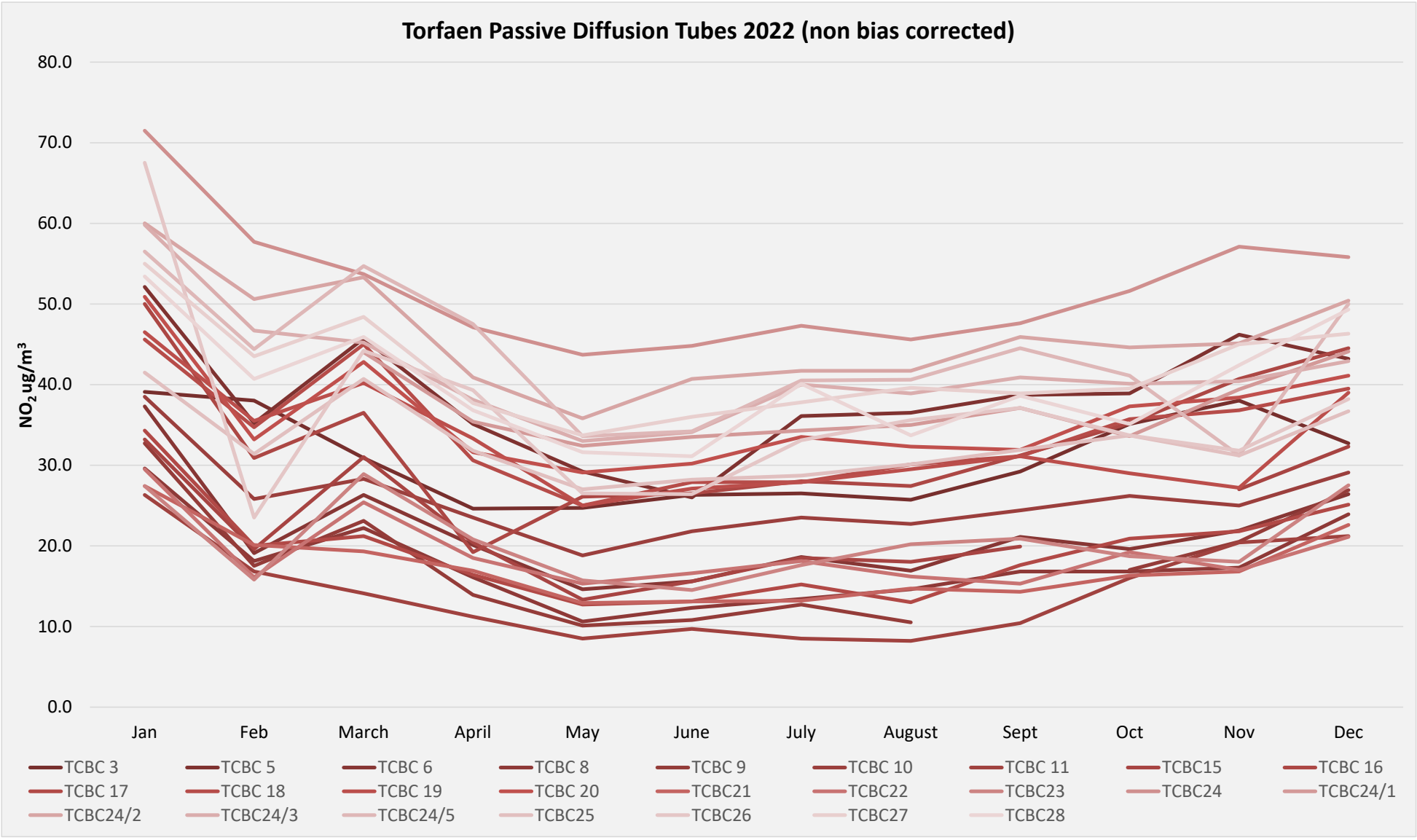
No annualisation of automatic monitoring data was required for 2022

Appendix D: Individual Diffusion Tube Monthly Results for 2022 with Locations and Annual Trends.

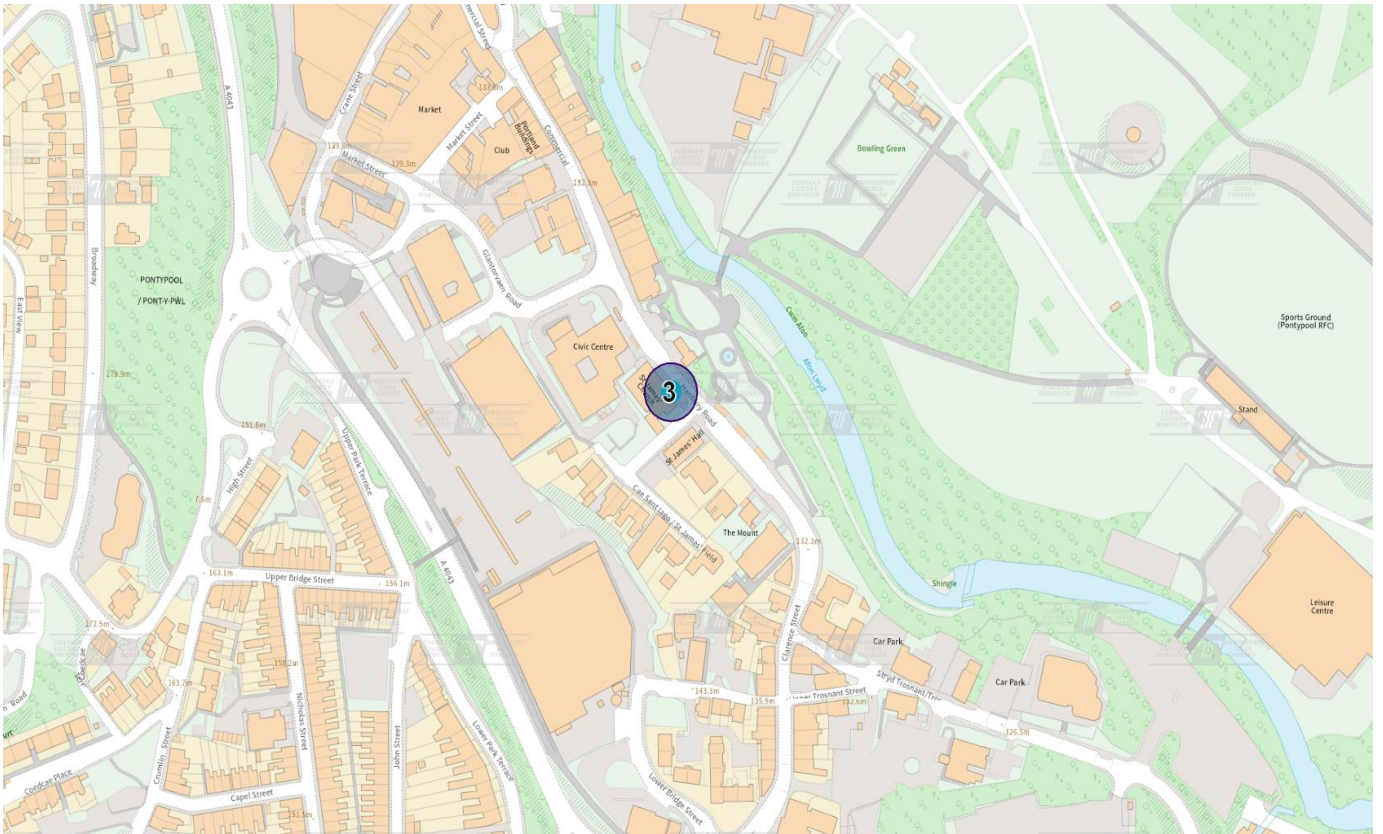
Table D1 Torfaen Nitrogen Dioxide Diffusion Tube Results for 2022

NITROGEN DIOXIDE RESULTS FOR 2022 (ug/m3)															Bias & Corrected Average	
Location	Site No.	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec	Average	Data Capt %	0.74
Pontypool Town Centre	TCBC 3	39.1	38.0	30.9	24.6	24.7	26.3	26.5	25.7	29.2	35.1	38.0	32.7	30.9	100	23.0
Cwmbran Drv Mosely Terrace	TCBC 5	52.1	35.2	45.7	35.1	29.2	26.0	36.1	36.5	38.7	38.9	46.2	43.2	38.6	100	28.7
Henlllys Way	TCBC 6	37.3	19.1	26.3	20.1	14.6	15.6	18.6	16.9	21.1	19.6	21.9	26.4	21.5	100	16.0
Caerleon Rd Ponthir	TCBC 8	29.6	18.1	22.2	16.1	10.6	12.3	13.4	14.6	16.8	16.8	17.3	23.9	17.6	100	13.1
Llanyrafon Way	TCBC 9	32.7	17.5	23.1	13.9	10.1	10.8	12.7	10.5		17.0	20.5	26.9	17.8	92	13.2
Edlogan Way	TCBC 10	38.5	25.8	28.3	23.5	18.8	21.8	23.5	22.7	24.4	26.2	25.0	29.1	25.6	100	19.1
Golf Rd New Inn	TCBC 11	26.3	16.8	14.1	11.2	8.5	9.7	8.5	8.2	10.4	16.0	20.4	21.2	14.3	100	10.6
Station Rd Griffithstown	TCBC15	33.2	19.6	31.0	20.4	13.3	15.6	18.5	18.0	19.9		27.0	32.3	22.6	92	16.8
Richmond Rd Pontnewydd	TCBC 16	50.0	30.9	36.5	19.2	26.1	26.5	28.0	27.4	31.2	35.2	40.7	44.5	33.0	100	24.6
Turnpike Rd Croseyceiliog	TCBC 17	34.3	20.0	21.2	16.4	12.7	13.1	15.2	13.0	17.6	20.9	21.8	25.1	19.3	100	14.3
Pontymoile Rockhill Rd	TCBC 18	45.6	34.7	45.0	30.6	25.0	27.9	27.9	30.1	31.1	35.7	36.8	39.5	34.2	100	25.4
Abersychan 21 Station St	TCBC 19	46.5	35.5	40.2	33.3	25.0	27.1	27.9	29.5	31.1	29.0	27.2	39.0	32.6	100	24.2
Cwmbran Drv Sainsbury	TCBC 20	50.9	33.2	42.8	31.6	29.1	30.2	33.5	32.3	31.9	37.3	38.4	41.1	36.0	100	26.8
Pen Y Lan lane Mamhilad	TCBC21	27.4	20.1	19.3	16.9	12.9	13.1	13.2	14.7	14.3	16.3	16.8	22.6	17.3	100	12.9
Church Rd Blaenavon	TCBC22	29.5	16.1	25.4	18.5	15.3	16.6	18.1	16.2	15.3	19.2	17.0	21.1	19.0	100	14.1
Sebastopol South St	TCBC23	27.4	15.8	28.9	20.8	15.7	14.5	17.6	20.2	20.9	18.7	18.0	27.5	20.5	100	15.2
Pontnewynydd St Lukes Rd	TCBC24	71.5	57.7	53.7	47.1	43.7	44.8	47.3	45.6	47.6	51.6	57.1	55.8	52.0	100	38.6
Nisa Store Lampost	TCBC24/1	60.1		44.0	35.4	32.4	33.5	34.3	35.0	37.1	33.6	39.4	44.1	39.0	92	29.0
12 St Lukes Rd	TCBC24/2	60.0	50.6	53.3	40.9	35.8	40.7	41.7	41.7	45.9	44.6	45.1	50.4	45.9	100	34.1
1 Groveside Villas	TCBC24/3	59.8	46.7	45.2	38.1	33.0	34.1	40.0	38.9	40.9	40.1	40.4	42.9	41.7	100	31.0
Flat 24/ Tonic hairdressers	TCBC24/5	56.5	44.4	54.7	47.5	33.6	34.2	40.5	40.6	44.5	41.1	31.2	50.0	43.2	100	32.1
Penygarn Hill	TCBC25	41.5	31.4	40.7	31.8	27.0	28.2	28.7	30.1	31.9	33.7	31.2	36.7	32.7	100	24.3
A4042 Croseyceiliog By-Pass	TCBC26	67.5	23.5	44.2	39.3	26.5	26.4	33.1	35.6	37.1	33.7	31.8	38.2	36.4	100	27.1
Snatchwood 3 Hollyoake Terrace	TCBC27	55.0	43.5	48.4	37.7	33.7	36.0	37.8	39.6	38.9	39.5	45.0	46.3	41.8	100	31.1
Snatchwood Road 57	TCBC28	53.4	40.7	45.9	36.8	31.6	31.1	40.1	33.7	38.6	35.1	42.4	49.3	39.9	100	29.7
Pontnewynydd St Lukes Rd	SENSOR											32.0	34.0	33.0	16.7	
Croesyceiliog AQMS 1	CLO1	28.0	13.9	17.5	11.0	7.1	7.6	8.8	8.9	11.8	14.0	17.1	21.2	13.9	100	10.3
Croesyceiliog AQMS 2	CLO2	23.7	11.3	16.5	11.8	6.7	7.7	8.8	7.8	10.2	12.5	12.1	17.4	12.2	100	9.1
Croesyceiliog AQMS 3	CLO3	24.4	11.7	17.4	10.7	7.4	8.3	8.6	8.4	10.9	10.9	15.6	20.8	12.9	100	9.6
Colocation Study Averages	CL01-CL03	25.4	12.3	17.1	11.2	7.1	7.9	8.7	8.4	11.0	12.5	14.9	19.8	13.01		Automatic Data
TRAVEL BLANK	TCBC 1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		Status
Cwmbran Crownbridge	Automatic	20.5	7.0	15.4	9.4	6.0	4.9	5.9	5.8	6.6	7.5	12.0	15.2	9.7	98.8	Verified *
	Hotspot area		Missing Tube													
	Colocation Tubes															

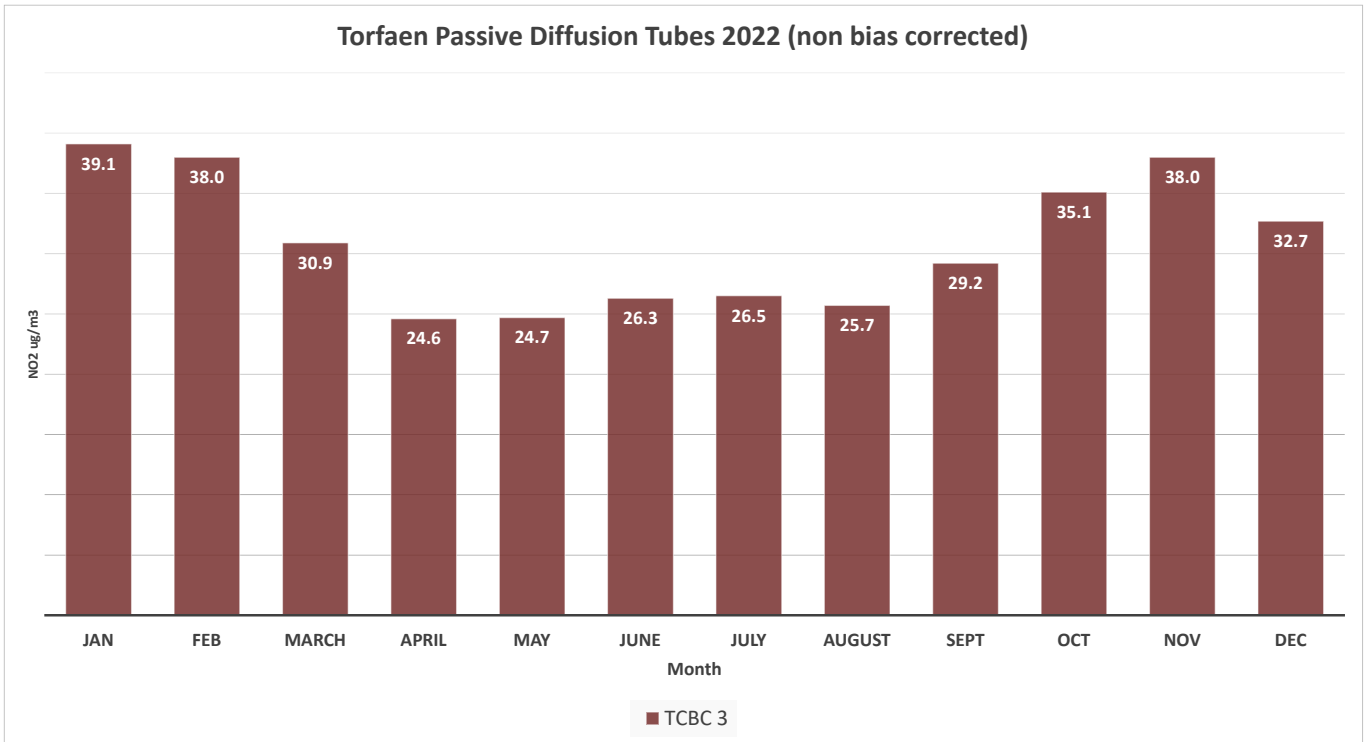
Figure D1 Torfaen Nitrogen Dioxide Individual Diffusion Tube Results for 2022



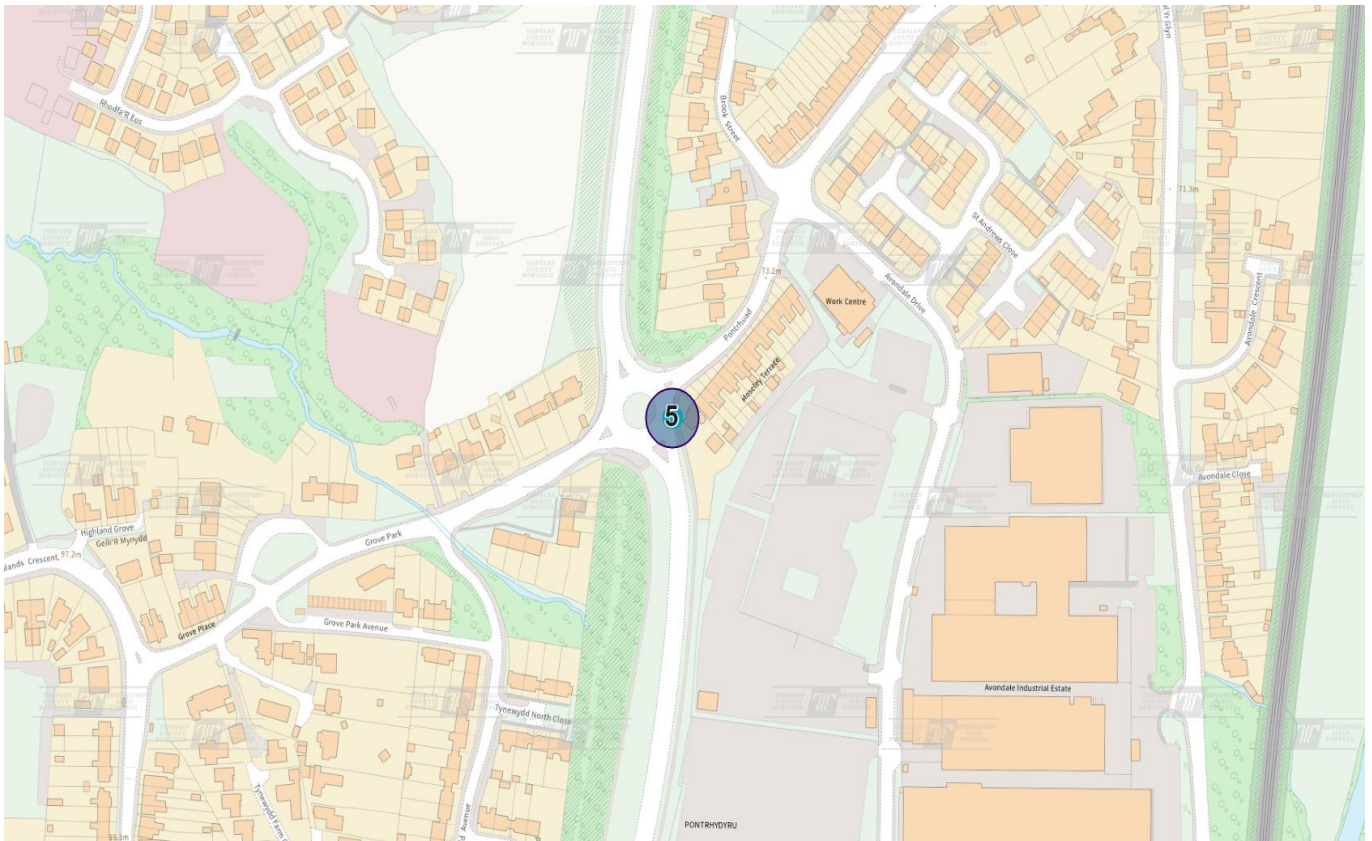
TCBC3	Pontypool Town Centre	Roadside	X328264 , Y200781
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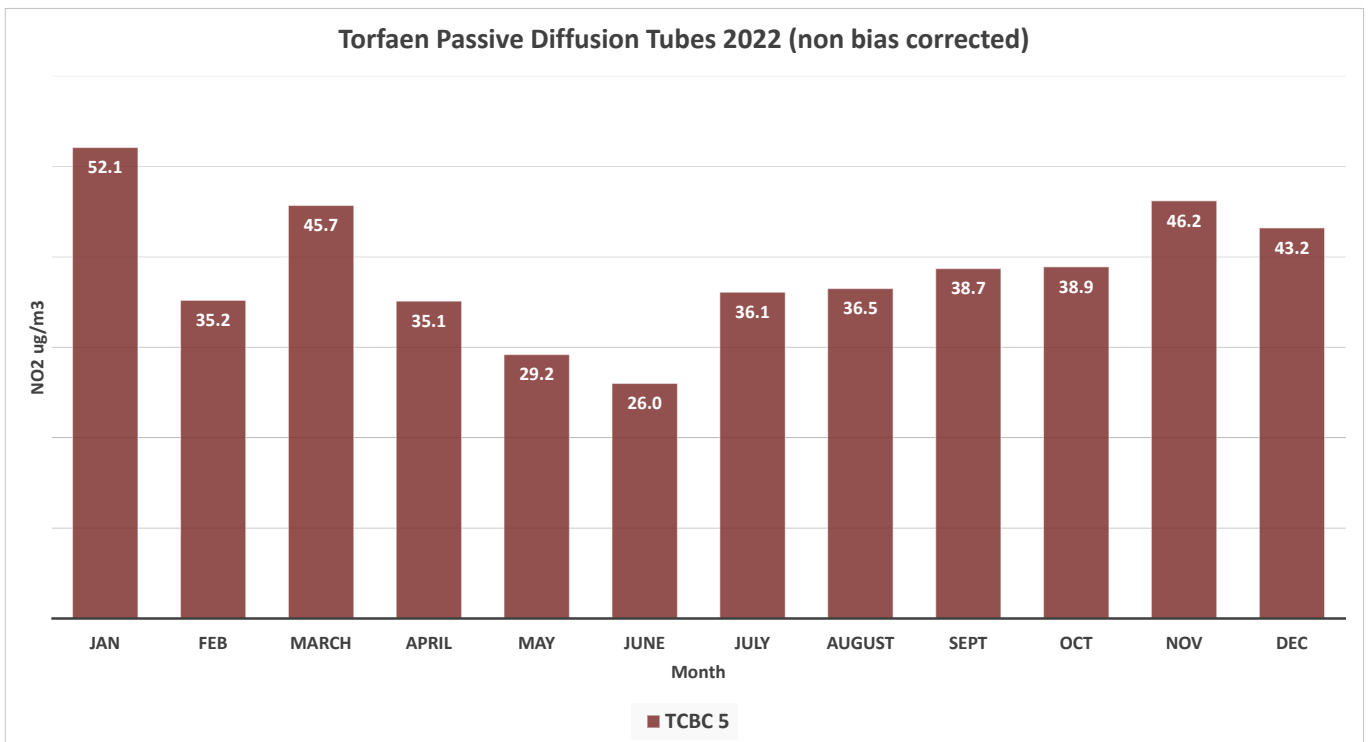
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



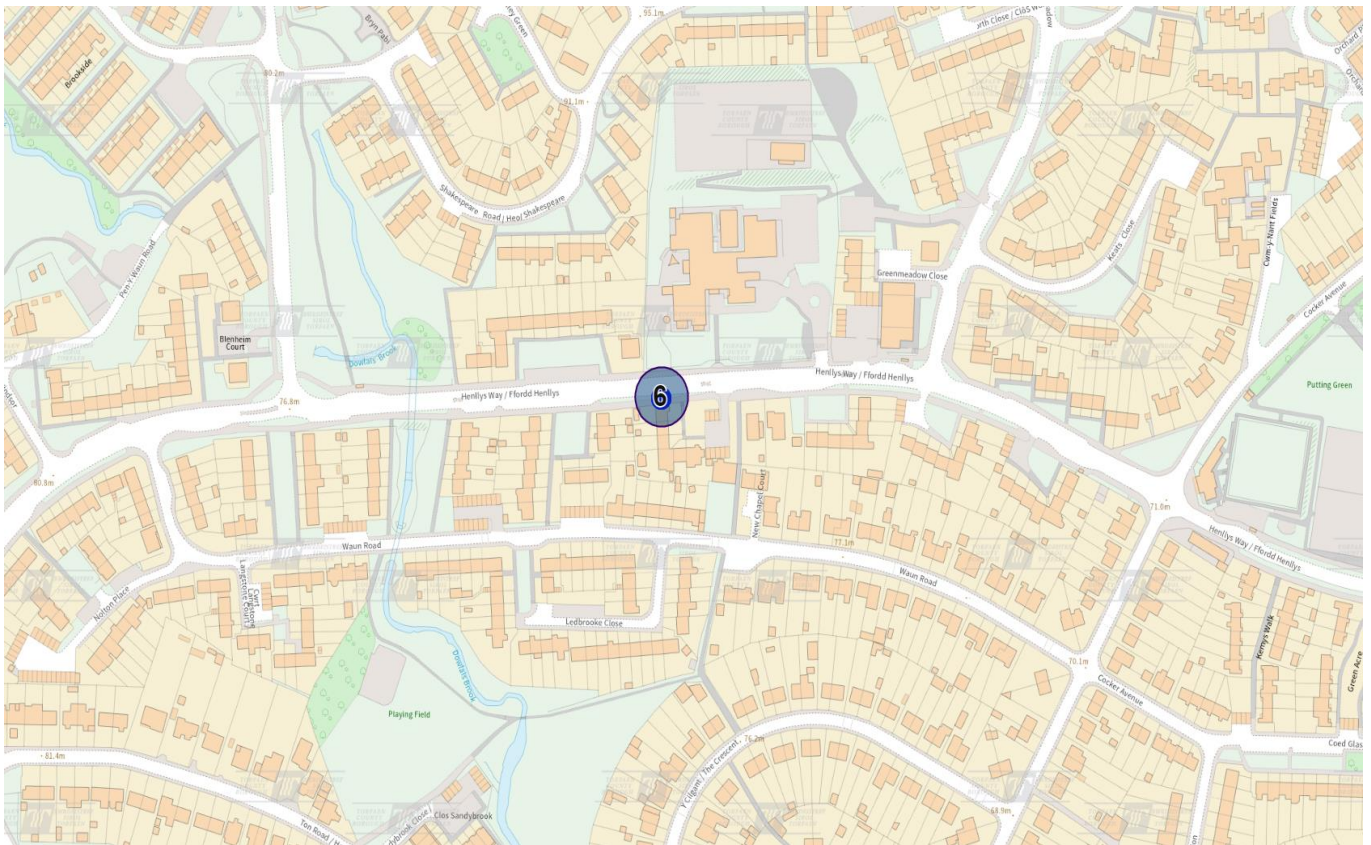
TCBC5	A4051, Cwmbran Drive, Cwmbran	Roadside	X328500, Y194522
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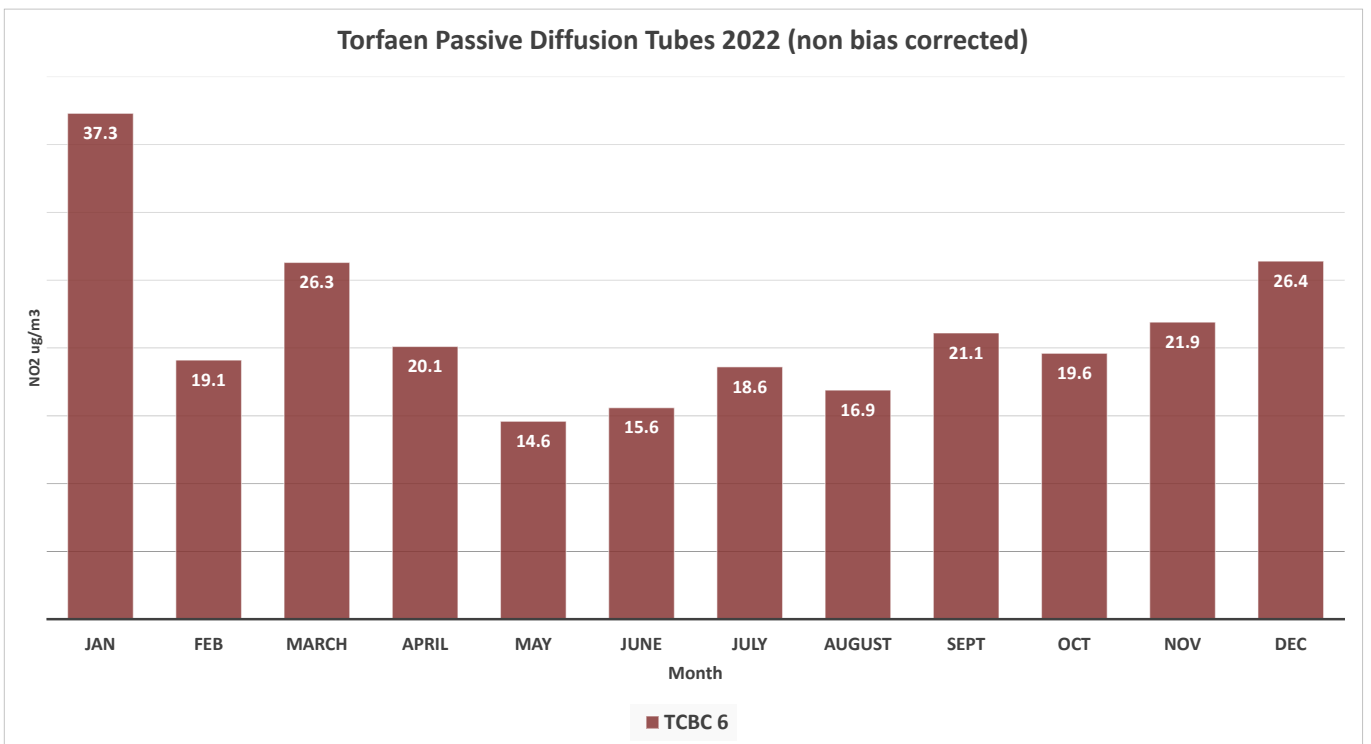
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



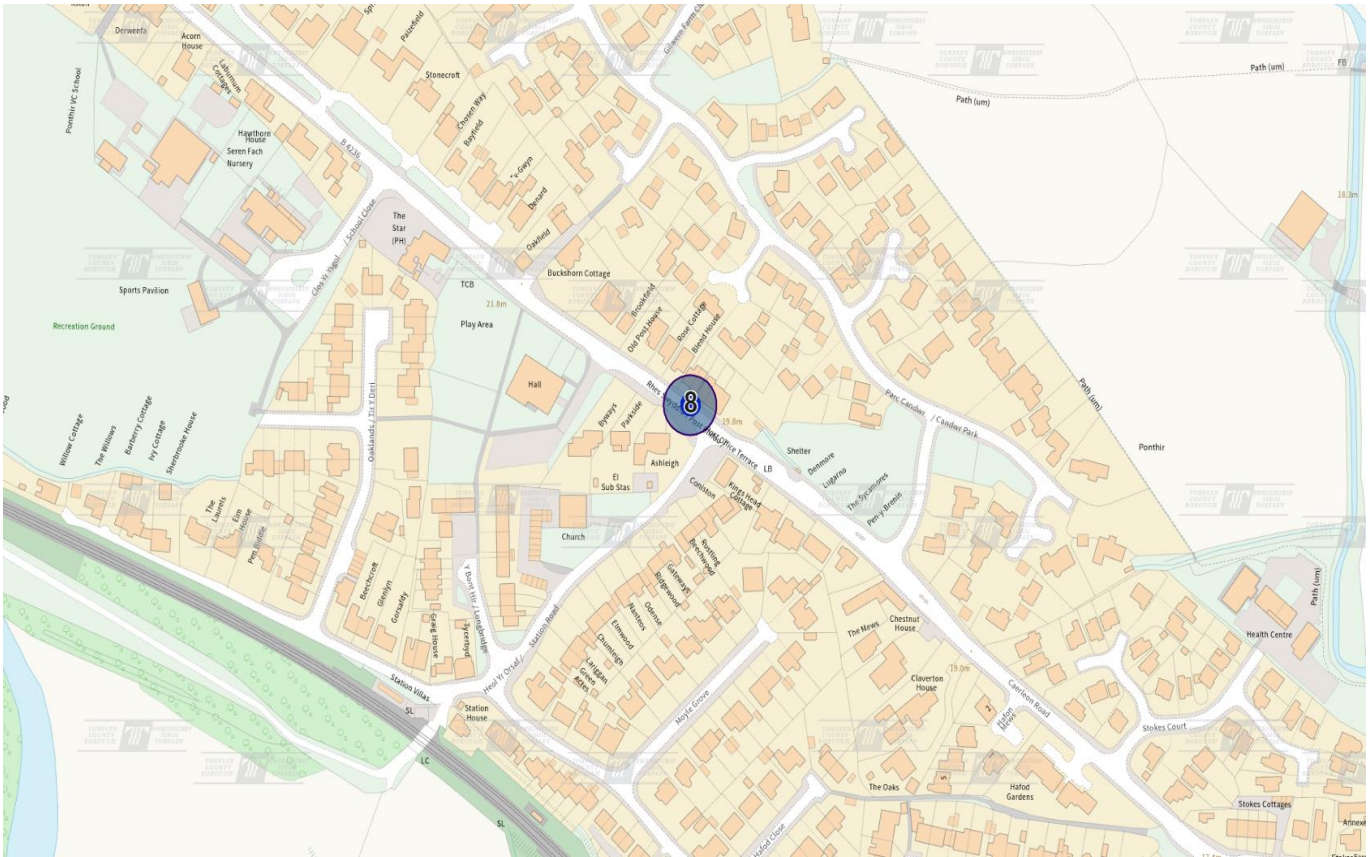
TCBC6	Henllys Way, Cwmbran	Roadside	X328500, Y194522
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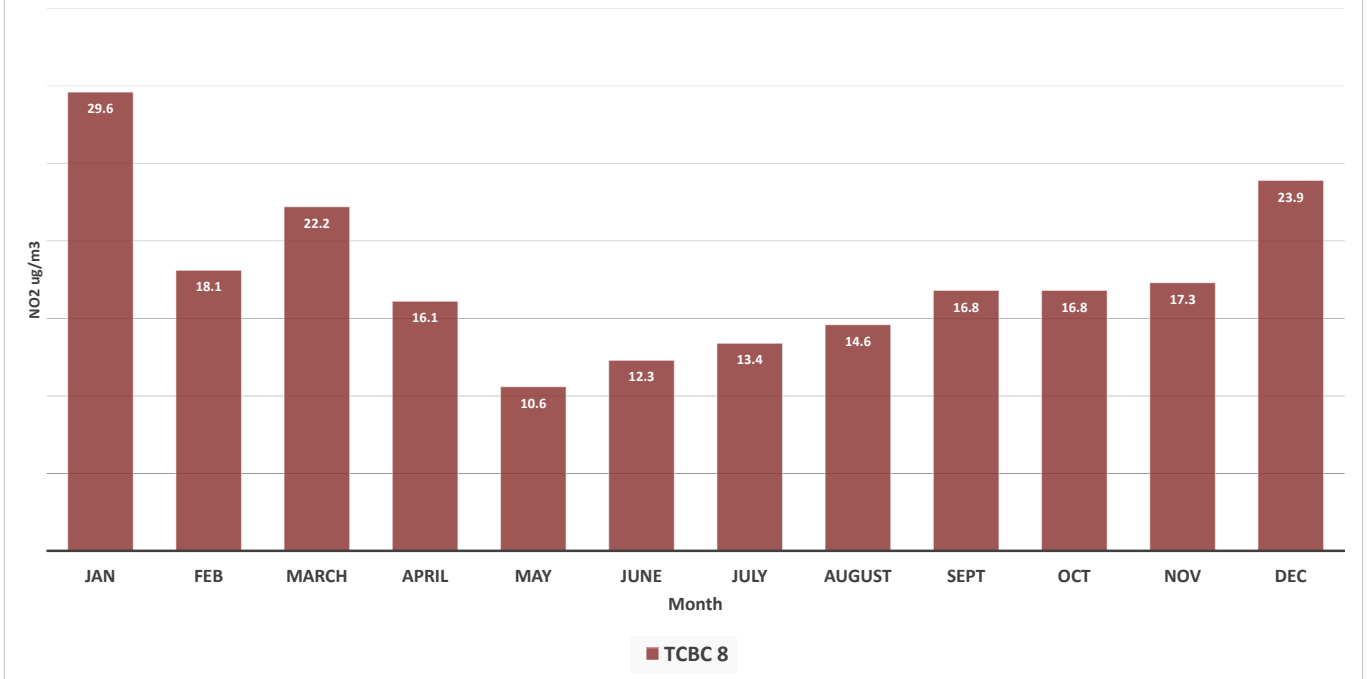
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



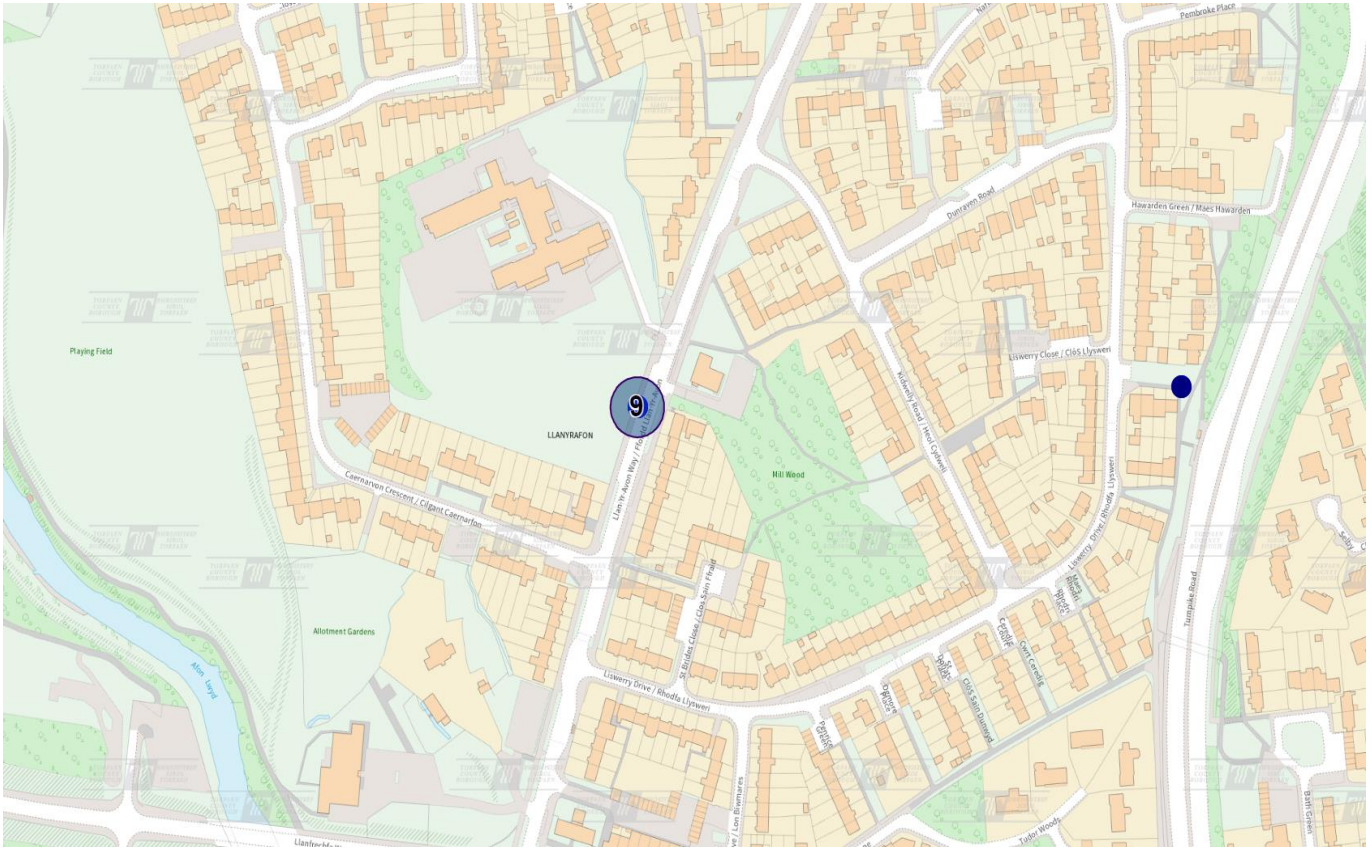
TCBC8	Caerleon Road, Ponthir	Roadside	X332672, Y192878
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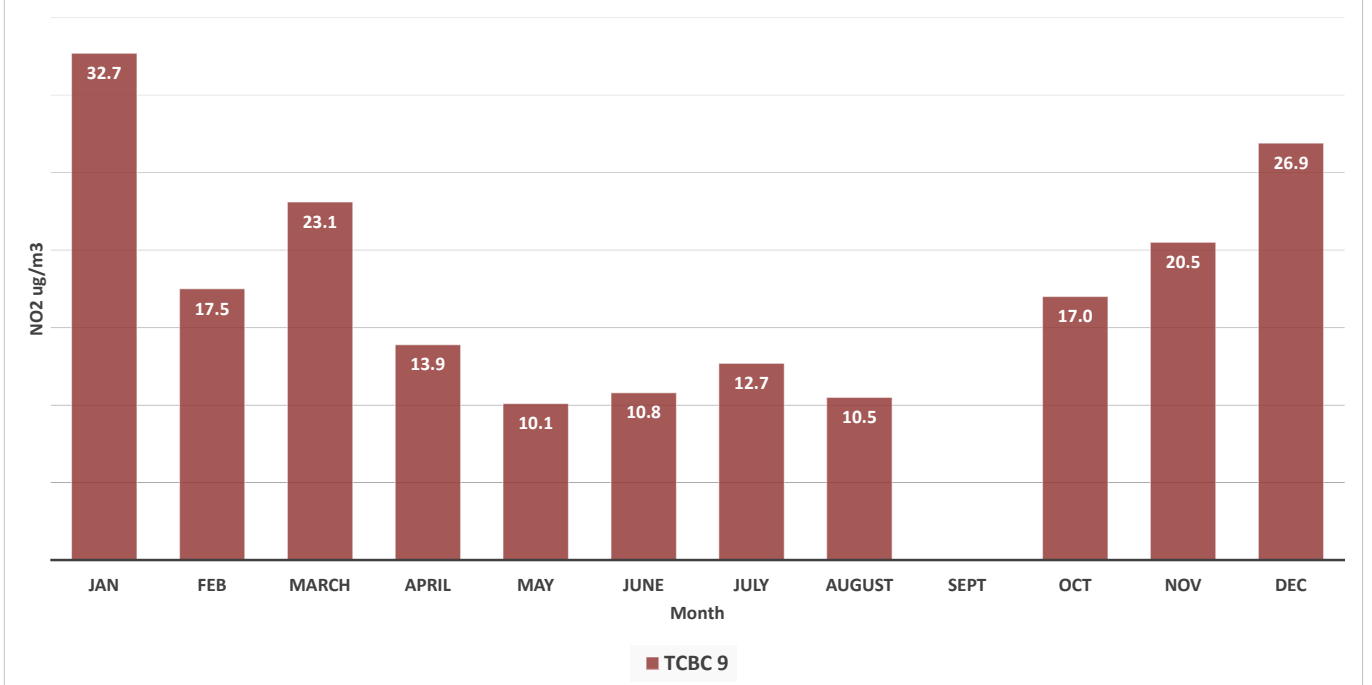
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



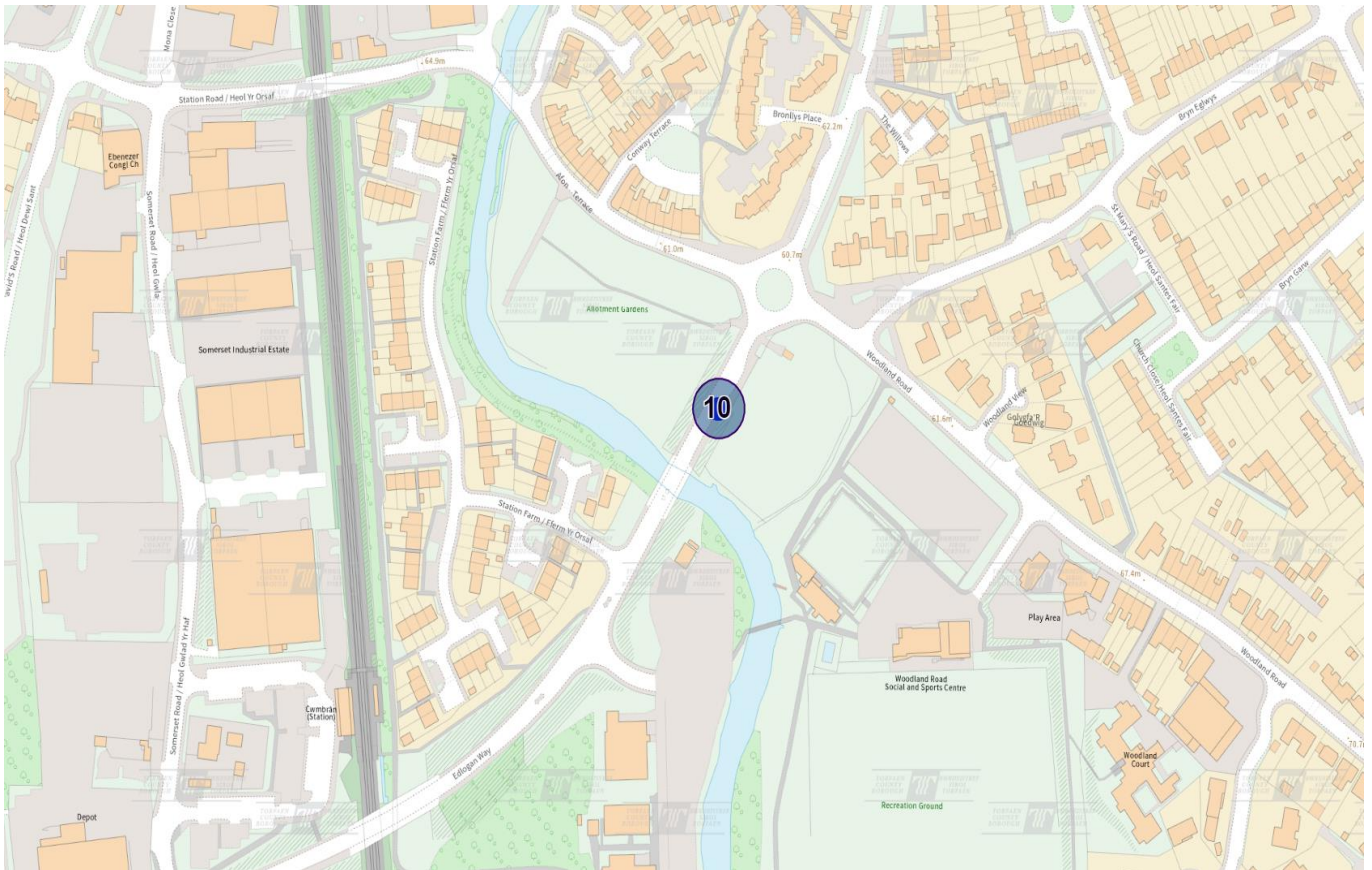
TCBC9	Llanyravon Way, Cwmbran	Roadside	X330400, Y194857
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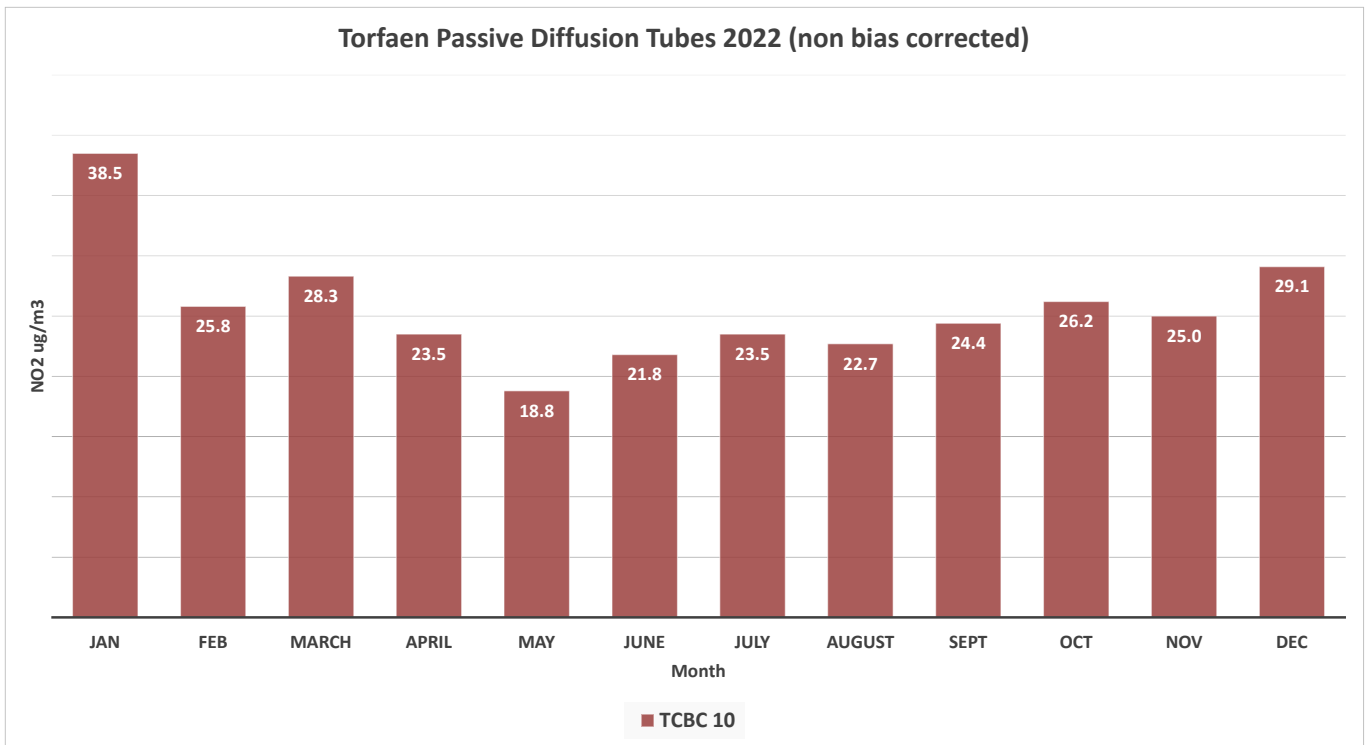
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



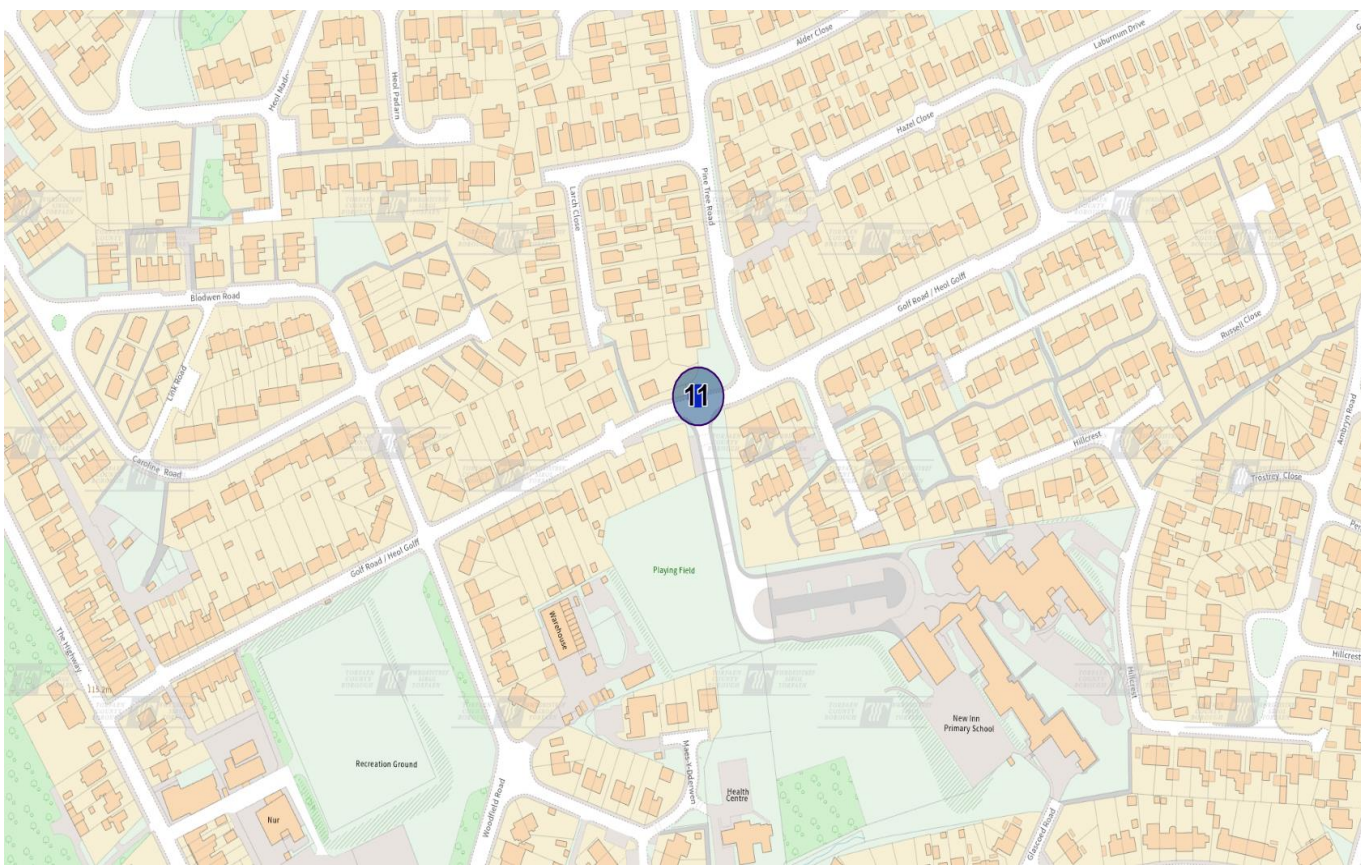
TCBC10	Edlogan Way, Cwmbran	Roadside	X330011, Y196009
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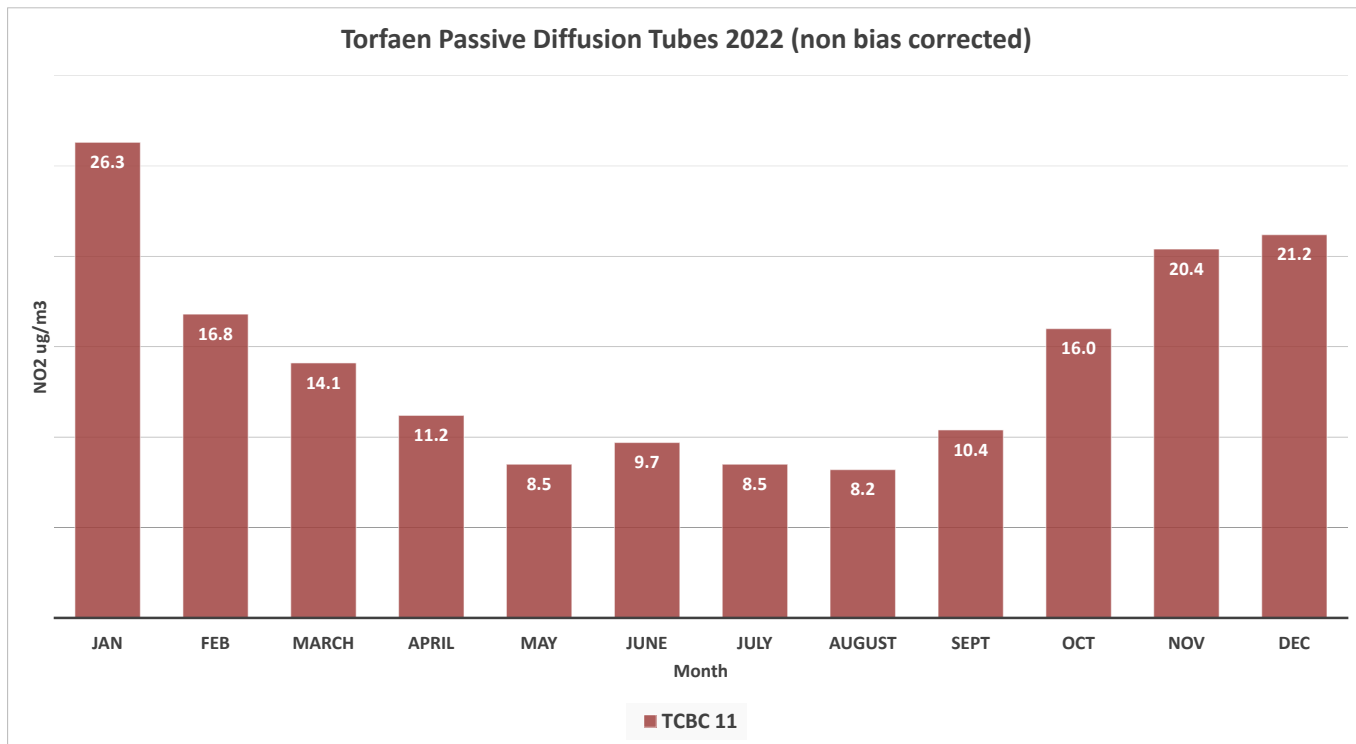
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



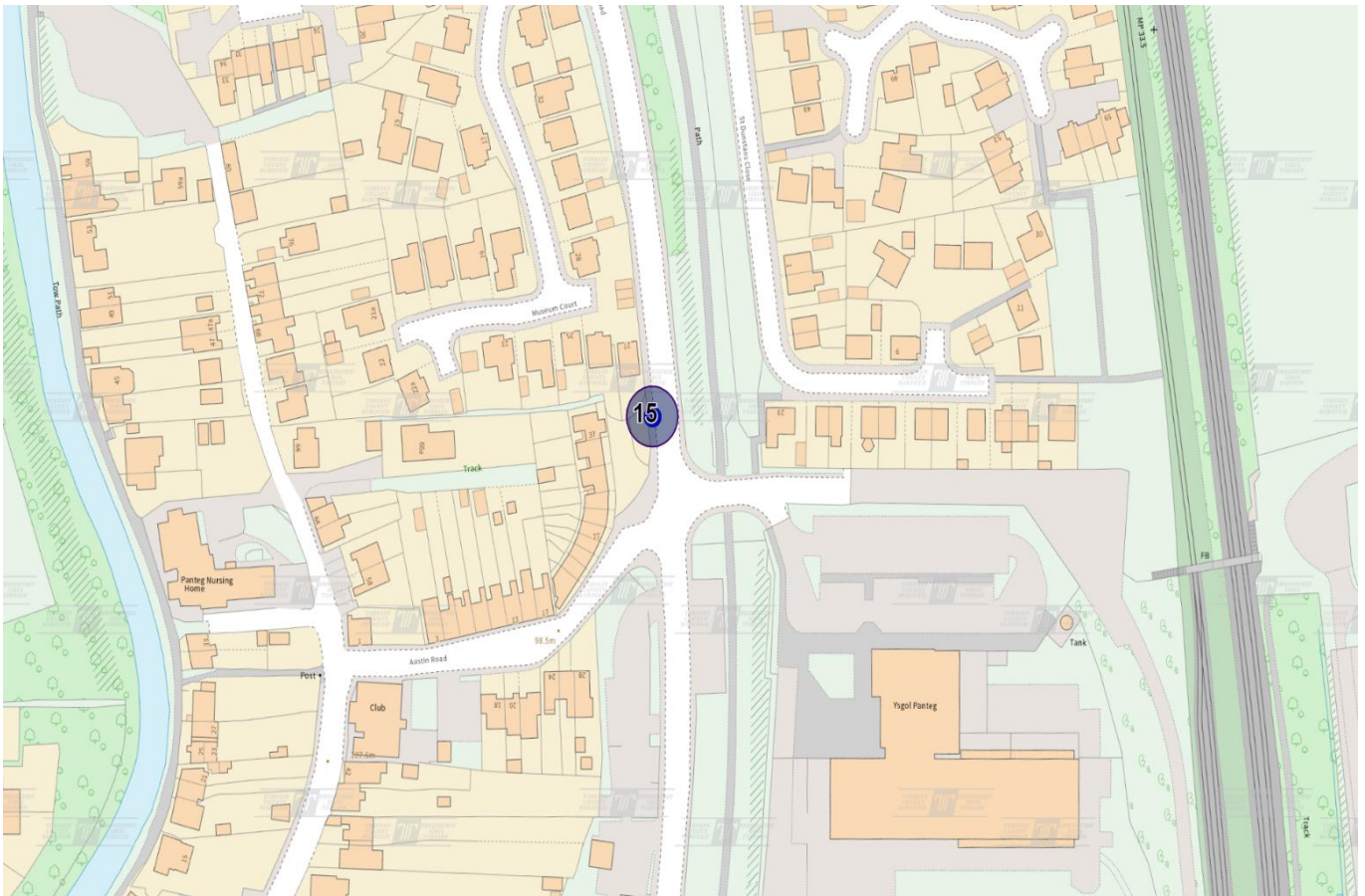
TCBC11	Golf Road, New Inn, Pontypool	Urban Background	X330498, Y199884
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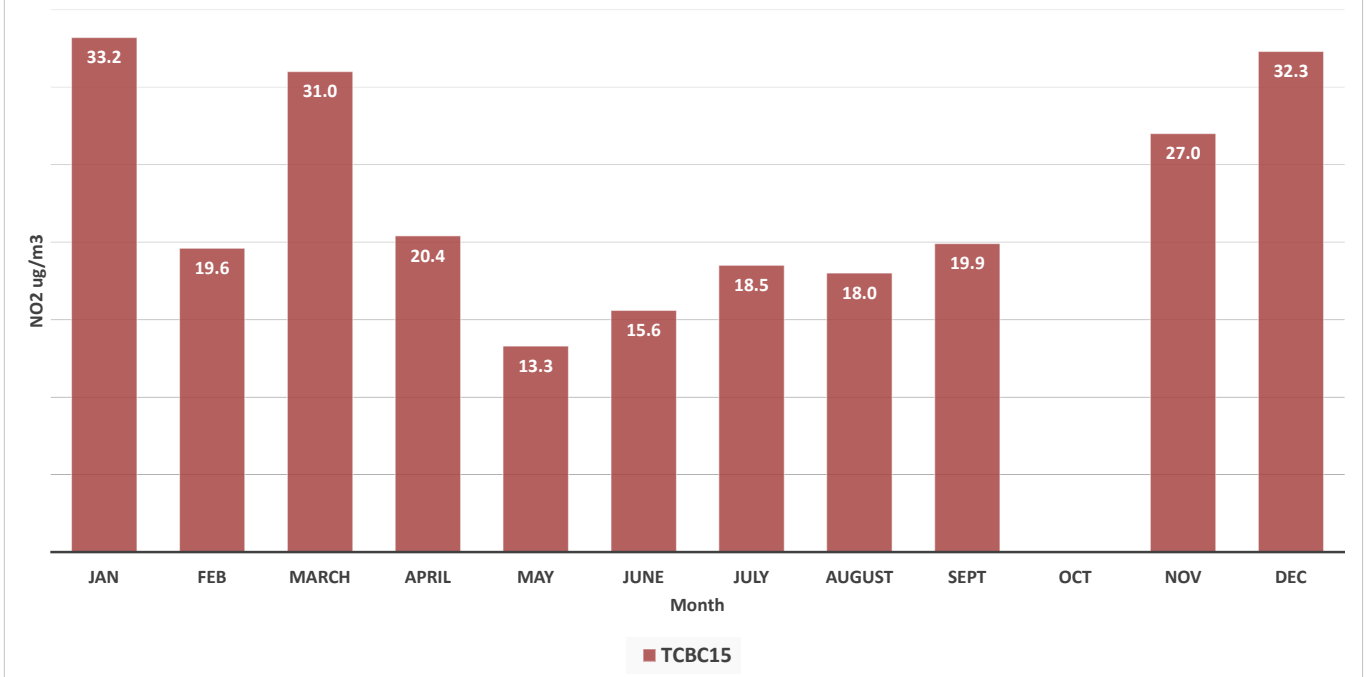
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



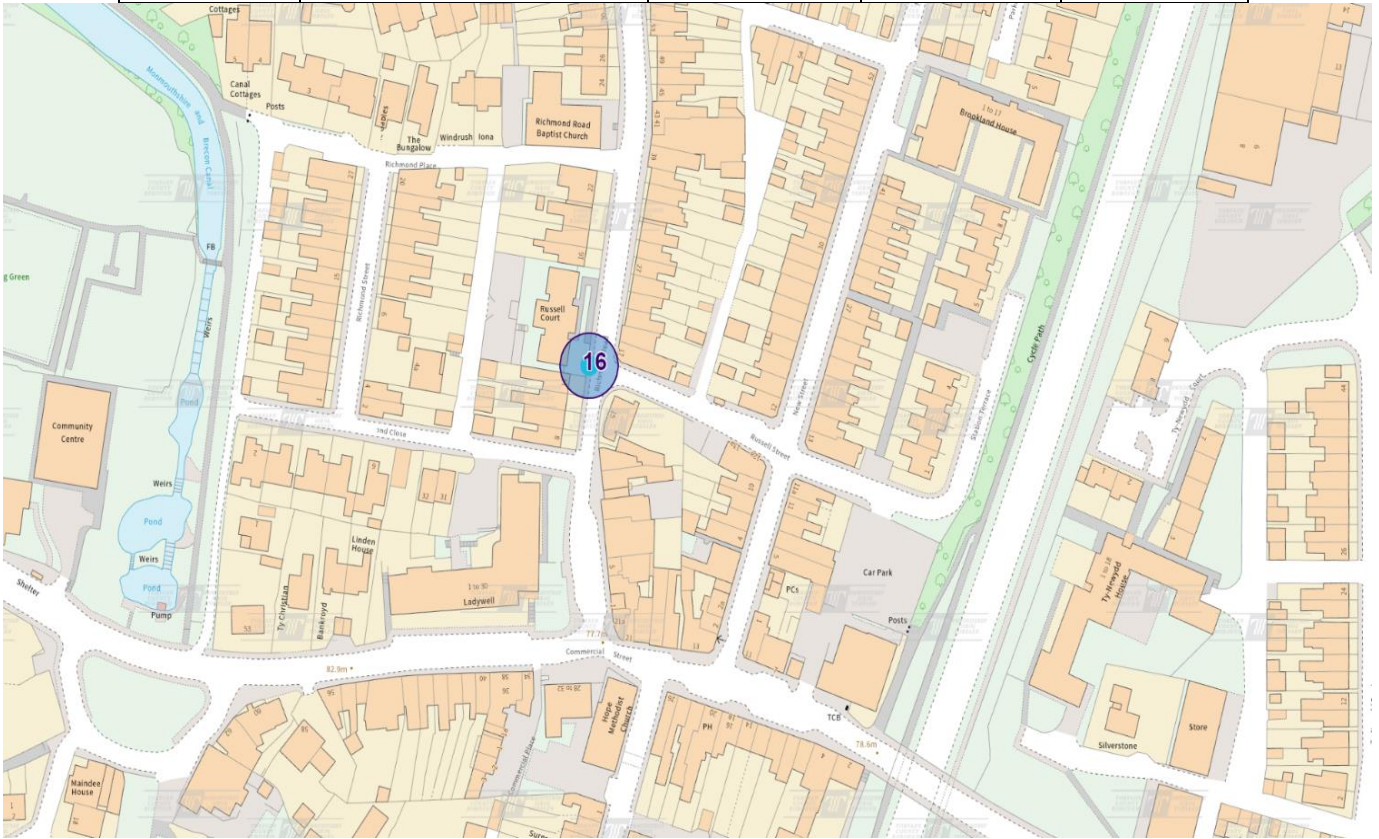
TCBC15	Station Rd, Griffithstown	Roadside	X 329540, Y198458
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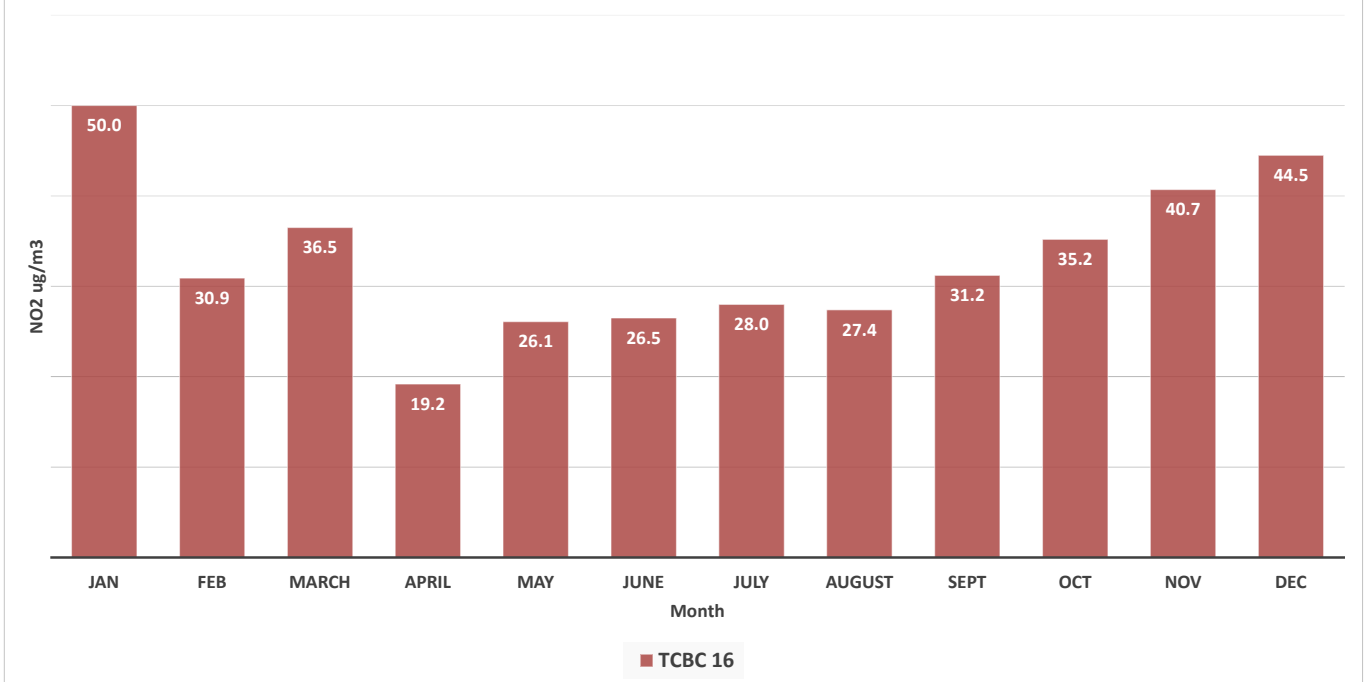
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



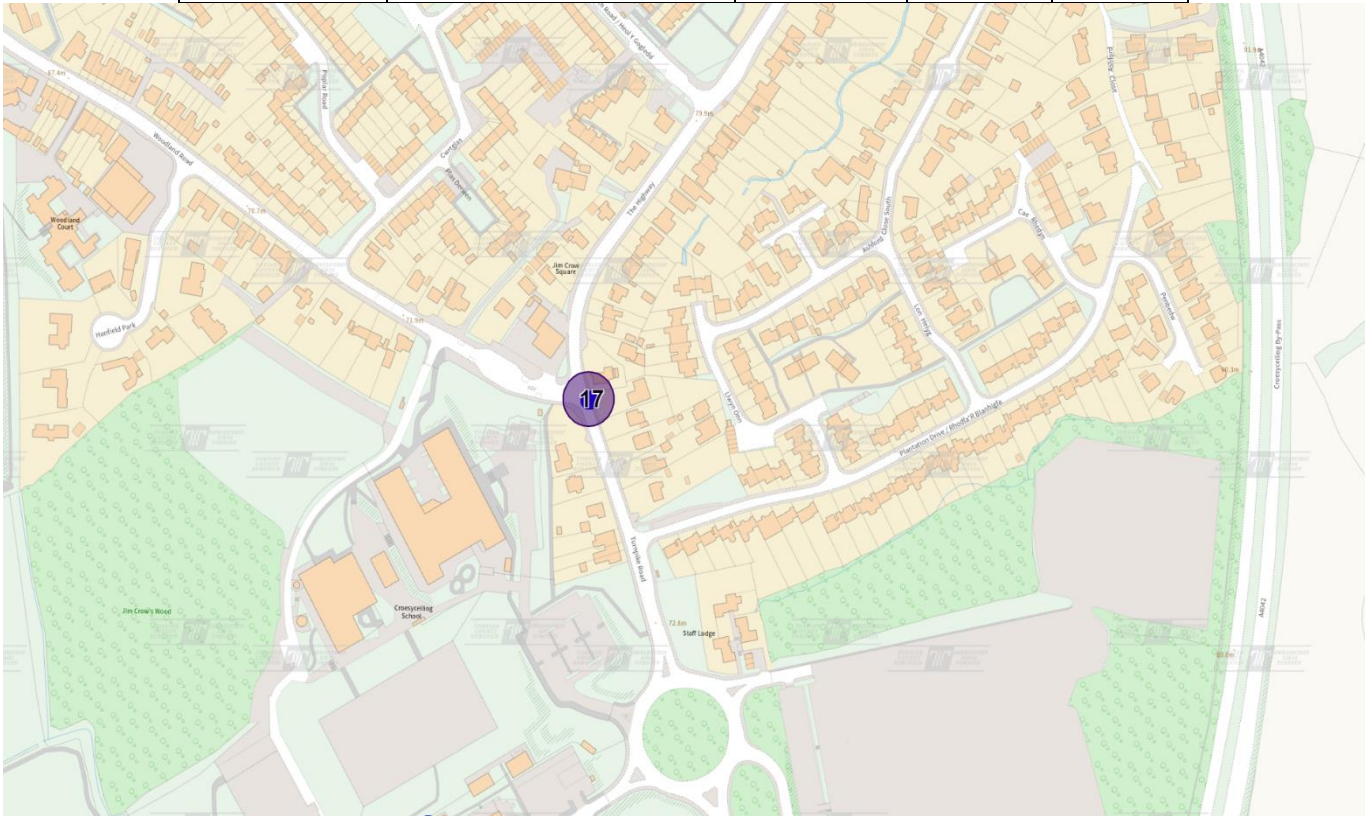
TCBC16	Richmond Rd Pontnewydd	Roadside	X329147	Y196408
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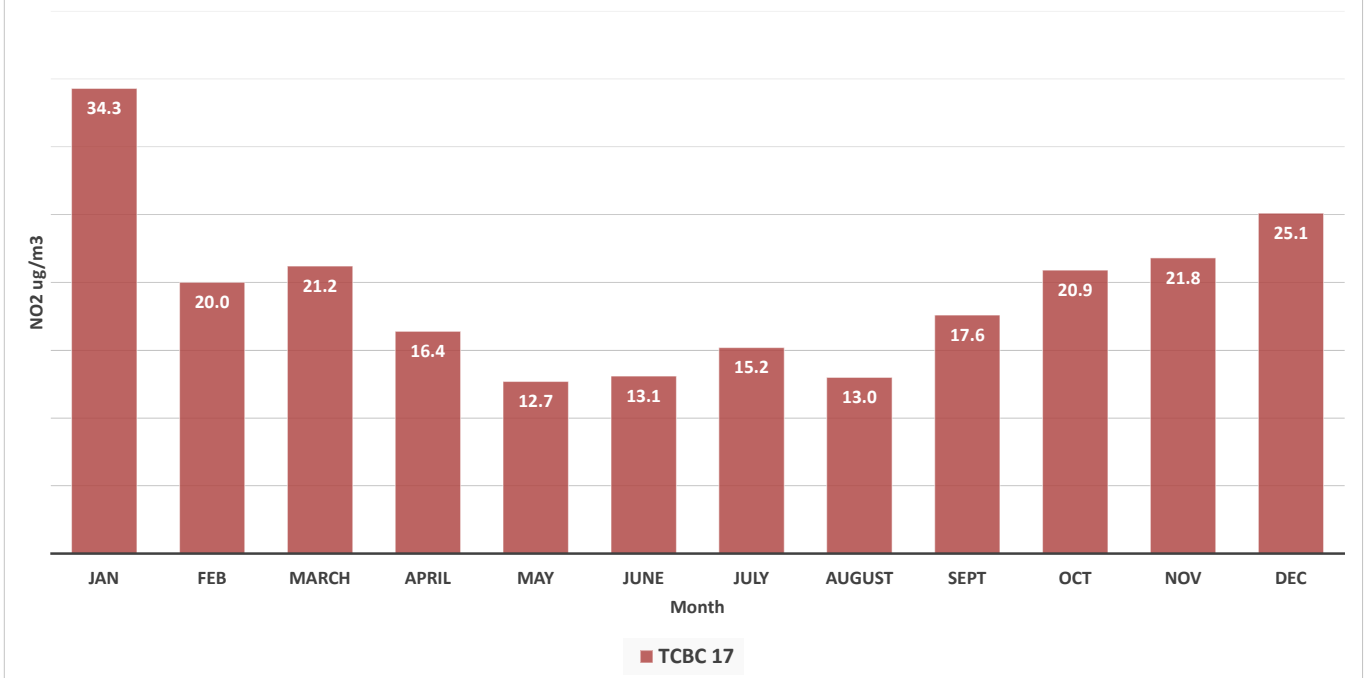
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



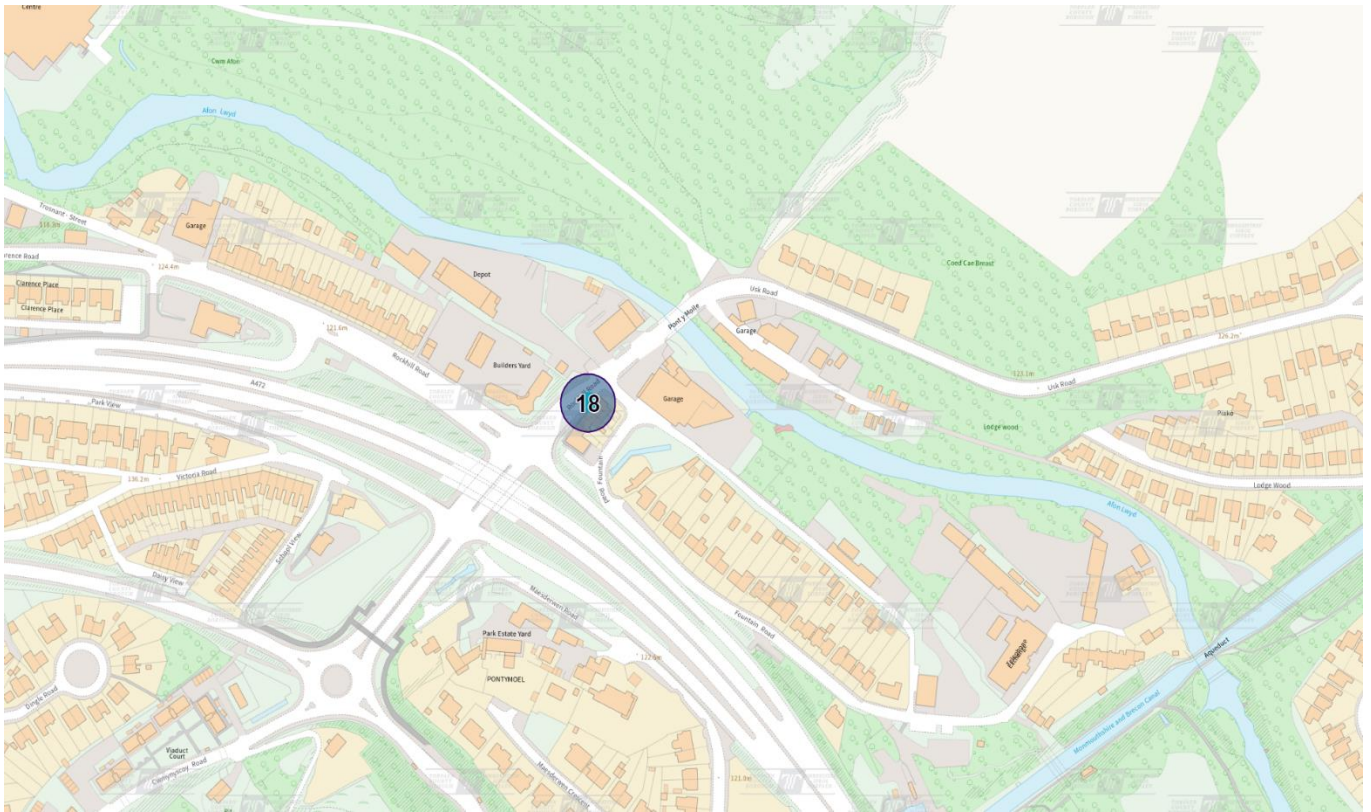
TCBC17	Turnpike Rd Croesyceiliog	Roadside	X330578	Y195735
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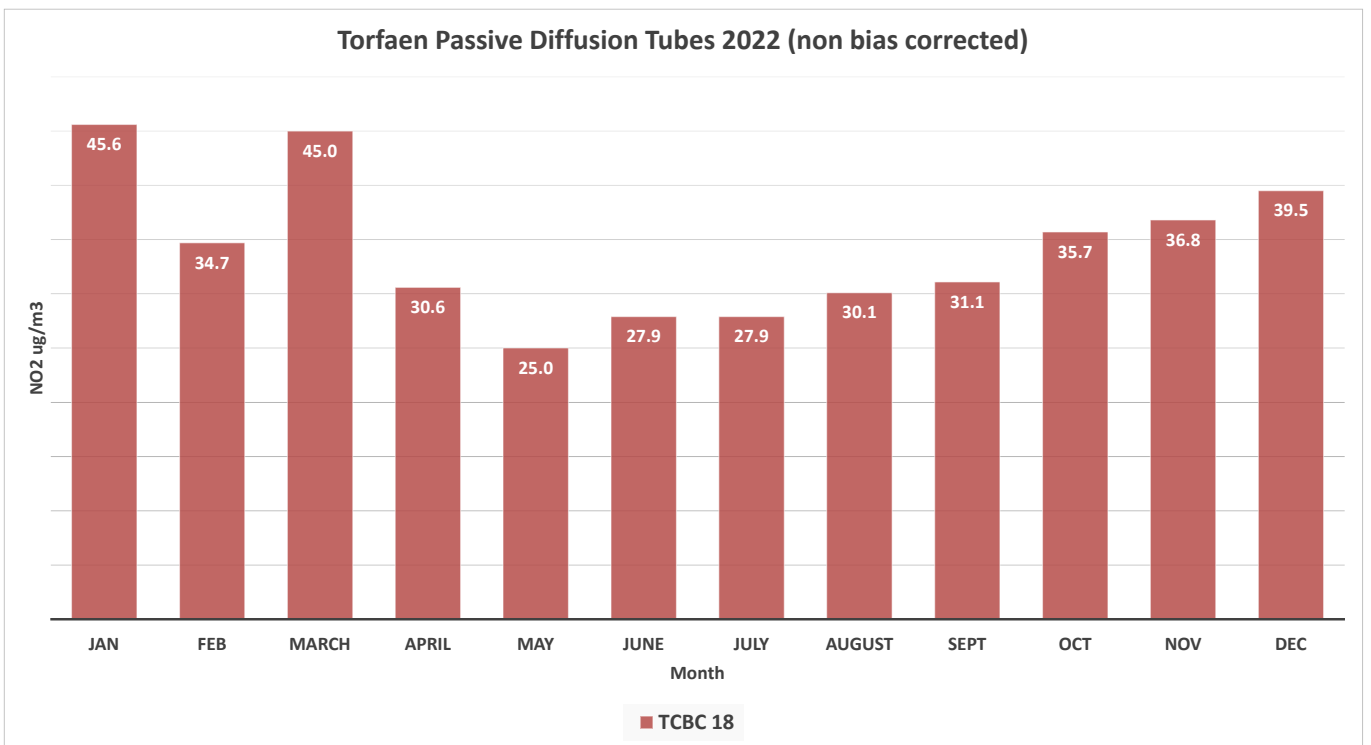
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



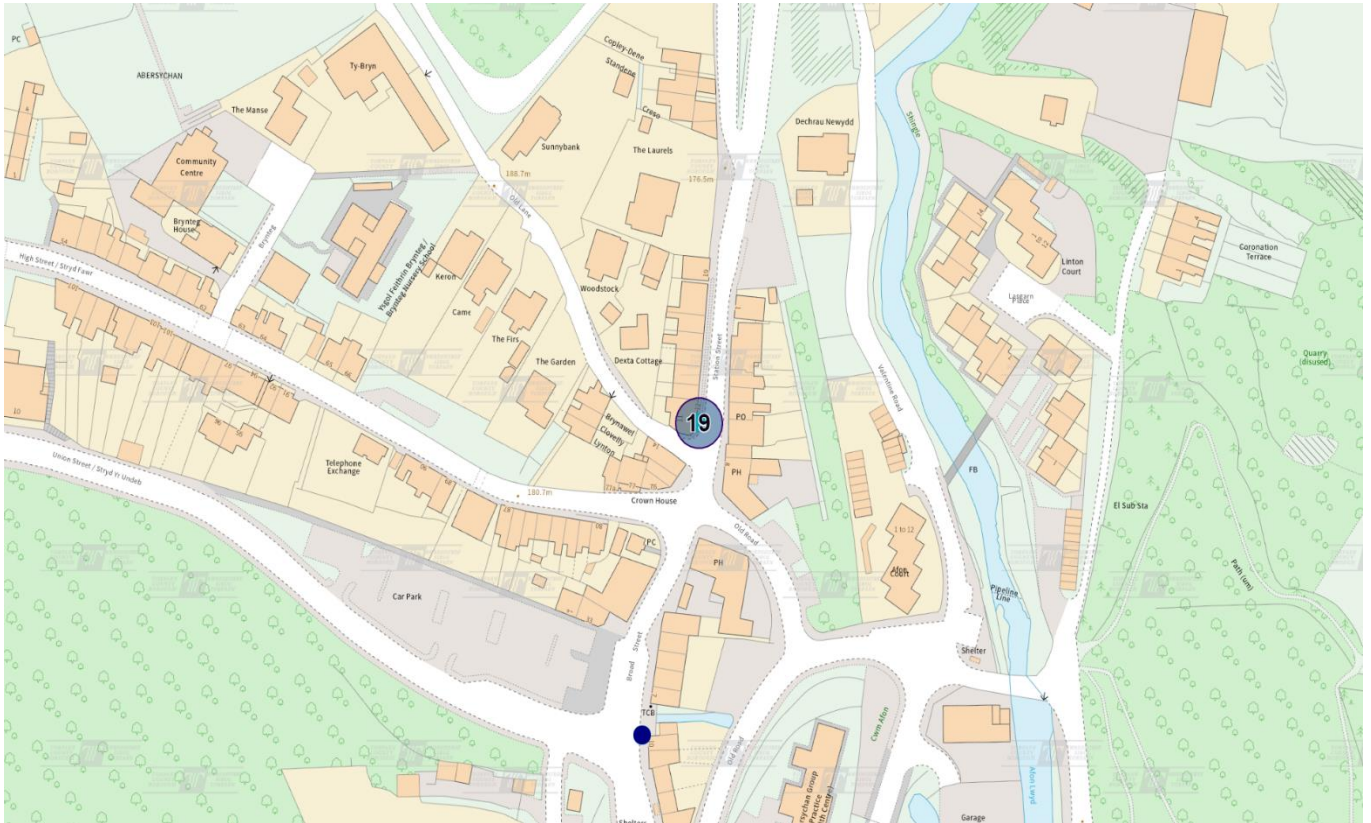
TCBC18	Rockhill Rd Pontymoile	Roadside	X328978	Y200434
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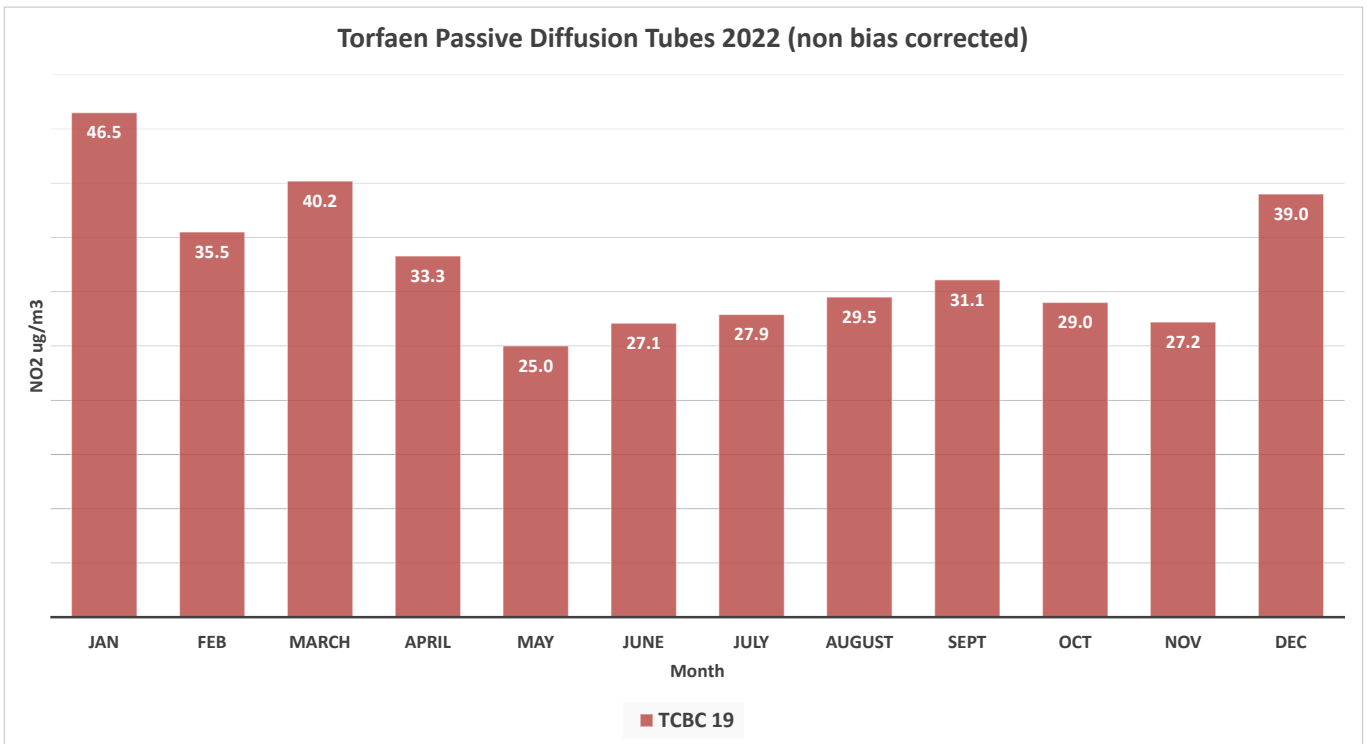
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



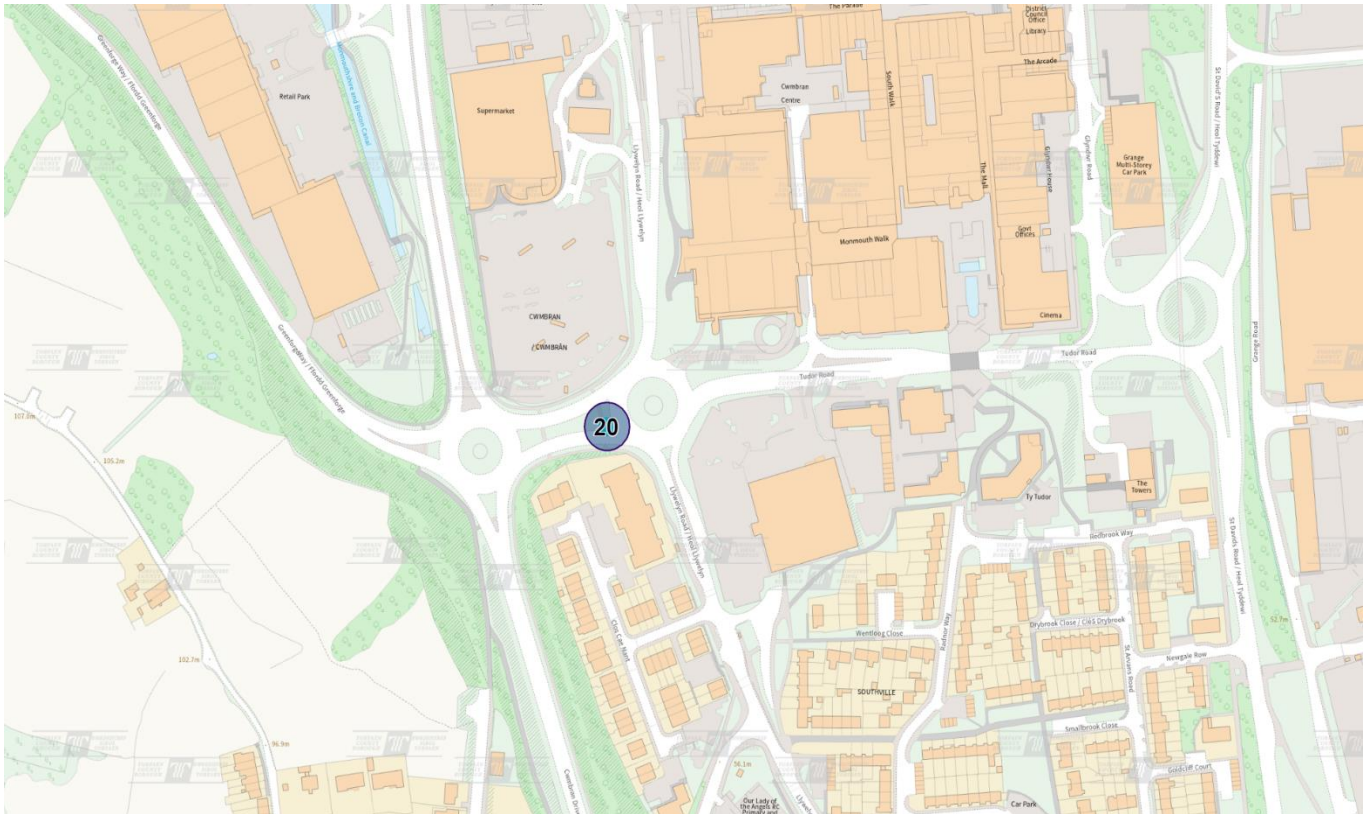
TCBC19	12 Station St Abersychan	Roadside	X326974	Y203354
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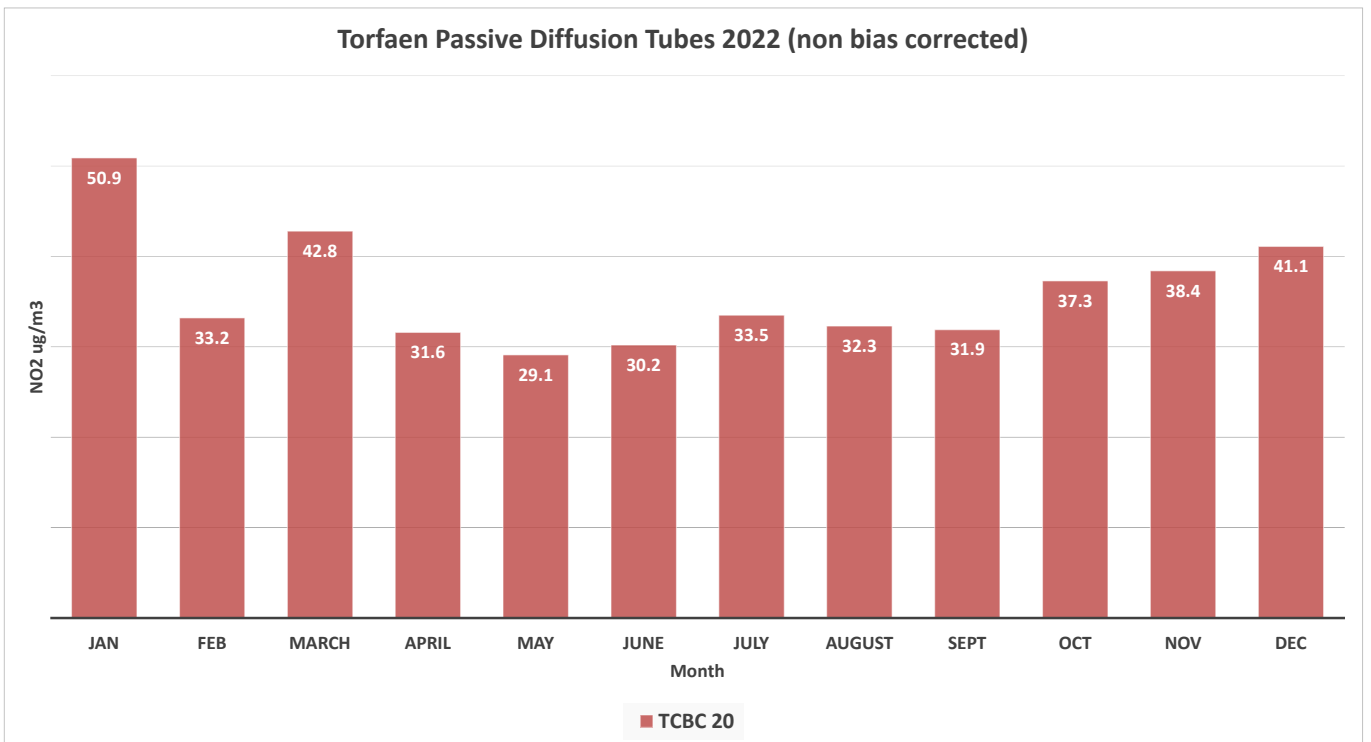
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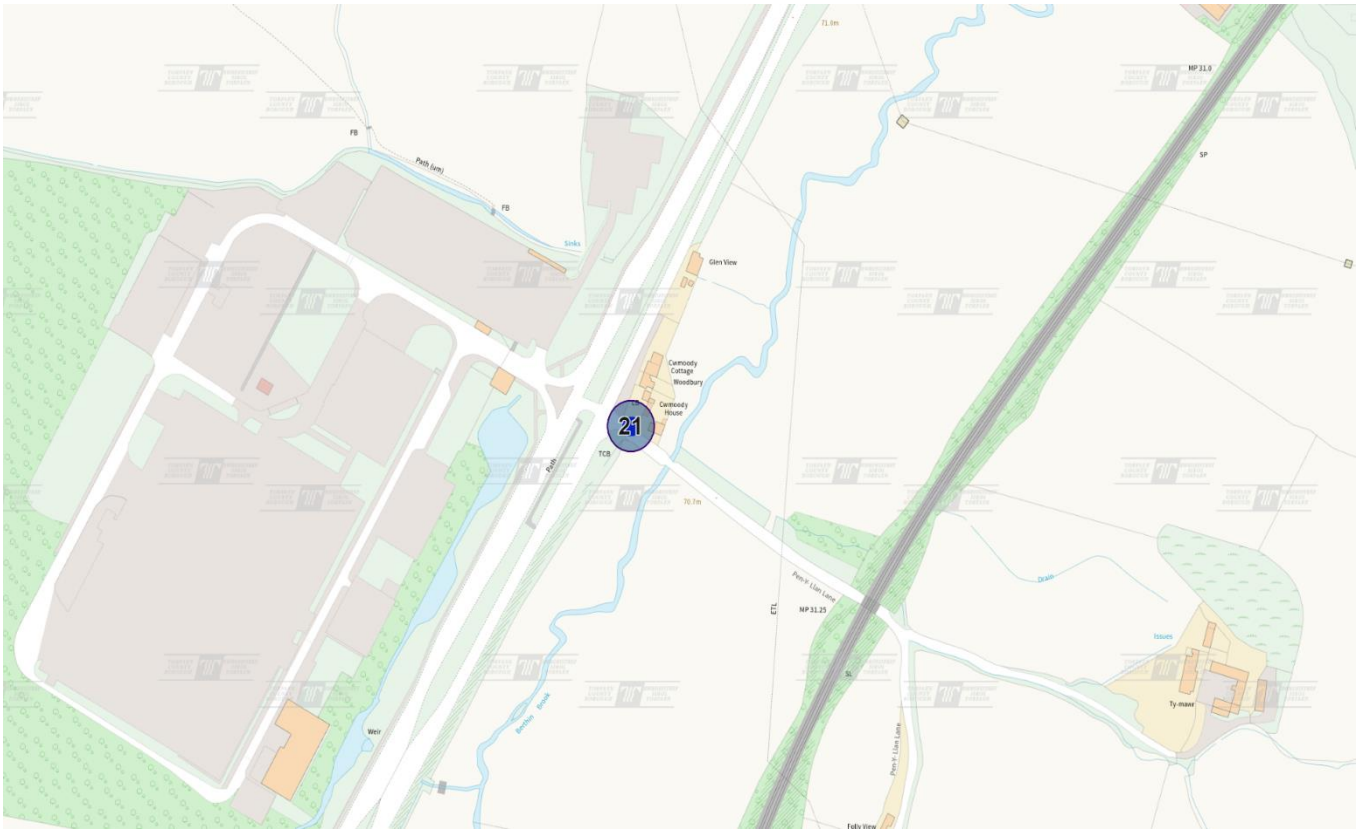
TCBC20	Cwmbrian Drive (Sainsbury)	Roadside	X329240	Y195210
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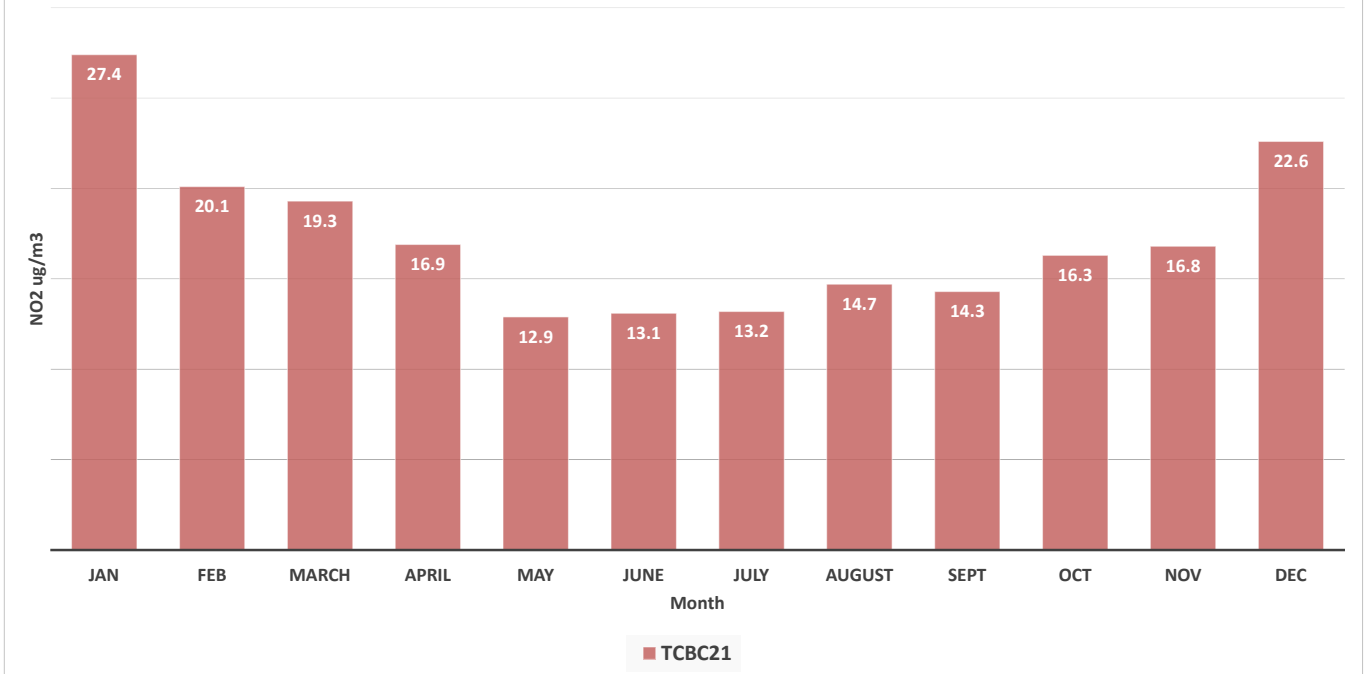
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



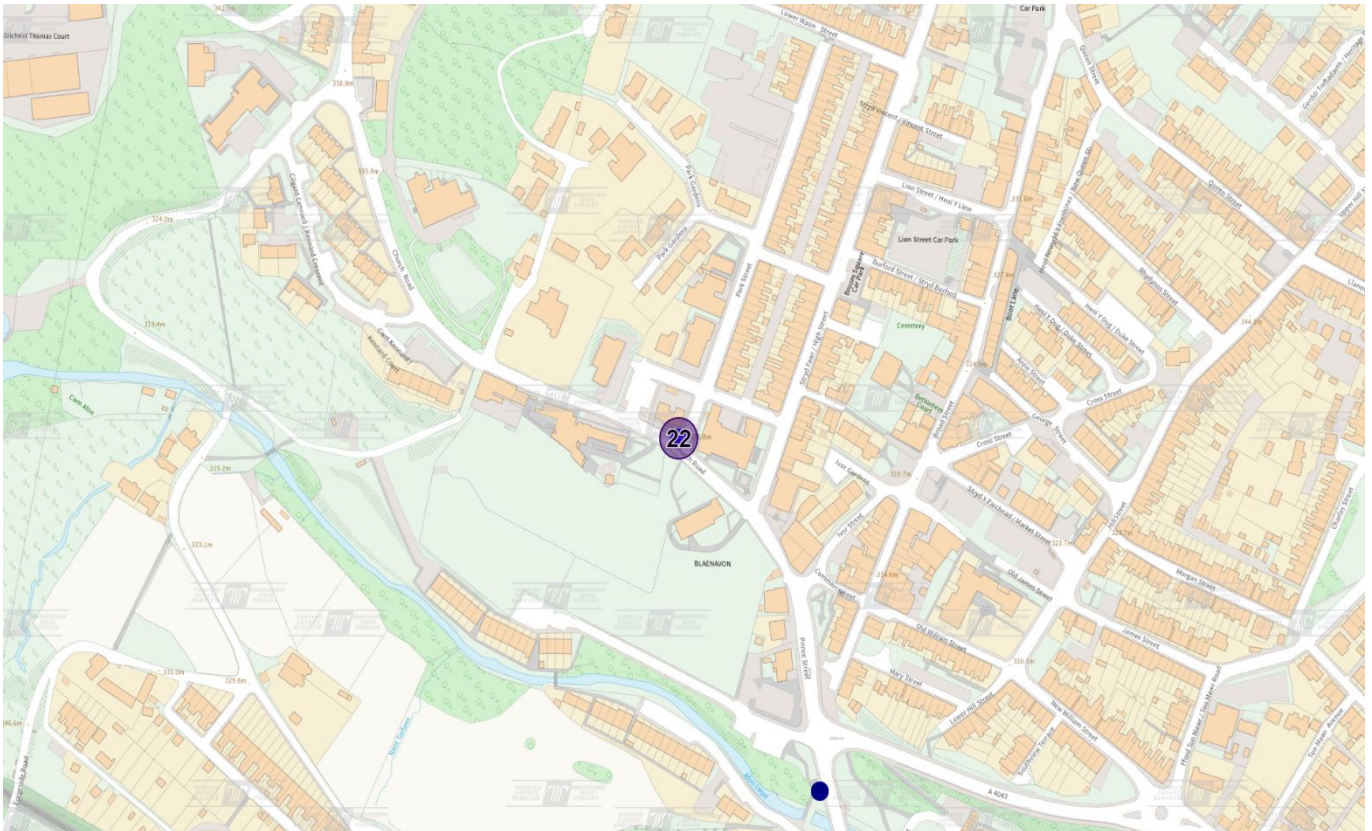
TCBC21	Pen y Llan Lane Mamhilad	Roadside	X330801	Y201731
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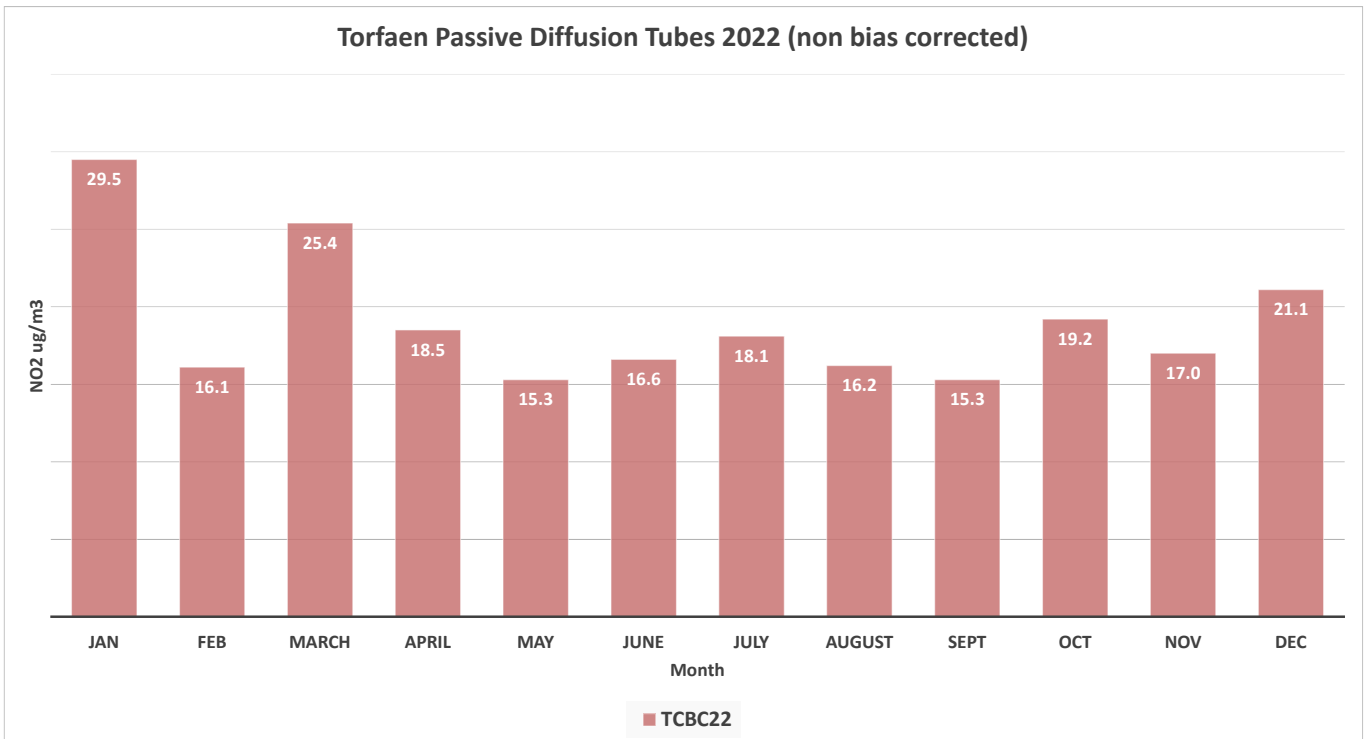
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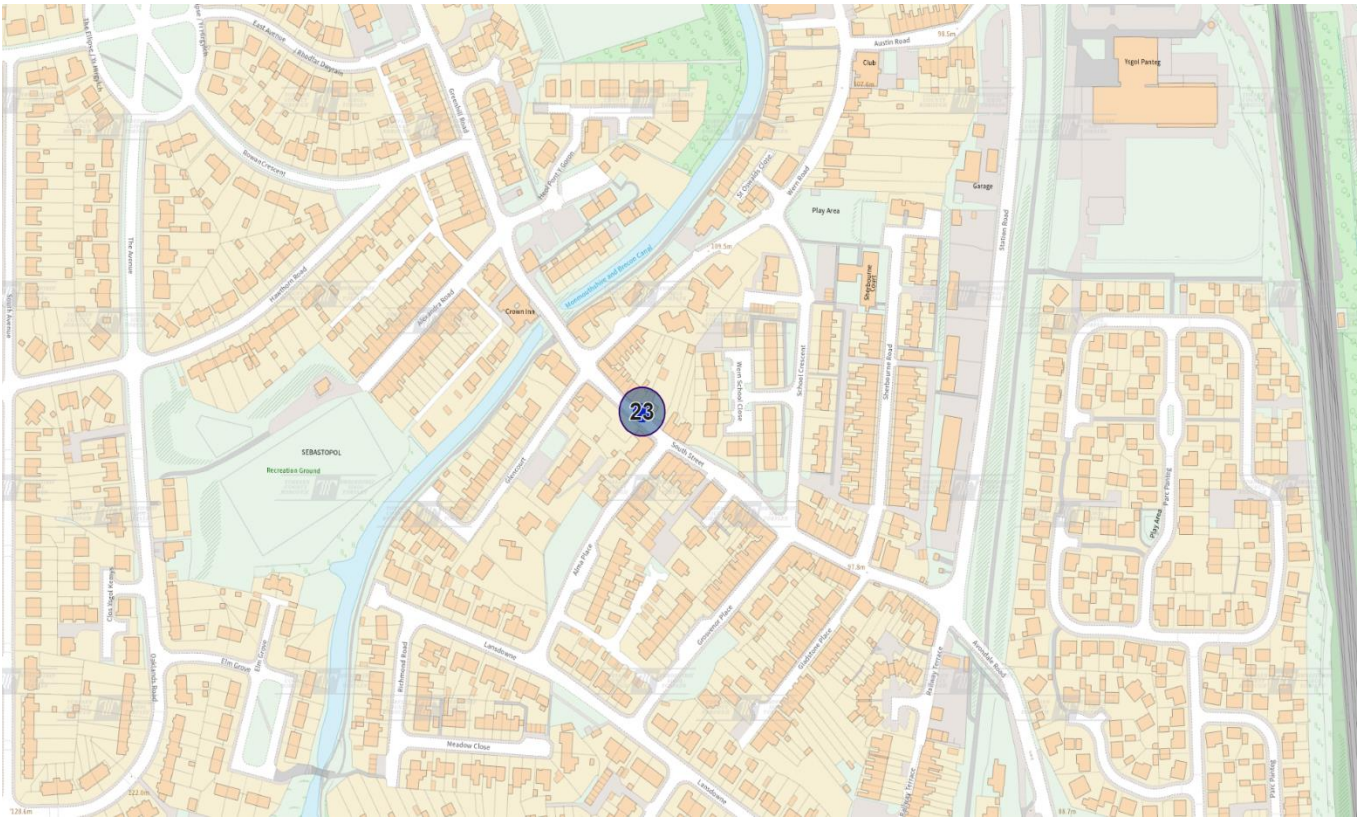
TCBC22	Church Road Blaenavon	Roadside	X325111	Y208826
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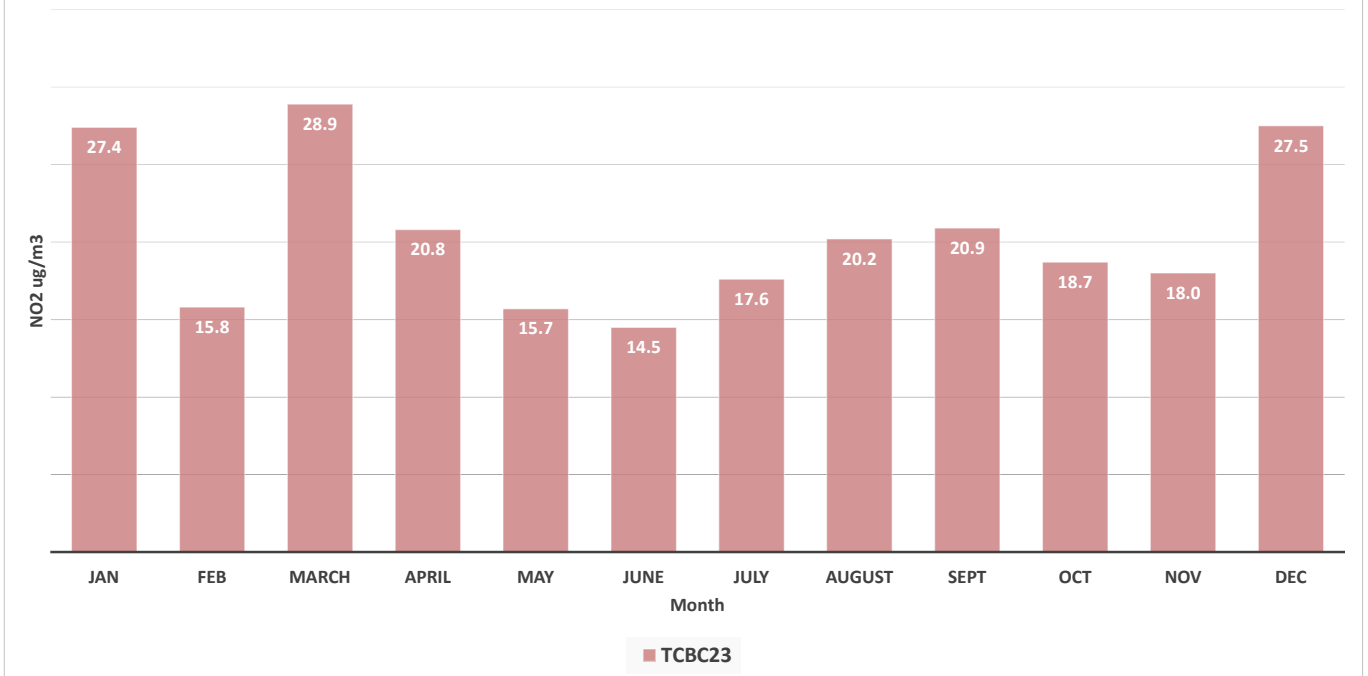
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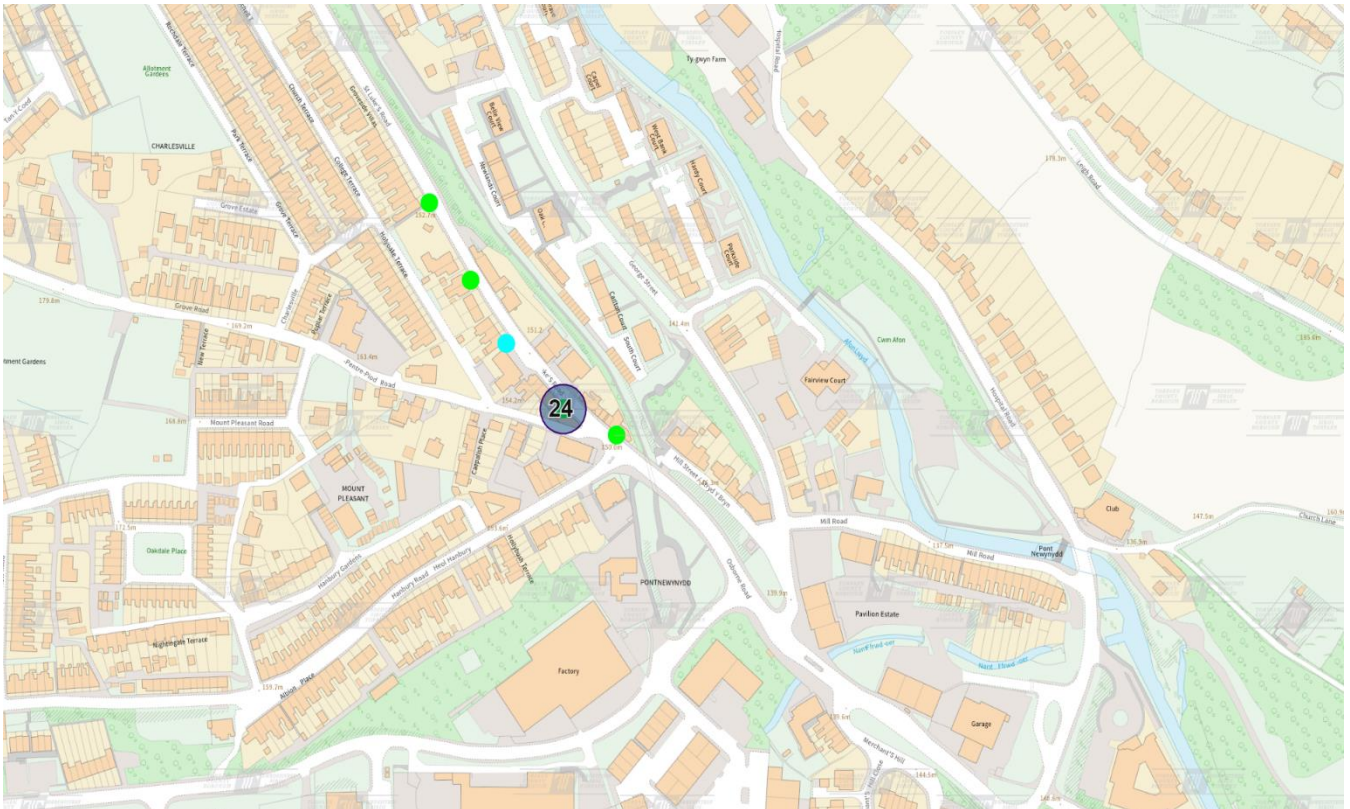
TCBC23	South Street, Sebastopol	Roadside	X329308	Y198177
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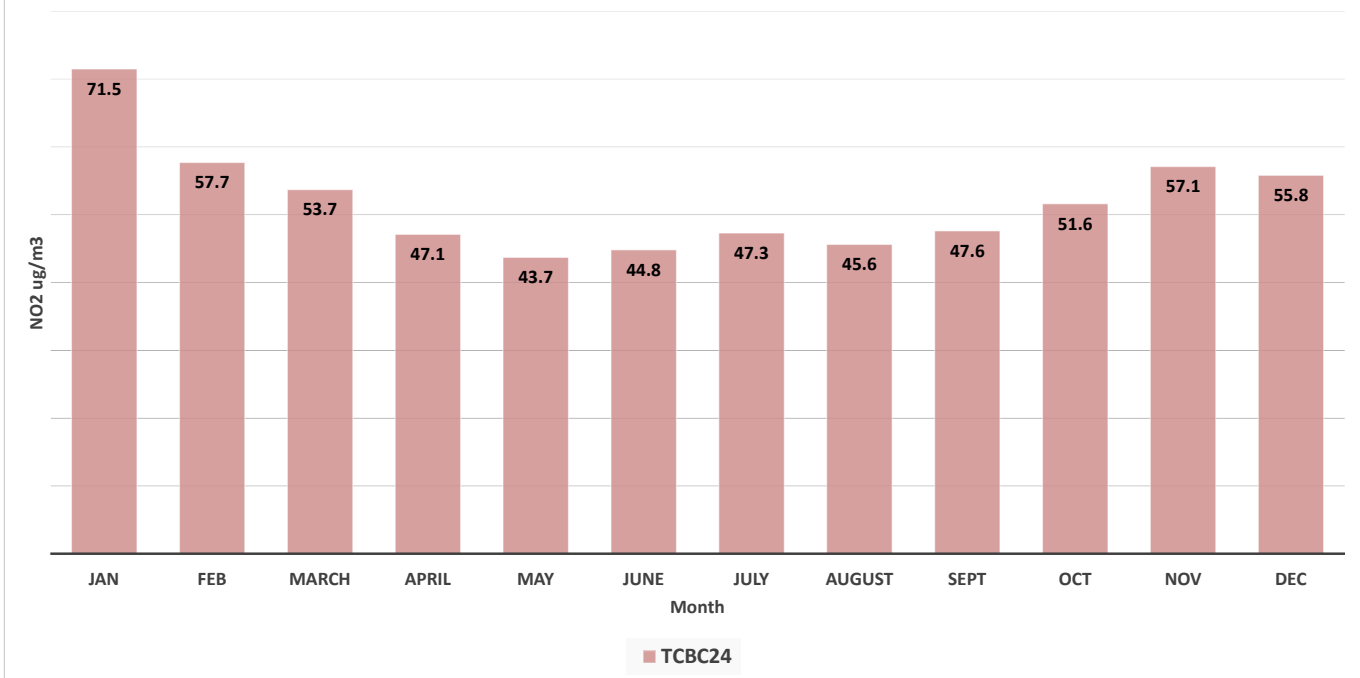
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



TCBC24	St Lukes Road, Pontnewnydd	Roadside	X327274	Y201928
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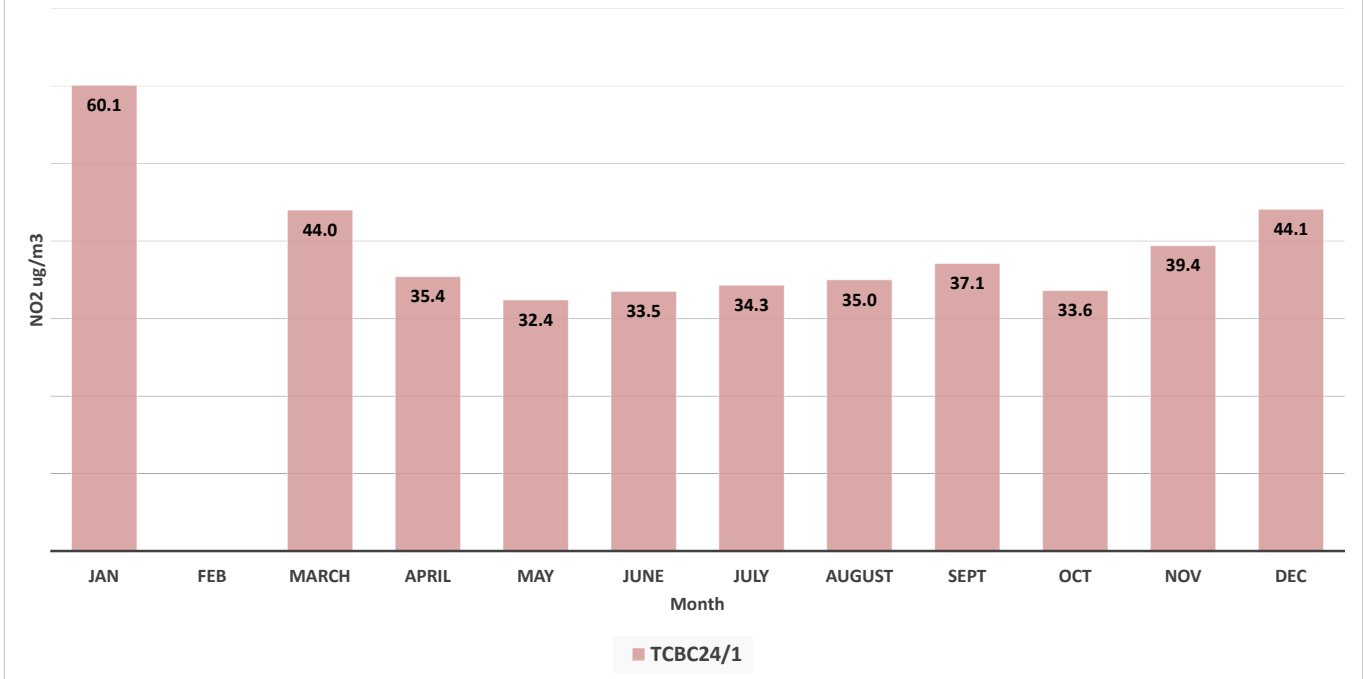
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



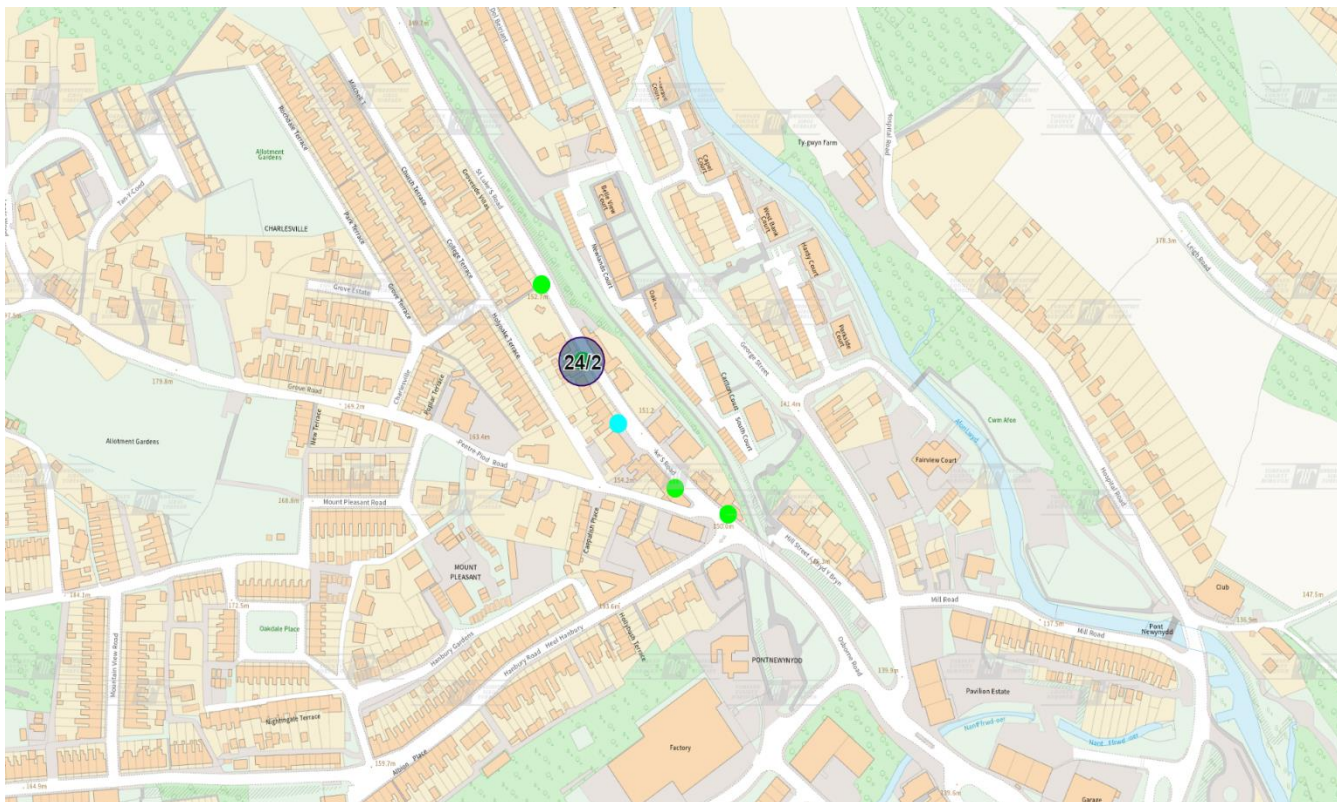
TCBC24/1	Nisa Shop Lamppost	Roadside	327237	201967
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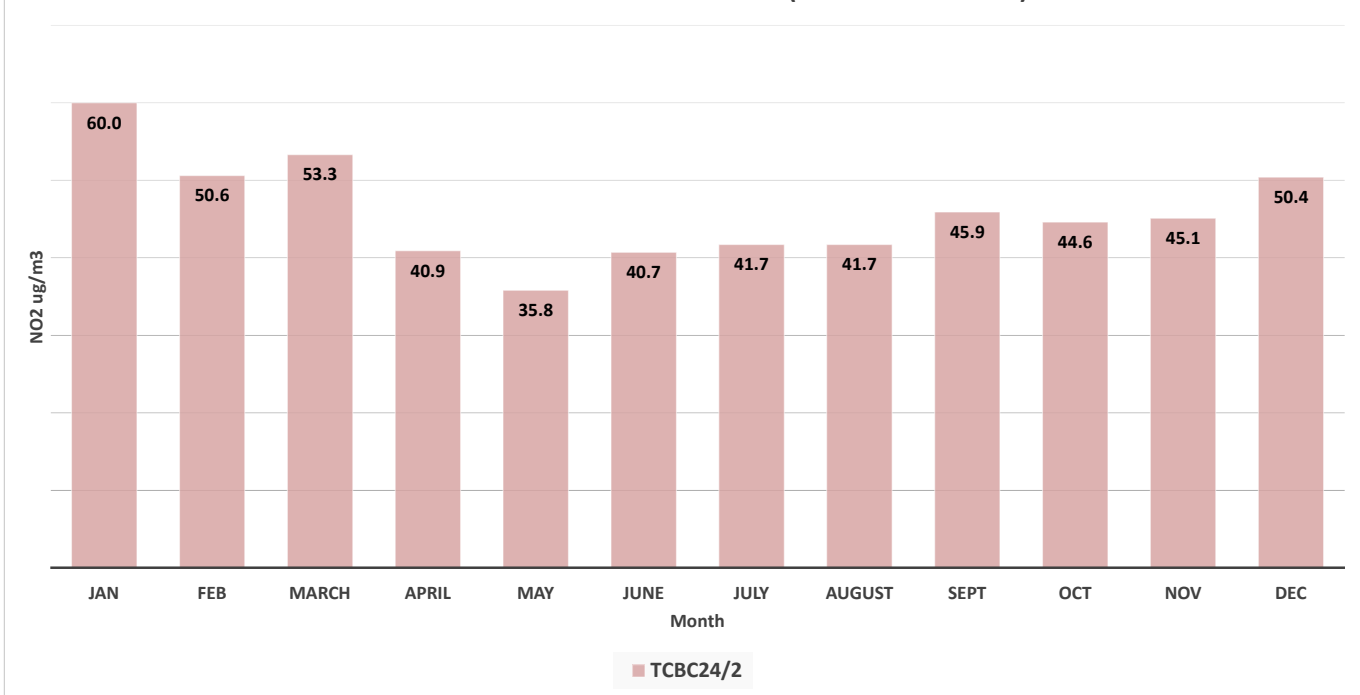
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



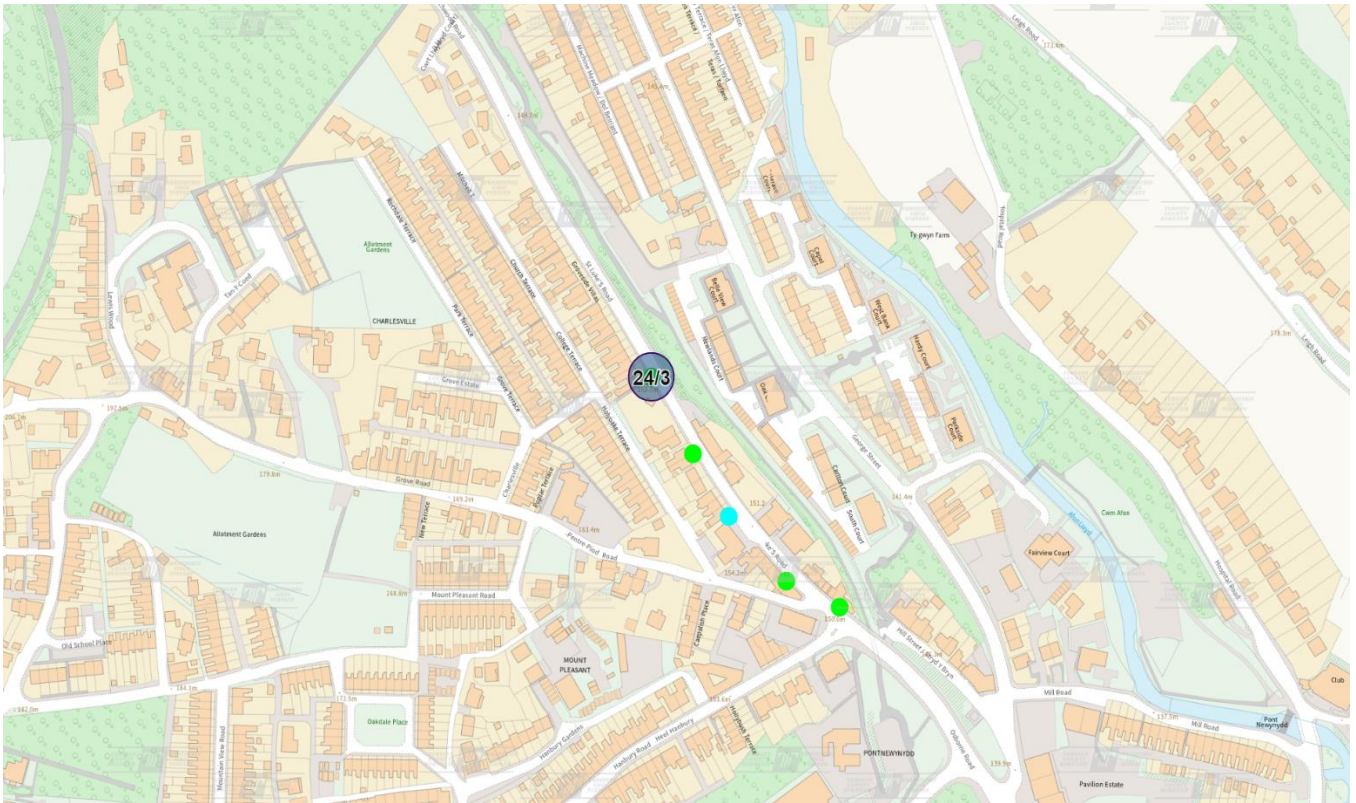
TCBC24/2	12 St Lukes Road	Roadside	327214	202005
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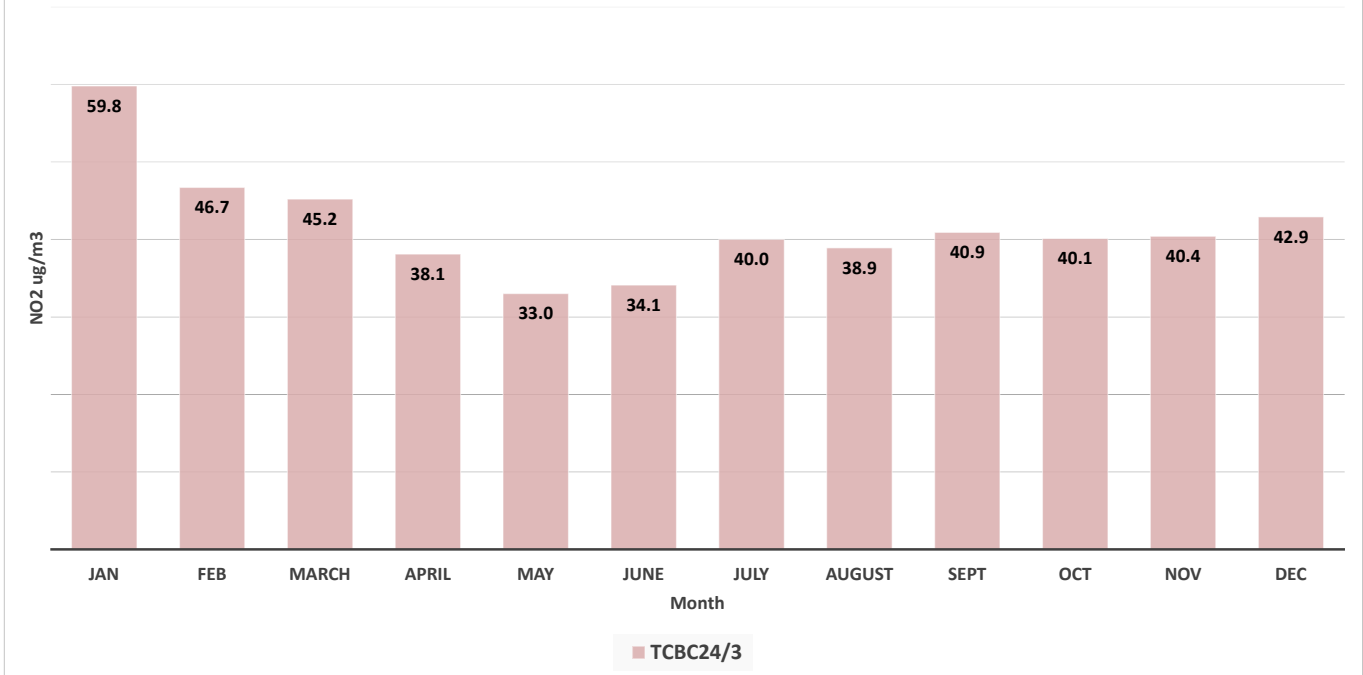
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



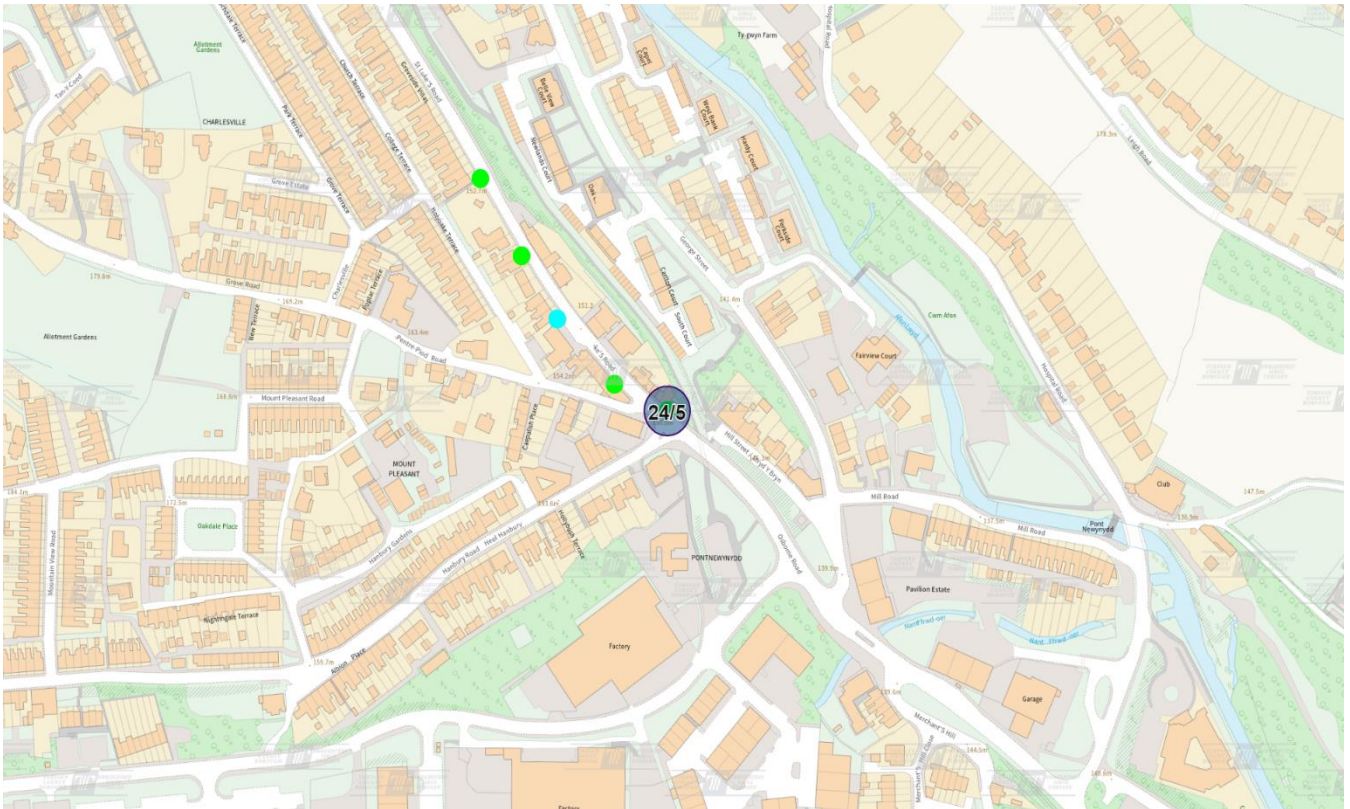
TCBC24/3	1 Groveside Villas	Roadside	327187	202051
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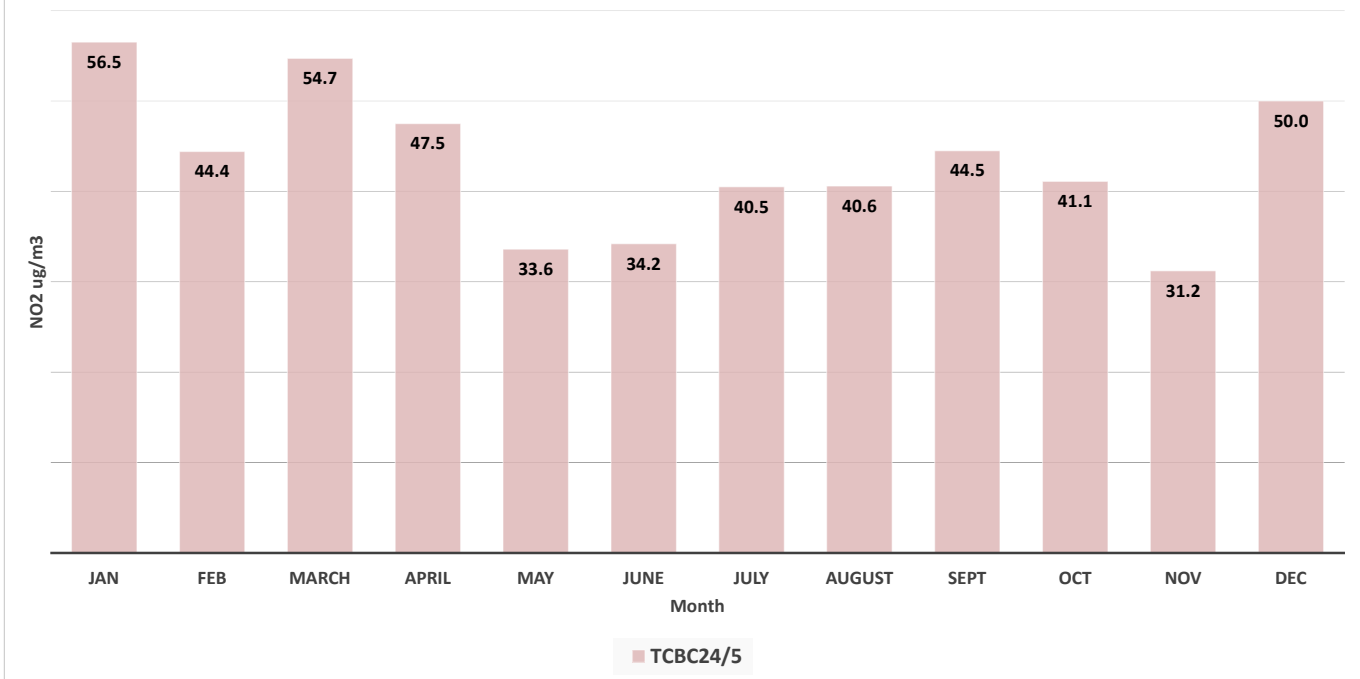
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



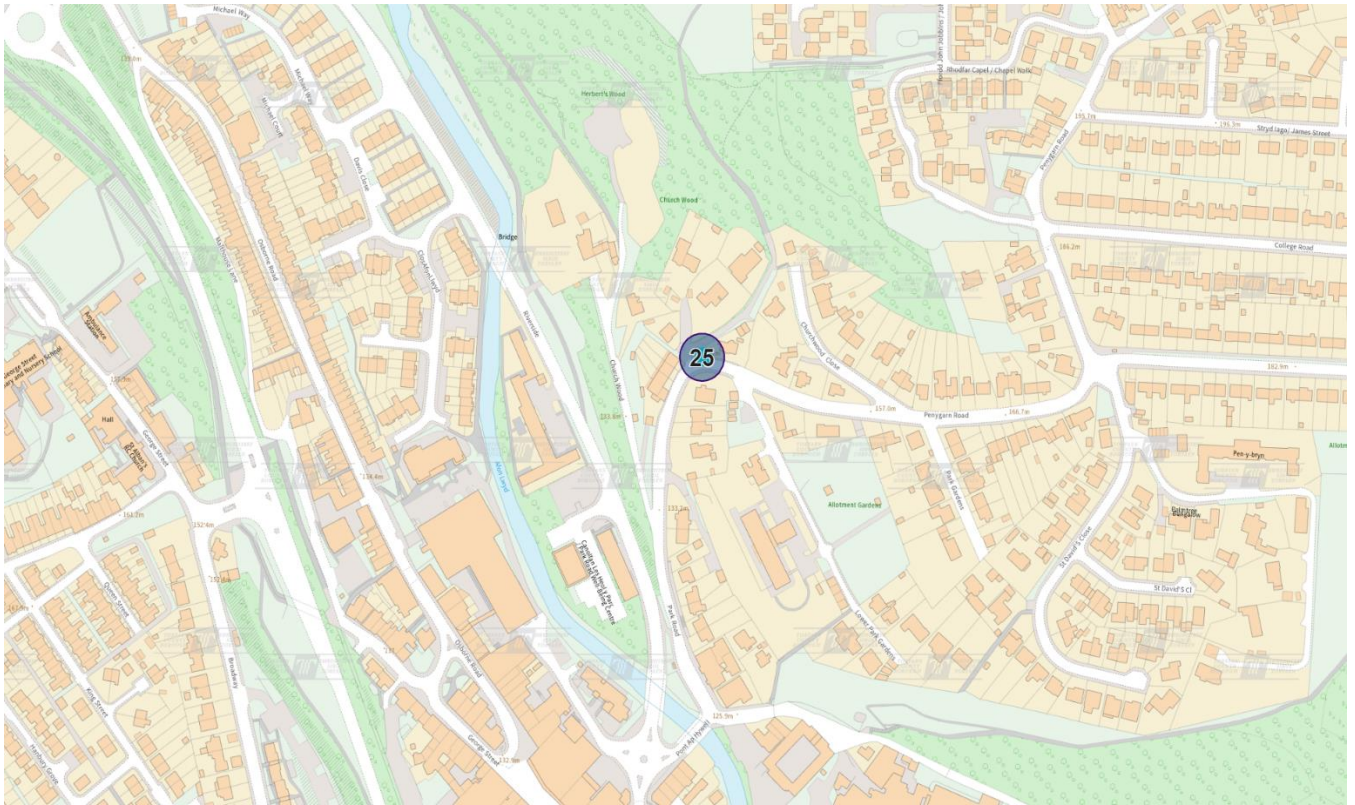
TCBC24/5	Flat 24 & Tonic Hairdressers	Roadside	327308	201912
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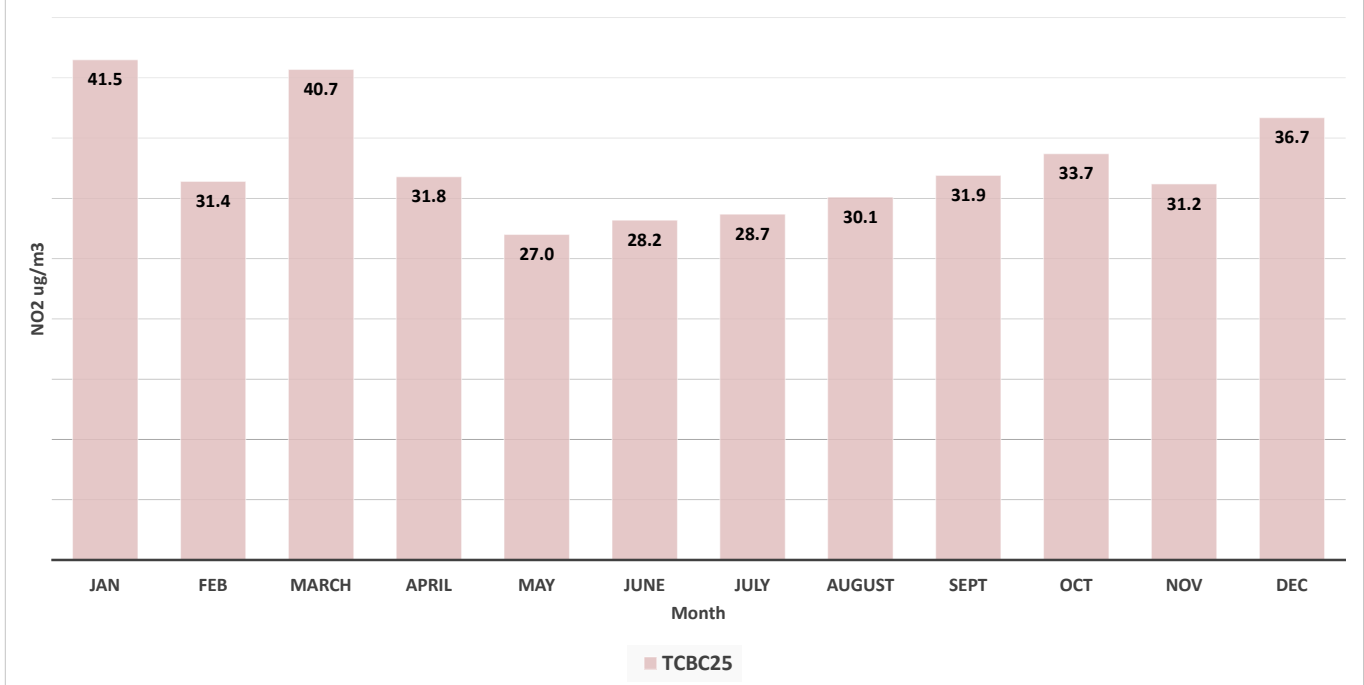
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



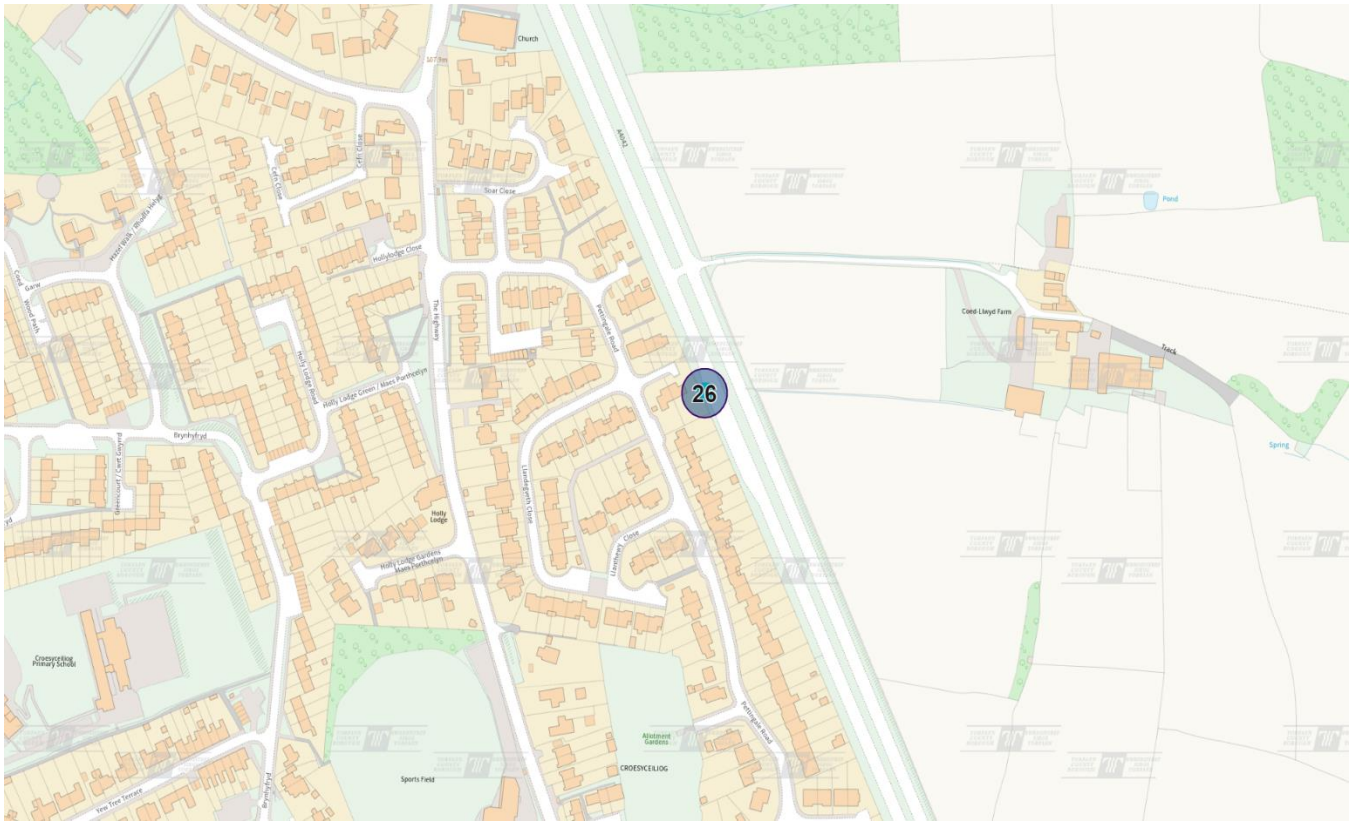
TCBC25	Penygarth Road	Roadside	X328206	Y201300
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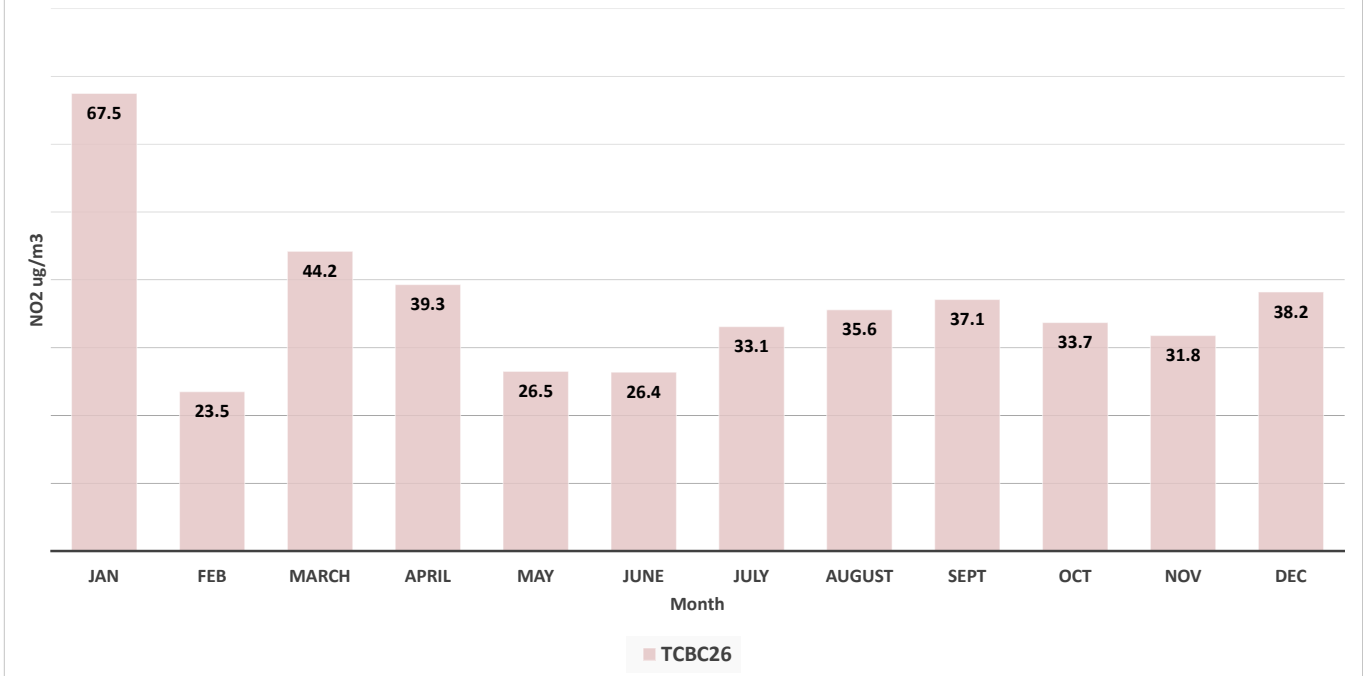
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



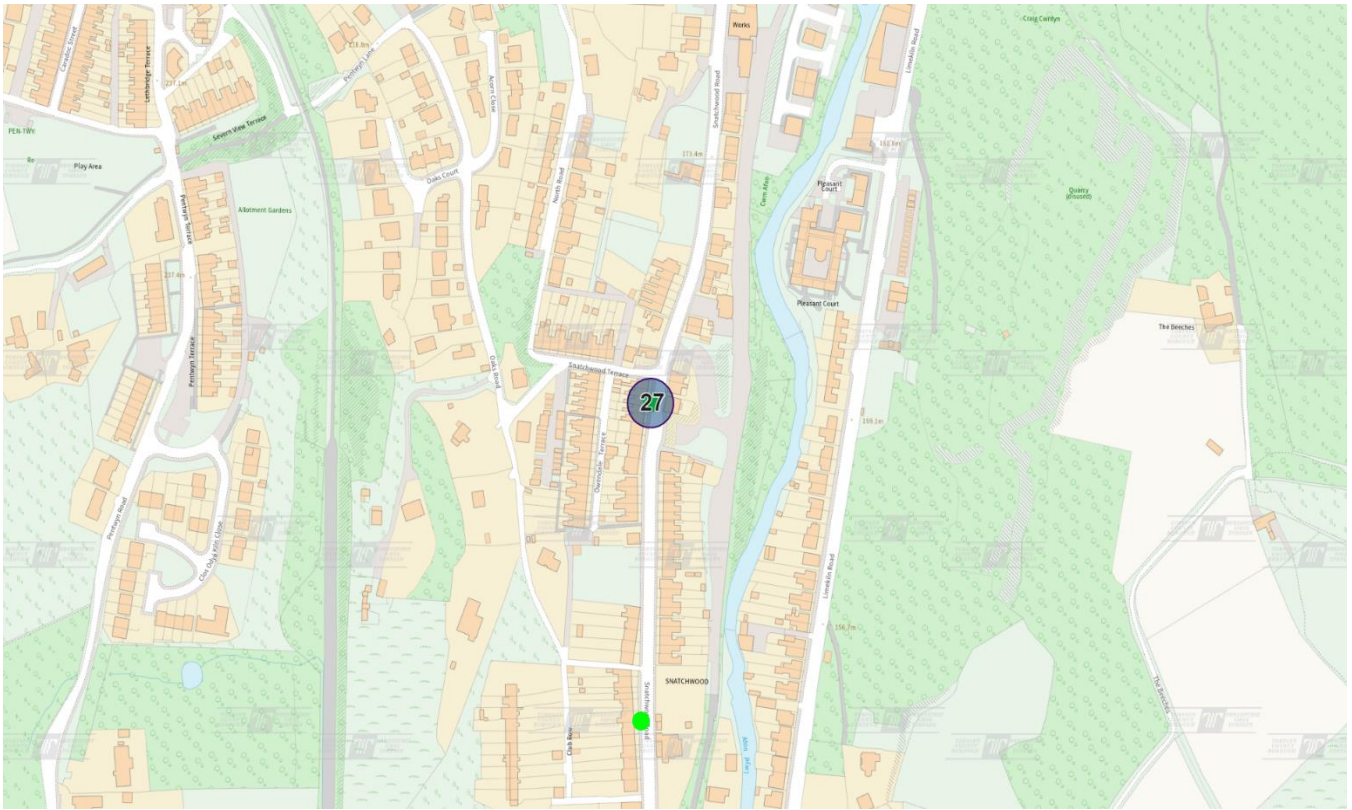
TCBC26	A4042 Croyseyceiliog By-pass	Roadside	X330743	Y196609
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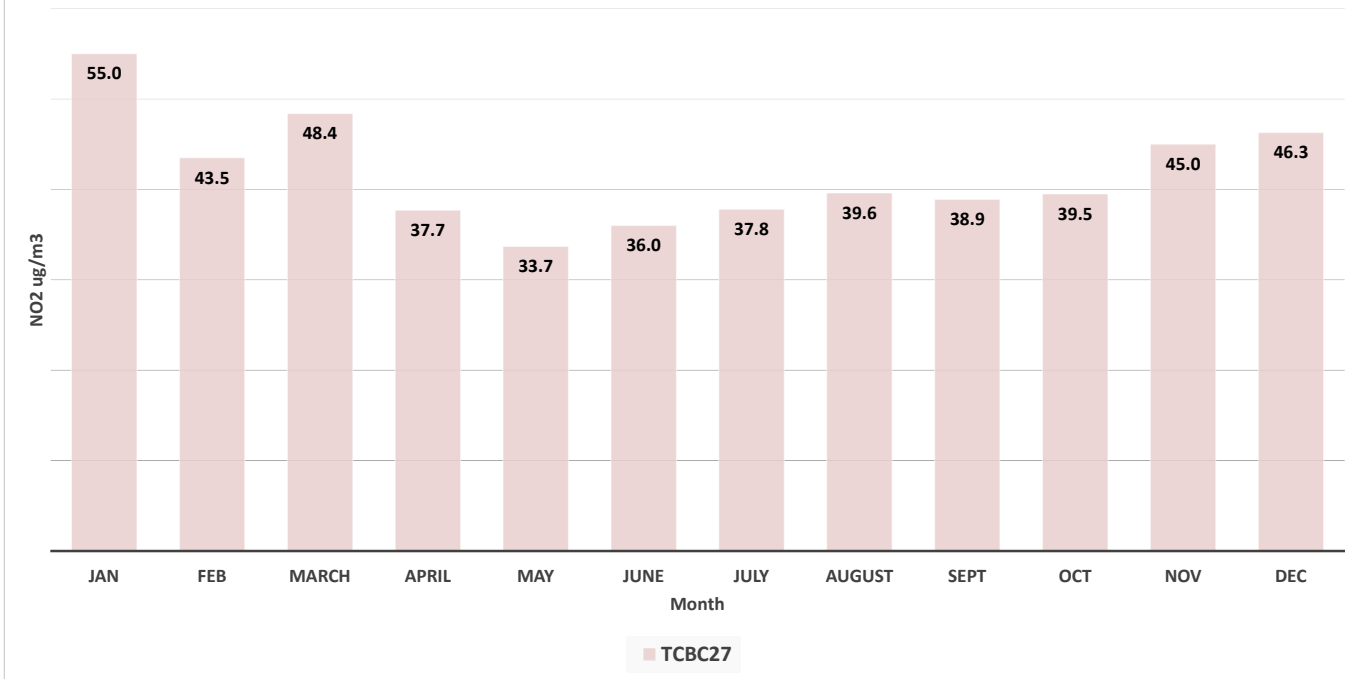
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



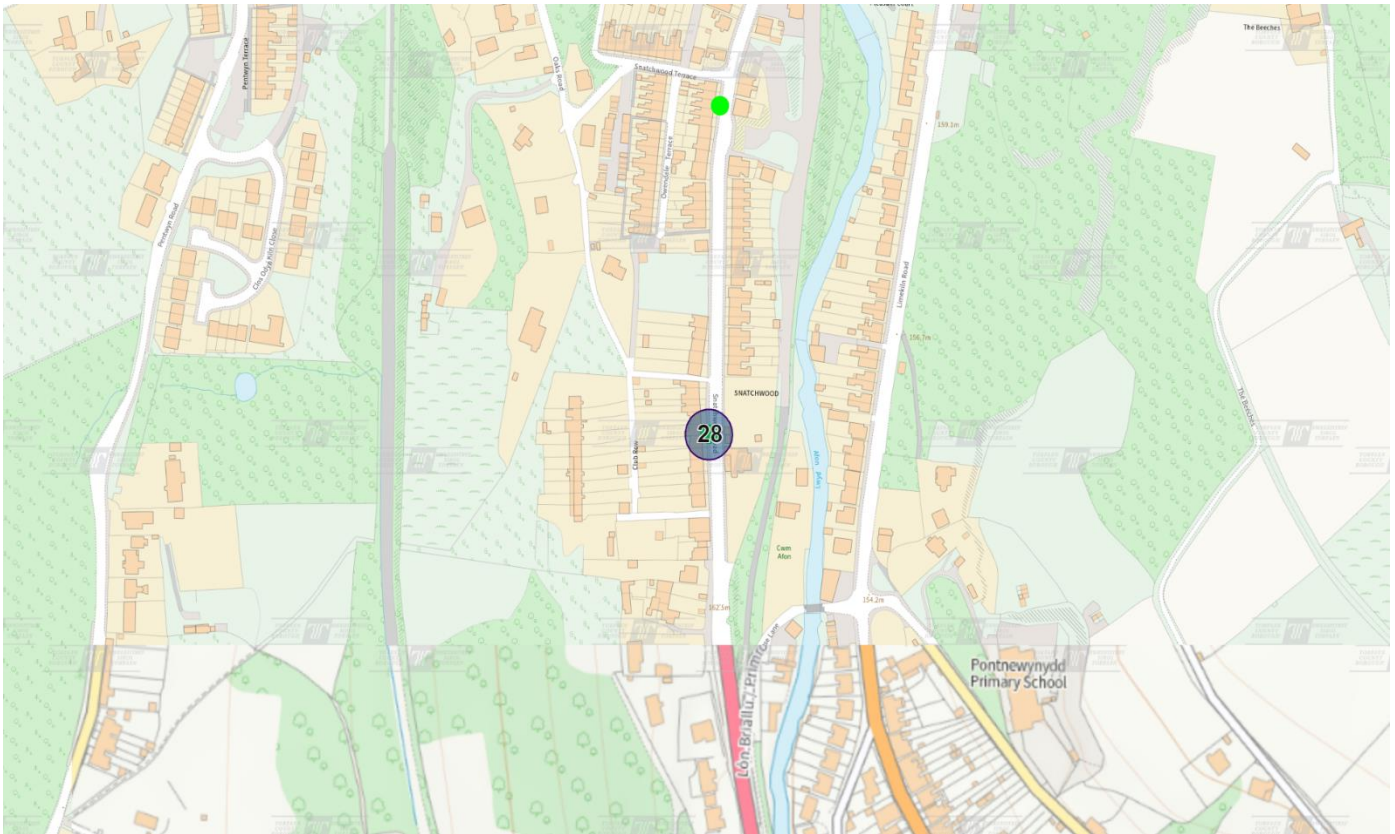
TCBC27	3 Hollyoake Terrace, Snatchwood, Road	Roadside	326914	202933
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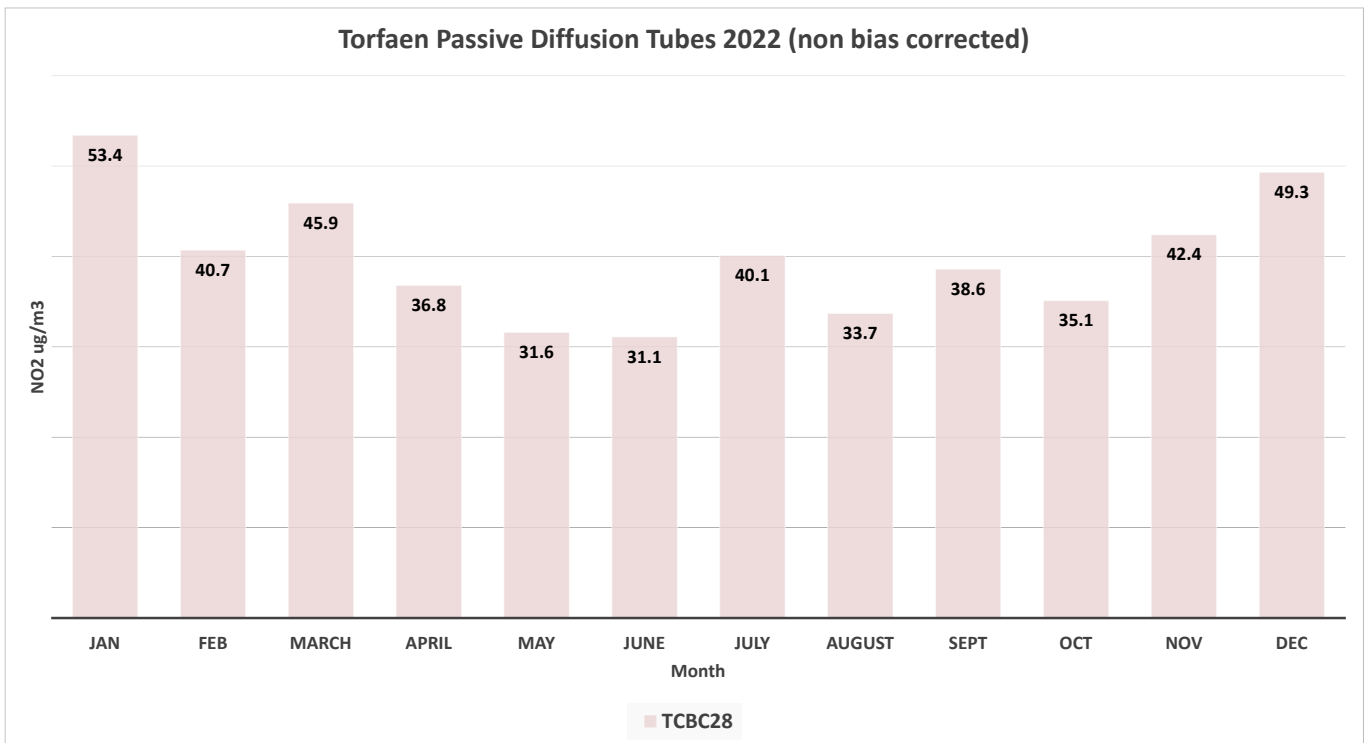
Torfaen Passive Diffusion Tubes 2022 (non bias corrected)



TCBC28	57 Snatchwood Rd	Roadside	326907	202741
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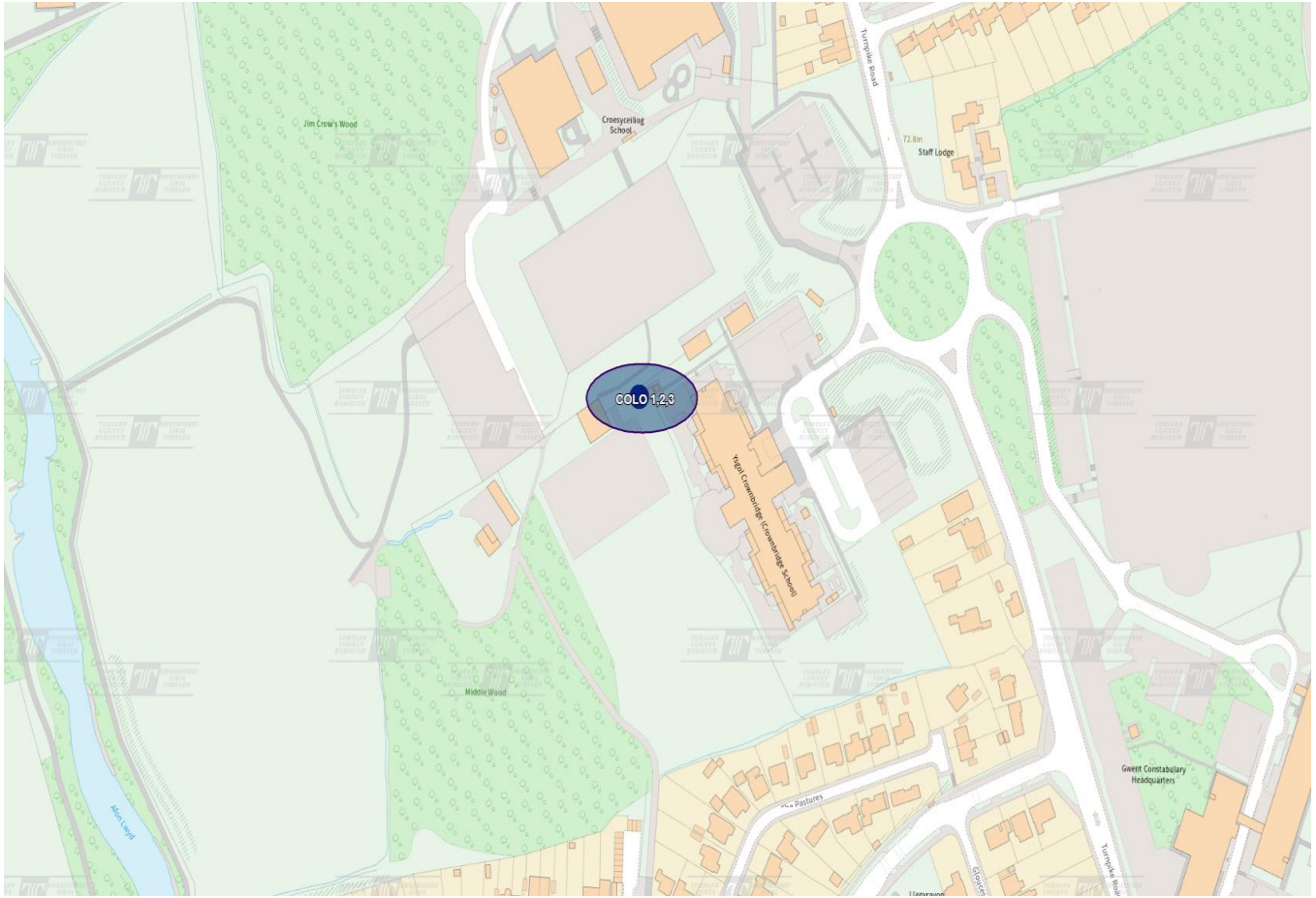


Torfaen Passive Diffusion Tubes 2022 (non bias corrected)

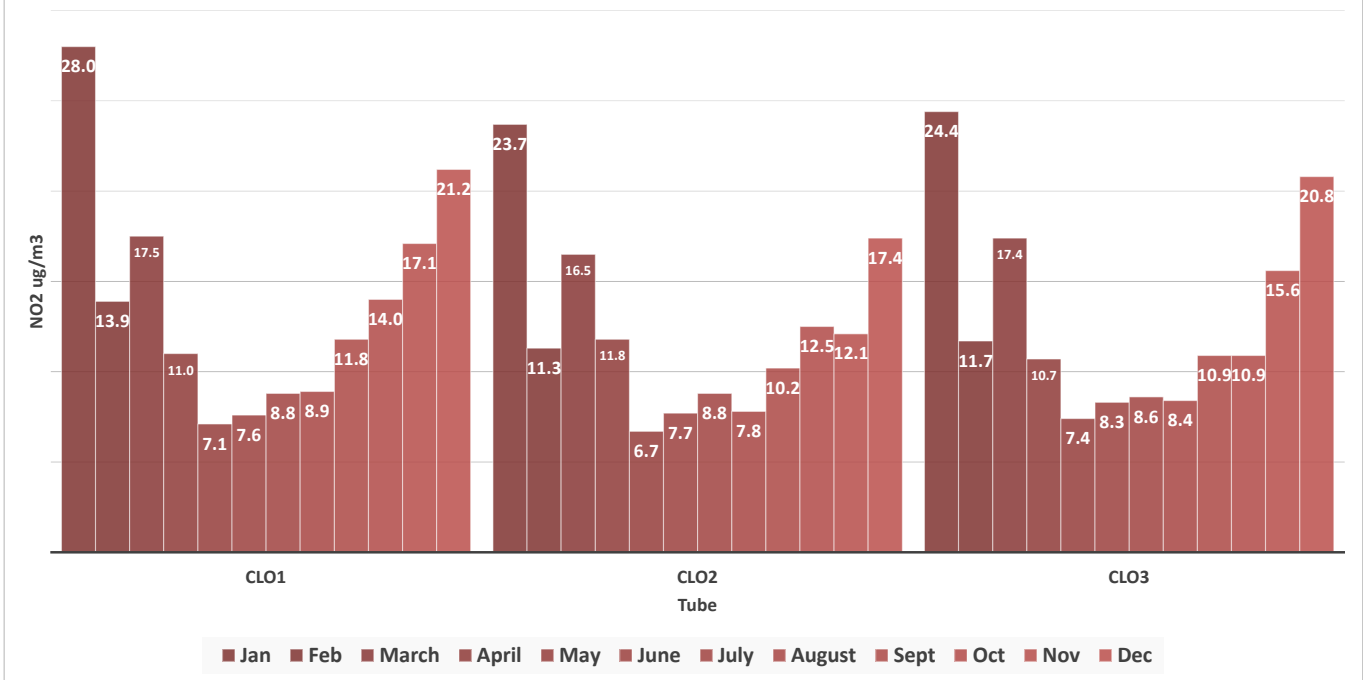


TCBC COLO 1, 2 & 3 at Urban Background Automatic Monitoring Station, Croesyceiliog School, Cwmbran.

X330478	Y195480
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Torfaen Passive Diffusion Tubes, Co-location Study 2022 (non bias corrected)



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
ERM	Existing Routes Map
FDMS	Filter Dynamics Measurement System
GI	Green Infrastructure
LAQM	Local Air Quality Management
LDP	Local Development Plan
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides
O ₃	Ozone
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
PSB	Public Service Board
SO ₂	Sulphur Dioxide
SPG	Supplementary Planning Guidance
TEOM	Tapered Element Oscillating Microbalance
QA/QC	Quality Assurance and Quality Control