

Mae'r ddogfen hon ar gael yn Gymraeg hefyd.



CYNGOR SIR
YNYS MÔN
ISLE OF ANGLESEY
COUNTY COUNCIL



North Wales Authorities Collaborative Project 2025 Air Quality Progress Report

In fulfilment of Part IV of the Environment Act 1995, as
amended by the Environment Act 2021

Local Air Quality Management

Date: (September, 2025)

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Executive Summary: Air Quality in Our Area

Air Quality in North Wales

Part IV of the Environment Act 1995 places a statutory duty on local authorities to review and assess the air quality within their area and take account of Government Guidance when undertaking such work. This Annual Progress Report is a requirement of the tenth Round of Review and Assessment and is a requirement for all local authorities. This Annual Progress Report has been undertaken in accordance with the Technical Guidance LAQM.TG (22) and associated tools. It covers the six local authorities which encompass the North Wales region (The North Wales Authorities). The local authorities are as follows:

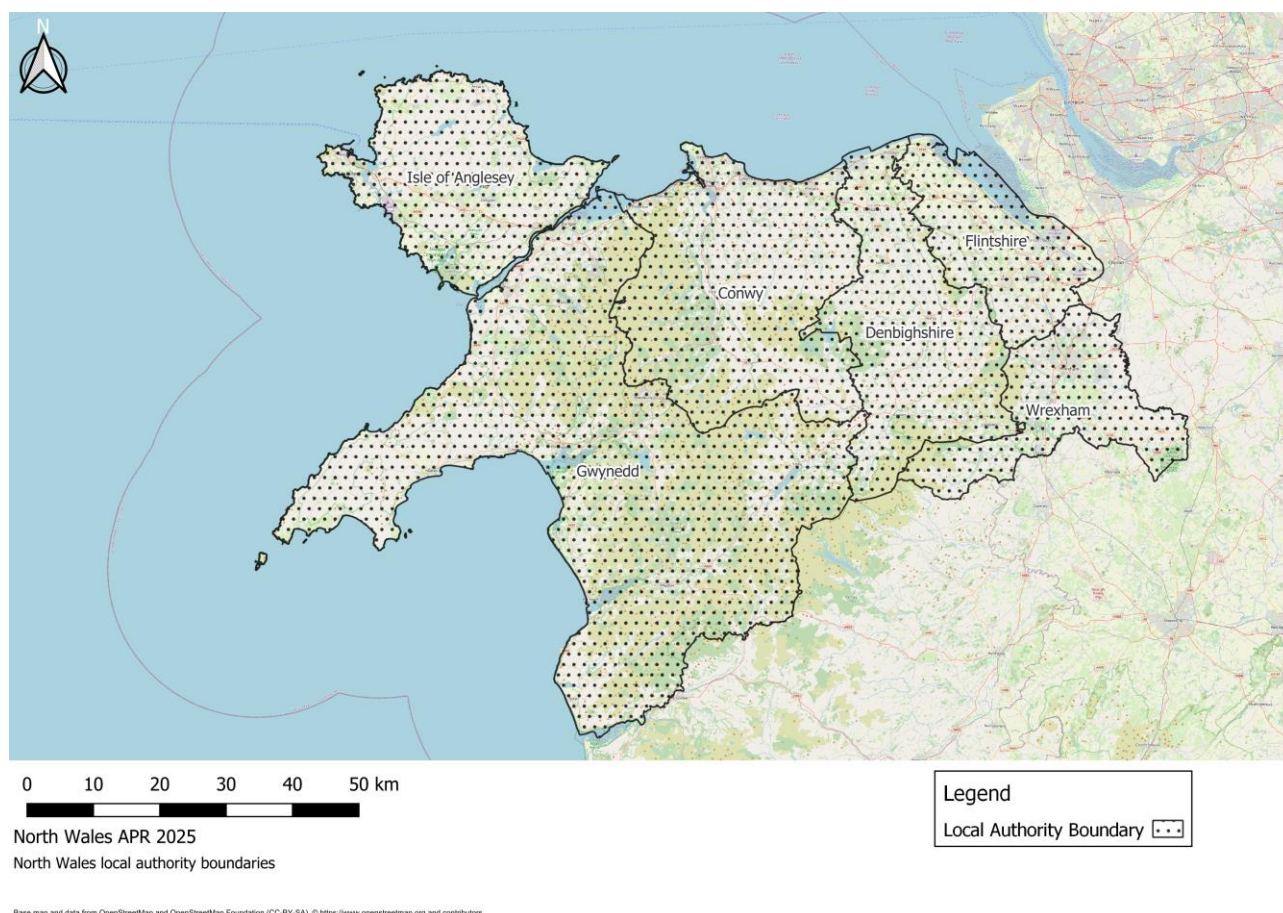
- Isle of Anglesey County Council (**IACC**);
- Denbighshire County Council (**DCC**);
- Gwynedd Council (**GC**);
- Wrexham County Borough Council (**WCBC**);
- Conwy County Borough Council (**CCBC**); and
- Flintshire County Council (**FCC**).

The North Wales Authorities have not declared any Air Quality Management Areas (AQMAs) and as a result, have not published any Action Plans. Air quality monitoring is undertaken by all six local authorities with a total of three automatic monitoring stations measuring nitrogen dioxide (NO₂) and particulate matter (PM₁₀ and PM_{2.5}) concentrations and 162 NO₂ diffusion tube monitoring sites, located at key locations within town centres and along main transport links.

Monitored concentrations are compared with Air Quality Objectives (AQO), a summary is provided in Appendix A. In 2024 there was no exceedance of the NO₂ annual mean AQO of 40 µg/m³ at any of the locations across the region. Having considered each pollutant and reviewed the new developments approved in 2024, it can be concluded that there is no requirement for any of the six North Wales Authorities to undertake a Detailed Assessment.

The Figure below presents the administrative boundaries of the local authorities included in this assessment in North Wales.

Map of North Wales local authority boundaries included in this assessment



Actions to Improve Air Quality

Currently there are no designated AQMAs in North Wales, and therefore no Air Quality Action Plans (AQAPs) have been published.

As detailed in Section 4, air quality is considered in the wider context in the following adopted local policies:

- **IACC** and **GC** adopted a joint Local Development Plan (LDP) in 2017 which provides the land use strategy for the next 15 years. The plan addresses the need to maintain good air quality in the area and ensure new development does not cause adverse impacts. On 31 March 2023, **GC** and **IACC** decided to cease the joint working agreement on Planning Policy matters. The preparation of separate LDPs for **GC** and **IACC** are underway. However, **IACC** and **GC** Joint Local Development Plan continues to provide the local policy framework for decisions on planning applications, until the respective LDPs are adopted.
- **IACC** Isle of Anglesey Electric Vehicle Charging Plan 2022 to 2030 responds to the Welsh Government's 'Electric vehicle charging strategy for Wales' and acts as an essential component of **IACC's** commitments to reduce its carbon footprint.

- **CCBC** LDP 2007-2022 includes strategic policies (NTE/1) to ensure natural resources including air quality are protected. **CCBC** are developing a replacement local plan where the Council is actively working on drafting the final Deposit Plan. **CCBC** expect to submit the plan to the Welsh government in late 2025.
- **DCC** LDP 2006-2021 was adopted in 2013 and includes a commitment to avoid reaching critical air quality levels. DCC are currently developing a replacement plan in line with the latest national policies.
- **WCBC** LDP was adopted by the Council on 20/12/23 and covered the period 2013 to 2028, this was un-adopted in 2025. The development plan for **WCBC** now comprises of Future Wales: The National Plan 2040 and Wrexham Unitary Development Plan 1996-2011 adopted in 2005.

FCC's first Climate Change Strategy 2022 - 2030 was adopted in February 2022. The Council has revised its Climate Change Strategy for the period 2025 – 2030, building on the original 2022–2030 plan. The strategy objectives summarise the ongoing measures that the council is taking to minimise air pollution such as developing active travel routes, transitioning Council fleet vehicles to ultra-low emission vehicles (ULEV) – electric and alternative fuel. The document further outlines the next steps to continue improving air quality. More information on measures to improve air quality within FCC is available in

- Table 1.5.

In **WCBC**, the speed restriction between junctions 5 and 6 of the A483 remained in effect during 2024, with the objective of improving local air quality. The North and Mid Wales Trunk Road Agency conducts the air quality monitoring within this area and maintains the scheme. Given that responsibility for this monitoring lies outside of the jurisdiction of **WCBC**, the results of this monitoring survey have not been included in report. **WCBC** concurrently undertakes monitoring in the same area to fulfil LAQM requirements. NO₂ concentrations between J5 and J6 of the A483 have generally reduced over the past 5 years with minor fluctuations. Specifically, diffusion tubes 54 and 56 recorded a reduction in NO₂ levels between 2023 and 2024, whereas diffusion tube 32 showed a marginal increase during the same period.

Several new non-automatic monitoring sites were introduced in North Wales for 2024, however, the total number of monitoring sites remains the same as in the 2023 monitoring survey.

There was one new monitoring site introduced in **DCC**. Diffusion tube DBR65 was added near St Asaph infants School. The air quality monitoring site DBR60 was removed from the 2024 survey.

There was one new monitoring site introduced in **GC**. Diffusion tube GCC 046 was added following a complaint from a householder after the construction of the Caernarfon bypass. This is a temporary site which is likely to be made redundant in 2026. The air quality monitoring site GCC 042 was removed from the 2024 survey.

There were no new monitoring sites introduced in **IACC**.

There were no new monitoring sites introduced in **WCBC**.

There were no new monitoring sites introduced in **CCBC**.

There were 21 new monitoring sites introduced in **FCC**. Of these, 17 Diffusion tubes were relocated as part of a broader initiative focused on improving air quality around schools and enhancing green infrastructure. The large-scale relocation was made possible because it was identified that there were some tubes situated in inappropriate industrial areas, while others consistently recorded low concentrations and were therefore deemed no longer necessary. The remaining 4 diffusion tubes 2 were moved relatively short distances due to repeated theft and the other 2 were becoming less accessible. One of these was becoming very overgrown around the base of the pole and was moved across

the junction. The other was a minor safety concern because of occasional need to park on the pavement at school pick up times so was moved to safer location nearby.

Local Priorities and Challenges

The North Wales Authorities will continue to maintain their monitoring programmes and ensure new monitoring sites are installed as required. Each year new monitoring sites are introduced primarily in road traffic locations where concerns have been expressed by members of the public, locally elected members or organisations.

How to Get Involved

Further information on air quality in North Wales is available at: [Welsh air quality website](http://www.airquality.gov.wales) (www.airquality.gov.wales).

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1 Actions to Improve Air Quality

1.1 Previous Work in Relation to Air Quality

This Progress Report has been undertaken in accordance with the Technical Guidance LAQM.TG (22) and associated tools. It has been produced collaboratively between the six local authorities which encompass the North Wales region (The North Wales Authorities). The local authorities are Isle of Anglesey County Council (**IACC**); Denbighshire County Council (**DCC**); Gwynedd Council (**GC**); Wrexham County Borough Council (**WCBC**); Conwy County Borough Council (**CCBC**); and Flintshire County Council (**FCC**).

Previous reports have identified areas within North Wales where there are potential exceedances of various Air Quality Objectives (AQOs). Detailed assessments have been carried out where exceedances of the air quality objectives have been recorded to evaluate whether there is a need to declare an Air Quality Management Area (AQMA). Currently, there are no AQMA's declared in North Wales. A summary of the previous rounds of Review and Assessment in North Wales is available in Table 1.1 below.

Table 1.1 – Previous Work in Relation to Air Quality

Year	Report Type	Detailed Assessment Recommended	AQMA Declared
2003	Updating and Screening Assessment	No detailed assessments required in any Local Authority Area.	No AQMA declared in any Local Authority Area.
2004	Progress Report	Detailed assessment carried out for particulate matter (PM ₁₀) and nitrogen dioxide (NO ₂) close to the A494 in FCC. No other detailed assessments required in any Local Authority Area	No AQMA declared in any Local Authority Area.
2005	Progress Report	No detailed assessments required in any Local Authority Area.	No AQMA declared in any Local Authority Area.
2006	Updating and Screening Assessment	Detailed assessment required at Trimm Rock and Aberdo Limestone Quarries and at Roadrunner Waste Transfer Station in FCC. No other detailed assessments required in any Local Authority Area.	No AQMA declared in any Local Authority Area.

Year	Report Type	Detailed Assessment Recommended	AQMA Declared
2007	Progress Report	Detailed assessment carried out for sulphur dioxide (SO ₂) 15- minute mean objective for Penrhos Coastal Park in IACC. No other detailed assessments required in any Local Authority Area	No AQMA declared in any Local Authority Area.
2008	Progress Report	No detailed assessments required in any Local Authority Area.	No AQMA declared in any Local Authority Area.
2009	Updating and Screening Assessment	Detailed assessment no longer required at Trimm Rock and Aberdo Limestone Quarries and at Roadrunner Waste Transfer Station in FCC. Detailed assessment carried out for SO ₂ 15-minute mean objective for Holyhead Railway Station in IACC. Detailed assessment required for SO ₂ as a result of steam trains in GC. No other detailed assessments required in any Local Authority Area.	No AQMA declared in any Local Authority Area.
2010	Progress Report	Detailed assessment required for the area around Wrexham Road in Cefn Y Bedd in FCC. Detailed assessment carried out for SO ₂ as a result of steam trains in GC. No other detailed assessments required in any Local Authority Area.	No AQMA declared in any Local Authority Area.
2011	Progress Report	Detailed assessment carried out for NO ₂ along Vale Street, Denbigh in DCC.	No AQMA declared in any Local Authority Area.
2012	Updating and Screening Assessment	Detailed assessment no longer required for the area around Wrexham Road in Cefn Y Bedd in FCC. Detailed assessment carried out for the junction of the A5119 and A494 in Mold in FCC. No other detailed assessments required in any Local Authority Area.	No AQMA declared in any Local Authority Area.

Year	Report Type	Detailed Assessment Recommended	AQMA Declared
2013	Progress Report	No detailed assessments required in any Local Authority Area.	No AQMA declared in any Local Authority Area.
2014	Progress Report	No detailed assessments required in any Local Authority Area.	No AQMA declared in any Local Authority Area.
2015	Updating and Screening Assessment	No detailed assessments required in any Local Authority Area.	No AQMA declared in any Local Authority Area.
2016	Progress Report	No detailed assessments required in any Local Authority Area.	No AQMA declared in any Local Authority Area.
2017	Progress Report	No detailed assessments required in any Local Authority Area.	No AQMA declared in any Local Authority Area.
2018	Progress Report	No detailed assessments required in any Local Authority Area.	No AQMA declared in any Local Authority Area.
2019	Progress Report	No detailed assessments required in any Local Authority Area.	No AQMA declared in any Local Authority Area.
2020	Progress Report	No detailed assessments required in any Local Authority Area.	No AQMA declared in any Local Authority Area.
2021	Progress Report	No detailed assessments required in any Local Authority Area.	No AQMA declared in any Local Authority Area.
2022	Progress Report	No detailed assessments required in any Local Authority Area.	No AQMA declared in any Local Authority Area.
2023	Progress Report	No detailed assessments required in any Local Authority Area.	No AQMA declared in any Local Authority Area.
2024	Progress Report	No detailed assessments required in any Local Authority Area.	No AQMA declared in any Local Authority Area.

1.2 North Wales APR 2024 DEFRA Appraisal

Following submission of the 2024 APR the following appraisal from DEFRA concluded that:

*“On the basis of the evidence provided by the local authority the conclusions reached in the report are **accepted** for all sources and pollutants. Following the completion of this report, Wrexham County Borough Council should submit an Annual Progress Report in 2025.”*

In total, Defra left eight comments in their appraisal. All comments will be addressed in this section, following Defra’s recommendation to continue this approach in future APRs. All text quoted from the appraisal is in italics, with a response from the North Wales combined authorities in standard font following each commentary bullet

“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 considered the comments made during previous appraisals. This is commended and the Council are encouraged to continue this approach for future APRs.*

Acknowledged, North Wales Combined Authorities will adopt this approach in all future APRs.

- 2. The Council have highlighted an additional site which has been installed for the reporting year, which was installed as a result of concerns made by the public. This is encouraging and demonstrates that the authorities are committed to highlight areas of concern and ensuring that these areas will not result in poor air quality.*

Acknowledged.

- 3. A comparison has been made between the concentrations in WCBC and FCC with the use of both the national and local factor, with appropriate justification for the factor used. This ensures that any potential problems are highlighted. The Council should continue to make these comparisons in the future.*

Acknowledged, this document features a comparison of national and local bias adjustment factors.

4. *Graphs have been provided to highlight trends in the monitoring across each local authority. The chosen colour scheme allows for easy identification between years. It may be beneficial to split the graphs based on the areas shown in Figures 2.2 - 2.15 to make sites easier to distinguish and to see if any trends are present within smaller areas. Lines marking each interval on the y-axis has been added which is commended.*

In this 2025 Annual Progress Report (APR), the trend graphs for monitoring data have been developed according to the areas illustrated in Figures 2.2 to 2.15, to make it easier to interpret trends within smaller areas.

5. *In most instances the diffusion tube deployments were in line with the Defra 2023 calendar. This is commended, and every effort should be made to ensure that deployments continue to be in line with the 2024 calendar.*

Continued efforts have been made to keep to the 2024 diffusion tube deployment calendar, where possible.

6. *The Council have highlighted that a Proposed Action for 2024 is the completion of the Updating and Screening Assessment. It is anticipated that a further update to this will be provided in next year's APR.*

LAQM TG22, paragraph 1.54 states that “*This report (in the format of a template published on the LAQM website) replaces all other reports which previously had to be submitted as part of the LAQM system including Review and Assessment and Action Plan Progress Reports, Updating and Screening Assessments (USAs) and Detailed Assessments. Action Plans remain separate.*” Which means North Wales Authorities are not required to provide an Updating and Screening Assessment. The 2024 APR should have stated that a new APR would be produced for 2025 rather than a new Updating and Screening Assessment.

7. *Defra recommends that Directors of Public Health approve draft APRs. Sign off is not a requirement, however collaboration and consultation with those who have responsibility for Public Health is expected to increase support for measures to improve air quality, with co-benefits for all.*

Approval will be sought from the respective directors of Public Health from each North Wales Combined Authority.

8. *In Table 2.1, Site ID WCBC 1 is referred to as “Victoria Road AURN”. However, in the subsequent Table 2.8 and figures it is referred to as “AURN”. The name of the site should remain consistent throughout the report to avoid confusion.*

The nomenclature for “Victoria Road AURN” has been standardised in this 2025 APR.

1.3 Air Quality Management Areas

Air Quality Management Areas (AQMA)s 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.

North Wales Authorities currently does not have any AQMA)s within their administrative boundaries, subsequently no AQAPs have been published.

1.4 Implementation of Action Plans

North Wales Combined Authorities have taken forward a number of measures during 2024 in pursuit of improving local air quality. For each local authority, details of all measures completed, in progress or planned are set out in Table 1.2 to Table 1.7.

Table 1.2 – IACC Progress on Measures to Improve Air Quality

No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Target Annual Emission Reduction in the AQMA	Organisations Involved	Progress to Date	Progress in Last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
1	Installation of air source heat pump at Council Offices	Climate Change	Isle of Anglesey County Council	2023 - 2024	2024		N/A		Completed -however yet to formally switch on.			
2	Installation of solar panels on car ports within two staff car parks at Council Offices	Climate Change	Isle of Anglesey County Council	2023 - 2024	2025		N/A		50% completion, expected finish Autumn 2025			
3	Improving and expanding the EV fleet and charging points for council fleet vehicles	Climate Change	Isle of Anglesey County Council	2023-2024	2024 and ongoing	Binder-FLEET-TRANSITION-PLAN.pdf	N/A	The Portfolio Holder for Highways, Waste and Property	EV Charging Completed 2025, fleet upgrade ongoing			

Table 1.3 – DCC Progress on Measures to Improve Air Quality

No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Target Annual Emission Reduction in the AQMA	Organisations Involved	Progress to Date	Progress in Last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
1	Review the Councils NO ₂ diffusion tube network to conclude monitoring in areas where the limit value is being met and identify new areas that may benefit from monitoring		DCC				N/A		This exercise takes place annually before the first changeover in January			
2	Bid submitted to Ambition North Wales for LoRaWAN Air Quality sensors. Aim to compare results / reliability of LoRaWAN sensors to existing Air quality monitor we have.		DCC				N/A		Bid Submitted – awaiting outcome			
3	Project underway to install EV electric charging points for council vehicles at fleet services depot using Vehicle-to-Volume Energy Yield technology.		DCC				N/A		Installed at Fleet Depot - project to be expanded to other Council locations if successful.			

Table 1.4 – GC Progress on Measures to Improve Air Quality

No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Target Annual Emission Reduction in the AQMA	Organisations Involved	Progress to Date	Progress in Last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
1	Promoting walking and cycling as normal choices for daily journeys through improved infrastructure and new routes.	Active Travel	GC		On going		N/A	GC, Transport for Wales (TfW)	Lonydd Las Recreational routes (over 50km of traffic free paths) Improvements near Schools through the Safe Routes in Communities Scheme (completed at Ysgol Godre'r Berwyn, bala and Ysgol Treferythyr, Cricieth)		N/A - Continual	
2	Enhancing the public transport network with new electric buses, improved routes, and integrated services.	Climate change / Carbon reduction	GC		On Going		N/A	GC, TfW	GC helped to launch electric buses on the Traws cymru T22 Route which serves Caernarfon, Porthmadog, and Blaenau Ffestiniog New 'Sherpa'r Wyddfa' Network which transports tourists and locals within Eryri National Park		N/A - continual	

Comments Relating to Emission Reductions	Estimated Completion Date	Progress in Last 12 Months	Progress to Date	Organisations Involved	Target Annual Emission Reduction in the AQMA	Indicator	Implementation Phase	Planning Phase	Lead Authority	Focus	Measure	No.
	N/A - Continual		Installation of EV Charging point on-going across LA Car Parks	GC	N/A		On Going		GC	Climate Change/ Carbon reduction	Installing electric charging points for both council vehicles and residents.	3

Table 1.5 – WCBC Progress on Measures to Improve Air Quality

No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Target Annual Emission Reduction in	Organisations Involved	Progress to Date	Progress in Last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
1	Bid for a grant under the Welsh Governments Air Quality Fund to site 10 monitors in Wrexham to provide real time monitoring for Nitrogen Dioxide, Sulphur Dioxide and Particulate Matter (The preferred monitors will also measure environmental noise levels to allow an assessment of any correlation between pollutant levels and environmental noise)	Air Quality & noise	WCBC	Implementing	2025	N/A	N/A	WG & WCBC	Bid successful. Monitors to be installed in 2025	Bid completed, Procurement completed, and contract awarded. Finalising installation locations based on street furniture assessment	2027 – two-year monitoring program (2025 for monitoring to start)	N/A
2	Review the Councils NO ₂ diffusion tube network to conclude monitoring in areas where the limit value is being met and identify new areas that may benefit from monitoring	Air Quality	WCBC	implementing	2025	N/A	N/A	WCBC	This was completed and the changes to the network were completed during the first changeover in January 2025	Review completed. New monitoring locals agreed	New sites started in 2025, next overall review 2030	N/A

No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Target Annual Emission Reduction in	Organisations Involved	Progress to Date	Progress in Last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
3	Install 45 smaller EVCP units and two EVCP mobility hubs during 2024 / 25 on Council owned land	Climate change	WCBC	completed	2024	N/A	N/A	WCBC	Completed	N/A	N/A	Part of broader climate change reduction

Table 1.6 – CCBC Progress on Measures to Improve Air Quality

No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Target Annual Emission Reduction in the AQMA	Organisations Involved	Progress to Date	Progress in Last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
1	Erect 'no idling' signs outside remaining schools in CCBC		CCBC		On-going		N/A		On-going	on-going	On-going	Raising awareness of the impact of idling vehicles on local air quality during drop off and pick up times
2	Continuing to work to attain Green Dragon Environmental Standard Level 5		CCBC		On-going		N/A		On-going	Retained for 11th consecutive year	On-going	Corporate commitment to environmental responsibility across LA sites
3	Installation of additional EV charging points in Coed Pella Car Park		CCBC		On-going		N/A			Installation completed July 2025		CCBC now has now 30 EV fleet vehicles including 5 Pool cars 16 Small vans 2 Road sweepers 7 recycling collection vehicles. The additional EV charging points in Coed Pella are used for fleet vehicles and to help staff use low carbon travel to commute to work and for business travel.

Table 1.7 – FCC Progress on Measures to Improve Air Quality

No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Target Annual Emission Reduction in the AQMA	Organisations Involved	Progress to Date	Progress in Last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
1	Improve air quality monitoring in the vicinity of schools with the Green Infrastructure team	Improve air quality monitoring around schools	FCC		On-going		N/A	Green Infrastructure and Environmental Health	17 diffusion tubes relocated close to schools, five of which are located on or adjacent to school grounds	Initiative in its first year		
2	Collaborate with the Green Infrastructure team through green planting to improve visual amenity and air quality	Provide more Green Infrastructure along main roads	FCC	Planning stage			N/A	Green Infrastructure and Environmental Health	Not Started	N/A		

No.	Measure	Focus	Lead Authority	Planning Phase	Implementation Phase	Indicator	Target Annual Emission Reduction in the AQMA	Organisations Involved	Progress to Date	Progress in Last 12 Months	Estimated Completion Date	Comments Relating to Emission Reductions
3	Bid for a grant under the Welsh Governments Air Quality Fund to investigate and identify odour issue in Deeside / Sandycroft to provide real time monitoring for various pollutants including Nitrogen Dioxide, Sulphur Dioxide, H2S, Ammonia, Methane etc. and Particulate Matter with full weather data	Improve air Quality by identifying potential sources of odour and minimising/re moving them	FCC		2026/27		N/A		Bid Successful entering procurement and tendering phase during rest of 2025 into 2026			

2 Air Quality Monitoring Data and Comparison with Air Quality Objectives

2.1 Summary of Monitoring Undertaken in 2024

2.1.1 Automatic Monitoring Sites

This section sets out the monitoring that has taken place in 2024 and how the results compare with the objectives.

WCBC undertook automatic (continuous) monitoring at 3 sites during 2024. Table 2.1 presents the details of the sites. National monitoring results are available [here](#).

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: Air Quality Monitoring Data QA/QC.

2.1.2 Non-Automating Monitoring Sites

IACC undertook non- automatic (passive) monitoring of NO₂ at 4 sites during 2024. Table 2.2 presents the details of the sites.

DCC undertook non- automatic (passive) monitoring of NO₂ at 29 sites during 2024. Table 2.3 presents the details of the sites.

GC undertook non- automatic (passive) monitoring of NO₂ at 17 sites during 2024. Table 2.4 presents the details of the sites.

WCBC undertook non- automatic (passive) monitoring of NO₂ at 33 sites during 2024. Table 2.5 presents the details of the sites.

CCBC undertook non- automatic (passive) monitoring of NO₂ at 20 sites during 2024. Table 2.6 presents the details of the sites.

FCC undertook non- automatic (passive) monitoring of NO₂ at 59 sites during 2024. Table 2.7 presents the details of the sites.

Maps showing the location of the monitoring sites are provided in

Figure 2.2 to Figure 2.15. Further details on Quality Assurance/Quality Control (QA/QC) and bias adjustment for the diffusion tubes are included in Appendix C.

Table 2.1 – Details of All Automatic Monitoring Sites

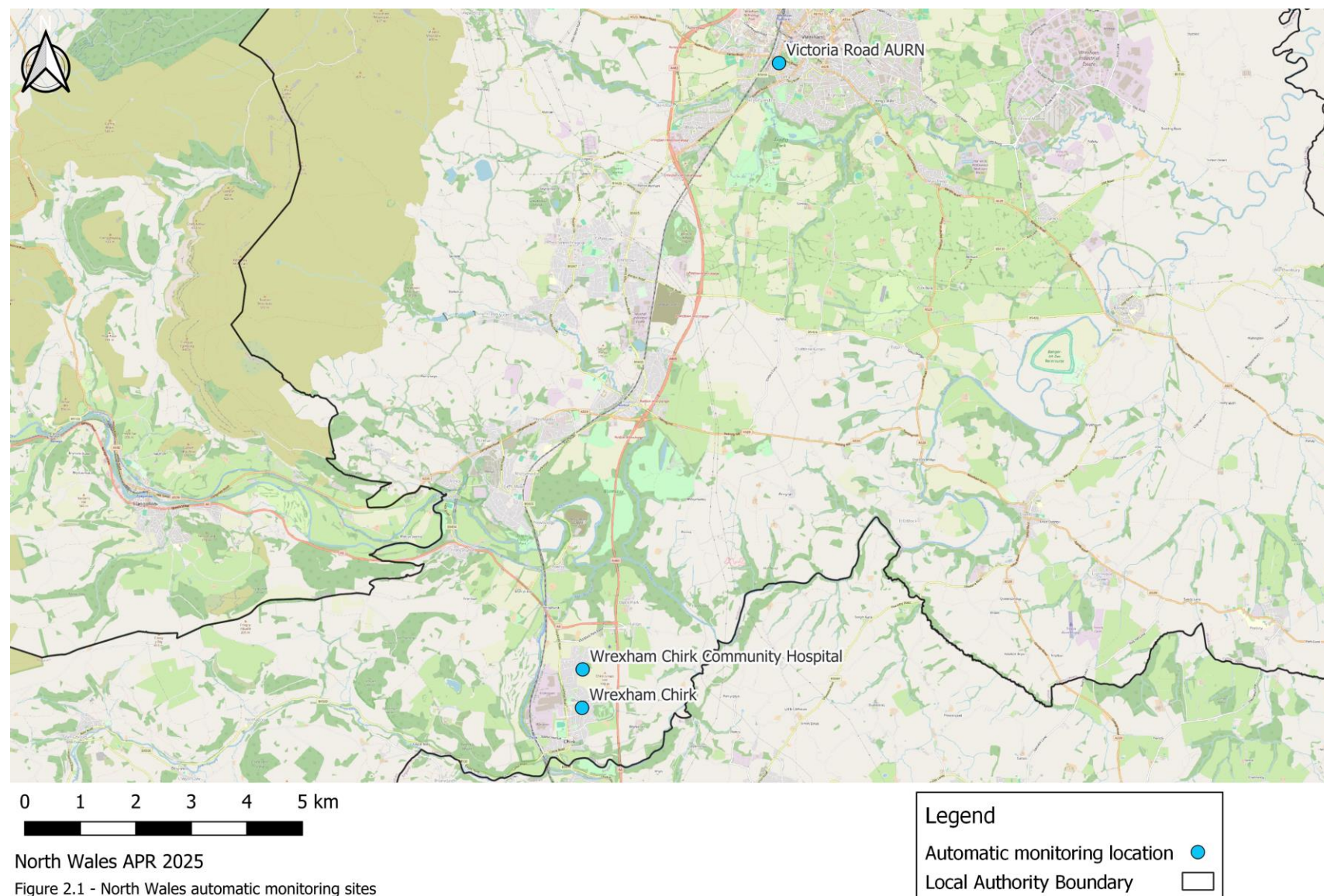
Site ID	Site Name	Site Type	X OS Grid Reference	Y OS Grid Reference	Pollutants Monitored	In AQMA?	Which AQMA? (1)	Monitoring Technique	Distance from monitor to nearest relevant exposure (m) (2)	Distance from Kerb to Monitor (m)	Inlet Height (m)	Distance from Kerb to Nearest Relevant Exposure (m)
WCBC 1	Victoria Road AURN	Roadside	332865	349909	NO _x , SO ₂ , PM ₁₀ , PM _{2.5}	N	N/A	All continuous (PM: light scattering)	20	4	3	24
WCBC 2	Wrexham Chirk	Urban Industrial	329318	338300	NO _x , VOC's, PM ₁₀ , PM _{2.5}	N	N/A	All continuous (PM: light scattering)	10	80	1.5	15
WCBC 3	Wrexham Chirk Community Hospital	Urban Background	329329	338992	NO _x , VOC's, PM ₁₀ , PM _{2.5}	N	N/A	All continuous (PM: light scattering)	30	60	2	40

Notes:

(1) N/A if not applicable

(2) 0m indicates that the sited monitor represents exposure and as such no distance calculation is required.

Figure 2.1 – North Wales Automatic Monitoring Sites



Base map and data from OpenStreetMap and OpenStreetMap Foundation (CC-BY-SA). © <https://www.openstreetmap.org> and contributors.

Table 2.2 – Details of IACC 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)
IACC-81	Marine Square, Holyhead	Roadside	224942	382866	NO ₂	No	15.0	0.7	No	3.0
IACC-82	Opp. Panton Arms, Pentraeth	Roadside	252360	378402	NO ₂	No	1.3	2.0	No	3.0
IACC-83	Llanfairpwll A55 Bridge	Roadside	253057	372313	NO ₂	No	13.0	1.0	No	2.0
IACC-84	Orthios Penrhos Lodge	Roadside	226681	381486	NO ₂	No	6.0	7.0	No	3.5

Notes:

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

(2) N/A if not applicable.

Table 2.3 – Details of DCC 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)
DBK1	Wellington Road, Rhyl	Roadside	300800	381400	NO ₂	No	0.5	2.2	No	2.3
DBR2	10 Kinmel Street, Rhyl	Roadside	300900	381300	NO ₂	No	2.5	0.3	No	2.5
DBR55	Adj. 7 Berwyn Street, Llangollen	Roadside	321484	341920	NO ₂	No	0.8	1.0	No	3.0
DBR57	Adj. 48 Church Street, Llangollen	Roadside	321815	341914	NO ₂	No	0.0	0.5	No	2.3
DBR5	2 Pant Glas, St. Asaph	Other	302900	374600	NO ₂	No	9.6	27.5	No	2.0
DBR48	Adj. 1 Vale Street, Denbigh	Roadside	305276	366119	NO ₂	No	0.0	1.0	No	2.4
DBR23	31 Ruthin Road, Denbigh	Roadside	305879	366425	NO ₂	No	1.4	2.5	No	2.5
DBR65	Former Deans Library, Upper Denbigh Road, St Asaph	Roadside	303979	374281	NO ₂	No	6.0	1.5	No	2.8
DBR9	7 Roe Park, St. Asaph	Other	303200	374900	NO ₂	No	0.0	14.0	No	2.0
DBR59	Hennessey Terrace, Denbigh	Roadside	305097	366100	NO ₂	No	3.7	2.5	No	2.6
DBR24	Denbigh Cutters, 21 Vale Street, Denbigh	Roadside	305327	366164	NO ₂	No	0.0	3.0	No	2.2
DBR56	Adj. 6-7 Castle Street, Llangollen	Roadside	321492	342091	NO ₂	No	3.4	0.4	No	2.7

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)
DBR20	25 Park Road, Ruthin.	Roadside	312105	358306	NO ₂	No	4.0	1.4	No	2.2
DBR43	Adj HSBC Bank, Vale Street, Denbigh	Roadside	305314	366153	NO ₂	No	5.5	2.5	No	2.6
DBR44	Opp Rowlands Pharm., Vale Street, Denbigh	Roadside	305386	366191	NO ₂	No	1.7	1.2	No	2.6
DBR45	Adj 50 Vale Street, Denbigh	Roadside	305467	366246	NO ₂	No	3.9	2.0	No	2.5
DBR37	Haul Fryn Depot, Ruthin	Roadside	312800	358200	NO ₂	No	1.0	3.5	No	2.3
DBR64	Opposite Prestatyn High School, (Princes Avenue, Prestatyn)	Roadside	306495	381894	NO ₂	No	14.0	1.0	No	2.8
DBR52	Adj. Swayne Johnston Sol., Vale Street, Denbigh	Roadside	305308	366130	NO ₂	No	N/A	1.8	No	2.9
DBR53	7 Vale Street, Denbigh	Roadside	305390	366130	NO ₂	No	N/A	2.0	No	2.3
DBR31	2 Rhyl Road, Denbigh	Roadside	305805	366480	NO ₂	No	1.3	0.8	No	2.4
DBR32	47 High Street, Denbigh	Roadside	305179	366089	NO ₂	No	N/A	5.9	No	2.4
DBR33	Adj CO-OP, High Street, Denbigh	Roadside	305253	366095	NO ₂	No	N/A	5.3	No	2.3

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)
DBR34	Adj Fairyburn, Rhyl Road, Denbigh	Roadside	305868	366653	NO ₂	No	11.4	0.9	No	2.5
DBR49	79 High Street, Prestatyn	Roadside	306580	382907	NO ₂	No	N/A	1.0	No	2.6
DBR58	Adj. 1 Vale View, High Street, Rhuddlan	Roadside	302271	378074	NO ₂	No	4.4	0.5	No	2.3
DBR61	Adj. Jacobs Ladder, St. Asaph	Roadside	303921	374387	NO ₂	No	5.5	1.0	No	2.7
DBR62	Adj. The Old Rectory, High Street, St. Asaph	Roadside	303852	374361	NO ₂	No	3.8	1.5	No	2.8
DBR63	Adj. Barclay House, Gemig Street, St. Asaph	Roadside	303778	374326	NO ₂	No	4.0	4.7	No	2.5

Notes:

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

(2) N/A if not applicable.

Table 2.4 – Details of GC 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)
GCC 002	Roundabout A487, Caernarfon (C1)	Kerbside	248273	362132	NO ₂	No	9.0	10.0	No	2.0
GCC 003	Lon Campbell, Caernarfon (C3)	Urban Background	248480	363456	NO ₂	No	N/A	5.0	No	2.0
GCC 005	Ffordd Bangor, Caernarfon (C5)	Kerbside	248892	364120	NO ₂	No	6.0	7.0	No	1.8
GCC 008	A4087, Bangor (B3)	Kerbside	257587	371543	NO ₂	No	1.0	2.0	No	1.9
GCC 011	A5122, Bangor (B5)	Kerbside	256292	371663	NO ₂	No	>25.0	>25.0	No	1.7
GCC 012	Faenol Roundabout, Bangor (B6)	Kerbside	254286	368835	NO ₂	No	>25.0	>25.0	No	1.8
GCC 013	Bethesda (BETH 1)	Kerbside	261529	367380	NO ₂	No	9.0	10.0	No	2.0
GCC 015	Llanwnda (LL1)	Roadside	247770	358663	NO ₂	No	3.0	4.0	No	1.9
GCC 037	Poolside, Caernarfon (C6)	Kerbside	248022	362757	NO ₂	No	1.0	2.0	No	1.9
GCC 038	A55, Bangor (CO-LOC)	Roadside	256871	369493	NO ₂	No	>25.0	>25.0	No	1.3
GCC 039	A55, Bangor (CO-LOC)	Roadside	256871	369493	NO ₂	No	>25.0	>25.0	No	1.3
GCC 040	Pwllheli (PW1)	Kerbside	237517	335217	NO ₂	No	1.0	2.0	No	2.0
GCC 041	LLYS 1	Roadside	248514	362795	NO ₂	No	4.0	5.0	No	2.2
GCC 043	BR 2	Roadside	249634	362917	NO ₂	No	1.0	7.0	No	1.3
GCC 044	LLNFR 1	Kerbside	293769	336564	NO ₂	No	0.0	1.0	No	1.7
GCC 045	LLNFR 2	Roadside	293878	336609	NO ₂	No	20.0	6.0	No	1.7
GCC 046	PYB 1	Urban Background	248484	361173	NO ₂	No	1.0	121*	No	1.65

Notes:

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

(2) N/A if not applicable.

* Tube GCC 046 was temporarily deployed outside of a property in response to air quality concerns over the construction of a new road 121m away.

Table 2.5 – Details of WCBC 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)
1	Grosvenor Road	Roadside	333200	350600	NO ₂	No	10.0	2.0	No	1.5
34	Coed Poeth	Roadside	329017	351002	NO ₂	No	1.0	9.0	No	2.0
45	Crispin Lodge	Roadside	332214	351503	NO ₂	No	8.0	8.0	No	1.6
36	Acrefair	Roadside	327630	342990	NO ₂	No	0.0	2.0	No	2.0
10	Ysgol Y Waun	Suburban	329300	338300	NO ₂	No	18.0	2.0	No	2.0
49	Black Lane School	Suburban	330221	353428	NO ₂	No	1.0	1.5	No	2.0
42	Llan-Y-Pwll	Roadside	335359	352178	NO ₂	No	4.0	5.0	No	1.6
50	Llys Y Groes	Roadside	331924	350638	NO ₂	No	0.0	9.0	No	1.5
51	Ysgol Yr Hafod	Suburban	330125	346099	NO ₂	No	3.5	1.5	No	1.5
52	Woodbank Court	Suburban	330703	334004	NO ₂	No	0.0	20.0	No	1.5
53	Froncysyllte	Roadside	327263	341184	NO ₂	No	0.0	2.0	No	1.5
22	Holyhead Road	Suburban	328900	338700	NO ₂	No	28.0	2.0	No	1.5
32	Sycamores	Roadside	333887	353222	NO ₂	No	N/A	N/A	No	1.5
30	Rhostyllen Rbt	Roadside	330950	348170	NO ₂	No	31.0	4.0	No	1.2
31	Bus Station	Roadside	333350	350590	NO ₂	No	1.0	2.0	No	3.0
33	Smithfield Road	Roadside	333981	350171	NO ₂	No	3.0	1.0	No	1.5
37	Rossett	Roadside	336635	357211	NO ₂	No	5.0	2.0	No	1.5
38	Pentre Bach	Roadside	331765	350132	NO ₂	No	0.0	2.0	No	1.2
44	Cobden Road	Roadside	332935	350278	NO ₂	No	4.0	1.0	No	2.0
40	Overton	Roadside	337449	341702	NO ₂	No	12.0	2.0	No	1.5
41	Marchwiell	Roadside	335407	347890	NO ₂	No	1.0	2.0	No	2.0
43	Hightown	Roadside	333966	349691	NO ₂	No	9.0	1.0	No	2.0
46	Regent Street	Roadside	333063	350587	NO ₂	No	14.0	1.0	No	2.0
48	Church Street	Roadside	329082	337590	NO ₂	No	4.0	1.0	No	1.5
54	Pandy Lane	Roadside	333628	352942	NO ₂	No	4.0	5.0	No	1.5
55	Llay	Suburban	333078	355649	NO ₂	No	0.0	9.0	No	1.0
56	Top Farm Road	Roadside	332944	352293	NO ₂	No	0.0	12.0	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)
57	Ysgol Plas Coch	Suburban	332786	351637	NO ₂	No	0.0	20.0	No	1.5
58	St Annes School	Suburban	334954	350090	NO ₂	No	38.5	1.5	No	2.0
59	Cross Lanes	Roadside	337541	346942	NO ₂	No	0.0	6.0	No	1.5
60	St Pauls School	Suburban	340016	349982	NO ₂	No	13.5	1.5	No	2.0
61	Berse Road	Roadside	332363	351095	NO ₂	No	0.0	12.0	No	2.0
AURN (triplicate)	Victoria Road	Roadside	332900	349900	NO ₂	No	9.0	5.0	Yes	2.0

Notes:

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

(2) N/A if not applicable.

Table 2.6 – Details of CCBC 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)
DT/CCBC 017	Kingsway, Colwyn Bay	Roadside	284526	379417	NO ₂	No	1.0	1.1	No	3.0
DT/CCBC 018	Heol Dewi, Pensarn	Roadside	295049	378144	NO ₂	No	3.5	3.0	No	2.1
DT/CCBC 022	Bryn Marl, Mochdre	Roadside	282362	378757	NO ₂	No	2.0	1.5	No	3.0
DT/CCBC 034	Victoria Drive, Llandudno Junction	Roadside	279245	377995	NO ₂	No	2.5	2.2	No	3.0
DT/CCBC 035	Ysgol Bod Alaw, Colwyn Bay	Roadside	285506	378295	NO ₂	No	2.0	2.2	No	3.0
DT/CCBC 036	Ysgol Tudno, Llandudno	Roadside	278131	381907	NO ₂	No	2.5	1.5	No	3.0
DT/CCBC 041	Faenol Avenue, Abergelle	Roadside	295075	377678	NO ₂	No	3.5	2.7	No	3.0
DT/CCBC 042	Yr Angorfa, Conwy Marina	Roadside	277318	378576	NO ₂	No	30.0	30.0	No	3.0
DT/CCBC 043	Ysgol Pant y Rhedyn, Llanfairfechan	Roadside	268425	375266	NO ₂	No	3.0	2.2	No	3.0
DT/CCBC 044	Busgate, Llanfairfechan	Roadside	268845	375713	NO ₂	No	2.0	1.3	No	3.0
DT/CCBC 046	Eagles, Town Centre, Llanrwst	Roadside	279833	361573	NO ₂	No	1.5	1.2	No	2.5
DT/CCBC 047	Maes-y-Llan, Dwygyfylchi	Roadside	273223	377460	NO ₂	No	2.0	1.0	No	3.0
DT/CCBC 048	A55 Conwy (road barrier)	Roadside	276115	378273	NO ₂	No	22.0	22.0	No	2.5

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)
DT/CCBC 053	Upper Promenade, Colwyn Bay	Roadside	284433	379529	NO ₂	No	1.7	1.7	No	3.0
DT/CCBC 054	Wainwright Close, Colwyn Bay	Roadside	284362	379559	NO ₂	No	35.0	35.0	No	3.0
DT/CCBC 055	Ysgol Llandrillo yn Rhos, Rhos on Sea	Roadside	283523	380857	NO ₂	No	2.1	2.1	No	3.2
DT/CCBC 056	Ysgol Deganwy, Deganwy	Roadside	278751	378797	NO ₂	No	1.7	1.7	No	3.0
DT/CCBC 057	Ffordd Seiriol, Penmaenmawr	Roadside	271771	376105	NO ₂	No	2.0	1.2	No	2.5
DT/CCBC 058	Gilfach Road, Penmaenmawr	Roadside	271627	375978	NO ₂	No	2.5	0.0	No	2.5
DT/CCBC 059	Deganwy Road, Deganwy	Roadside	277744	379865	NO ₂	No	3.0	2.0	No	2.5

Notes:

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

(2) N/A if not applicable.

Table 2.7 – Details of FCC 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)
ADDC-008	Lamppost Aston Hill co-loc (24&51)	Kerbside	330792	367434	NO ₂	No	20.0	1.0	Yes	1.8
ADDC-009	1, St.Davids Close, Ewloe CH5 3AP	Roadside	329830	366682	NO ₂	No	0.0	35.0	No	1.8
ADDC-085	Aston Hill Roadside	Kerbside	330718	367350	NO ₂	No	10.0	1.0	No	2.0
ADDC-111	Hawarden High School CH5 3DL	Kerbside	330614	366195	NO ₂	No	7.0	3.0	No	2.0
ADDC-105	Abermorddu/Cy mau Crossroads	Roadside	330986	356538	NO ₂	No	9.0	2.0	No	2.0
ADDC-124	66 High Street CQ CH5 4DD	Kerbside	330161	369198	NO ₂	No	1.5	1.0	No	2.0
ADDC-125	98 High Street CQ CH5 4DF	Kerbside	330027	369295	NO ₂	No	1.5	1.0	No	2.0
ADDC-126	102 Church Street CQ CH5 4AQ	Kerbside	328895	370063	NO ₂	No	1.5	1.0	No	2.0
ADDC-127	91 Chester Road east Shotton CH5 1QB	Kerbside	330972	368628	NO ₂	No	2.0	1.0	No	2.0
ADDC-107	Bryn Coch Lane, Mold (started Aug 20)	Roadside	323500	363397	NO ₂	No	15.0	1.5	No	1.8
ADDC-084	3 Davies Cottage, Mold Road, Alltami	Kerbside	326643	365550	NO ₂	No	0.0	3.0	No	2.0

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)
ADDC-064	20/22 Glynne Way, Hawarden	Kerbside	331648	365730	NO ₂	No	0.0	1.0	No	1.6
ADDC-098	20/22 Glynne Way, Hawarden - Duplicate Tube	Kerbside	331648	365730	NO ₂	No	0.0	1.0	No	1.6
ADDC-117	Sandycroft CP School Leaches Lane CH5 2EH	Kerbside	332500	367357	NO ₂	No	1.0	1.0	No	2.0
ADDC-099	Aston Hill, Roadside - Additional Tube within 12m of ADDC/085	Kerbside	330727	367354	NO ₂	No	10.0	1.0	No	1.8
ADDC-023	4, Belvedere Close, Queensferry CH5 1TG	Urban Background	331663	368028	NO ₂	No	0.0	20.0	No	1.6
ADDC-024	32 Chester Road West, Shotton	Kerbside	330599	368922	NO ₂	No	0.0	4.0	No	2.2
ADDC-118	Saltney Ferry CP School CH4 0BN	Kerbside	336904	364852	NO ₂	No	7.0	1.0	No	2.0
ADDC-128	111 Chester Road East Shotton CH5 1QD	Kerbside	331041	368580	NO ₂	No	3.0	3.0	No	2.0
ADDC-129	38 Chester Road West Queensferry CH5 1SA	Kerbside	331585	368212	NO ₂	No	4.0	1.0	No	2.0

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)
ADDC-116	Sealand CP School Welsh Road CH5 2RA	Kerbside	332535	368907	NO ₂	No	1.0	1.0	No	2.0
ADDC-029	Green Lane West, Sealand	Rural	333645	370898	NO ₂	No	5.0	17.0	No	2.0
ADDC-130	91 Brunswick Road Buckley CH7 2EH	Kerbside	328346	363915	NO ₂	No	2.0	1.0	No	2.0
ADDC-083	Lamppost Aston Hill co-loc (1&51)	Kerbside	330792	367434	NO ₂	No	20.0	1.0	Yes	1.8
ADDC-131	Croes Atti School KG St Shotton CH5 1DY	Roadside	330577	368830	NO ₂	No	1.0	3.0	No	2.0
ADDC-132	Croes Atti School KG St Shotton CH5 1DY	Roadside	330576	368831	NO ₂	No	1.0	1.0	No	2.0
ADDC-034	89, Riverside Park, Garden City	Roadside	333040	369051	NO ₂	No	0.0	5.0	No	2.0
ADDC-120	Ysgol St John Penymynydd CH4 0LG	Kerbside	330528	362756	NO ₂	No	4.0	1.0	No	2.0
ADDC-133	School Whitford Street Holywell CH8 7NJ	Kerbside	318327	376004	NO ₂	No	0.0	3.0	No	2.2
ADDC-142	1 Saltney Tc Chester Rd Pentre CH5 2DS	Kerbside	332294	367695	NO ₂	No	2.0	1.0	No	2.2

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)
ADDC-093	Trelawney Towers 79 Chester Road, Flint CH6 5DU	Kerbside	324935	372722	NO ₂	No	1.0	4.0	No	2.0
ADDC-044	Flint Town Council Buildings.	Kerbside	324459	373141	NO ₂	No	0.0	3.0	No	1.6
ADDC-067	133, Main Road, Broughton CH4 0NR	Kerbside	333568	363511	NO ₂	No	0.0	1.0	No	2.2
ADDC-068	2, Coleshill Street, Holywell CH8 7UP	Kerbside	318766	375758	NO ₂	No	0.0	1.0	No	2.2
ADDC-135	7 Dewi Avenue Holywell CH8 7UG	Kerbside	318460	375799	NO ₂	No	0.0	2.0	No	2.0
ADDC-070	43, Station Road, Queensferry CH5 1SU	Roadside	331806	368271	NO ₂	No	0.0	4.0	No	1.8
ADDC-081	Glendale Lodge, Rhydgaied, Mold A5119	Kerbside	324281	364926	NO ₂	No	15.0	2.0	No	2.0
ADDC-119	Castell Alun Fagl Lane Hope LL129PY	Kerbside	330705	358429	NO ₂	No	8.0	2.0	No	2.2
ADDC-136	18 Sealand Road sealand CH5 2RJ	Kerbside	333256	369187	NO ₂	No	6.0	2.0	No	2.0

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)
ADDC-137	51 Dundas Street Queensferry CH5 1SZ	Kerbside	331968	368178	NO ₂	No	6.0	1.0	No	2.2
ADDC-138	Llys Gary Speed CH5 3FE	Kerbside	330650	367158	NO ₂	No	4.0	1.0	No	2.2
ADDC-112	RGHS Ffordd Llewelyn Flint CH6 5JZ	Kerbside	324838	372198	NO ₂	No	1.0	1.0	No	2.2
ADDC-144	Flint HS Maes Hyfryd Flint CH6 5LL	Kerbside	324217	372044	NO ₂	No	4.0	1.0	No	2.2
ADDC-091	413 Chester Road, Oakenholt, Flint CH6 5SF	Kerbside	325961	371822	NO ₂	No	3.0	1.0	No	2.0
ADDC-143	Ysgol Bryn Coch Alexandra Road Mold CH7 1HJ	Roadside	324013	363629	NO ₂	No	4.0	1.0	No	2.0
ADDC-110	Ewloe Green School CH5 3AU	Kerbside	329284	366504	NO ₂	No	9.0	1.0	No	2.0
ADDC-100	3 Davies Cottage, Mold Road, Altami - Duplicate Tube	Kerbside	326643	365550	NO ₂	No	0.0	3.0	No	2.0
ADDC-060	74, High Street, Saltney CH4 8SQ	Kerbside	338283	365032	NO ₂	No	0.0	6.0	No	1.6

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)
ADDC-061	Centenary Close Broughton CH4 0FY on lighting pole	Kerbside	334739	363340	NO ₂	No	8.0	4.0	No	2.2
ADDC-145	Ysgol Estyn Hawarden Road Hope LL12 9NL	Kerbside	330913	357931	NO ₂	No	10.0	2.0	No	2.0
ADDC-101	Lamppost Aston Hill co-loc (1&24)	Kerbside	330792	367434	NO ₂	No	20.0	1.0	Yes	1.8
ADDC-109	Westwood CP School Padeswood Rd CH7 2JT	Kerbside	327843	363856	NO ₂	No	4.0	1.0	No	2.0
ADDC-139	Westwood CP School Padeswood Rd CH7 2JT	Kerbside	327782	363934	NO ₂	No	1.0	1.0	No	2.2
ADDC-140	Ysgol Bryn Gwalia Clayton Road Mold CH7 1SU	Kerbside	323158	363965	NO ₂	No	4.0	1.0	No	2.2
ADDC-141	Ysgol St Davids Leadmills Mold CH7 1LH	Kerbside	324143	364238	NO ₂	No	13.0	1.0	No	2.2
ADDC-104	Claremont Ave GC opp NO. 28 Start 3 June	Kerbside	332558	368750	NO ₂	No	8.0	10.0	No	1.8
ADDC-089	Rose Cottage Junction A5119/A494	Kerbside	324375	365007	NO ₂	No	2.0	1.0	No	2.2

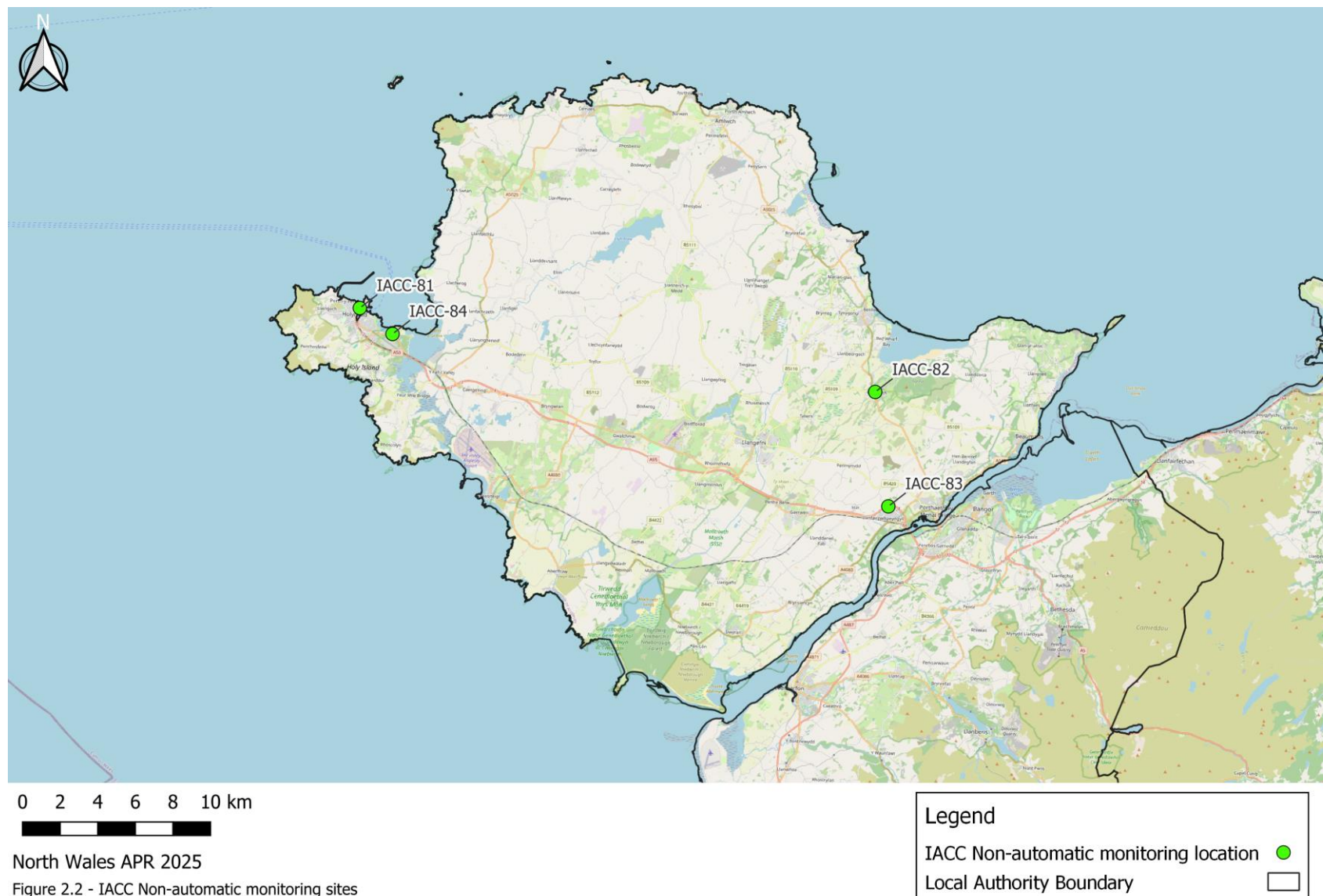
Diffusion Tube ID	Site Name	Site Type	X OS Grid Ref (Easting)	Y OS Grid Ref (Northing)	Pollutants Monitored	In AQMA? Which AQMA?	Distance to Relevant Exposure (m) ⁽¹⁾	Distance to kerb of nearest road (m) ⁽²⁾	Tube Co-located with a Continuous Analyser?	Tube Height (m)
ADDC-122	Bryn Mair 114 Chester Road Mold CH7 1UQ	Kerbside	324530	363839	NO ₂	No	8.0	1.0	No	2.2
ADDC-123	30 High Street Mold CH7 1BH	Kerbside	324562	363840	NO ₂	No	0.0	1.0	No	2.2

Notes:

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

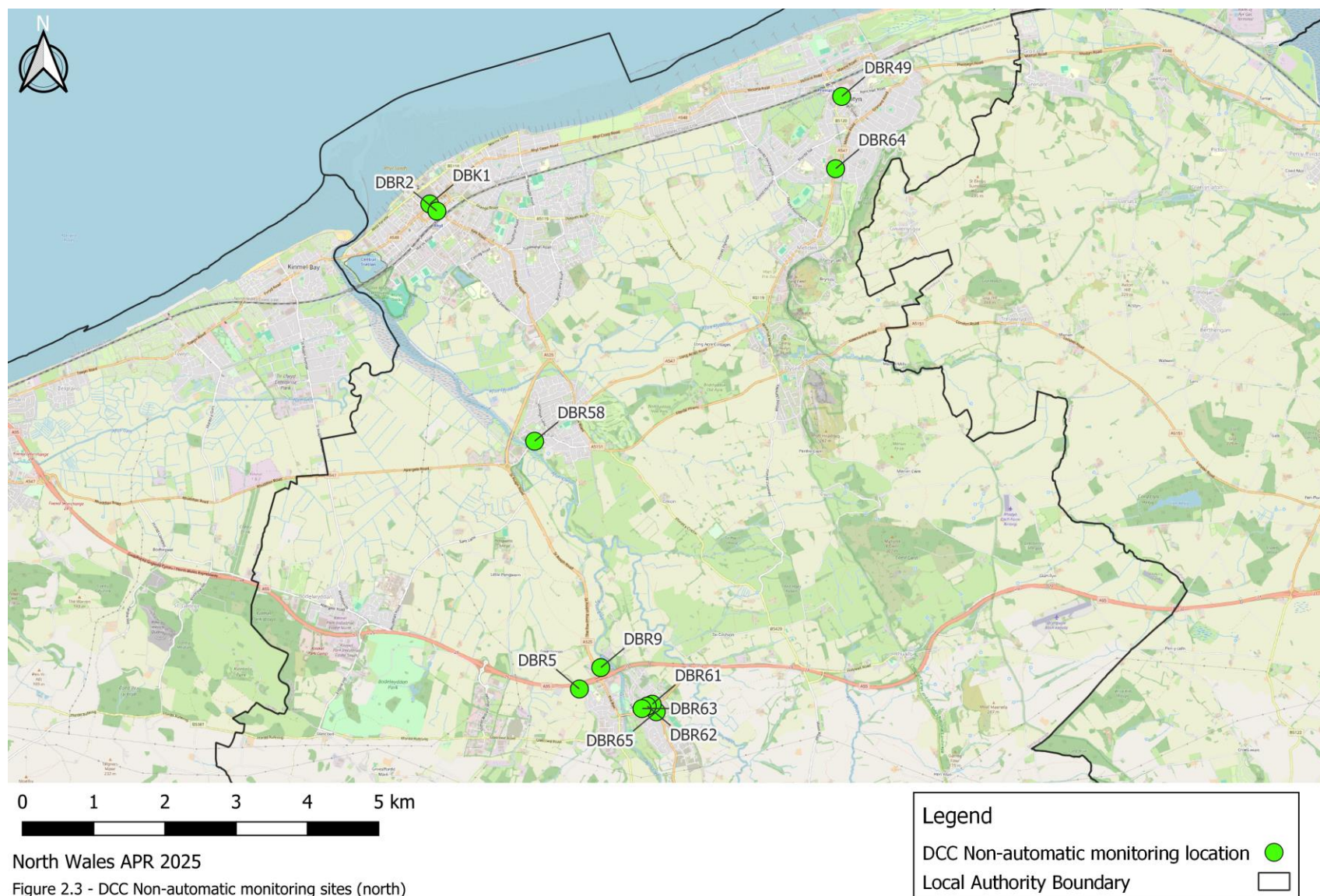
(2) N/A if not applicable.

Figure 2.2 – Map of IACC Non-Automatic Monitoring Sites



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Figure 2.3 – Map of DCC Non-Automatic Monitoring Sites (North)



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Figure 2.4 – Map of DCC Non-Automatic Monitoring Sites (Denbigh)

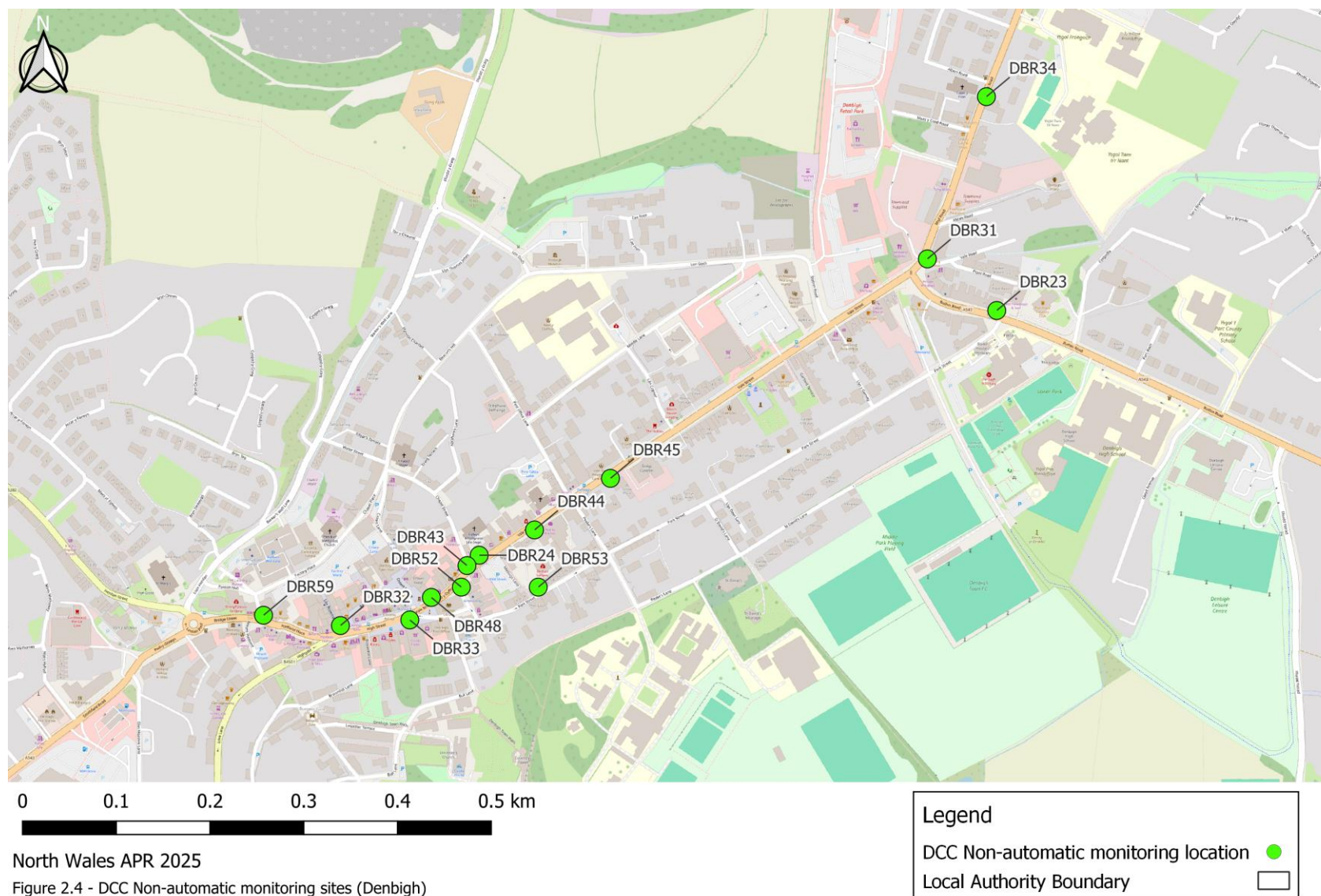
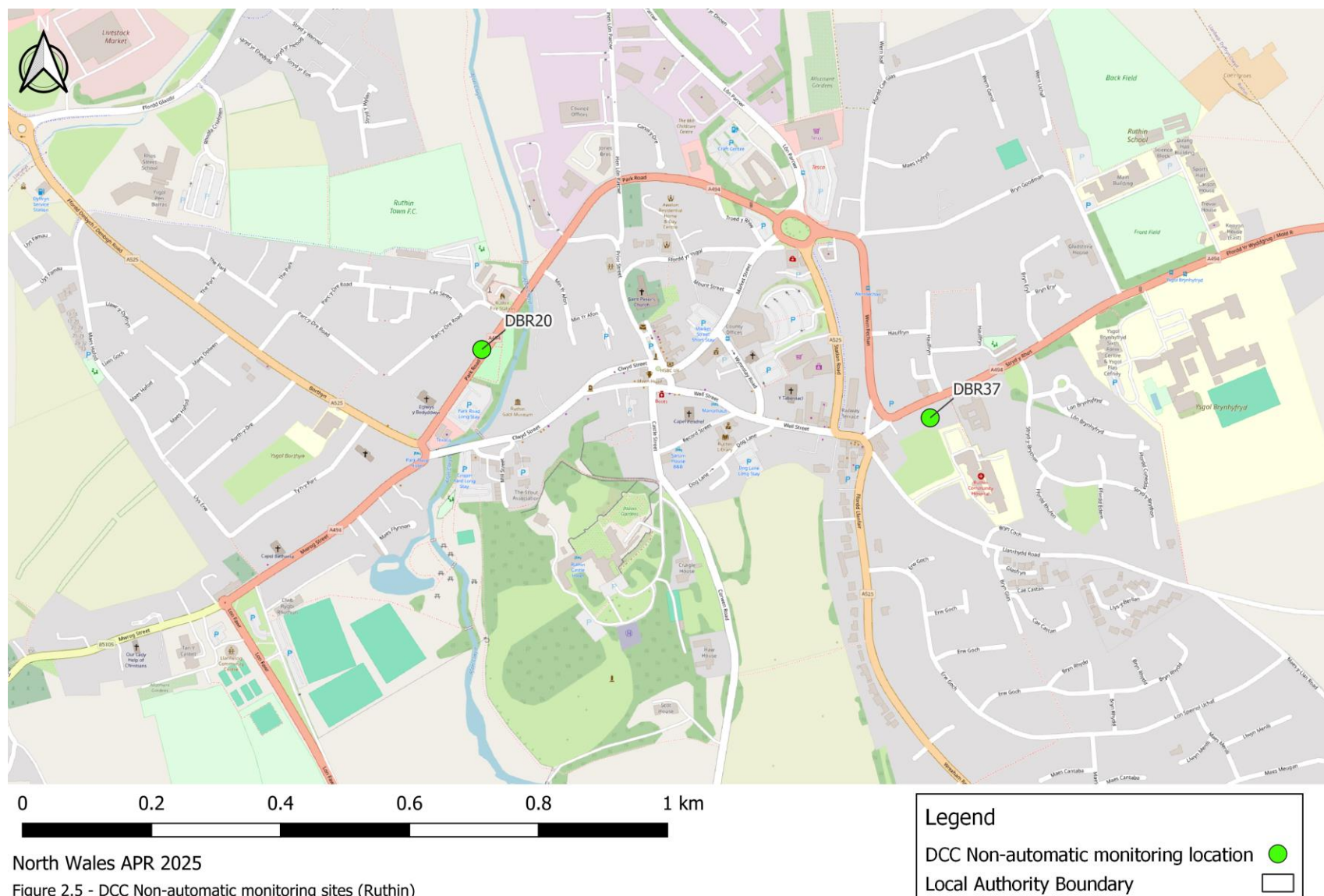
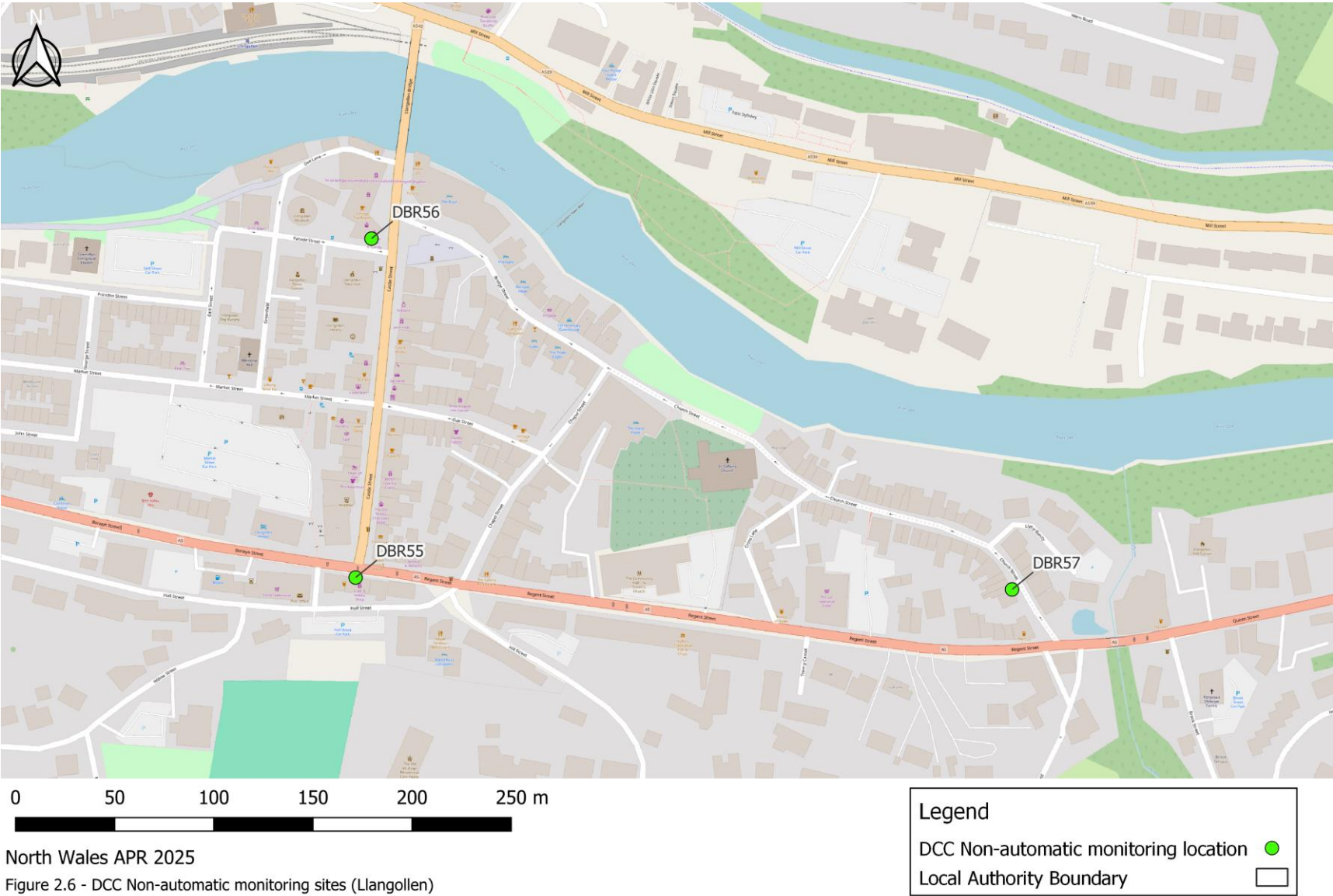


Figure 2.5 – Map of DCC Non-Automatic Monitoring Sites (Ruthin)



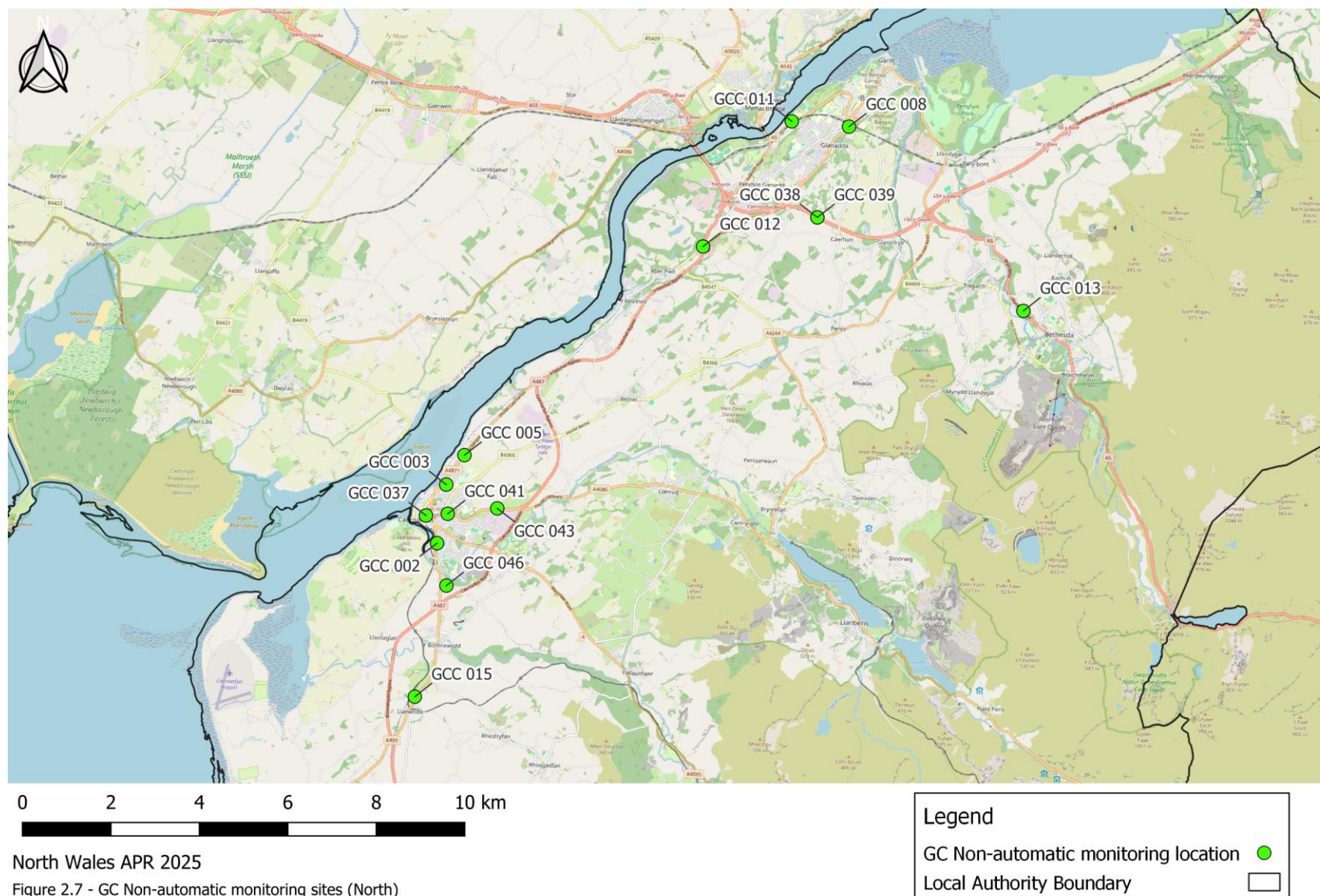
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Figure 2.6 – Map of DCC Non-Automatic Monitoring Sites (Llangollen)



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Figure 2.7 – Map of GC Non-Automatic Monitoring Sites (North)



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Figure 2.8 – Map of GC Non-Automatic Monitoring Sites (South East)



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Figure 2.9 – Map of GC Non-Automatic Monitoring Sites (South West)

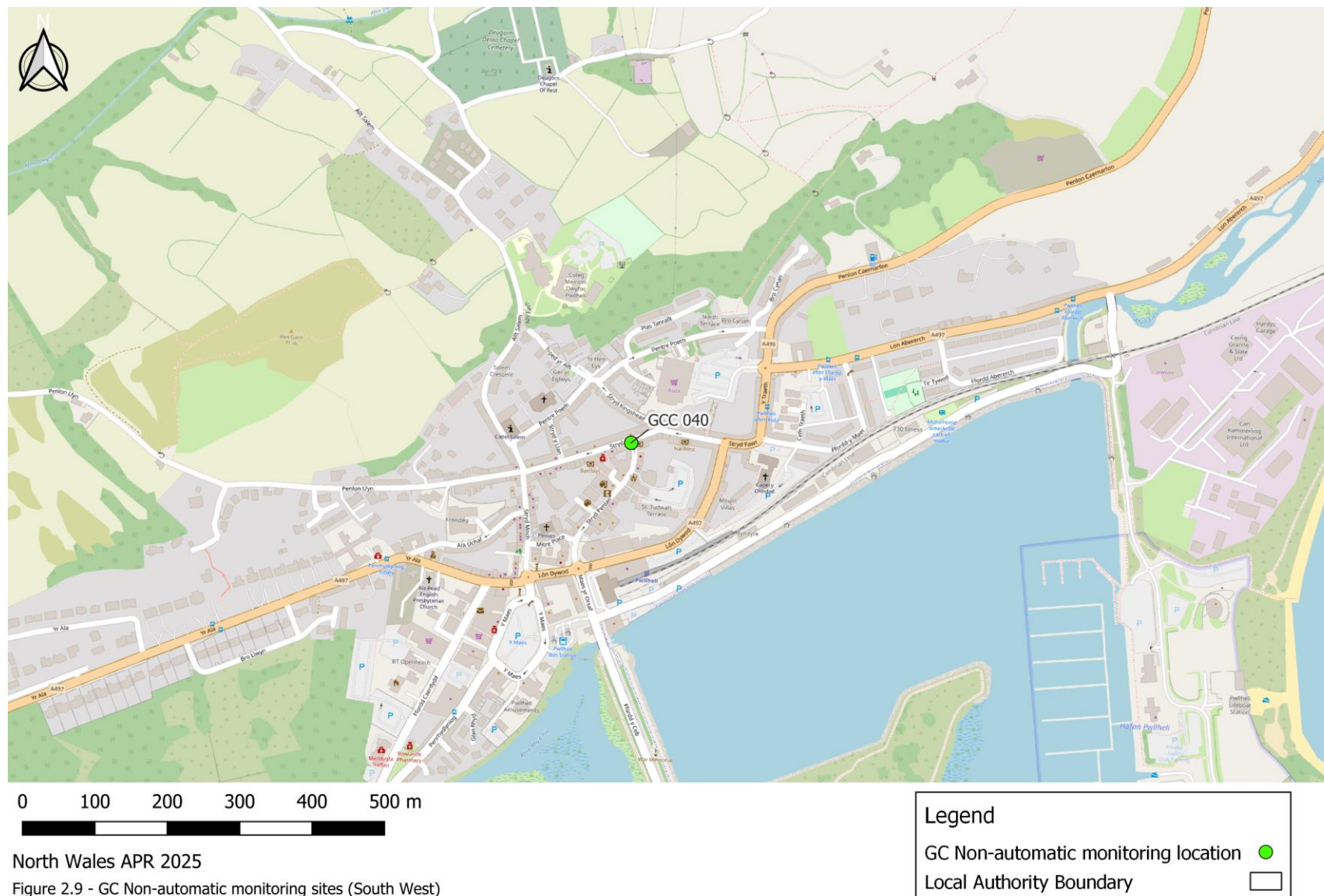
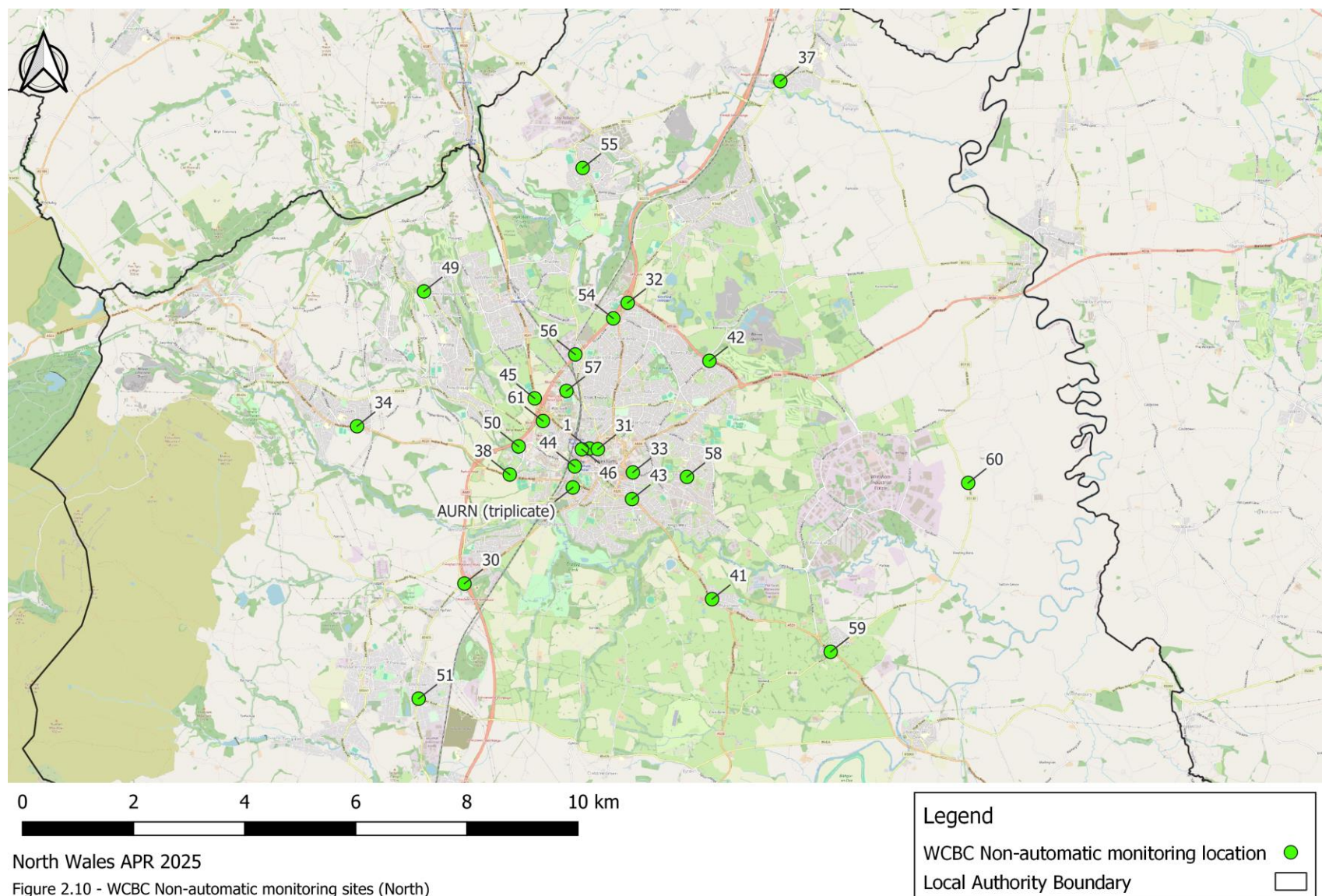
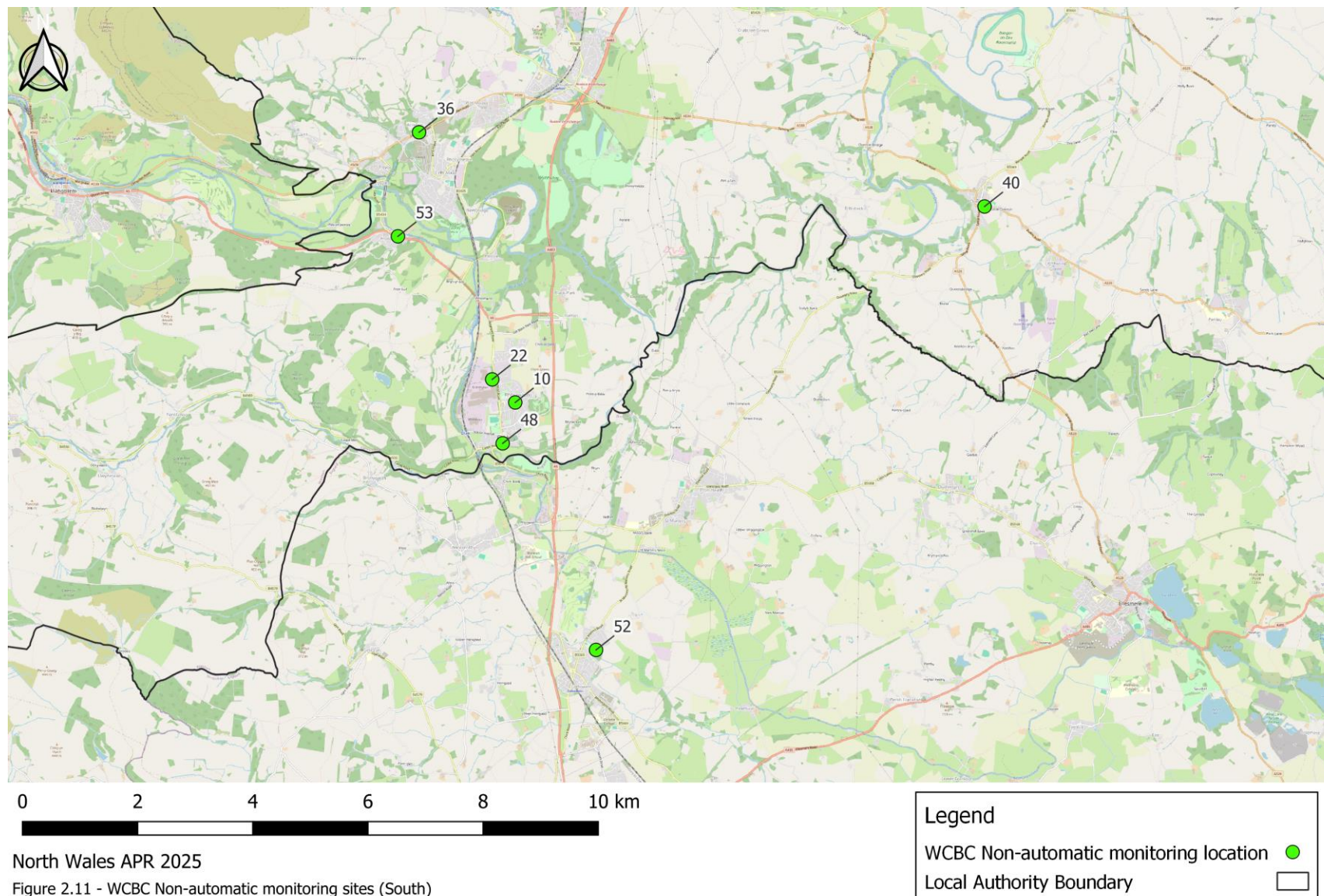


Figure 2.10 – Map of WCBC Non-Automatic Monitoring Sites (North)



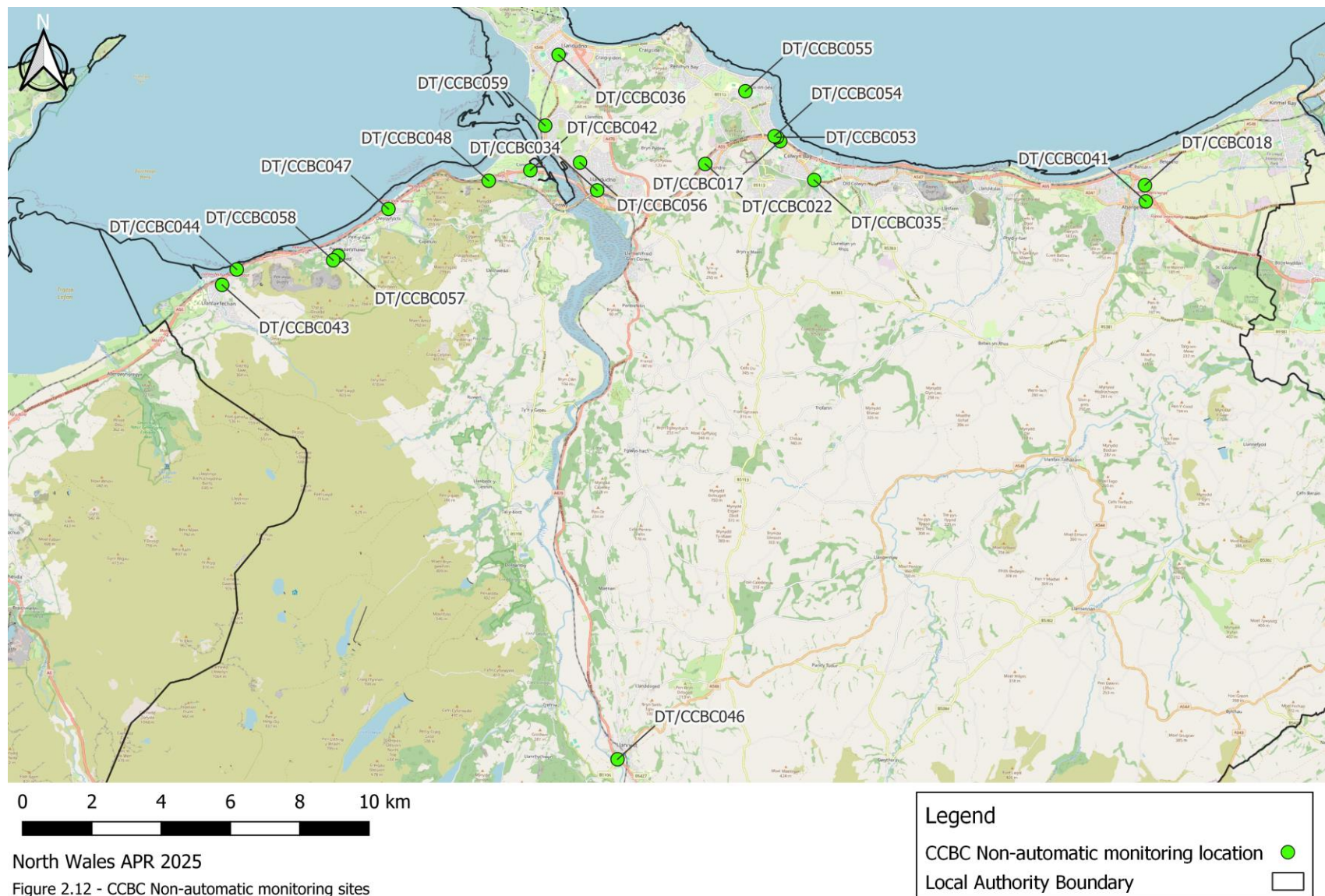
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Figure 2.11 – Map of WCBC Non-Automatic Monitoring Sites (South)



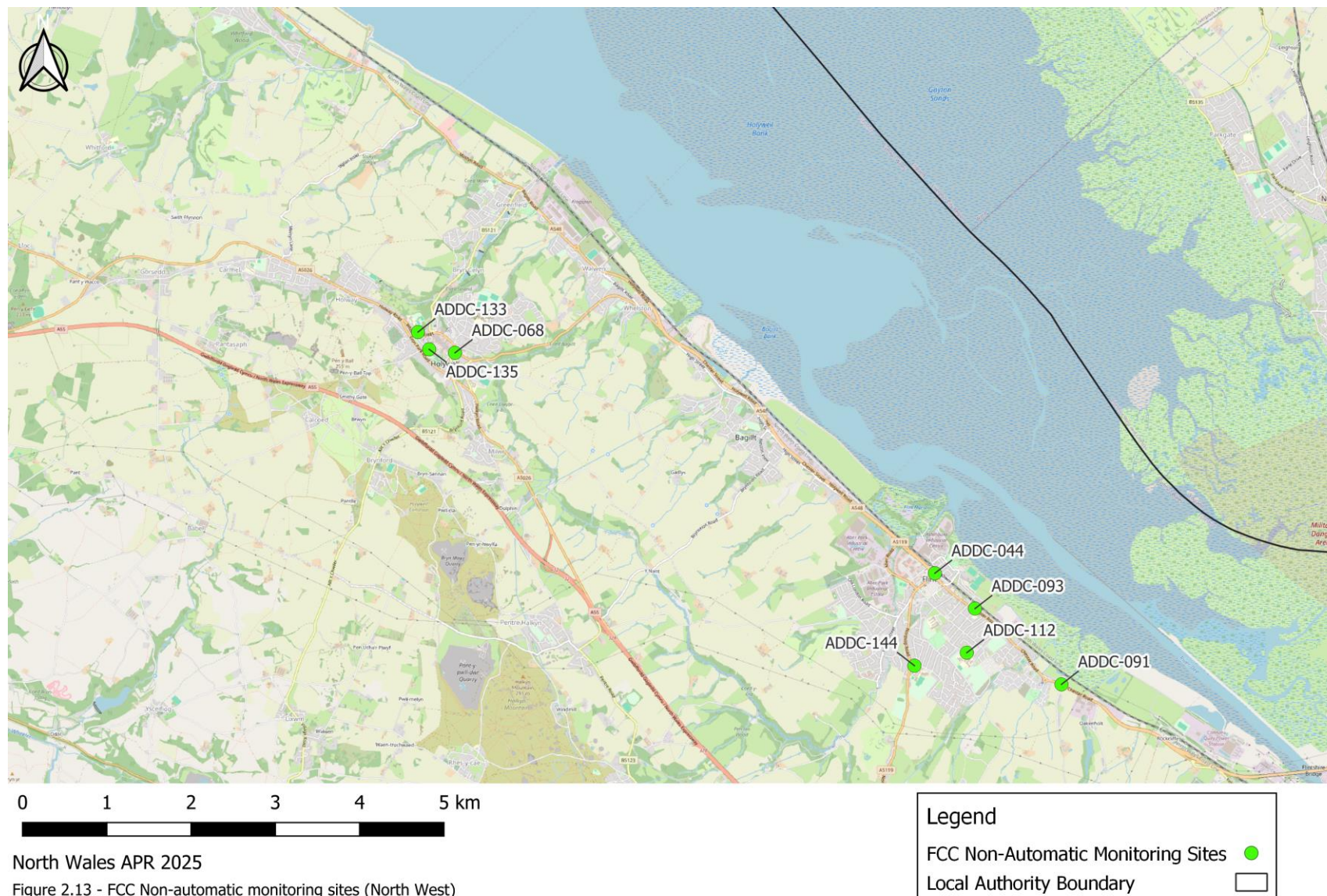
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Figure 2.12 – Map of CCBC Non-Automatic Monitoring Sites



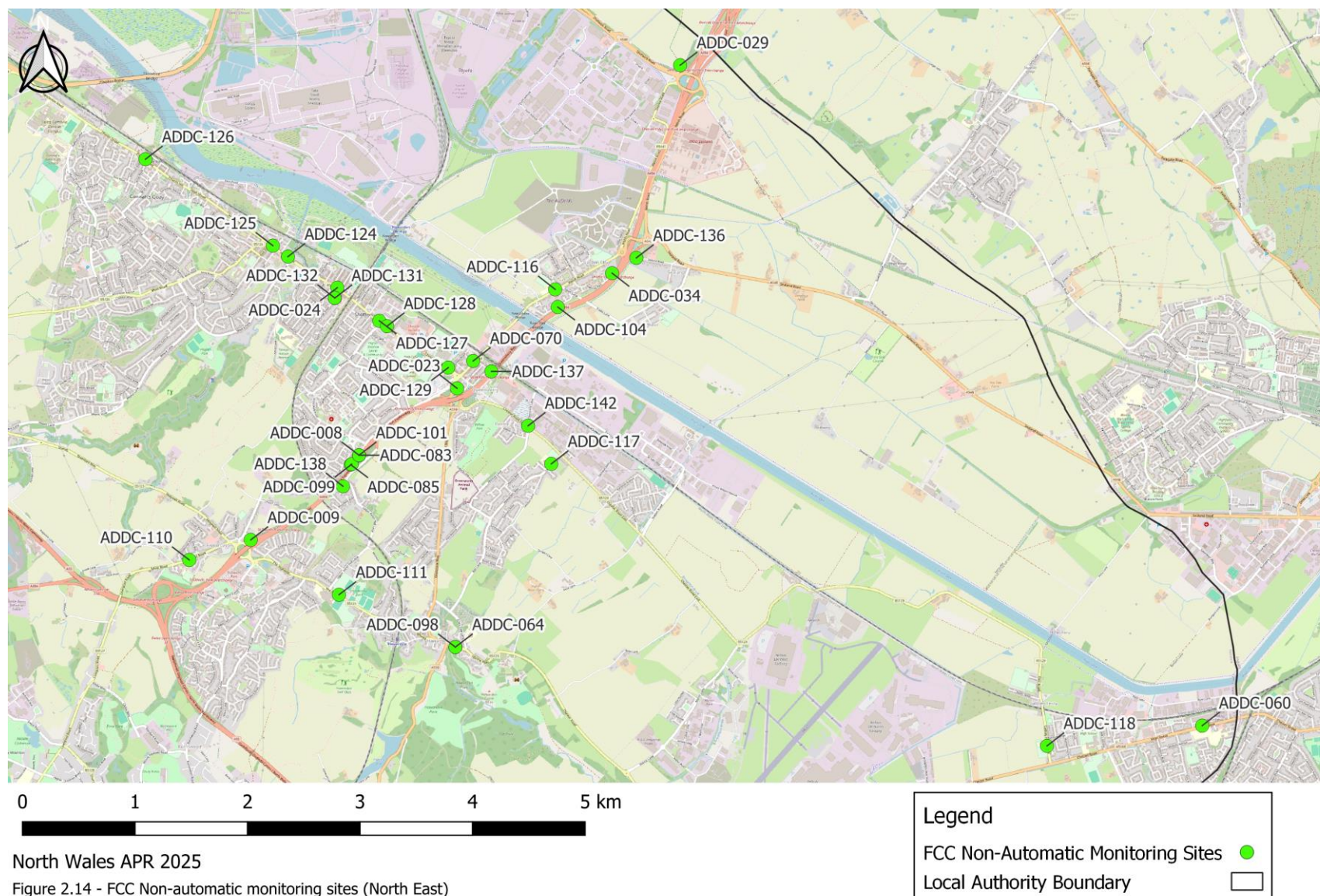
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Figure 2.13 – Map of FCC Non-Automatic Monitoring Sites (North West)



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Figure 2.14 – Map of FCC Non-Automatic Monitoring Sites (North East)

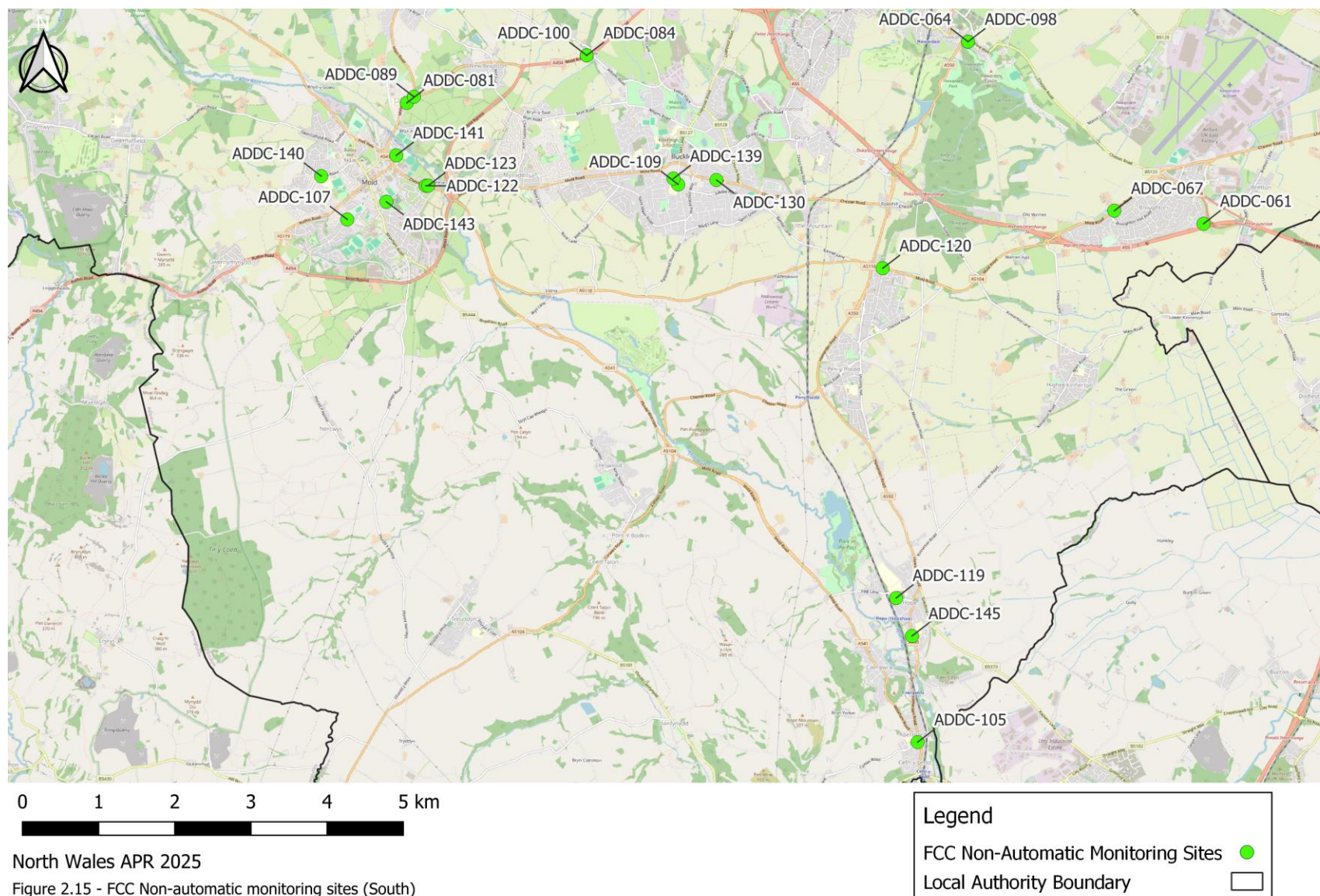


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Figure 2.14 - FCC Non-automatic monitoring sites (North East)

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Figure 2.15 – Map of FCC Non-Automatic Monitoring Sites (South)



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2.2 2024 Air Quality Monitoring Results

Table 2.8 – Annual Mean NO₂ Monitoring Results: Automatic Monitoring (µg/m³)

Site 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
Victoria Road AURN	332865	349909	Roadside	99.1	99.1	13.0	14.7	14.2	13.4	13.3*
Wrexham Chirk	329318	338300	Urban Industrial	68.4	68.4	21.0	18.1	11.6	13.8	16.5*
Wrexham Chirk Community Hospital	329329	338992	Urban Background	81.4	81.4	-	-	13.3	20.3*	11.5*

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**.

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.

(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%).

* NO₂ monitoring data at Victoria Road AURN, Wrexham Chirk and Wrexham Chirk Community Hospital has been ratified with zero / negative values removed.

Figure 2.16 – Trends in Annual Mean NO₂ Concentrations at Automatic Sites

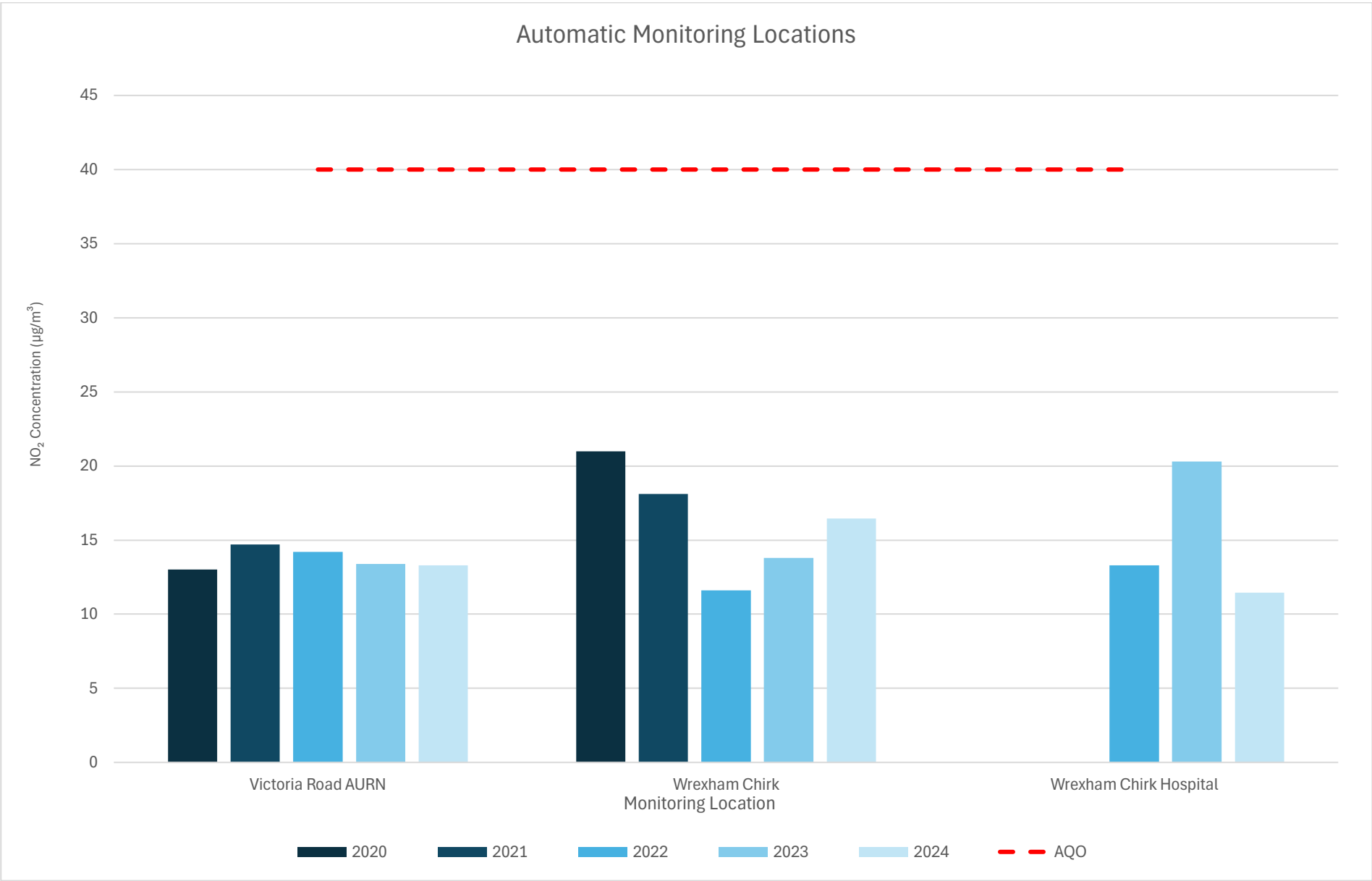


Table 2.9 – IACC Annual Mean NO₂ Monitoring Results: Non-Automatic Monitoring (µg/m³)

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
IACC-81	224942	382866	Roadside	100.0	100.0	14.8	14.2	14.1	12.2	11.8
IACC-82	252360	378402	Roadside	100.0	100.0	13.6	16.2	15.4	14.1	13.1
IACC-83	253057	372313	Roadside	83.0	83.0	7.9	8.5	8.0	7.0	6.8
IACC-84	226681	381486	Roadside	100.0	100.0	6.4	6.3	6.5	6.9	5.2

Notes:

The annual mean concentrations are presented as µg/m³.

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**.

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 2.17 – Trends in Annual Mean NO₂ Concentrations IACC

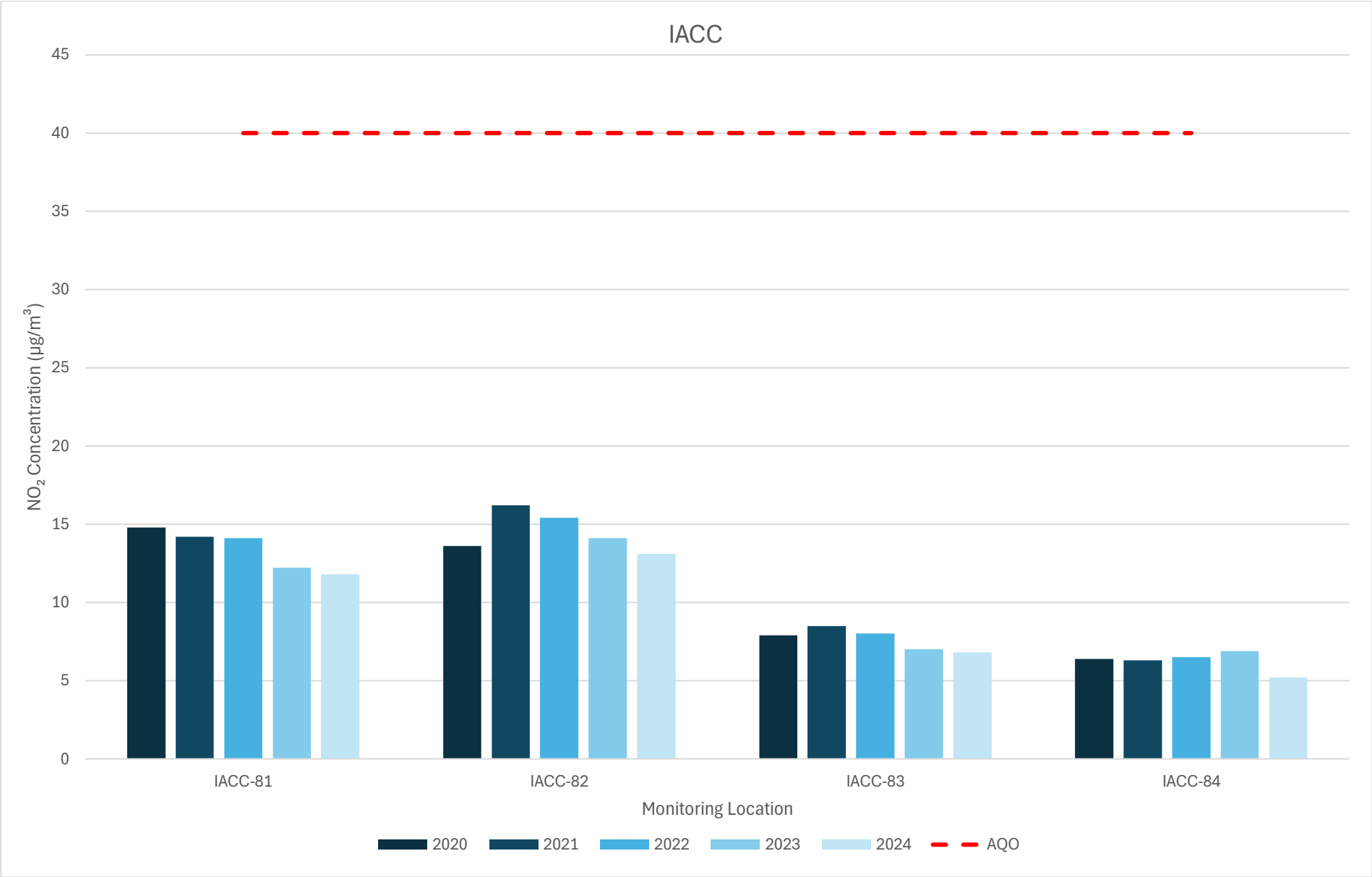


Table 2.10 – DCC Annual Mean NO₂ Monitoring Results: Non-Automatic Monitoring (µg/m³)

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
DBK1	300800	381400	Roadside	100.0	100.0	18.3	20.9	19.7	19.9	16.2
DBR2	300900	381300	Roadside	91.0	91.0	22.3	20.5	18.8	18.7	16.5
DBR55	321484	341920	Roadside	100.0	100.0	24.5	26.2	26.3	24.6	22.2
DBR57	321815	341914	Roadside	100.0	100.0	8.3	7.7	7.6	6.9	6.2
DBR5	302900	374600	Other	83.4	83.4	10.5	11.7	10.4	9.9	9.1
DBR48	305276	366119	Roadside	100.0	100.0	18.7	21.5	20.8	18.2	16.2
DBR23	305879	366425	Roadside	82.6	82.6	14.1	15.0	13.6	12.8	12.3
DBR65	303979	374281	Roadside	100.0	100.0	-	-	-	-	12.6
DBR9	303200	374900	Other	100.0	100.0	15.2	14.7	14.8	12.9	12.2
DBR59	305097	366100	Roadside	92.9	92.9	17.6	16.8	15.7	14.5	13.6
DBR24	305327	366164	Roadside	91.0	91.0	27.2	29.0	25.7	23.8	23.4
DBR56	321492	342091	Roadside	100.0	100.0	11.2	12.2	12.0	11.9	10.2
DBR20	312105	358306	Roadside	100.0	100.0	16.1	17.6	15.9	14.7	13.4
DBR43	305314	366153	Roadside	91.8	91.8	23.6	23.7	23.7	23.4	21.5
DBR44	305386	366191	Roadside	100.0	100.0	20.3	21.0	18.7	17.8	16.5
DBR45	305467	366246	Roadside	92.4	92.4	20.0	19.4	18.1	17.3	15.3
DBR37	312800	358200	Roadside	100.0	100.0	22.5	24.7	22.0	20.7	18.3
DBR64	306495	381894	Roadside	100.0	100.0	0.0	0.0	0.0	9.6	8.2
DBR52	305308	366130	Roadside	90.5	90.5	17.1	17.2	15.4	14.9	14.7
DBR53	305390	366130	Roadside	100.0	100.0	23.2	23.1	20.3	20.0	19.9
DBR31	305805	366480	Roadside	92.4	92.4	14.1	13.2	12.9	12.2	11.7
DBR32	305179	366089	Roadside	82.9	82.9	13.2	14.0	13.3	12.0	13.2
DBR33	305253	366095	Roadside	100.0	100.0	20.0	18.9	19.2	17.6	17.1
DBR34	305868	366653	Roadside	100.0	100.0	10.9	11.0	10.0	10.5	9.0
DBR49	306580	382907	Roadside	100.0	100.0	11.6	11.9	12.3	12.0	10.7
DBR58	302271	378074	Roadside	100.0	100.0	12.0	12.5	11.8	11.2	11.2
DBR61	303921	374387	Roadside	91.8	91.8	-	-	13.7	15.0	12.7
DBR62	303852	374361	Roadside	100.0	100.0	-	-	18.7	20.8	15.4
DBR63	303778	374326	Roadside	100.0	100.0	-	-	11.6	12.2	9.9

Notes:

The annual mean concentrations are presented as µg/m³.

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**.

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 2.18 – Trends in Annual Mean NO₂ Concentrations DCC (North)

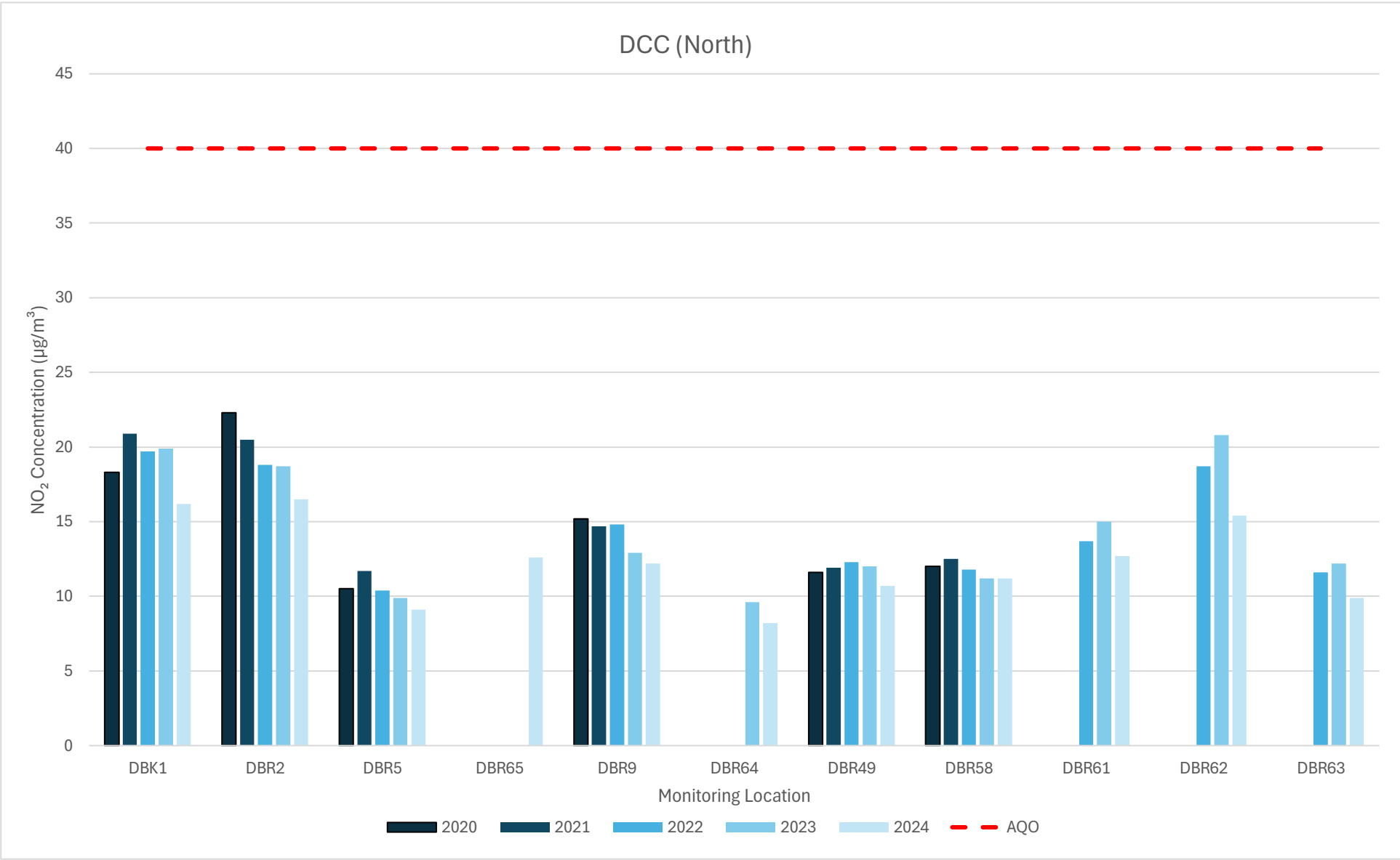


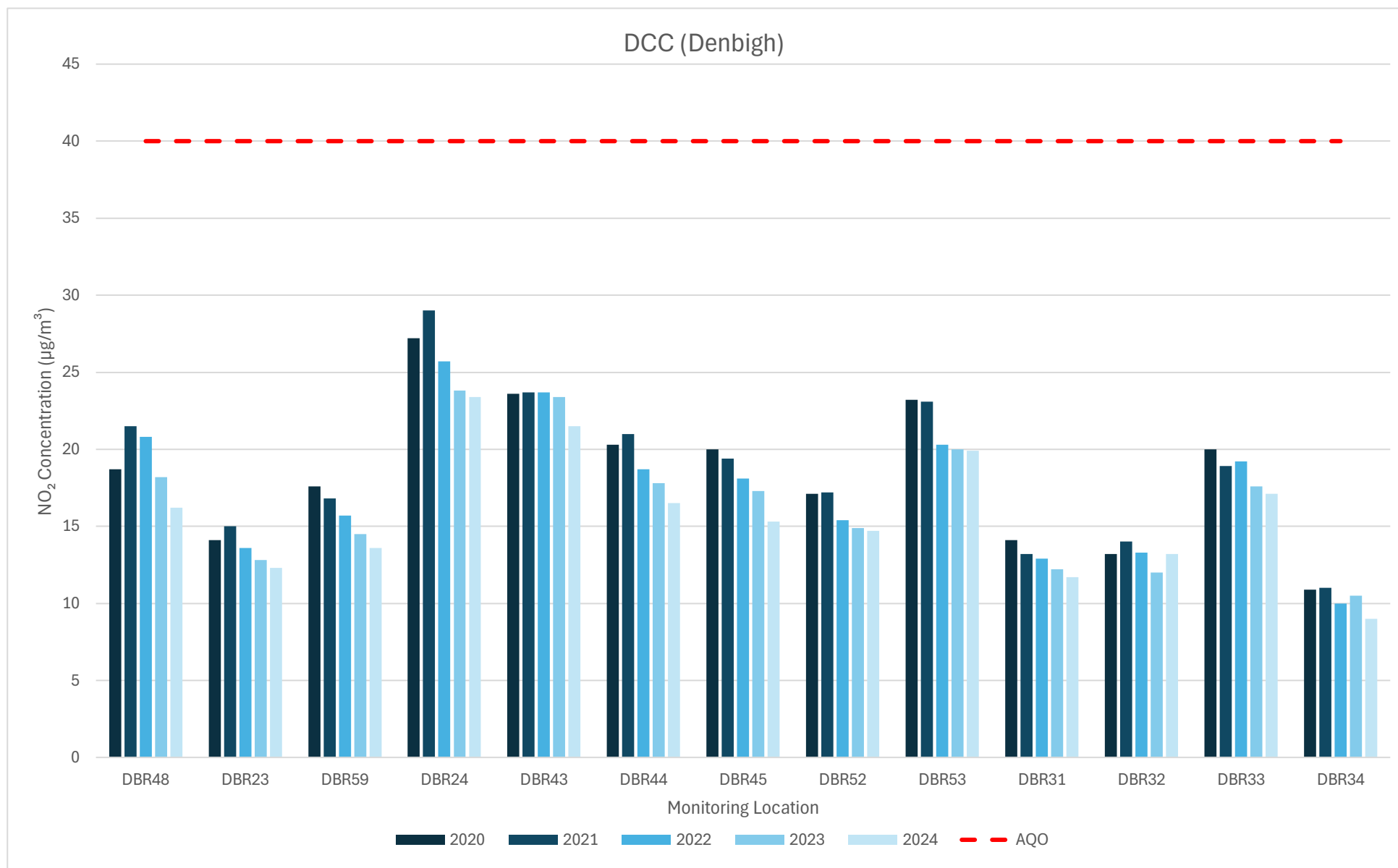
Figure 2.19 – Trends in Annual Mean NO₂ Concentrations DCC (Denbigh)

Figure 2.20 – Trends in Annual Mean NO₂ Concentrations DCC (Ruthin)

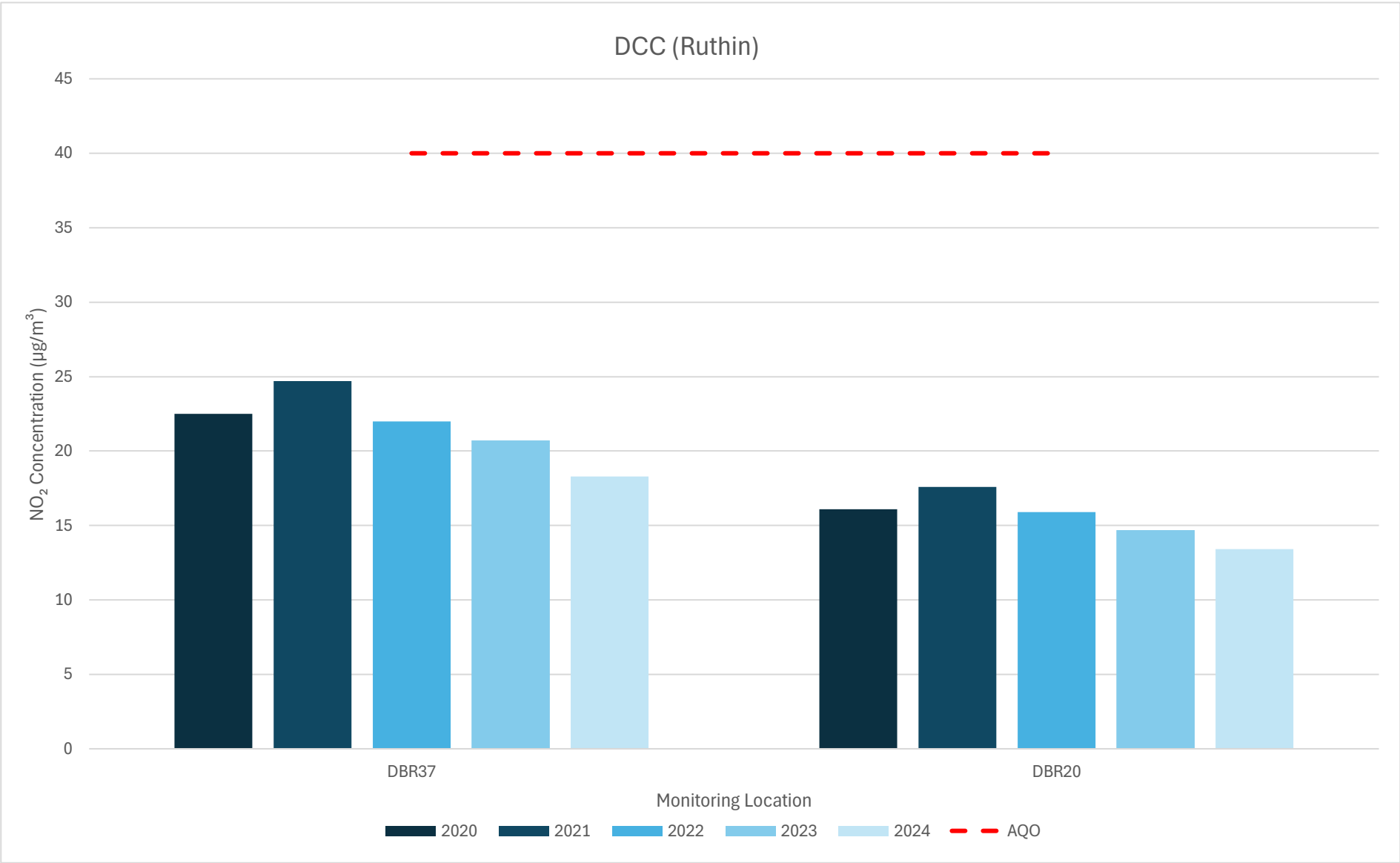


Figure 2.21 – Trends in Annual Mean NO₂ Concentrations DCC (Llangollen)

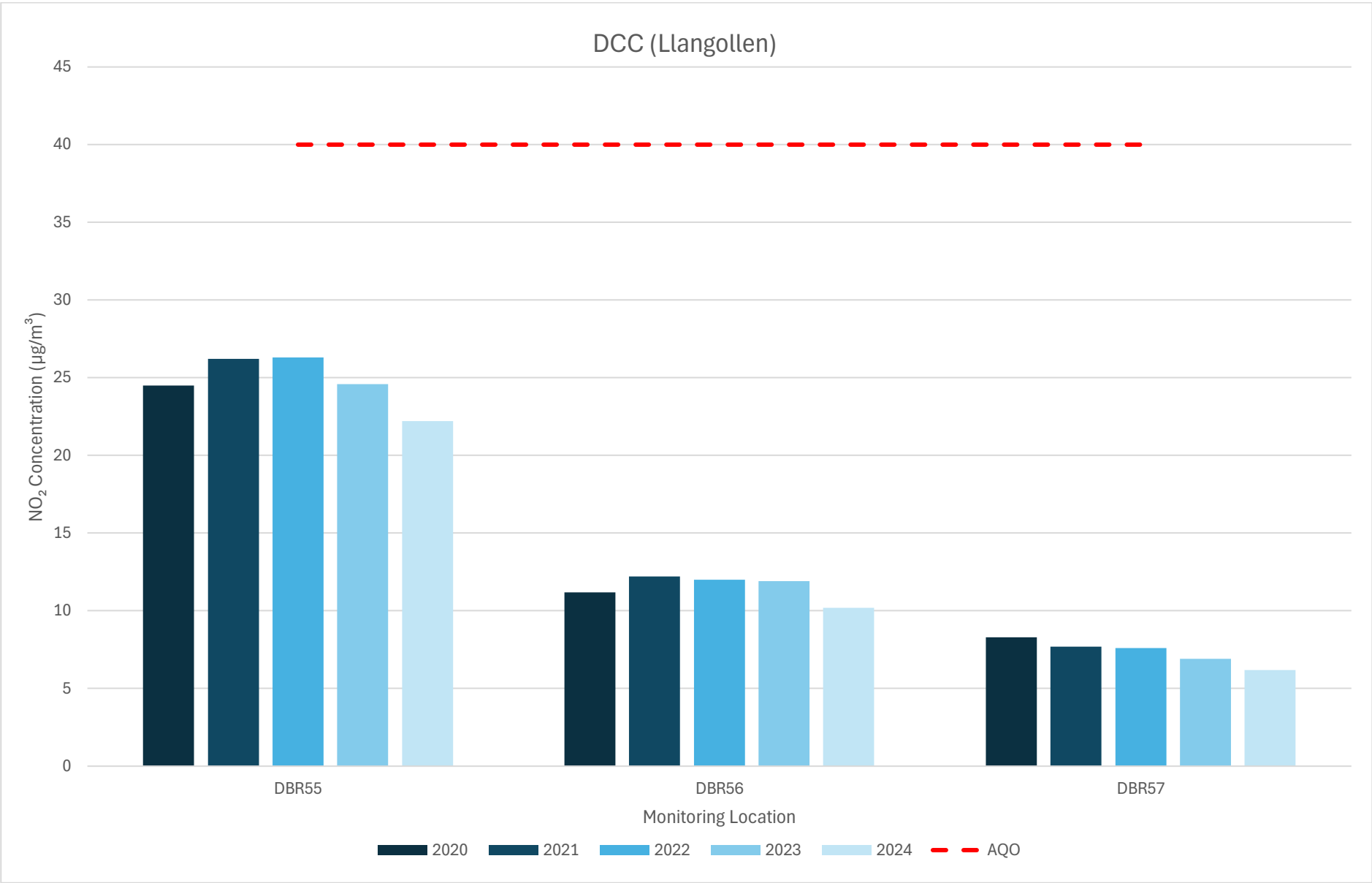


Table 2.11 – GC Annual Mean NO₂ Monitoring Results: Non-Automatic Monitoring (µg/m³)

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
GCC 002	248273	362132	Kerbside	100.0	100.0	26.0	26.0	19.2	18.7	16.8
GCC 003	248480	363456	Urban Background	91.5	91.5	7.1	8.1	6.3	5.9	5.8
GCC 005	248892	364120	Kerbside	100.0	100.0	17.4	25.2	12.2	10.6	9.7
GCC 008	257587	371543	Kerbside	100.0	100.0	15.7	17.3	15.8	16.5	15.3
GCC 011	256292	371663	Kerbside	83.0	83.0	16.4	18.2	15.5	16.3	14.0
GCC 012	254286	368835	Kerbside	100.0	100.0	17.8	20.5	18.6	19.7	17.9
GCC 013	261529	367380	Kerbside	100.0	100.0	15.2	17.6	14.7	14.7	13.1
GCC 015	247770	358663	Roadside	100.0	100.0	15.0	17.6	7.8	7.0	6.5
GCC 037	248022	362757	Kerbside	57.1	57.1	17.0	19.6	15.1	13.2	11.8
GCC 038	256871	369493	Roadside	91.5	91.5	18.5	21.2	18.7	18.8	16.2
GCC 039	256871	369493	Roadside	72.8	72.8	20.0	20.4	18.4	18.7	16.6
GCC 040	237517	335217	Kerbside	100.0	100.0	13.1	13.4	12.2	12.0	10.1
GCC 041	248514	362795	Roadside	100.0	100.0	-	9.5	7.5	8.0	7.2
GCC 043	249634	362917	Roadside	100.0	100.0	-	8.9	8.2	8.0	8.0
GCC 044	293769	336564	Kerbside	100.0	100.0	-	13.3	11.5	12.0	10.1
GCC 045	293878	336609	Roadside	100.0	100.0	-	10.5	8.4	8.8	8.2
GCC 046	248484	361173	Urban Background	92.3	92.3	-	-	-	-	4.7

Notes:

The annual mean concentrations are presented as µg/m³.

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**.

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%).

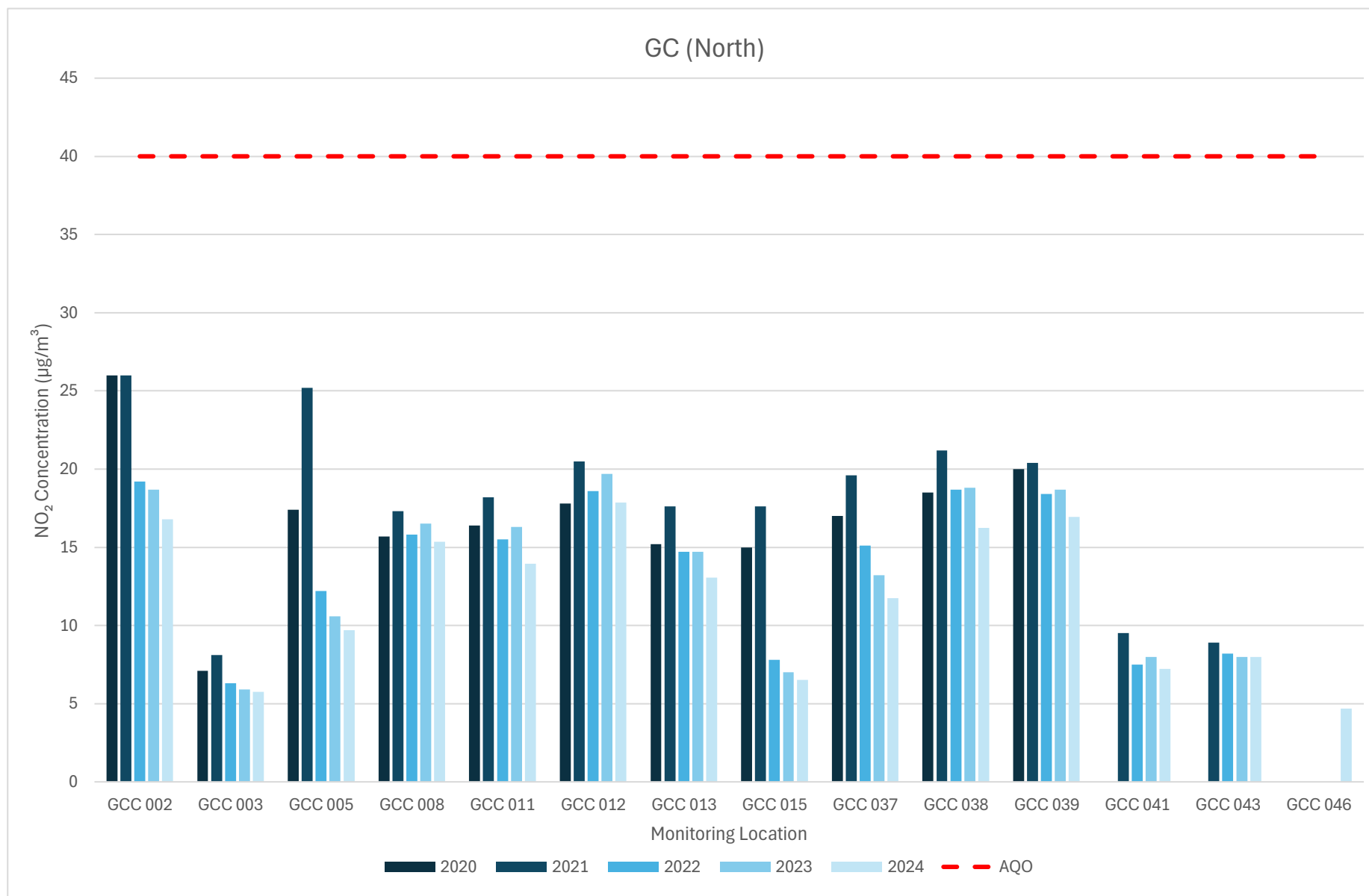
Figure 2.22 – Trends in Annual Mean NO₂ Concentrations GC (North)

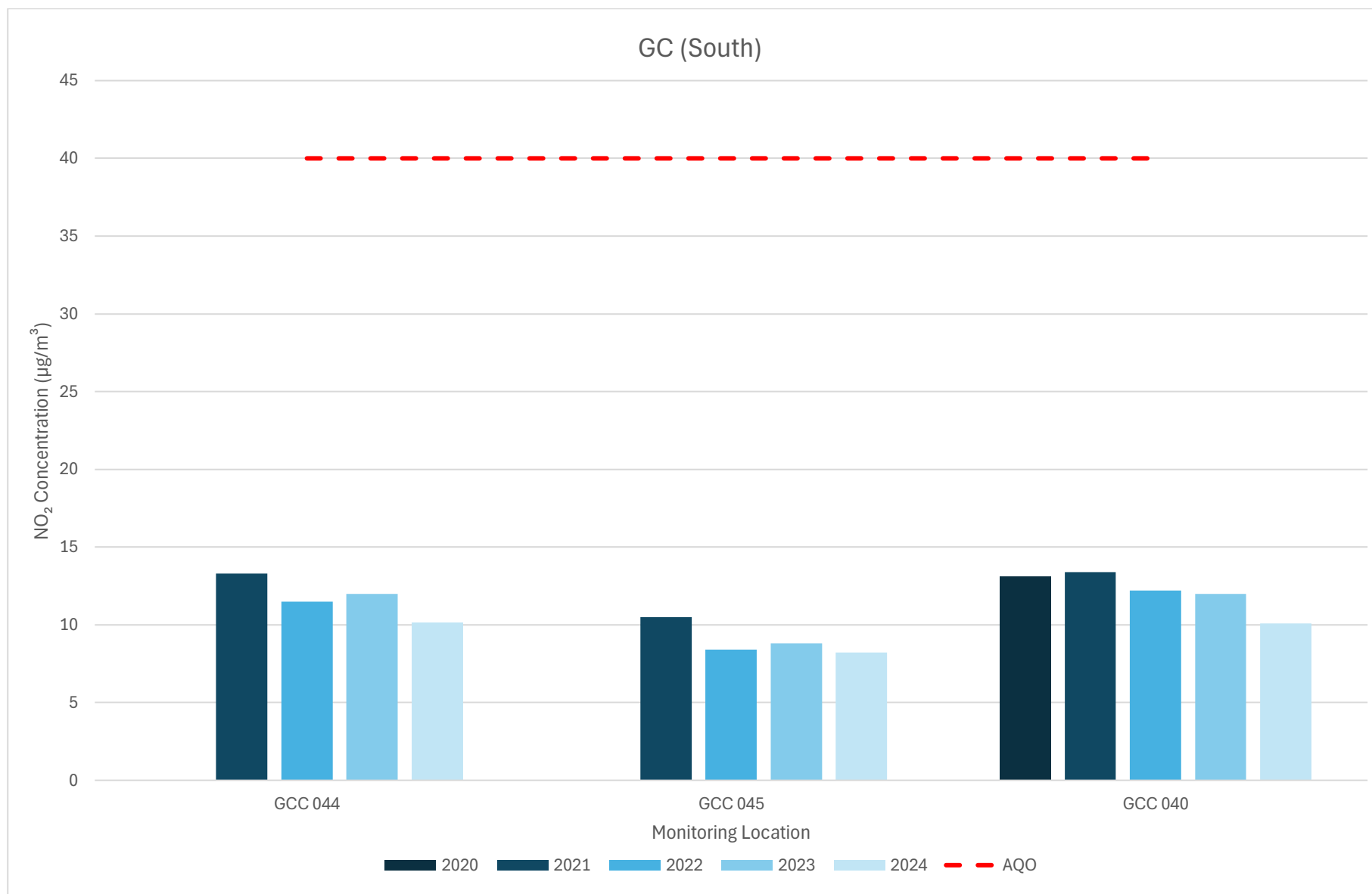
Figure 2.23 – Trends in Annual Mean NO₂ Concentrations GC (South)

Table 2.12 – WCBC Annual Mean NO₂ Monitoring Results: Non-Automatic Monitoring (µg/m³)

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
1	333200	350600	Roadside	83.1	83.1	18.8	22.8	20.5	22.7	19.9
34	329017	351002	Roadside	100.0	100.0	10.0	11.4	10.5	10.1	7.4
45	332214	351503	Roadside	100.0	100.0	13.6	15.3	14.3	18.3	19.3
36	327630	342990	Roadside	92.2	92.2	12.2	14.3	12.9	15.4	12.8
10	329300	338300	Suburban	100.0	100.0	10.0	10.7	9.2	12.2	8.9
49	330221	353428	Suburban	100.0	100.0	7.2	7.9	6.6	8.4	7.3
42	335359	352178	Roadside	100.0	100.0	17.1	19.6	18.3	17.4	17.1
50	331924	350638	Roadside	100.0	100.0	14.7	15.1	14.9	15.2	14.3
51	330125	346099	Suburban	100.0	100.0	13.6	15.5	15.2	15.5	9.4
52	330703	334004	Suburban	100.0	100.0	15.1	18.2	17.6	17.6	15.0
53	327263	341184	Roadside	100.0	100.0	16.6	18.4	17.7	16.9	15.6
22	328900	338700	Suburban	92.2	92.2	13.3	13.3	13.5	15.7	11.5
32	333887	353222	Roadside	100.0	100.0	18.2	18.9	19.1	18.3	18.6
30	330950	348170	Roadside	100.0	100.0	26.3	29.5	28.6	27.4	24.7
31	333350	350590	Roadside	100.0	100.0	20.0	24.0	22.6	23.9	22.4
33	333981	350171	Roadside	85.2	85.2	19.3	21.0	17.4	17.6	17.4
37	336635	357211	Roadside	100.0	100.0	12.1	13.5	11.6	11.7	10.6
38	331765	350132	Roadside	100.0	100.0	12.5	14.8	13.8	13.2	12.5
44	332935	350278	Roadside	83.1	83.1	16.3	18.8	16.7	17.5	21.4
40	337449	341702	Roadside	100.0	100.0	7.4	7.5	6.3	6.9	6.1
41	335407	347890	Roadside	100.0	100.0	10.3	13.0	12.2	11.1	10.2
43	333966	349691	Roadside	100.0	100.0	14.4	16.5	17.5	16.5	15.5
46	333063	350587	Roadside	100.0	100.0	16.1	19.7	18.3	18.0	18.0
48	329082	337590	Roadside	100.0	100.0	12.3	13.7	12.6	14.3	12.8
54	333628	352942	Roadside	100.0	100.0	15.2	18.4	16.8	17.7	14.9
55	333078	355649	Suburban	100.0	100.0	9.4	9.8	8.3	11.9	8.5
56	332944	352293	Roadside	100.0	100.0	13.4	15.0	14.1	14.5	11.8
57	332786	351637	Suburban	100.0	100.0	10.0	11.2	10.8	10.3	9.9
58	334954	350090	Suburban	92.2	92.2	10.5	10.7	9.7	11.8	10.0
59	337541	346942	Roadside	100.0	100.0	8.4	9.7	8.4	9.6	9.0
60	340016	349982	Suburban	100.0	100.0	6.8	7.4	5.8	6.0	5.4
61	332363	351095	Roadside	100.0	100.0	12.6	15.4	14.6	15.6	13.7

Notes:

The annual mean concentrations are presented as $\mu\text{g}/\text{m}^3$.

Exceedances of the NO_2 annual mean objective of $40\mu\text{g}/\text{m}^3$ are shown in **bold**.

NO_2 annual means exceeding $60\mu\text{g}/\text{m}^3$, 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 2.24 – Trends in Annual Mean NO₂ Concentrations WCBC (North 1)

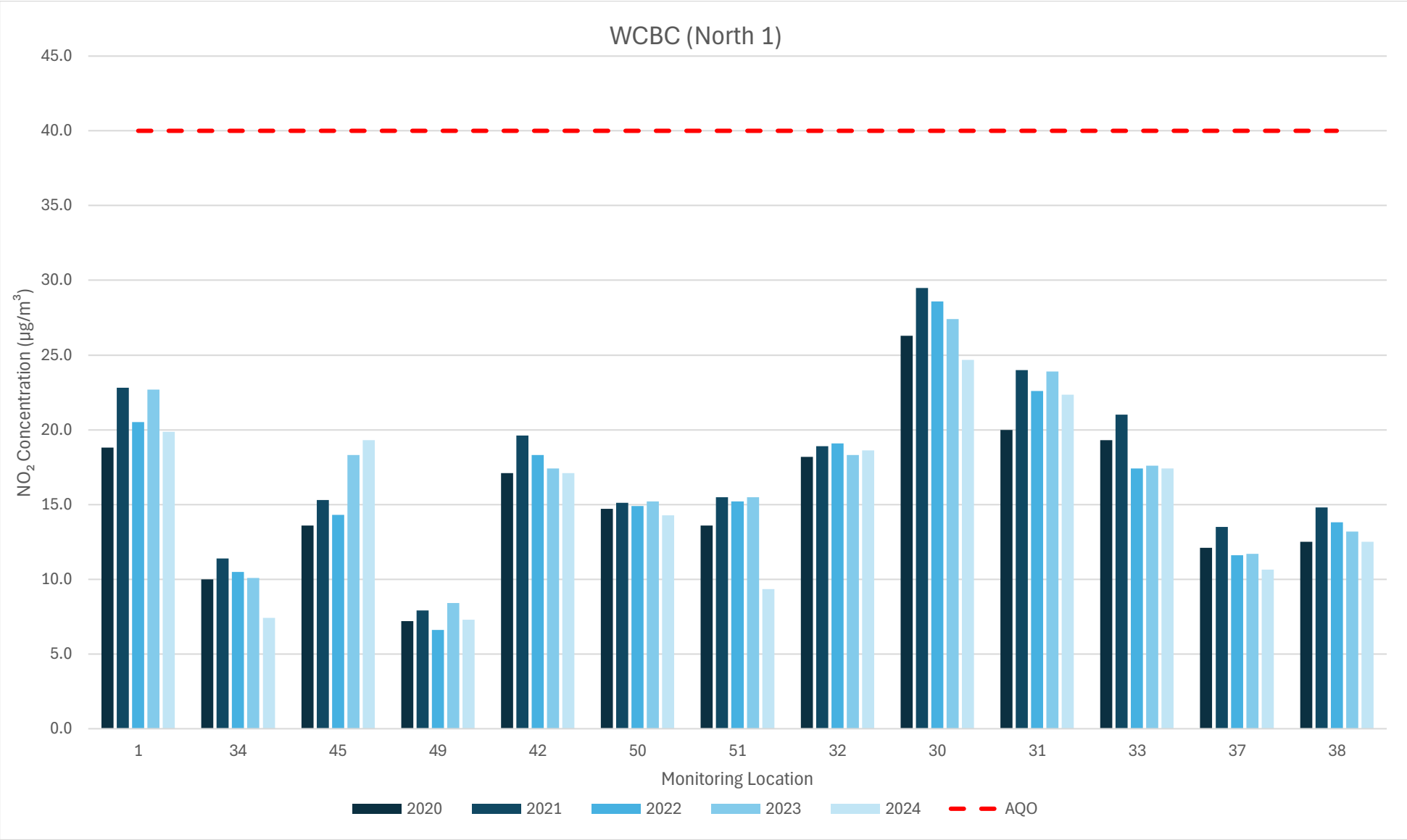


Figure 2.25 – Trends in Annual Mean NO₂ Concentrations WCBC (North 2)

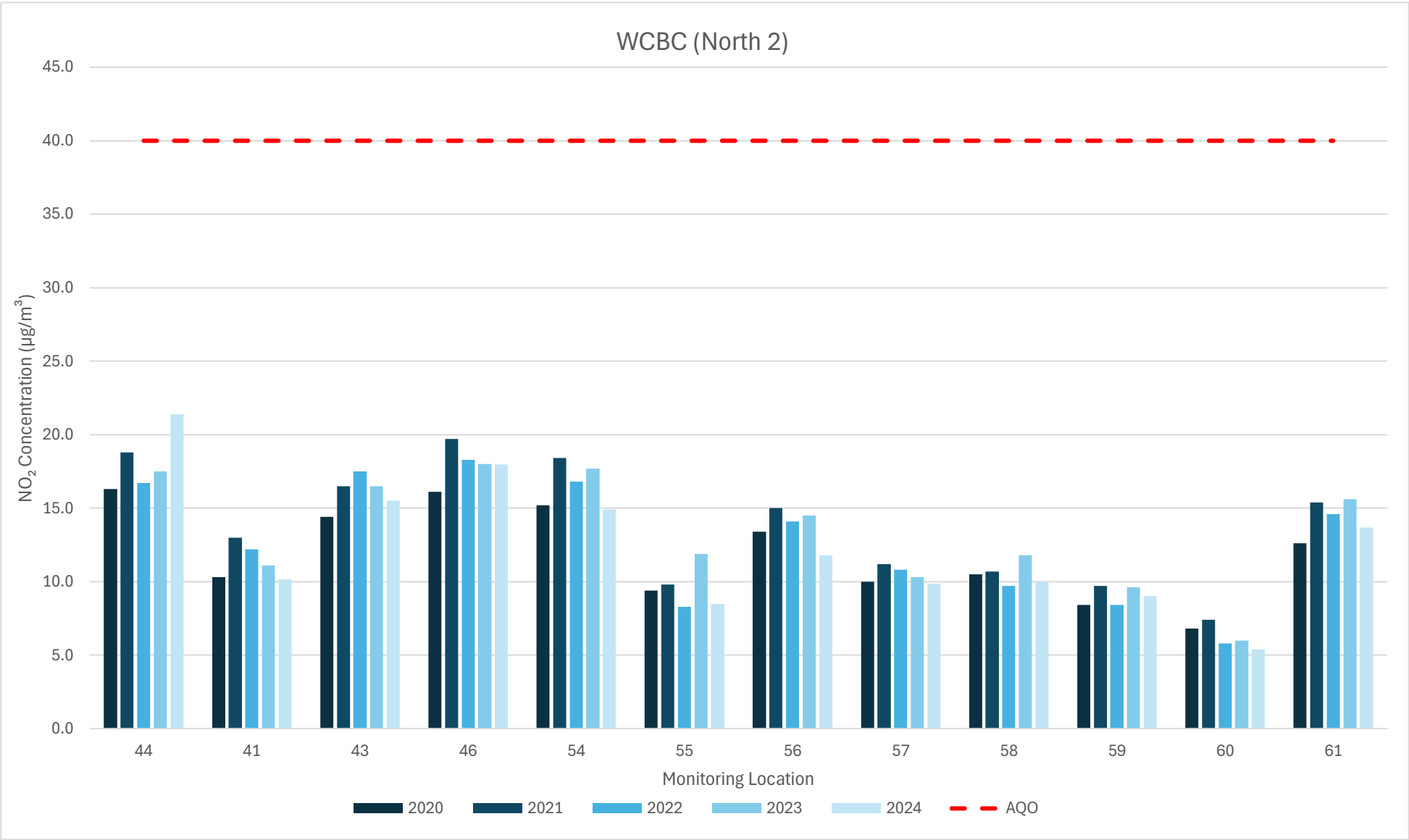


Figure 2.26 – Trends in Annual Mean NO₂ Concentrations WCBC (South)

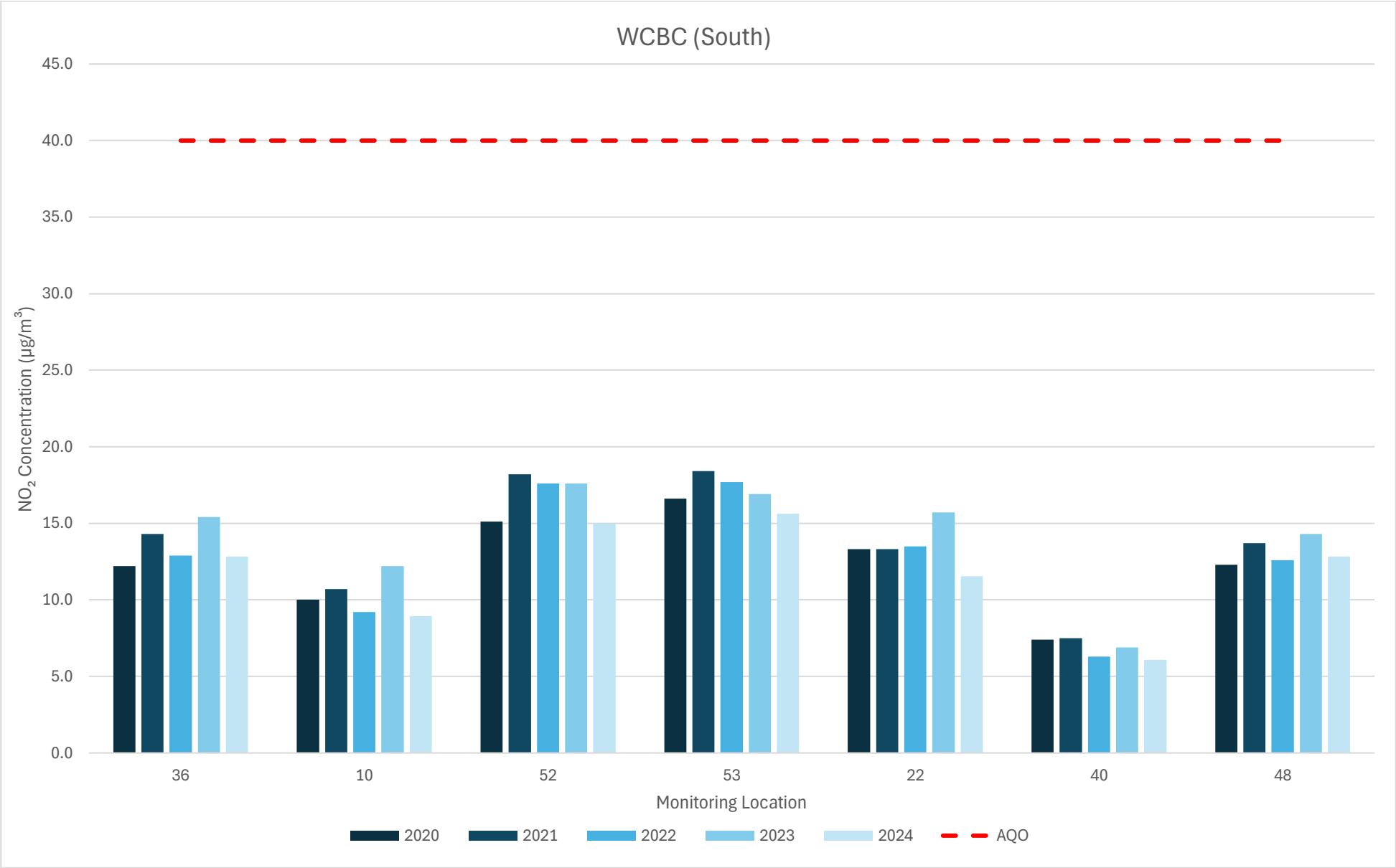


Table 2.13 – CCBC Annual Mean NO₂ Monitoring Results: Non-Automatic Monitoring (µg/m³)

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
DT/CCBC017	284526	379417	Roadside	98.1	98.1	11.6	13.0	12.3	11.9	10.6
DT/CCBC018	295049	378144	Roadside	98.1	98.1	13.0	14.0	12.3	11.9	11.5
DT/CCBC022	282362	378757	Roadside	98.1	98.1	13.2	13.5	15.8	12.3	11.6
DT/CCBC034	279245	377995	Roadside	98.1	98.1	15.4	16.9	13.7	13.2	14.6
DT/CCBC035	285506	378295	Roadside	98.1	98.1	11.8	13.7	8.4	12.5	12.4
DT/CCBC036	278131	381907	Roadside	71.7	71.7	8.0	8.6	10.5	7.3	6.8
DT/CCBC041	295075	377678	Roadside	98.1	98.1	10.2	11.2	9.2	9.2	9.8
DT/CCBC042	277318	378576	Roadside	98.1	98.1	11.7	11.4	14.3	11.4	10.9
DT/CCBC043	268425	375266	Roadside	98.1	98.1	8.8	10.2	15.4	8.0	7.9
DT/CCBC044	268845	375713	Roadside	98.1	98.1	13.4	15.4	11.5	13.7	12.2
DT/CCBC046	279833	361573	Roadside	98.1	98.1	15.2	16.3	12.2	14.5	14.6
DT/CCBC047	273223	377460	Roadside	98.1	98.1	12.2	12.8	12.5	10.3	11.5
DT/CCBC048	276115	378273	Roadside	98.1	98.1	12.2	10.2	9.4	10.6	9.8
DT/CCBC053	284433	379529	Roadside	98.1	98.1	-	11.7	7.8	10.8	9.3
DT/CCBC054	284362	379559	Roadside	90.6	90.6	-	13.5	5.1	10.8	13.8
DT/CCBC055	283523	380857	Roadside	88.7	88.7	-	9.5	3.9	8.8	10.2
DT/CCBC056	278751	378797	Roadside	98.1	98.1	-	8.7	8.8	6.6	6.9
DT/CCBC057	271771	376105	Roadside	98.1	98.1	-	-	5.1	4.6	4.7
DT/CCBC058	271627	375978	Roadside	98.1	98.1	-	-	3.9	3.9	4.1
DT/CCBC059	277744	379865	Roadside	98.1	98.1	-	-	8.8	7.6	8.0

Notes:

The annual mean concentrations are presented as µg/m³.

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**.

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%).

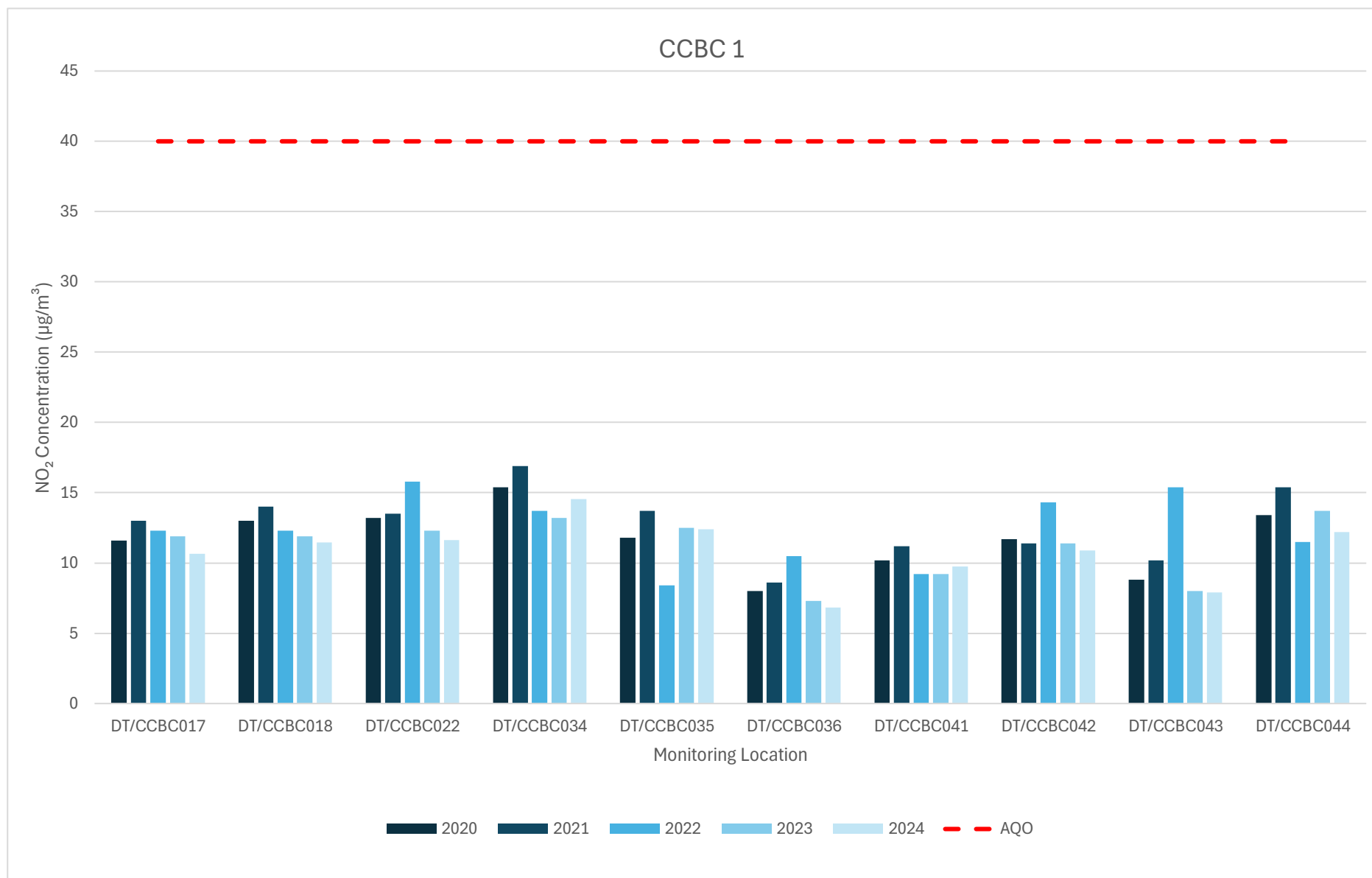
Figure 2.27 – Trends in Annual Mean NO₂ Concentrations CCBC 1

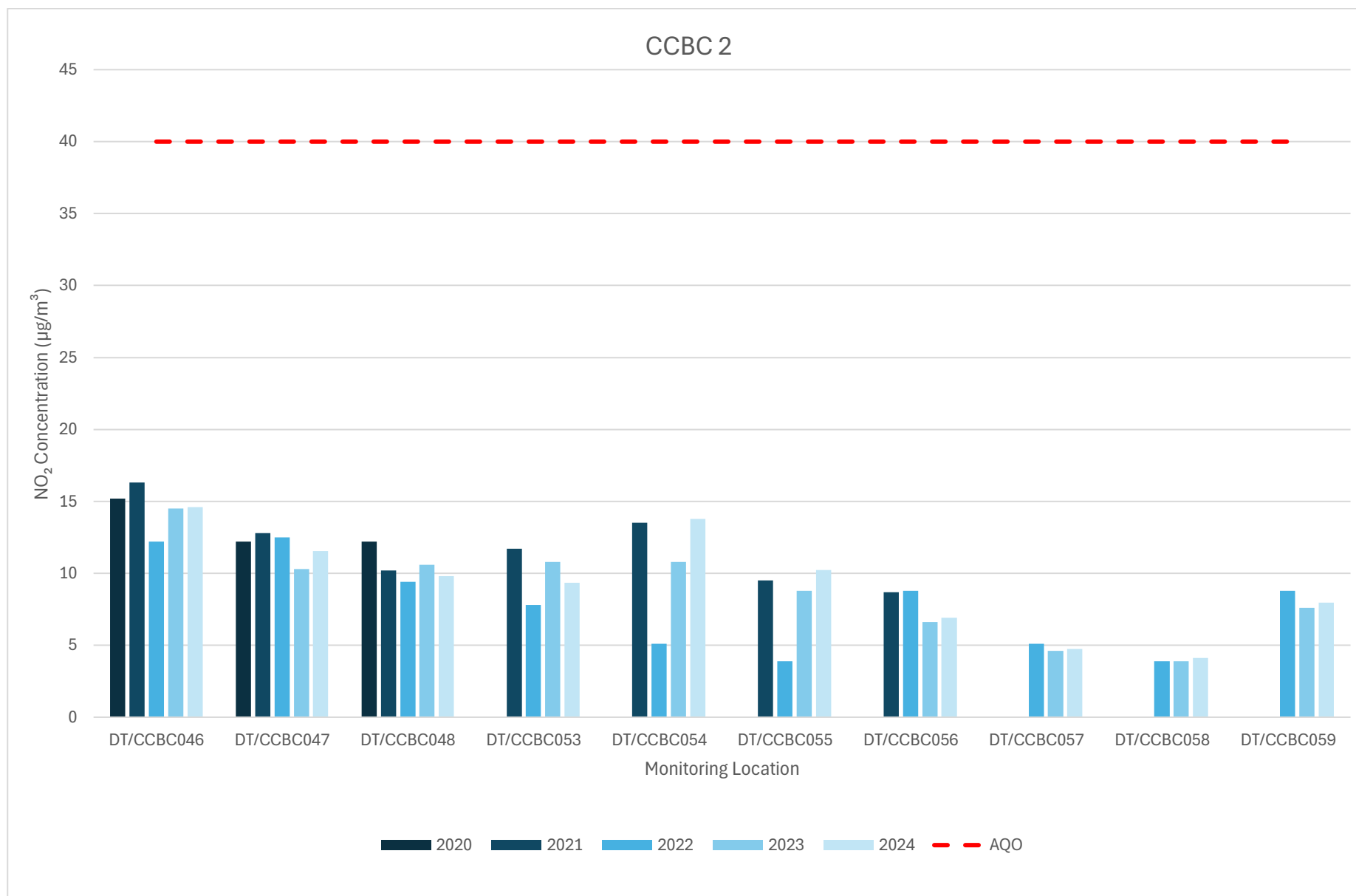
Figure 2.28 – Trends in Annual Mean NO₂ Concentrations CCBC 2

Table 2.14 – FCC Annual Mean NO₂ Monitoring Results: Non-Automatic Monitoring (µg/m³)

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
ADDC-008	330792	367434	Kerbside	100.0	100.0	14.4	-	26.6	25.3	23.6
ADDC-009	329830	366682	Roadside	92.3	92.3	13.4	13.6	13.9	14.0	12.5
ADDC-085	330718	367350	Kerbside	100.0	100.0	19.1	20.4	20.7	18.3	16.3
ADDC-111	330614	366195	Kerbside	82.5	82.5	10.7	11.9	12.5	11.9	10.1
ADDC-105	330986	356538	Roadside	90.2	90.2	10.8	12.2	11.9	11.9	10.1
ADDC-124	330161	369198	Kerbside	82.5	82.5	-	-	-	-	27.3
ADDC-125	330027	369295	Kerbside	100.0	100.0	-	-	-	-	19.7
ADDC-126	328895	370063	Kerbside	82.5	82.5	-	-	-	-	15.5
ADDC-127	330972	368628	Kerbside	92.3	92.3	-	-	-	-	22.7
ADDC-107	323500	363397	Roadside	90.2	90.2	7.8	8.2	7.7	8.1	7.1
ADDC-084	326643	365550	Kerbside	100.0	100.0	23.6	-	21.8	23.1	22.0
ADDC-064	331648	365730	Kerbside	90.4	90.4	-	-	23.9	24.1	21.9
ADDC-098	331648	365730	Kerbside	71.0	71.0	23.6	23.2	23.6	24.7	21.1
ADDC-117	332500	367357	Kerbside	80.6	80.6	10.0	11.1	10.3	11.0	10.1
ADDC-099	330727	367354	Kerbside	100.0	100.0	17.7	19.0	18.5	21.6	20.1
ADDC-023	331663	368028	Urban Background	100.0	100.0	18.6	20.1	19.3	19.8	19.0
ADDC-024	330599	368922	Kerbside	100.0	100.0	17.6	20.5	20.1	18.0	18.9

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
ADDC-118	336904	364852	Kerbside	73.2	73.2	10.7	11.2	10.0	11.3	9.5
ADDC-128	331041	368580	Kerbside	90.2	90.2	-	-	-	-	22.8
ADDC-129	331585	368212	Kerbside	100.0	100.0	-	-	-	-	23.9
ADDC-116	332535	368907	Kerbside	100.0	100.0	14.6	14.7	15.5	15.2	13.5
ADDC-029	333645	370898	Rural	100.0	100.0	14.3	12.3	12.5	13.8	12.1
ADDC-130	328346	363915	Kerbside	90.2	90.2	-	-	-	-	14.0
ADDC-083	330792	367434	Kerbside	100.0	100.0	14.4	-	26.0	25.8	23.4
ADDC-131	330577	368830	Roadside	90.2	90.2	-	-	-	-	9.8
ADDC-132	330576	368831	Roadside	74.6	74.6	-	-	-	-	9.7
ADDC-034	333040	369051	Roadside	83.1	83.1	14.1	14.0	14.3	12.9	13.0
ADDC-120	330528	362756	Kerbside	100.0	100.0	11.5	14.7	13.4	14.8	12.8
ADDC-133	318327	376004	Kerbside	100.0	100.0	-	-	-	-	8.8
ADDC-142	332294	367695	Kerbside	100.0	100.0	-	-	-	-	19.5
ADDC-093	324935	372722	Kerbside	100.0	100.0	-	15.9	16.6	17.2	15.1
ADDC-044	324459	373141	Kerbside	100.0	100.0	15.8	15.8	14.0	14.0	14.0
ADDC-067	333568	363511	Kerbside	90.2	90.2	16.7	19.0	17.1	16.8	16.9
ADDC-068	318766	375758	Kerbside	100.0	100.0	14.0	16.5	16.7	17.9	15.7

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
ADDC-135	318460	375799	Kerbside	90.2	90.2	-	-	-	-	9.4
ADDC-070	331806	368271	Roadside	100.0	100.0	18.7	17.6	17.3	16.6	15.7
ADDC-081	324281	364926	Kerbside	65.0	65.0	8.4	16.3	17.3	19.2	14.4
ADDC-119	330705	358429	Kerbside	92.3	92.3	11.8	9.6	8.5	8.9	7.6
ADDC-136	333256	369187	Kerbside	90.2	90.2	-	-	-	-	11.2
ADDC-137	331968	368178	Kerbside	82.5	82.5	-	-	-	-	26.0
ADDC-138	330650	367158	Kerbside	100.0	100.0	-	-	-	-	15.6
ADDC-112	324838	372198	Kerbside	100.0	100.0	8.8	9.4	10.0	9.2	8.3
ADDC-144	324217	372044	Kerbside	90.2	90.2	-	-	-	-	8.2
ADDC-091	325961	371822	Kerbside	92.3	92.3	7.8	18.6	18.2	19.3	15.4
ADDC-143	324013	363629	Roadside	90.2	90.2	-	-	-	-	6.1
ADDC-110	329284	366504	Kerbside	92.3	92.3	21.4	13.5	12.4	13.6	12.3
ADDC-100	326643	365550	Kerbside	100.0	100.0	15.3	23.3	21.2	22.4	20.8
ADDC-060	338283	365032	Kerbside	92.9	92.9	12.6	14.9	13.1	13.2	13.4
ADDC-061	334739	363340	Kerbside	100.0	100.0	12.7	12.1	12.4	12.7	10.5
ADDC-145	330913	357931	Kerbside	80.6	80.6	-	-	-	-	7.9
ADDC-101	330792	367434	Kerbside	100.0	100.0	14.4	27.3	24.3	24.8	23.6

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
ADDC-109	327843	363856	Kerbside	80.6	80.6	8.6	8.6	8.3	9.1	8.3
ADDC-139	327782	363934	Kerbside	73.0	73.0	-	-	-	-	7.6
ADDC-140	323158	363965	Kerbside	90.2	90.2	-	-	-	-	6.3
ADDC-141	324143	364238	Kerbside	90.2	90.2	-	-	-	-	8.4
ADDC-104	332558	368750	Kerbside	100.0	100.0	-	12.5	16.5	16.1	14.7
ADDC-089	324375	365007	Kerbside	100.0	100.0	26.3	24.9	28.6	30.4	27.0
ADDC-122	324530	363839	Kerbside	100.0	100.0	23.3	21.6	20.6	20.0	18.4
ADDC-123	324562	363840	Kerbside	57.7	57.7	15.8	17.3	17.5	18.3	14.8

Notes:

The annual mean concentrations are presented as $\mu\text{g}/\text{m}^3$.

Exceedances of the NO_2 annual mean objective of $40\mu\text{g}/\text{m}^3$ are shown in **bold**.

NO_2 annual means exceeding $60\mu\text{g}/\text{m}^3$, 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%).

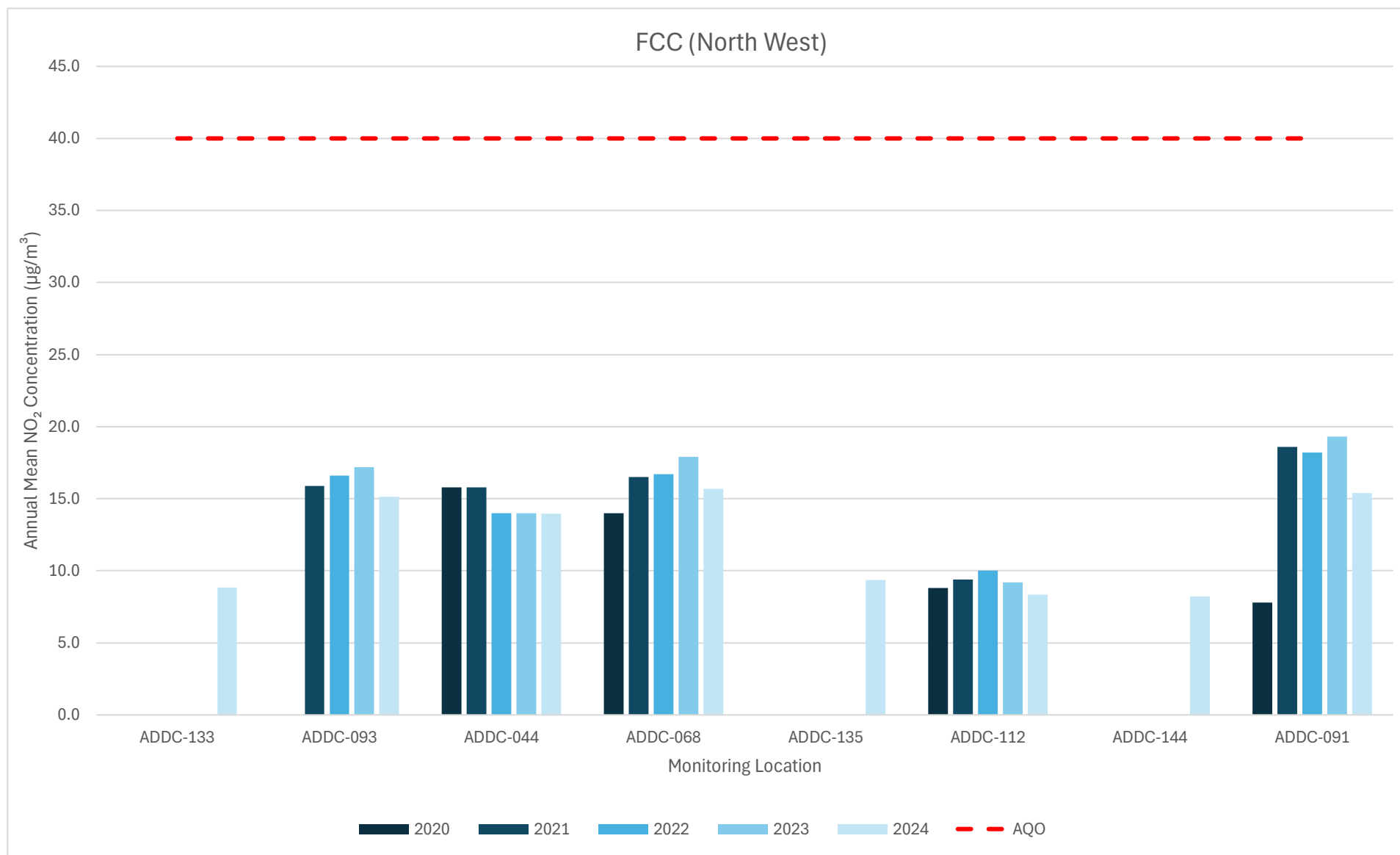
Figure 2.29 – Trends in Annual Mean NO₂ Concentrations FCC (North West)

Figure 2.30 – Trends in Annual Mean NO₂ Concentrations FCC (North East 1)

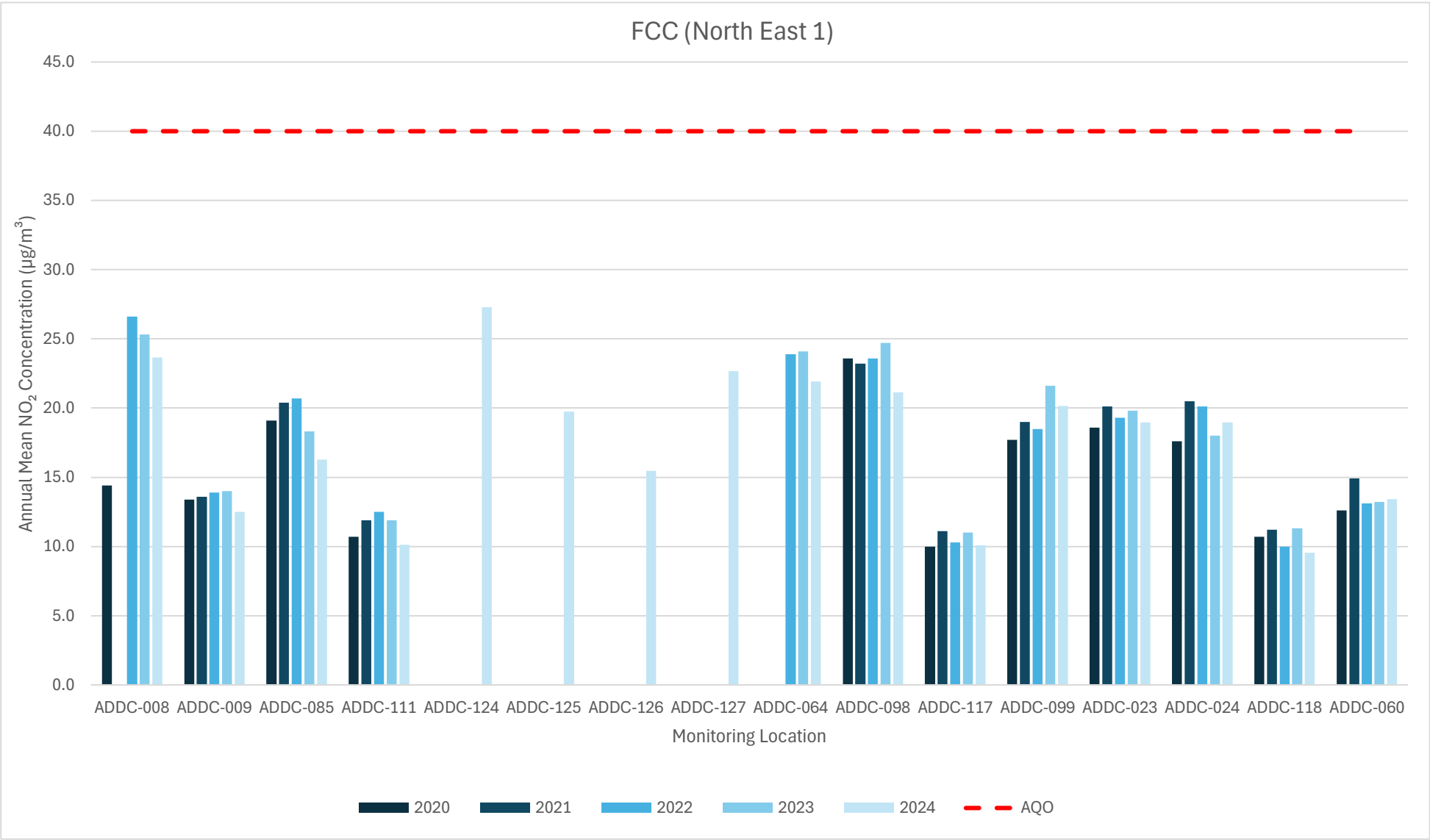


Figure 2.31 – Trends in Annual Mean NO₂ Concentrations FCC (North East 2)

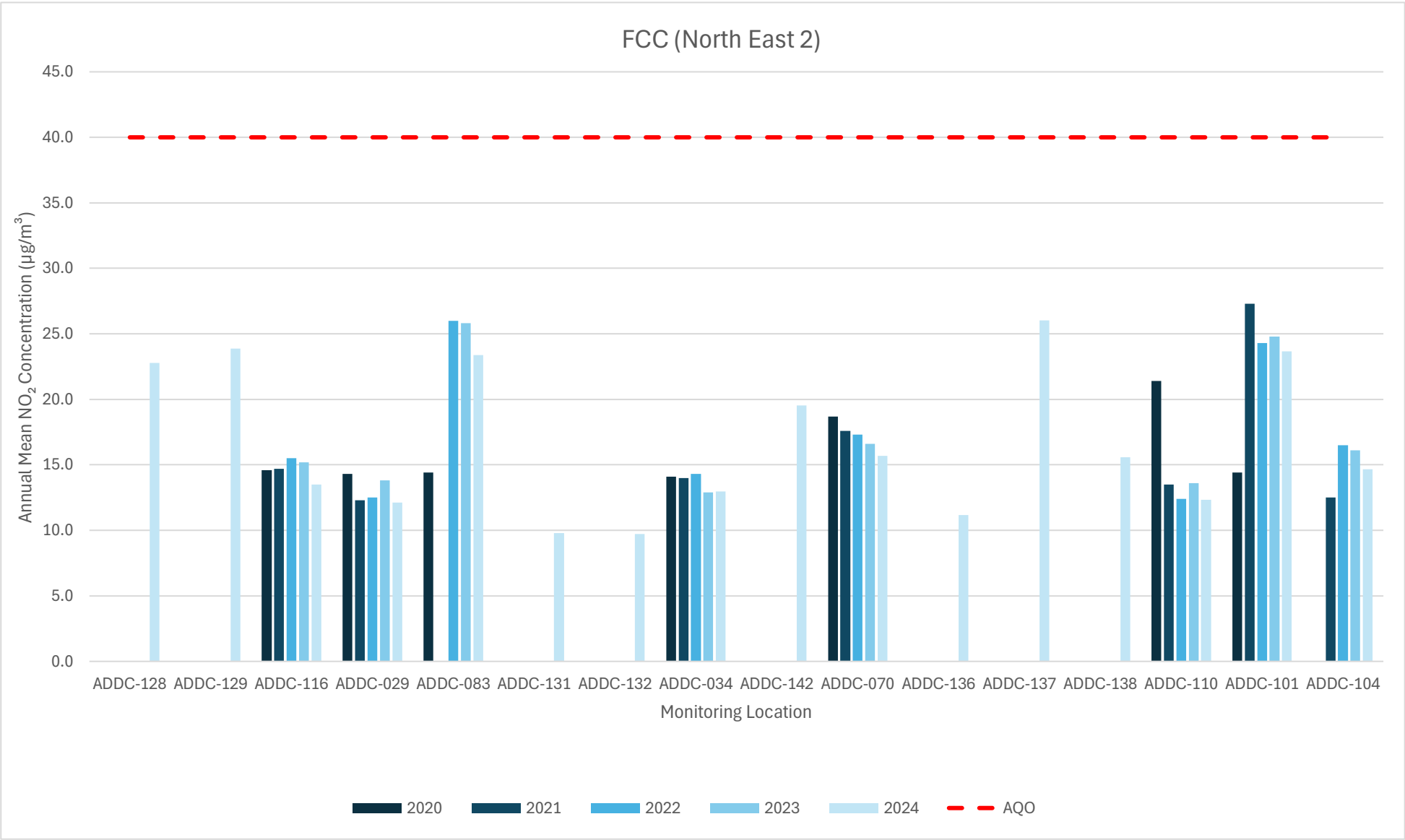


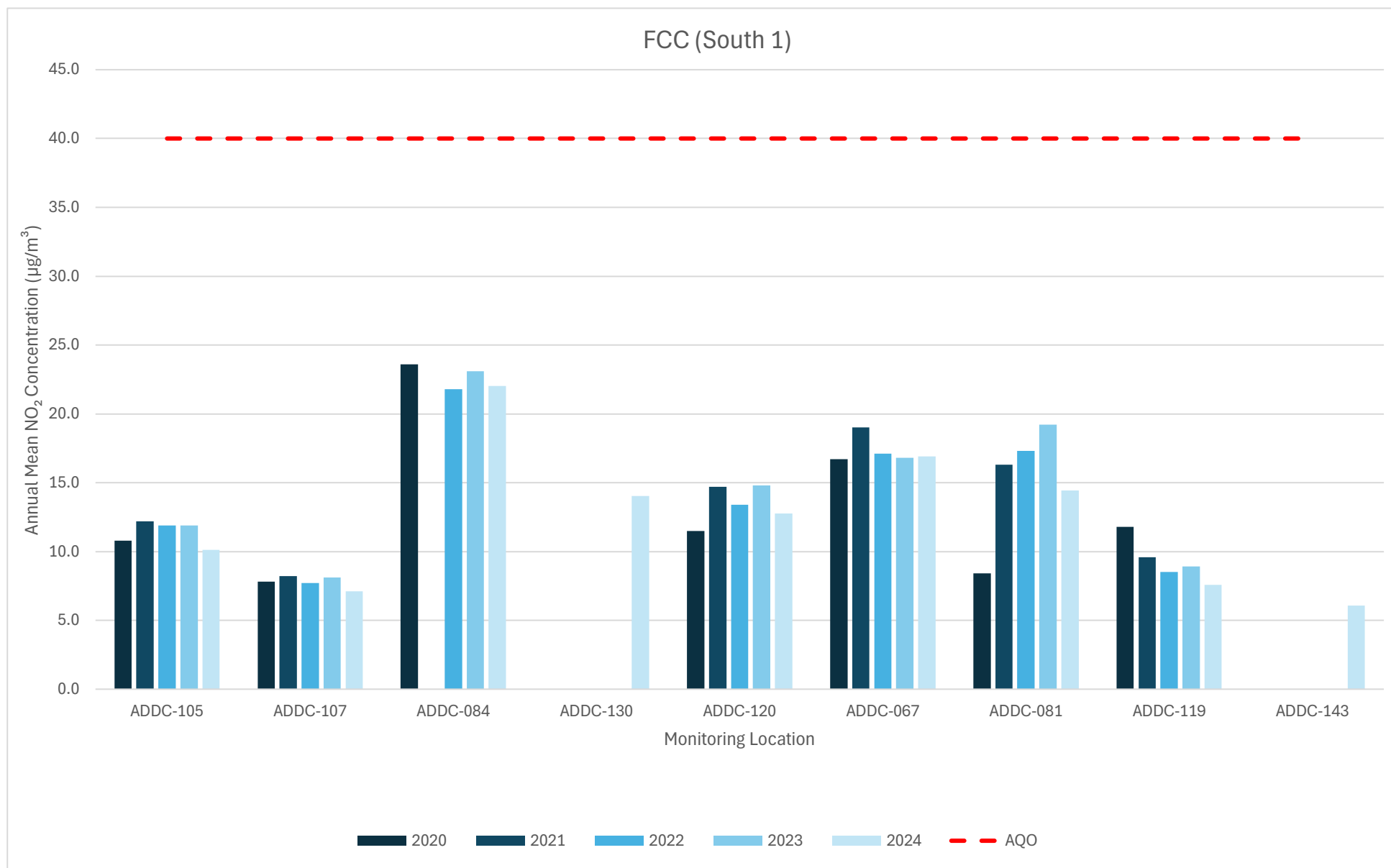
Figure 2.32 – Trends in Annual Mean NO₂ Concentrations FCC (South 1)

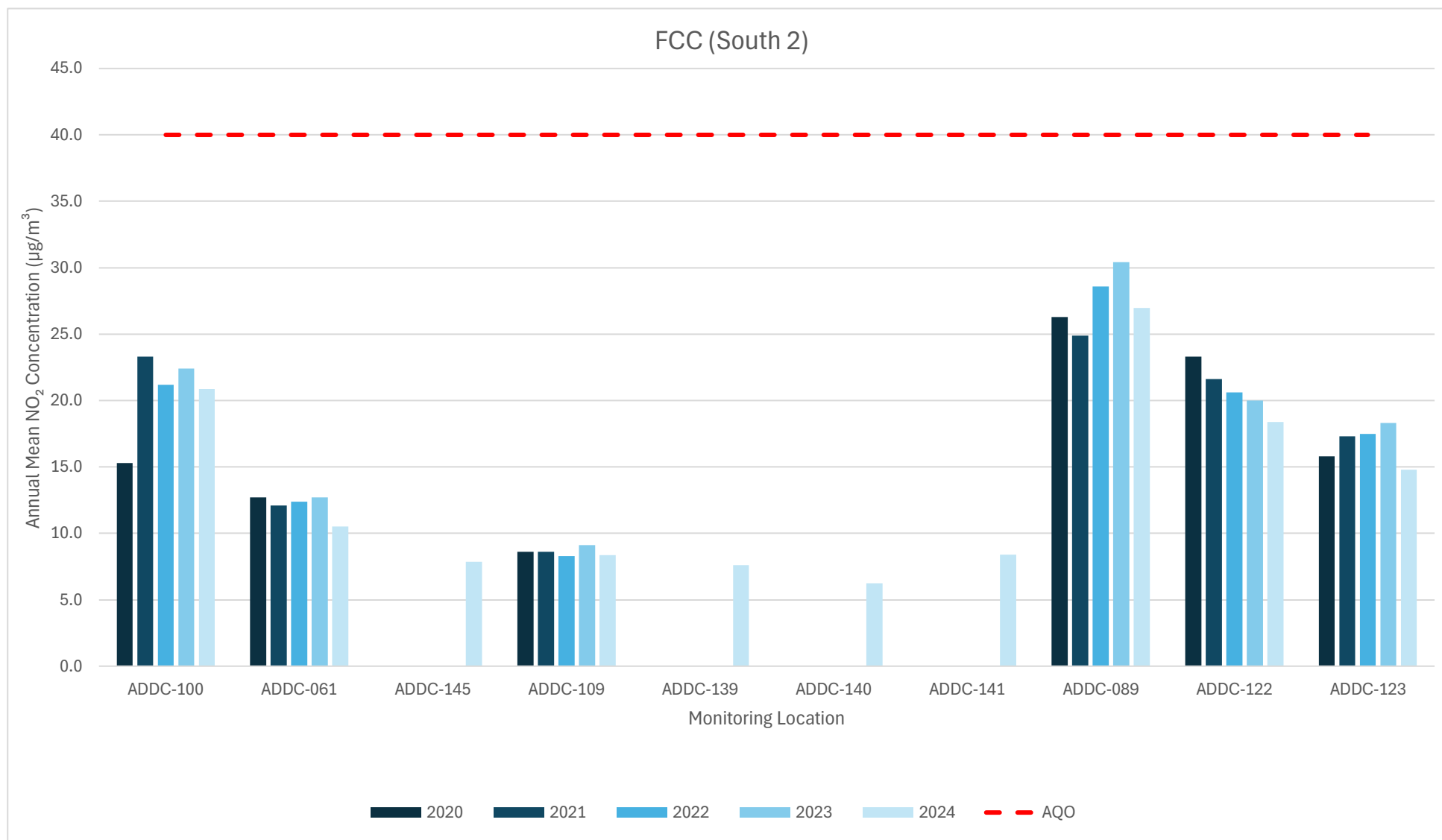
Figure 2.33 – Trends in Annual Mean NO₂ Concentrations FCC (South 2)

Table 2.15 – 1-Hour Mean NO₂ Monitoring Results Across North Wales, Number of 1-Hour Means > 200µg/m³

Site 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
Victoria Road AURN	332865	349909	Roadside	99.1	99.1	0	0	0	0	0
Wrexham Chirk	329318	338300	Urban Industrial	68.4	68.4	-	0	0	0	0 (65)
Wrexham Chirk Community Hospital	329329	338992	Urban Background	81.4	81.4	-	-	0	0	0 (47)

Notes:

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

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

(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%).

Table 2.16 – Annual Mean PM₁₀ Monitoring Results Across North Wales (µg/m³)

Site 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
Victoria Road AURN	332865	349909	Roadside	99.9	99.9	11.0	11.3	11.7	10.4	10.2
Wrexham Chirk	329318	338300	Urban Industrial	99.8	99.8	9.3	8.3	11.0	10.5	17.9
Wrexham Chirk Community Hospital	329329	338992	Urban Background	99.8	99.8	-	-	10.0	9.4	11.4

Notes:

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

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.

(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 2.34 – Trends in Annual Mean PM₁₀ Concentrations Across North Wales

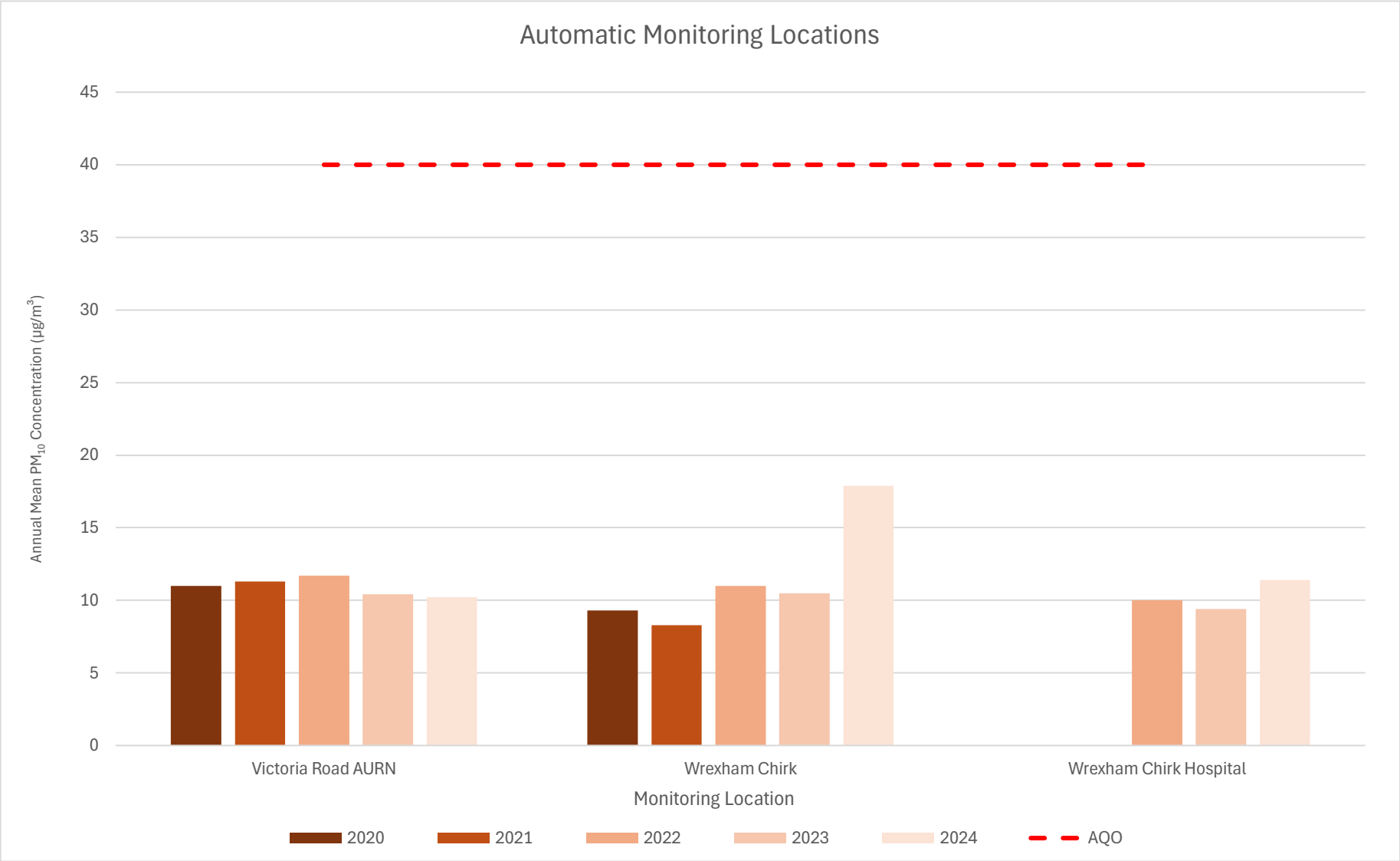


Table 2.17 – 24-Hour Mean PM₁₀ Monitoring Results Across North Wales, Number of PM₁₀ 24-Hour Means > 50µg/m³

Site 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
Victoria Road AURN	332865	349909	Roadside	99.9	99.9	0	1	0	0	0
Wrexham Chirk	329318	338300	Urban Industrial	99.8	99.8	0	0	0	0	7
Wrexham Chirk Community Hospital	329329	338992	Urban Background	99.8	99.8	-	-	0	0	2

Notes:

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

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

(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%).

Table 2.18 – PM_{2.5} Monitoring Results Across North Wales (µg/m³)

Site 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
Victoria Road AURN	332865	349909	Roadside	99.9	99.9	7.0	7.0	7.1	6.2	6.3
Wrexham Chirk	329318	338300	Urban Industrial	99.8	99.8	3.0	2.9	4.0	3.9	4.5
Wrexham Chirk Community Hospital	329329	338992	Urban Background	99.8	99.8	-	-	5.0	4.7	5.0

Notes:

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.

(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%).

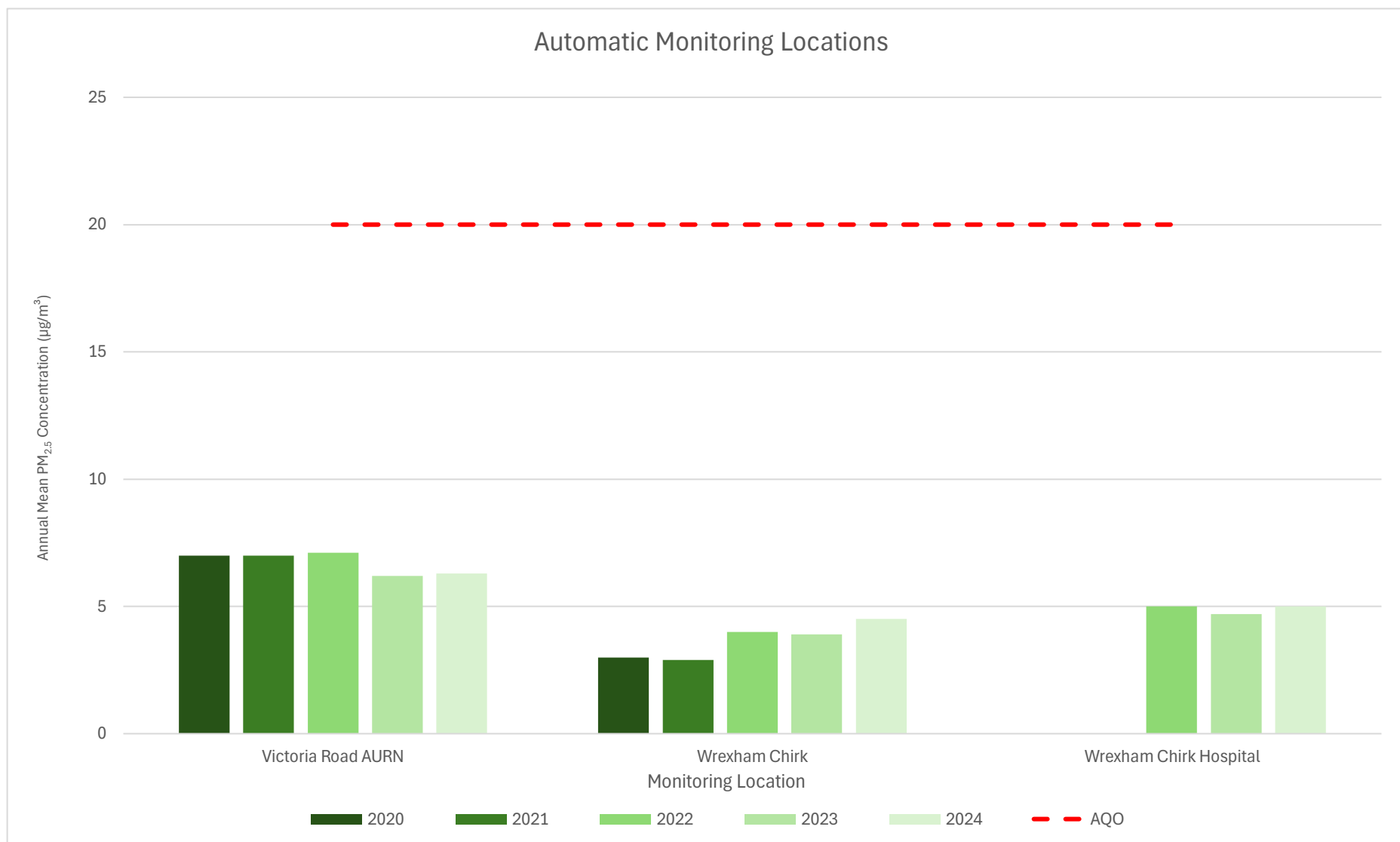
Figure 2.35 – Trends in Annual Mean PM_{2.5} Concentrations Across North Wales

Table 2.19 – SO₂ Monitoring Results Across North Wales

Site 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⁾	15 min > 266 µg/m ³	1 hr > 350 µg/m ³	24 hr > 125 µg/m ³
Victoria Road AURN	332865	349909	Roadside	96.3	96.3	0	0	0

Notes:

Results are presented as the number of instances where monitored concentrations are greater than the objective concentration.

Exceedances of the SO₂ objectives are shown in **bold** (15-min mean = 35 allowed a year, 1-hour mean = 24 allowed a year, 24-hour mean = 3 allowed a year).

If the period of valid data is less than 85%, the relevant percentiles are provided in brackets. (15-Minute means: 99.9th percentile, 1-hour means: 99.7th percentile, 24-hour means: 99.2nd percentile).

(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%).

2.3 Comparison of 2024 Monitoring Results with Previous Years and the Air Quality Objectives

2.3.1 Nitrogen Dioxide (NO₂)

The extensive monitoring survey across North Wales has not identified any new exceedances of any of the air quality objectives for 2024 in any local authority. Moreover, given that there are no previous exceedances of any air quality objective, this monitoring survey supports a continuation of not declaring any AQMAs within the North Wales Authorities.

Overall air quality in North Wales is good. Every air quality monitoring location recorded pollutant concentrations well below the respective air quality objective and there were no observed annual mean concentrations within 10% of the annual mean NO₂ air quality objective. The highest NO₂ concentration of 27.3 µg/m³ was recorded at the new monitoring location ADDC-124 in Flintshire, this is a kerbside site located on the High Street. Additionally, the second highest NO₂ concentration of 27 µg/m³ was recorded at the monitoring location ADDC-089, which again is a kerbside site located at the junction of Main Road and Mold Road with the A5119. This site (ADDC-089) recorded a decrease in NO₂ of 3.4 µg/m³ since 2023. Both the sites are located on the busy roads contributing to elevated pollutant levels.

There was no significant increase in NO₂ concentration between 2023 and 2024 of greater than 10% of the air quality objective (4 µg/m³) at any monitoring location.

Generally, NO₂ concentrations across North Wales improved marginally from 2023, with small but extensive reductions in ambient NO₂ monitored in all authorities apart from **CBCC**, where NO₂ concentrations were broadly similar to last year's monitoring results. Figure 2.17 to Figure 2.33 show the monitored concentrations over the past five years. Overall, there is a downward trend in NO₂ concentrations over the past 5 years at most monitoring locations.

The reductions in monitored concentrations between 2023 and 2024 at each of the locations were as follows:

- A reduction in NO₂ concentrations was recorded at all 4 **IACC** tubes.
- A reduction in NO₂ concentrations was recorded at 27 of the 28 **DCC** tubes.
- A reduction in NO₂ concentrations was recorded at all 17 **GC** tubes.
- A reduction in NO₂ concentrations was recorded at 28 of the 33 **WCBC** tubes.

- A reduction in NO₂ concentrations was recorded at 10 of the 20 **CCBC** tubes.
- A reduction in NO₂ concentrations was recorded at 33 of the 59 **FCC** tubes.

*One **DCC**, one **GC** and 21 **FCC** monitoring locations are new for 2024 and have not been included in the above comparison.

Four monitoring locations - DBR62 in **DCC**, ADDC-081 in **FCC**, and 51 and 22 in **WCBC** observed a reduction in NO₂ concentrations of greater than 10% of the annual mean air quality objective. The respective annual mean NO₂ concentrations reduced by 5.4 µg/m³, 4.8 µg/m³, 6.1 µg/m³ and 4.2 µg/m³ between 2023 and 2024.

In **DDC**, one of the monitoring sites showed an increase since 2023, in **WCBC** three locations showed an increase in concentrations since 2023, in **CCBC**, half of the monitoring sites recorded an increase in NO₂ concentrations. The maximum recorded increase in NO₂ concentrations occurred in **CCBC** at diffusion tube DT/CBCC054 where NO₂ concentrations increased by 3.0 µg/m³.

Monitored concentrations over the past 5 years have fallen overall, upward trends are shown at some locations within **WCBC**, **CCBC** and **FCC**, however, as the trends in the air quality monitoring data recorded during the past 5 years will still be affected by the travel restrictions as a result of the Covid 19 pandemic they should be viewed with caution.

Nevertheless, all recorded NO₂ concentrations remain well below the long term NO₂ AQO. Figure 2.17- Figure 2.33 summarise the trend in NO₂ concentrations across all six local authorities.

NO₂ was also monitored at three automatic monitoring sites in **WCBC**. No exceedances of the 1-hour mean AQO have been recorded since 2017. Wrexham Chirk hospital recorded a decrease in NO₂ in 2024 whereas Wrexham Chirk recorded an increase in NO₂ in 2024 compared to 2023 concentrations. Similarly to the non-automatic monitoring data, there has been an overall downward trend in annual mean NO₂ recorded at those automatic sites with more than 3 years of data. Again, it should be noted that the concentrations within 2020 and 2021 will have been influenced by the Covid pandemic.

Annual mean concentrations were processed using the LAQM diffusion tube processing tool released in June 2025. The diffusion tube processing tool automatically calculates time-weighted averages for tubes exposed longer than the recommended period of 5 weeks.

2.3.2 Particulate Matter (PM₁₀)

In 2024, PM₁₀ was monitored at three automatic monitoring stations in **WCBC**. Data ratification for these stations is the responsibility of either the Welsh Government or Ricardo Energy & Environment on behalf of Defra. At the time of producing this report PM₁₀ data from Wrexham Chirk and Wrexham Chirk Community Hospital remains provisional and subject to ratification. Consequently, the data presented in this report may be subject to change once the ratified data is made available. It is the intention of **WCBC** to present the ratified 2024 data in the 2026 APR.

The concentrations recorded were well below the annual mean AQO of 40 µg/m³ at all stations. The highest concentration recorded was 17.9 µg/m³ at Wrexham Chirk site.

During 2024, there were 7 exceedances of the 24-hour mean AQO of 50 µg/m³ reported at Wrexham Chirk site and 2 exceedances of the 24-hour mean AQO of 50 µg/m³ reported at Wrexham Chirk Hospital site. The objective permits up to 35 exceedances of the 24-hour mean AQO of 50 µg/m³ within a 12-month period.

Annual mean PM₁₀ concentrations are included in Table 2.16 and the number of exceedances of the 24-hour mean AQO are included in

Table 2.17. Figure 2.34 represents the trend in annual mean PM₁₀. Overall, annual mean PM₁₀ concentrations have remained mostly constant since 2020. In 2024, an increase in annual mean PM₁₀ was recorded at both Wrexham Chirk and Wrexham Chirk Hospital monitoring locations compared against 2023 data.

The moderate increase in annual mean PM₁₀ concentrations at Wrexham Chirk can be attributed to Storm Darragh (5th December 2024 to 9th December 2024) which blew the roof off the building next to the monitor which required a subsequent clean-up operation to make the area safe. This led to very high PM₁₀ concentrations over this period, to the extent that five of the seven recorded exceedances of the 50µg/m³ daily AQO were during this period in December 2024. Whereas this has not resulted in a breach of the 35 allowable exceedances per year, it is worth noting to account for the difference between the two sites in Chirk.

2.3.3 Particulate Matter (PM_{2.5})

In 2024, PM_{2.5} was monitored at three automatic monitoring stations in **WCBC**. PM_{2.5} data from Wrexham Chirk and Wrexham Chirk Community Hospital also remains provisional and subject to ratification. Ratified data for these sites will be presented in the 2026 APR.

Whilst there are no PM_{2.5} objectives included in regulations for the purpose of LAQM in Wales, the concentrations recorded in 2024 were below the annual mean EU limit Value of 20 µg/m³ and the interim WHO guideline value of 10 µg/m³ at all stations. The highest concentration recorded was 6.3 µg/m³ at **WCBC** Victoria Road AURN (Wrexham) site

Table 2.18 includes the annual mean PM_{2.5} concentrations and Figure 2.35 represents the trend in annual mean concentrations.

Annual mean PM_{2.5} remained relatively constant between 2022 and 2024, with a slight increase being observed at the Wrexham Chirk monitoring location, although this is partially attributed to very high PM_{2.5} concentrations captured in the period 5th to 9th December 2024 due to storm damage and associated clean up in the aftermath of Storm Darragh. Further, PM_{2.5} annual mean concentrations slightly increased in 2024 at all monitoring locations when compared against 2023 data.

2.3.4 Sulphur Dioxide (SO₂)

In 2024, SO₂ was monitored at one automatic monitoring station in **WCBC** i.e. Victoria Road AURN.

There were no exceedances of the SO₂ AQOs (15-minute, hourly or daily) recorded at Victoria Road AURN monitoring location during 2024.

Table 2.19 includes the SO₂ monitoring results.

2.4 Summary of Compliance with AQS Objectives as of 2024

The local authorities in North Wales (**IACC, DCC, GC, WCBC, CCBC** and **FCC**) have examined the results from monitoring in their respective boroughs. Concentrations are all below the air quality objectives, therefore no further action is required.

3 New Local Developments

This section identifies any changes within the North Wales Authorities area that may affect air quality.

3.1 Road Traffic Sources (and Other Transport)

IACC reports no new road traffic sources identified in 2024.

DCC reports no new road traffic sources identified in 2024.

GC reports no new road traffic sources identified in 2024.

WCBC reports no new road traffic sources identified in 2024.

CCBC reports no new road traffic sources identified in 2024.

FCC reports no new road traffic sources identified in 2024.

3.2 Industrial / Fugitive or Uncontrolled Sources / Commercial Sources

IACC reports no new industrial, fugitive or uncontrolled sources, or commercial sources identified in 2024.

DCC identified one new application for a permitted process in 2024.

- Waste Recycling Centre, Graig Road, Denbigh, DENBIGHSHIRE, LL16 5US (01/2019/1011) – (Completed) Transfer Station to undertake the sorting and baling of separately collected recyclable waste. to include the erection of the main recycling building, one depot building and storage bays. installation of vehicle wash and weigh bridge, siting of generator, creation of new access and associated road widening, construction of internal road, service yard, storage areas, parking, drainage and substations (to serve plots 1 to 5), landscaping and associated works.

GC identified one new application for a permitted process in 2024.

- Seiont Quarry Gas Peaking Plant, Seiont Brickworks Site, to the South-East of Caernarfon, Gwynedd (DNS CAS-02628-Y1D2Z7) - Rejected/dismissed.

WCBC reports no new industrial, fugitive or uncontrolled sources, or commercial sources identified in 2024.

CCBC reports no new industrial, fugitive or uncontrolled sources, or commercial sources identified in 2024.

FCC reports no new industrial, fugitive or uncontrolled sources, or commercial sources identified in 2024.

3.3 Other Sources

IACC confirms that there are no reports of other sources that may affect air quality, including bonfires/ incidents, firework displays and domestic wood burners.

DCC confirms that there are no reports of other sources that may affect air quality, including bonfires/ incidents, firework displays and domestic wood burners.

GC received 45 complaints related to air quality during 2024. Of the 45 complaints, 34 were from domestic bonfires; 6 from smoke from industrial bonfires; and 11 relating to domestic wood burners.

CCBC confirms that there are no reports of other sources that may affect air quality, including bonfires/ incidents, firework displays and domestic wood burners.

FCC confirms that there are no reports of other sources that may affect air quality, including bonfires/ incidents, firework displays and domestic wood burners.

WCBC received 45 complaints related to air quality during 2024. Of the 45 complaints, 29 were from domestic bonfires; 5 were from dark smoke; 6 were from domestic chimneys; 5 from smoke from industrial premises.

3.4 New planning applications

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

DCC has identified the following new or previously unidentified local developments which may impact on air quality in the Local Authority area.

- 46/2024/0155 - Former H M Stanley Hospital, Upper Denbigh Road, Denbighshire. Erection of apartment building comprising 51 apartments for occupancy by persons aged 55 and over, 5 dwellings for general occupancy, formation of parking, landscaping and associated works. Pending.

GCC has identified the following new or previously unidentified local developments which may impact on air quality in the Local Authority area.

- DNS CAS-02628-Y1D2Z7 - Seiont Quarry Gas Peaking Plant, Seiont Brickworks Site, to the South-East of Caernarfon, Gwynedd. Rejected/dismissed.

WCBC has identified the following new or previously unidentified local developments which may impact on air quality in the Local Authority area.

- ENQ/2024/1029 - Borrass Quarry, Llan Y Pwll, Wrexham, LL13 9SE. Pre-Planning.
- ENQ/2024/1079 - Land At Ruabon Business Park, The Green, Ruabon, Wrexham, LL14 6TE. Pre-Planning.
- P/2024/1386 - Land At, Wrexham Road, Rhostyllen, Wrexham, LL14 4DH. In progress.
- P/2024/1440 - Land At Air Products, Llangollen Road, Acrefair, Wrexham, LL14 3HW. In progress.
- P/2024/0006 - Trans Continental Factory, Ash Road North, Wrexham Industrial Estate, Wrexham, LL13 9UF. In progress.

The following applications were reported on by **WCBC** in the 2024 APR and the updated planning status for each application is as follows:

- P/2023/0050 - Land At Stansty Fields Mold Road Stansty Wrexham LL11 4AX. Decision pending.
- Pre-application - Land East Of Tan Y Bont Main Road, Old Rhosrobin, Rhosrobin, Wrexham, LL11 4RL. Planning application not received/ still awaited.
- P/2023/0280 - Bryn Lane, Wrexham Industrial Estate, Wrexham, LL13 9UT. Granted.
- P/2023/0497 - Land North of Bryn Lane, Wrexham Industrial Estate, Wrexham, LL13 9US. Decision pending.
- P/2023/0593 - Land At Lower Berse Farm, Ruthin Road, Wrexham, LL14 4HP. Decision pending.

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

FCC has identified the following new or previously unidentified local developments which may impact on air quality in the Local Authority area.

- Planning ref 063522 - Redevelopment and expansion of UPM Shotton Paper Mill Weighbridge Road, Deeside Industrial Park, CH5 2UL. In progress.

- Planning Ref 063721- ICT UK Ltd. Tissue manufacture The Airfields, Welsh Road, Garden City, Flintshire, CH5 2GD. Approved.

4 Policies and Strategies Affecting Airborne Pollution

4.1 Local / Regional Air Quality Strategy

There are no AQMAs declared in North Wales. Therefore, there are currently no active AQAPs. As air quality is considered to be good within all six local authority areas, there have been no local policies specifically related to air quality developed.

4.2 Air Quality Planning Policies

Four of the six North Wales Authorities have not issued any updates to local/ regional air quality through the provision of new local plans. However, these councils are in the process of replacing their LDPs with new local plans. **WCBC** and **FCC** adopted a new 2023-2028 local plan which is discussed below.

Air quality is considered in the wider context in the following local policies:

IACC and **GC** had adopted a joint Local Development Plan (LDP) which currently provides the land use strategy for both **IACC** and **GC**. The plan addresses the need to maintain good air quality in the area and ensure new development does not cause adverse impacts.

On 31 March 2023, **GC** and **IACC** decided to cease the joint working agreement on Planning Policy matters. In **GC**, the Gwynedd Planning Policy Service was established. The process of preparing a new Local Development Plan (LDP) for the Gwynedd Local Planning Authority area only (which is the area of Gwynedd located outside the Eryri National Park) and the process of preparing a new Local Development Plan (LDP) for **IACC** Authority area is also underway. The new separate **IACC** and **GC** LDPs will cover the period from 2024 to 2039. The Anglesey and Gwynedd Joint Local Development Plan continues to provide the local policy framework for decisions on planning applications, until the respective Local Development Plans are adopted.

The **DCC** LDP sets out the proposals and policies for future development and use of land in Denbighshire. The LDP was adopted in June 2013 and was due for update in 2021. The **DCC** LDP update is being progressed by the council, progress on the completion of the report can be found on the Denbighshire County Council website, [here](#).

CCBC's LDP 2007 – 2022 contains a Spatial Objective SO9 to 'encourage efficient patterns of movements and to recognise the strategic role that the A55 and rail corridors will play in meeting the development needs of the Plan Area and to give particular

attention to development locations that are convenient to pedestrians, walking and cycling in Conwy to aid the reduction of transport CO₂ emissions. The LDP also includes Strategic Policy NTE/1 – The Natural Environment. This policy '*seeks to regulate development so as to conserve and, where possible, enhance the Plan Area's natural environment, countryside and coastline*'. **CCBC** are currently working on a replacement local plan and expect to submit an updated plan to the Welsh Government later in 2025.

WCBC is committed to the sustainable development principle and the 'five ways of working' which the Welsh Government introduced to help public bodies shape their decisions to help them meet the sustainable development principle.

In 2023, **WCBC** adopted the Council Plan 2023-28. The main priority areas of the plan are outlined below:

- Delivering efficient street scene services and decarbonising our environment.
- Developing the economy.
- Ensuring Wrexham is a fair and safe place.
- Improving education and learning.
- Promoting good health and well-being (with a focus on social services and good mental health).
- Supporting a highly skilled and engaged workforce, focussed on delivering services.

The plan recognises that the climate emergency is one of the most important topics of our time and we all have a responsibility to reduce our carbon footprint. **WCBC** declared a climate emergency in 2019 and has been working towards reducing its carbon footprint with the plan detailing such initiatives as:

- To decarbonise council-owned buildings through projects such as the introduction of airsource heating, LED lighting upgrades and improved insulation.
- WCBC will work towards reducing carbon emissions from our work related travel: both by electrifying those vehicles within our own fleet, as well as reducing the business miles travelled in personal vehicles.
- Council will seek to reduce the significant amount of carbon emissions attributed to the goods and services we procure and commission, through changing our practices and supporting our suppliers.
- WCBC will also look to off-set carbon which we cannot remove, by making environmental improvements, such as creating woodland and wildflower meadows.

FCC adopted its updated [Council Plan \(2023 - 2028\)](#) in 2024. Priority: Green Society and Environment of the plan outlines several measures the council are planning on implementing which have the potential to impact air quality:

- Net Zero Carbon Council: A net carbon zero Council by 2030 and supporting wider decarbonisation actions across the County, making this central to Covid-19 recovery
- Fleet strategy: Reducing the environmental impact of our fleet.
- Active and Sustainable Travel Options: Create opportunities to increase levels of walking and cycling (active travel) and the use of sustainable public transport options, enabling the undertaking of multi-modal transport journeys to access key destinations.

4.3 Local Transport Plans and Strategies

CCBC's LDP 2007 – 2022 contains a Spatial Objective SO9 to '*encourage efficient patterns of movement and to recognise the strategic role that the A55 and rail corridors will play in meeting the development needs of the Plan Area and to give particular attention to development locations that are convenient to pedestrians, walking and cycling in Conwy to aid the reduction of transport CO₂ emissions*'.

The North Wales Joint Local Transport Plan (LTP) (2015-2025) has been jointly produced by the six North Wales local authorities in response to the Welsh Government requirement for LTPs to be submitted by the end of January 2015. The Plan is a statutory document for transport in the region. However, it is currently in the process of being replaced by a new North Wales Regional Transport Plan (RTP) under development by the North Wales Corporate Joint Committee (CJC) in collaboration with the six North Wales local authorities. On 18 July, the North Wales Corporate Joint Committee (CJC) reviewed and approved the submission of the final Regional Transport Plan and its supporting documents to the Welsh Government for consideration and formal approval.

A review of the Wales Transport Strategy Objectives, the Welsh Government targets for investment and the Regional Transport Plan priorities, together with the review of issues and opportunities led to the drafting of outcomes for the Local Transport Plan. The Local Transport Plan Outcomes that relate to bringing about air quality improvements includes:

- Connections to Key Destinations and Markets: Support for Economic Growth through an improvement in the efficiency, reliability, resilience, and connectivity of movement, including freight, within and between North Wales and other regions

and countries (with a particular focus on accessibility to the Enterprise Zones and an improvement in the vitality and viability of towns and other key centres); and

- Benefits and Minimised Impacts on the Environment: the potential for transport improvements to positively affect the local and global natural and built environment will have been maximised and negative impacts minimised, including adaptation to the effects of climate change.

A set of higher-level interventions have been developed which together aim to deliver the vision and outcomes sought for the LTP:

- Transport network resilience improvements – Improvements to key county corridors to remove/ improve resilience problems;
- Integration with strategic public transport services – Schemes to improve access to rail stations including road access and bus services and interchange facilities, support for park and ride, walking and cycling routes and facilities;
- Improved links to Employment – Schemes to provide improved access to Enterprise Zones (EZs), ports, employment sites and town centres;
- Access to services – Range of integrated transport measures to improve access to education, health, community, shopping and other services by public transport, walking and cycling as well as community transport, taxi, car share sites; and
- Encouraging sustainable travel – Infrastructure improvements and promotional initiatives to increase levels of walking and cycling both for travel and for leisure as well as public transport. May include road and rail bridges/ crossings, cycle routes, footway/ footpath provision, safe routes to school, travel planning as well as road safety measures to assist vulnerable users.

Transport is a key part of **WCBC's** development and for the decarbonising environment for example by ensuring that supporting infrastructure including road, rail, public transport modes and active travel solutions is developed to interface with improved A483, which will improve routes to the town centre, and contribute to decarbonisation, increased wellbeing and improving the economy.

Transport & mobility is an identified priority in the [Council Plan 2023 - 28](#): *'The council has a modern and environmentally responsible transport fleet, supported by increased high-quality infrastructure, which allows us to be a leader in low carbon emissions vehicles. We will consider our requirements to travel, and ensure that sustainable travel options are in place to help reduce our overall carbon emissions. To ensure transport infrastructure meets the needs of its residents and the economy, with improved public transport services*

and sustainable options for travel and parking in and around the City Centre, Wrexham Industrial Estate, and across the rural communities, and in support of Wrexham as a significant visitor destination.'

4.4 Active Travel Plans and Strategies

IACC submitted an [Active Travel Plan](#) in 2021. **IACC** will take minor works to the Active Travel Network, as well as further pre scheme development focusing on the 8 settlements chosen for Active Travel improvements for 2023-2024. Additionally, Active travel improvements in Amlwch are planned for 2024–2025, continuing the phased development of active travel infrastructure. The Welsh Government have successfully approved the Active Travel Network Map (ATNM) on the 3rd August 2022. The ATNM is available to the public [here](#).

In **CCBC**, 15 towns and villages meet the Welsh Government requirements of [Active Travel Areas](#).

Promoting [active travel](#) is a key priority of **WCBC's** local plan. The local authority recognises that improving active travel will in turn contribute to the development of the economy. **WCBC** maintains an ATNM, which includes existing routes that meet Welsh Government standards and future routes planned for development or improvement. The next update to the ATNM is due by 1 December 2026, with public consultation expected in 2026 and informal engagement already underway.

4.5 Local Authorities Well-being Objectives

CCBC and **DCC** have used the power within the Wellbeing of Future Generations (Wales) Act 2015 to form a single [Public Services Board](#).

IACC and **GC** have published [Wellbeing Plan 2023-2028](#), the plan recognises that the residents of the councils value the natural environment as a key contributor to well-being and quality of life. As a consequence, the Board recognised the importance of protecting the natural environment. While this does not make specific reference to Air Quality, there could be an implied reference and future plans will be required by law to report on progress made.

FCC has published its [Wellbeing Plan 2017-2023](#). The plan recognises the importance of protecting and enhancing the Environment. It states that the Authority wants to ensure '*air quality is the best it can be by working with partners to monitor and reduce harmful emissions*'.

FCC and **WCBC** have also published their combined [Wellbeing plan 2023-2028](#).

Developing the economy, promoting good health and wellbeing are two of the six wellbeing and improvement priorities for **WCBC** Plan 2023 – 28 with a specific outcome to contribute to all of Wales Well-being Goals. It is the Councils vision for the future that all the people that live here are supported to fulfil their potential, prosper, and achieve a high standard of well-being. Active Wrexham is a new initiative to empower local communities to be more active – leading to healthier and happier lives through developing and supporting inclusive physical activity.

4.6 Green Infrastructure Plans and Strategies

IACC has started a [UK CRF Adfywio Môn Renewal Programme \(gov.wales\)](#).

CCBC has developed a structured approach to [Green Infrastructure \(GI\) through planning guidance and strategic assessments](#).

FCC has published a [background paper on Green infrastructure](#) and has collaborated with the **FCC** GI team on projects to improve air quality as detailed in Table 1.7.

In the **WCBC's** [Council Plan 2023-28](#), one of the six council priorities is '*Delivering efficient streetscene services and decarbonising our environment with a specific aim to restore and protect our local green spaces*'.

4.7 Climate Change Strategies

IACC has committed to becoming a [net-zero local authority by 2030](#).

CCBC has made a [Climate Emergency Declaration](#) to become a net zero Authority by 2030.

DCC has adopted a [Climate and Nature Strategy Year 3 Updated Version \(2021-2022 to 2029-2030\)](#). The aim of the Plan is to address the Council's Net Carbon Zero and Ecologically Positive goals and the tasks they are going to seek to deliver to achieve these 2030 goals. As well as the Council's work in climate action and nature recovery across Denbighshire and its goal to increase climate risk resilience.

GC has declared a climate emergency and has set a target to become a [net zero carbon and ecologically positive council](#) by 2030.

FCC has published its [Climate change strategy \(2022-2030\)](#).

WCBC is committed to play its part in being a globally responsible Wales. [Council Plan 2023–2028](#) explicitly recognises climate change as a key challenge and outlines a strong

commitment to addressing it through strategic actions. **WCBC** has demonstrated a strong commitment to climate action by declaring a Climate and Ecological Emergency in September 2019. In response, the Council published its Decarbonisation Plan in May 2021, outlining a strategic framework to achieve net zero carbon emissions and enhance ecological resilience. The Plan focusses on four key themes (Buildings, Transport and Mobility, Land Use and Procurement) as well as some higher-level actions which are integral to WCBC's response to addressing the climate emergency. One of the indicators of the success of this plan is for a County Borough that is becoming more resilient in planning for the effects of climate change.

5 Conclusion and Proposed Actions

5.1 Conclusions from New Monitoring Data

There were no exceedances of the respective annual mean NO₂, PM₁₀, PM_{2.5} AQOs recorded at any monitoring sites in 2024. The number of 24-hour mean PM₁₀ concentrations above 50µg/m³ at both the Wrexham Chirk and Wrexham Chirk Hospital monitoring locations remained well within the permitted annual limit of 35, seven were recorded at Wrexham Chirk and two at the Wrexham Chirk Hospital and therefore there were no exceedances of this objective. Annual mean NO₂ concentrations were generally lower than previous years except when comparing against data captured between 2020 and 2022, likely due to reduced traffic flows associated with the Covid-19 pandemic. Considering the change in NO₂ concentrations between 2020 and 2024, air quality has generally improved in every local authority in North Wales.

5.2 Conclusions relating to New Local Developments

There are no new or newly identified local developments which are expected to cause a significant adverse air quality impact on the surrounding area within North Wales.

5.3 Other Conclusions

No detailed assessments are required as a result of exceedances of pollutant concentrations and no AQMAs need to be declared. Nonetheless, wider policy documents discussed in Section 4 address air quality issues to ensure concentrations remain below the AQOs.

5.4 Proposed Actions

The recommendations for the coming year are listed below:

- Maintain the air quality monitoring programmes in each local authority; and
- Ensure new monitoring sites are added as required.

References

- [Conwy County Borough Council \(2016\) Annual Status Report](#)
- [Denbighshire County Council \(2016\) Annual Status Report](#)
- [Department for Environment, Food and Rural Affairs \(Defra\) \(2022\) Local Air Quality Management Technical Guidance LAQM.TG\(22\)](#)
- Flintshire County Council (2016) Annual Status Report
- [Flintshire County Council Unitary Development Plan 2000-2015.](#)
- Gwynedd Council (2016) Annual Status Report
- Isle of Anglesey County Council (2016) Annual Status Report
- [Isle of Anglesey County Council \(2018\) Wylfa Newydd: Supplementary Planning Guidance May 2018](#)
- [National Diffusion Tube Bias Adjustment Spreadsheet, Version Number 06/25. June 2025.](#)
- [The Anglesey and Gwynedd Joint Local Development Plan 2011-2026.](#)
- [The Conwy Local Development Plan 2007-2022.](#)
- [The Denbighshire County Council Local Development Plan 2006-2021.](#)
- [The Flintshire County Council Local Development Plan 2023-2028.](#)
- [The Wrexham County Council Local Development Plan 2023-2028.](#)
- Welsh Government (2017) Local air quality Management in Wales
- [Wood Environment and Infrastructure Solutions UK Ltd \(Wood\) \(2018\) North Wales Combined Authority 2018 Air Quality Progress Report.](#)
- [Wood Environment and Infrastructure Solutions UK Ltd \(Wood\) \(2019\) North Wales Combined Authority 2019 Air Quality Progress Report.](#)
- [Wood Environment and Infrastructure Solutions UK Ltd \(Wood\) \(2020\) North Wales Combined Authority 2020 Air Quality Progress Report.](#)
- [Wood Environment and Infrastructure Solutions UK Ltd \(Wood\) \(2021\) North Wales Combined Authority 2021 Air Quality Progress Report.](#)

- [WSP UK Limited \(2022\) North Wales Combined Authority 2021 Air Quality Progress Report.](#)
- [WSP UK Limited \(2023\) North Wales Combined Authority 2022 Air Quality Progress Report.](#)
- [WSP UK Limited \(2024\) North Wales Combined Authority 2023 Air Quality Progress Report.](#)
- Wrexham County Borough Council (2016) Annual Status Report
- [Wrexham County Borough Council Unitary Development Plan 1996 to 2011.](#)

Appendices

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 A: Quality Assurance / Quality Control (QA/QC) Data

Table A.1 – IACC Full Monthly Diffusion Tube Results for 2024 (µg/m³)

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	Annual Mean: Distance Corrected to Nearest Exposure	Comment
IACC-81	224942	382866	12.6	18.8	14.2	15.4	14.6	9.5	14.0	15.1	25.4	15.7	17.0	9.2	15.1	11.8	N/A	
IACC-82	252360	378402	15.6	18.9	18.4	14.3	18.9	16.0	14.4	16.2	14.5	19.4	19.6	16.1	16.9	13.1	N/A	
IACC-83	253057	372313	9.8	11.5	9.1	8.2	8.9		5.9	5.2	7.3		12.4	9.1	8.7	6.8	N/A	
IACC-84	226681	381486	7.2	7.5	7.6	6.4	5.9	7.4	4.8	5.6	4.5	7.5	9.4	6.8	6.7	5.2	N/A	

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**.

See Appendix C for details on bias adjustment and annualisation.

Table A.2 – DCC Full Monthly Diffusion Tube Results for 2024 (µg/m³)

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	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DBK1	300800	381400	23.0	26.3	27.1	20.6	23.5	15.9	13.1	18.6	21.5	27.2	25.5	6.4	20.7	16.2	N/A	
DBR2	300900	381300	23.4		27.1	18.3	19.8	15.6	16.6	17.5	20.0	26.9	24.6	22.3	21.1	16.5	N/A	
DBR55	321484	341920	31.4	34.7	32.3	24.9	30.4	20.8	20.2	27.3	31.1	29.3	32.0	27.9	28.5	22.2	N/A	
DBR57	321815	341914	14.6	10.7	5.2	5.3	6.3	4.3	5.0	4.2	7.7	10.3	12.4	9.6	8.0	6.2	N/A	
DBR5	302900	374600	14.3	6.9	8.6	12.1	15.3		12.3	7.0	17.5		11.4	11.1	11.7	9.1	N/A	
DBR48	305276	366119	32.7	21.8	21.1	19.6	21.5	19.7	19.3	15.2	28.7	10.2	26.9	12.2	20.7	16.2	N/A	
DBR23	305879	366425	22.6	9.7	14.5	13.9	14.6	14.7	12.3			16.4	21.2	17.2	15.7	12.3	N/A	
DBR65	303979	374281	18.6	12.7	22.6	13.9	16.1	11.4	12.3	8.3	17.5	16.9	18.1	25.9	16.2	12.6	N/A	
DBR9	303200	374900	7.7	21.8	22.3	13.6	17.3	10.4	12.0	11.8	15.6	22.4	15.5	17.3	15.6	12.2	N/A	
DBR59	305097	366100	25.2	17.5	18.5		17.5	14.9	11.1	13.6	20.9	22.5	12.8	17.3	17.4	13.6	N/A	
DBR24	305327	366164	41.3	32.7	18.0	27.6	29.6	31.0	28.7	23.8	37.7		28.7	30.3	29.9	23.4	N/A	
DBR56	321492	342091	16.5	16.6	12.3	13.1	13.6	10.8	10.4	10.1	12.9	15.0	12.9	13.2	13.1	10.2	N/A	
DBR20	312105	358306	21.7	20.5	17.5	15.7	17.1	15.9	14.9	9.5	20.3	17.7	20.6	15.1	17.2	13.4	N/A	
DBR43	305314	366153	40.1	35.1	25.5	23.2	24.4	27.4	22.4	20.3		27.0	30.4	27.4	27.6	21.5	N/A	
DBR44	305386	366191	28.6	27.0	20.1	19.2	21.3	14.1	17.1	14.0	27.2	20.9	21.0	23.3	21.2	16.5	N/A	
DBR45	305467	366246	25.6	22.7	19.7	15.6	19.4		16.4	15.5	20.8	22.3	18.4	19.5	19.6	15.3	N/A	
DBR37	312800	358200	30.3	23.1	19.8	23.8	26.3	23.2	24.2	16.0	35.6	15.5	23.5	20.3	23.5	18.3	N/A	
DBR64	306495	381894	15.5	14.2	6.7	8.1	10.3	6.4	8.6	5.9	10.2	13.3	14.5	12.0	10.5	8.2	N/A	
DBR52	305308	366130	26.1	21.3	20.0	15.4	18.6	12.8	15.3	12.5	19.8	22.2	22.8		18.8	14.7	N/A	
DBR53	305390	366130	33.9	29.6	22.5	23.2	23.8	23.0	23.2	17.3	28.1	24.9	28.6	28.7	25.6	19.9	N/A	
DBR31	305805	366480	21.4	17.6	14.3	11.3	12.7		10.6	8.9	16.6	15.9	18.8	16.3	14.9	11.7	N/A	
DBR32	305179	366089	21.4	17.5	14.8	13.5	16.3	15.2			18.8	15.5	19.8	17.0	17.0	13.2	N/A	
DBR33	305253	366095	27.9	27.4	25.9	17.7	20.3	14.5	16.1	18.5	19.4	26.6	26.5	22.8	22.0	17.1	N/A	

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	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DBR34	305868	366653	18.4	13.9	12.2	8.4	10.5	7.3	7.3	7.4	11.3	14.8	10.5	16.2	11.5	9.0	N/A	
DBR49	306580	382907	16.1	12.4	14.3	11.7	15.1	11.2	11.9	6.3	17.2	13.9	17.9	17.1	13.8	10.7	N/A	
DBR58	302271	378074	19.2	16.4	14.6	12.0	13.2	11.8	12.1	12.0	15.6	13.6	15.3	16.2	14.3	11.2	N/A	
DBR61	303921	374387	20.4	21.4	18.7	12.0	13.1	12.7	13.7	12.1		16.7	20.4	18.2	16.3	12.7	N/A	
DBR62	303852	374361	17.0	26.8	24.8	16.7	19.2	14.2	14.3	11.4	21.7	25.5	25.5	19.5	19.7	15.4	N/A	
DBR63	303778	374326	18.0	14.3	18.0	10.8	13.2	6.7	9.7	7.2	14.2	15.7	11.0	14.0	12.7	9.9	N/A	

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**.
See Appendix C for details on bias adjustment and annualisation.

Table A.3 – GC Full Monthly Diffusion Tube Results for 2024 (µg/m³)

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	Annual Mean: Distance Corrected to Nearest Exposure	Comment
GCC 002	248273	362132	21.5	23.4	21.5	20.2	22.7	19.6	20.8	17.5	21.3	24.5	24.6	20.6	21.5	16.8	N/A	
GCC 003	248480	363456	8.3	9.1	7.7		5.6	4.2	5.4	5.0	8.3	8.3	10.8	8.6	7.4	5.8	N/A	
GCC 005	248892	364120	11.5	13.5	13.8	11.7	13.0	10.5	12.0	10.8	14.4	14.1	13.5	10.3	12.4	9.7	N/A	
GCC 008	257587	371543	22.5	22.5	20.3	19.5	19.7	17.6	14.7	14.2	21.1	20.9	22.8	20.3	19.7	15.3	N/A	
GCC 011	256292	371663	21.1		18.7	15.3	15.0	13.4		14.9	19.9	23.3	22.4	14.9	17.9	14.0	N/A	
GCC 012	254286	368835	21.9	24.2	23.2	22.0	24.1	19.0	18.6	19.2	28.5	26.1	29.0	19.2	22.9	17.9	N/A	
GCC 013	261529	367380	16.8	18.3	15.2	15.4	18.8	12.9	13.8	12.5	19.1	19.2	23.4	15.8	16.8	13.1	N/A	
GCC 015	247770	358663	10.2	9.2	8.3	7.2	7.5	5.7	6.1	6.5	9.0	10.4	11.1	8.9	8.3	6.5	N/A	
GCC 037	248022	362757	14.5	17.9				10.1			14.5	18.3	18.3	15.5	15.6	11.8	N/A	
GCC 038	256871	369493	19.2	22.3	22.6	19.2	21.3	16.6	19.3	19.1	25.9		26.0	17.4	20.8	16.2	N/A	
GCC 039	256871	369493	20.5	22.4	21.8	21.2		15.7	18.5	16.9			26.6	17.7	20.2	16.6	N/A	
GCC 040	237517	335217	14.7	15.8	13.2	12.3	13.9	11.0	12.2	13.0	9.7	13.9	17.1	8.2	12.9	10.1	N/A	
GCC 041	248514	362795	11.2	10.5	9.7	7.8	7.7	5.3	6.1	5.8	10.5	10.9	14.8	10.8	9.2	7.2	N/A	
GCC 043	249634	362917	15.6	14.2	12.2	8.5	4.5	6.1	7.1	7.0	8.5	14.1	15.4	9.9	10.3	8.0	N/A	
GCC 044	293769	336564	13.4	14.9	12.9	11.6	13.9	12.2	12.8	9.5	15.2	15.1	14.4	10.0	13.0	10.1	N/A	
GCC 045	293878	336609	11.0	11.4	5.8	9.2	10.1	9.3	9.4	13.1	11.2	11.7	12.6	11.7	10.5	8.2	N/A	
GCC 046	248484	361173	6.2	5.6	5.4	4.2	8.8	3.7	4.0		8.7	6.3	7.1	6.3	6.0	4.7	N/A	

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**.

See Appendix C for details on bias adjustment and annualisation.

Table A.4 – WCBC Full Monthly Diffusion Tube Results for 2024 (µg/m³)

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: Bias Adjusted	Annual Mean: Distance Corrected to Nearest Exposure	Comment
1	333200	350600			28.0	23.5	27.3	23.2	21.3	20.8	28.4	26.9	31.0	24.4	25.5	19.9	N/A	
34	329017	351002	9.2	11.3	12.7	8.8	11.3	6.9	6.0	2.8	9.3	12.7	13.7	9.6	9.5	7.4	N/A	
45	332214	351503	25.0	24.4	27.1	22.3	27.2	23.7	24.7	19.9	30.1	27.3	26.7	18.5	24.7	19.3	N/A	
36	327630	342990	20.4	22.3		14.2	17.5	12.1	17.6	15.1	10.0	20.5	22.7	8.4	16.4	12.8	N/A	
10	329300	338300	16.0	16.8	11.9	9.0	9.9	6.6	7.5	9.9	9.0	11.5	14.8	14.6	11.5	8.9	N/A	
49	330221	353428	10.0	10.6	10.1	8.5	9.2	12.0	6.8	6.5	8.7	9.6	11.7	8.5	9.4	7.3	N/A	
42	335359	352178	24.0	24.3	23.6	21.8	25.8	19.5	15.9	16.5	25.6	20.9	24.9	20.2	21.9	17.1	N/A	
50	331924	350638	21.7	19.1	16.7	19.0	21.7	18.6	16.9	13.5	18.5	17.7	26.1	10.2	18.3	14.3	N/A	
51	330125	346099	13.9	11.0	15.2	8.1	11.4	7.6	8.1	8.4	11.6	16.2	19.6	12.8	12.0	9.4	N/A	
52	330703	334004	19.0	22.2	25.5	14.8	27.2	13.2	16.3	18.5	14.4	19.1	24.1	16.3	19.2	15.0	N/A	
53	327263	341184	23.6	21.2	23.1	17.0	21.1	18.8	18.2	18.4	17.2	23.1	26.5	12.3	20.0	15.6	N/A	
22	328900	338700	17.3	22.7		15.0	14.0	13.4	10.6	12.5	10.7	15.9	17.0	13.5	14.8	11.5	N/A	
32	333887	353222	33.3	29.5	24.0	22.3	24.0	18.4	16.1	16.1	28.8	21.3	37.5	15.2	23.9	18.6	N/A	
30	330950	348170	41.4	30.0	37.7	33.2	32.2	30.5	31.2	28.3	21.6	33.6	37.8	22.0	31.6	24.7	N/A	
31	333350	350590	34.0	36.8	34.4	33.0	30.2	31.8	26.8	17.2	28.3	26.5	30.9	14.1	28.7	22.4	N/A	
33	333981	350171	30.2	20.2	18.9		24.0	20.1		13.8	19.6	23.6	29.9	23.1	22.3	17.4	N/A	
37	336635	357211	17.1	17.5	14.1	11.4	11.0	10.3	8.4	9.6	14.3	13.6	20.2	16.3	13.7	10.6	N/A	
38	331765	350132	20.3	17.6	16.0	14.7	16.0	14.3	11.6	11.0	18.8	15.4	20.6	16.3	16.1	12.5	N/A	
44	332935	350278	29.0	22.8	19.6	16.3	21.2	13.8	13.9	15.3			29.9	92.4	27.4	21.4	N/A	
40	337449	341702	12.2	8.7	6.8	6.3	7.6	6.0	5.4	4.9	9.2	9.0	13.7	3.7	7.8	6.1	N/A	
41	335407	347890	13.9	16.9	13.9	11.3	14.4	9.0	8.8	7.9	15.1	16.3	19.6	9.3	13.0	10.2	N/A	
43	333966	349691	27.2	23.4	21.0	14.4	18.2	12.2	19.3	10.9	19.8	22.1	28.3	21.7	19.9	15.5	N/A	
46	333063	350587	26.2	25.7	27.2	22.1	21.2	15.4	16.5	18.3	22.8	26.0	32.3	22.6	23.0	18.0	N/A	

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: Bias Adjusted	Annual Mean: Distance Corrected to Nearest Exposure	Comment
48	329082	337590	23.6	17.7	14.6	14.9	15.4	14.4	10.8	10.1	22.3	14.0	22.3	17.4	16.5	12.8	N/A	
54	333628	352942	27.9	25.2	18.1	18.8	14.3	18.5	16.1	17.0	21.9	17.9	27.0	6.8	19.1	14.9	N/A	
55	333078	355649	15.8	13.3	12.6	9.7	15.5	7.2	7.5	7.4	10.9	9.1	17.0	4.6	10.9	8.5	N/A	
56	332944	352293	20.5	5.0	22.3	13.1	9.2	8.9	12.0	10.7	14.5	21.6	25.9	17.8	15.1	11.8	N/A	
57	332786	351637	18.1	17.4	15.0	8.9	10.0	7.5	8.2	7.0	10.4	14.4	20.1	15.0	12.7	9.9	N/A	
58	334954	350090	21.5	17.5		10.3	11.6	10.0	9.8	9.5	18.4	5.4	19.6	7.4	12.8	10.0	N/A	
59	337541	346942	18.0	11.8	10.7	10.5	10.5	8.4	9.7	6.0	14.1	11.0	14.9	13.2	11.6	9.0	N/A	
60	340016	349982	11.5	7.3	5.9	6.0	6.8	5.2	5.3	3.5	7.7	6.4	7.8	9.6	6.9	5.4	N/A	
61	332363	351095	28.6	19.7	19.5	15.1	16.3	13.8	11.8	13.4	21.5	17.2	26.0	7.5	17.5	13.7	N/A	
AURN (triplicate) 1	332900	349900	-	17.9	17.7	14.0	14.2	9.2	10.4	10.1	17.3	17.5	20.5	8.4	14.3	11.1	N/A	
AURN (triplicate) 2	332900	349900	-	14.9	17.1	13.3	14.2	9.2	9.8	11.2	16.4	16.3	21.5	11.9	14.2	11.0	N/A	
AURN (triplicate) 3	332900	349900	-	18.9	18.8	14.0	15.0	9.8	7.7	10.2	18.5	16.9	20.5	12.3	14.8	11.5	N/A	

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**.
See Appendix C for details on bias adjustment and annualisation.

Table A.5 – CCBC Full Monthly Diffusion Tube Results for 2024 (µg/m³)

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	Annual Mean: Distance Corrected to Nearest Exposure	Comment
DT/CCBC017	284526	379417	16.8	14.5	16.1	9.9	15.3	11.6	11.5	7.0	17.5	12.2	18.8	11.4	13.6	10.6	N/A	
DT/CCBC018	295049	378144	15.3	16.9	14.7	11.8	16.2	16.1	14.1	13.1	16.0	13.0	15.7	13.5	14.7	11.5	N/A	
DT/CCBC022	282362	378757	16.6	19.8	14.3	10.7	17.6	14.7	13.4	12.1	12.0	13.9	18.0	14.9	14.9	11.6	N/A	
DT/CCBC034	279245	377995	18.4	21.1	19.2	12.4	32.9	16.5	14.5	13.7	15.6	20.0	17.9	17.7	18.7	14.6	N/A	
DT/CCBC035	285506	378295	18.4	14.5	17.8	15.7	26.0	14.2	12.3	5.0	18.9	15.1	15.5	14.6	15.9	12.4	N/A	
DT/CCBC036	278131	381907	12.2	8.4	11.8	5.2		6.6		9.7		6.0	10.3	8.7	8.7	6.8	N/A	
DT/CCBC041	295075	377678	15.5	12.9	16.8	7.5	17.8	8.9	8.5	6.2	12.9	13.2	15.4	12.0	12.5	9.8	N/A	
DT/CCBC042	277318	378576	16.3	17.7	18.5	10.2	16.0	9.6	8.7	11.1	9.8	19.3	16.5	11.8	14.0	10.9	N/A	
DT/CCBC043	268425	375266	10.6	10.5	9.6	5.6	20.9	8.1	9.5	6.4	10.3	10.1	10.4	6.9	10.1	7.9	N/A	
DT/CCBC044	268845	375713	13.9	13.2	18.2	14.9	21.8	18.0	14.8	12.1	17.1	12.1	14.0	17.1	15.6	12.2	N/A	
DT/CCBC046	279833	361573	24.6	20.4	17.5	13.6	32.6	14.2	13.5	11.6	18.7	18.0	20.4	15.7	18.7	14.6	N/A	
DT/CCBC047	273223	377460	13.4	14.4	13.2	11.5	30.7	17.5	16.9	12.4	13.7	10.0	13.5	9.7	14.8	11.5	N/A	
DT/CCBC048	276115	378273	15.9	12.6	16.9	11.6	17.6	14.4	14.0	12.4	9.2	6.4	10.6	11.3	12.6	9.8	N/A	
DT/CCBC053	284433	379529	15.2	13.3	15.1	7.9	11.7	9.1	9.5	10.7	11.6	14.7	10.2	13.0	12.0	9.3	N/A	
DT/CCBC054	284362	379559	13.3	20.5	15.6		38.7	12.7	10.5	11.2	13.5	17.6	20.3	14.9	17.7	13.8	N/A	
DT/CCBC055	283523	380857	14.0		12.6	8.8	26.8	12.1	11.4	9.2	12.6	12.0	14.3	8.3	13.1	10.2	N/A	
DT/CCBC056	278751	378797	10.8	11.5	10.1	4.7	8.4	6.4	4.9	6.5	9.5	11.0	11.2	9.2	8.8	6.9	N/A	
DT/CCBC057	271771	376105	10.2	6.1	6.4	2.3	9.9	6.2	4.3	3.4	6.0	4.8	6.9	5.9	6.1	4.7	N/A	
DT/CCBC058	271627	375978	4.7	5.3	5.9	3.1	13.9	5.2	4.5	3.3	4.8	3.9	4.2	3.2	5.3	4.1	N/A	
DT/CCBC059	277744	379865	14.6	11.7	11.8	7.0	9.7	6.6	7.8	5.1	11.7	12.4	12.8	9.4	10.2	8.0	N/A	

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**.

See Appendix C for details on bias adjustment and annualisation.

Table A.6 – FCC Full Monthly Diffusion Tube Results for 2024 (µg/m³)

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	Annual Mean: Distance Corrected to Nearest Exposure	Comment
ADDC-008	330792	367434	32.2	36.4	36.1	24.7	30.3	24.0	23.6	26.9	36.1	29.0	36.5	28.0	30.3	23.6	N/A	
ADDC-009	329830	366682		24.1	21.0	3.8	15.4	9.2	12.7	12.0	10.4	24.0	26.0	17.7	16.0	12.5	N/A	
ADDC-085	330718	367350	20.0	28.8	35.1	15.5	19.5	11.2	14.8	16.7	15.3	26.0	29.3	18.3	20.9	16.3	N/A	
ADDC-111	330614	366195		15.3	16.5	10.6	13.9	10.6	10.4	9.6	10.9	14.1	18.1		13.0	10.1	N/A	
ADDC-105	330986	356538	20.0	15.3	16.3	10.3	12.8	9.4	11.6	8.6	4.5	15.3	18.8		13.0	10.1	N/A	
ADDC-124	330161	369198		35.9	41.0	34.4	37.1	27.9	30.6	24.2	40.7	36.6	41.4		35.0	27.3	N/A	
ADDC-125	330027	369295	31.3	28.4	28.5	19.0	24.6	17.0	20.4	17.3	28.6	28.0	34.4	26.1	25.3	19.7	N/A	
ADDC-126	328895	370063		24.7	25.9	17.0	21.6	15.0	14.5	15.1	19.4	14.9	30.2		19.8	15.5	N/A	
ADDC-127	330972	368628	36.3	33.1	32.3	25.2	24.2		25.9	19.6	32.1	28.3	34.7	28.1	29.1	22.7	N/A	
ADDC-107	323500	363397	13.5	8.3	12.3	6.0	7.7	4.9	5.8	4.1	9.8	12.5	15.4		9.1	7.1	N/A	
ADDC-084	326643	365550	36.1	27.9	29.3	30.6	29.2	27.5	24.2	19.6	34.8	24.1	28.8	26.8	28.2	22.0	N/A	
ADDC-064	331648	365730	24.9	37.2	33.6	22.8	23.2	26.0	24.7		27.7	29.8	32.9	26.3	28.1	21.9	N/A	
ADDC-098	331648	365730	23.9	35.0	37.7	21.9	26.0	25.1	23.9		22.1		36.3		28.0	21.1	N/A	
ADDC-117	332500	367357	21.8	14.9	15.9	8.9	9.8	6.6	9.8	6.9	14.3		20.3		12.9	10.1	N/A	
ADDC-099	330727	367354	24.6	34.9	40.1	18.8	22.0	14.4	18.6	20.8	26.4	31.7	34.0	23.6	25.8	20.1	N/A	
ADDC-023	331663	368028	32.4	31.1	28.7	18.0	21.7	18.6	19.3	18.2	23.7	26.5	30.7	22.9	24.3	19.0	N/A	
ADDC-024	330599	368922	29.8	22.8	25.7	23.7	23.9	18.7	19.7	15.4	32.2	25.0	31.7	22.9	24.3	18.9	N/A	
ADDC-118	336904	364852		14.8	13.5	8.2	11.5	8.1	9.4		11.5		20.4	14.1	12.4	9.5	N/A	
ADDC-128	331041	368580	37.0	35.2	29.6	31.8		19.0	22.4	19.4	38.8	29.7	33.7	24.7	29.2	22.8	N/A	
ADDC-129	331585	368212	33.9	37.4	33.3	26.6	28.9	20.3	25.1	23.2	32.8	35.0	40.0	30.6	30.6	23.9	N/A	
ADDC-116	332535	368907	24.1	20.3	23.5	12.3	16.2	12.0	13.7	12.7	8.5	18.8	27.2	18.2	17.3	13.5	N/A	
ADDC-029	333645	370898	18.9	20.9	20.9	10.6	14.4	9.2	10.4	10.0	13.9	18.1	21.7	17.7	15.6	12.1	N/A	
ADDC-130	328346	363915	25.0	16.6	19.8	13.6	16.4	13.1	13.2	10.7	26.3	18.5	24.5		18.0	14.0	N/A	

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	Annual Mean: Distance Corrected to Nearest Exposure	Comment
ADDC-083	330792	367434	28.5	34.9	46.1	25.6	31.8	23.9	24.3	23.2	30.3	33.4	28.2	29.5	30.0	23.4	N/A	
ADDC-131	330577	368830	14.6	13.8	14.9	8.6	11.3	9.1	9.9	7.3	12.3	15.3	21.2		12.6	9.8	N/A	
ADDC-132	330576	368831	19.1		15.4	7.3	11.4	7.7	8.5	6.7		13.1	20.1		12.1	9.7	N/A	
ADDC-034	333040	369051	18.5	20.3	17.2		15.4	11.9	13.3	12.0	16.2	17.7	23.8		16.6	13.0	N/A	
ADDC-120	330528	362756	24.7	17.7	16.5	6.4	17.0	12.2	13.3	14.1	15.4	16.5	24.4	18.2	16.4	12.8	N/A	
ADDC-133	318327	376004	13.8	13.7	19.2	9.1	11.2	6.9	6.7	5.2	9.8	14.9	18.4	7.1	11.3	8.8	N/A	
ADDC-142	332294	367695	35.0	30.9	25.6	21.4	22.0	19.5	19.8	17.2	25.4	23.2	34.4	25.9	25.0	19.5	N/A	
ADDC-093	324935	372722	20.1	24.7	20.9	17.4	18.6	14.8	15.7	12.4	19.9	21.9	28.1	18.5	19.4	15.1	N/A	
ADDC-044	324459	373141	22.8	21.5	21.8	13.3	16.2	14.1	14.3	12.5	17.6	19.3	24.9	16.4	17.9	14.0	N/A	
ADDC-067	333568	363511	28.8	25.7	27.8	15.7	20.7	18.1	17.5	17.0	18.8	19.1	29.4		21.7	16.9	N/A	
ADDC-068	318766	375758	23.3	22.8	24.3	17.8	19.4	11.8	17.0	15.0	22.4	19.0	27.2	21.5	20.1	15.7	N/A	
ADDC-135	318460	375799	15.0	14.1	18.6	9.4	11.2	7.5	7.6	7.5	13.8	16.9	10.5		12.0	9.4	N/A	
ADDC-070	331806	368271	27.7	22.8	24.3	13.3	16.5	15.0	15.6	15.2	21.1	22.5	27.0	20.5	20.1	15.7	N/A	
ADDC-081	324281	364926	26.2		27.2	12.6	17.0		13.9		17.4	22.3	22.4		19.9	14.4	N/A	
ADDC-119	330705	358429	10.0	11.6	11.8	6.7	8.9	6.4	7.3	5.0		11.0	17.1	11.3	9.7	7.6	N/A	
ADDC-136	333256	369187	24.2	17.2	13.5	10.7	13.7	10.8	11.0	8.7	12.7	14.1	20.8		14.3	11.2	N/A	
ADDC-137	331968	368178		39.3	47.9	26.3	32.5	18.8	25.6	27.1	33.0	40.3	42.7		33.4	26.0	N/A	
ADDC-138	330650	367158	31.3	22.3	16.7	12.8	18.3	16.5	23.4	14.2	21.4	16.7	24.2	21.7	20.0	15.6	N/A	
ADDC-112	324838	372198	16.4	12.2	14.9	9.4	9.0	6.8	8.3	4.7	10.0	11.9	14.5	10.3	10.7	8.3	N/A	
ADDC-144	324217	372044	16.1	12.5	13.9	7.7	9.9	8.2	7.2	4.9	7.5	10.9	17.3		10.6	8.2	N/A	
ADDC-091	325961	371822		20.4	25.0	12.8	23.4	17.1	18.0	11.6	24.3	22.5	23.0	19.0	19.7	15.4	N/A	
ADDC-143	324013	363629	13.4	8.3	11.1	4.3	7.8	4.4	5.4	4.1	6.2	9.6	10.9		7.8	6.1	N/A	
ADDC-110	329284	366504	17.2	19.9	20.0	8.1	14.0	10.4	12.8	11.5		17.7	24.7	17.6	15.8	12.3	N/A	
ADDC-100	326643	365550	36.1	31.0	27.3	29.0	30.4	28.0	25.4	21.3	26.3	25.6	25.9	14.4	26.7	20.8	N/A	

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	Annual Mean: Distance Corrected to Nearest Exposure	Comment
ADDC-060	338283	365032	26.0	16.6	25.8		15.1	12.1	12.4	9.8	17.2	14.4	22.5	17.3	17.2	13.4	N/A	
ADDC-061	334739	363340	22.0	13.8	17.4	10.5	12.7	7.8	10.6	10.6	12.9	13.4	19.3	10.6	13.5	10.5	N/A	
ADDC-145	330913	357931	15.4	9.6	13.7	6.4	8.9	4.7	7.2	6.1	11.2		17.5		10.1	7.9	N/A	
ADDC-101	330792	367434	27.4	36.1	42.6	27.2	32.8	24.0	25.0	22.6	38.9	33.0	32.4	21.8	30.3	23.6	N/A	
ADDC-109	327843	363856	14.5	10.7	16.4	6.9	9.7	6.8	6.7		8.4	10.4	16.5		10.7	8.3	N/A	
ADDC-139	327782	363934		10.2	16.4	7.1	7.5	6.0	5.0	4.5	11.4		17.2		9.5	7.6	N/A	
ADDC-140	323158	363965	12.1	9.0	13.9	6.1	7.7	5.1	5.6	3.7	7.4	8.8	8.8		8.0	6.3	N/A	
ADDC-141	324143	364238	15.9	14.8	13.0	6.9		7.6	7.2	7.4	8.7	11.2	16.5	9.0	10.7	8.4	N/A	
ADDC-104	332558	368750	23.9	23.7	28.1	12.3	16.9	10.7	15.6	13.5	16.4	22.7	24.6	17.3	18.8	14.7	N/A	
ADDC-089	324375	365007	41.2	34.8	38.7	35.5	33.0	36.1	32.7	29.6	44.1	31.9	31.2	26.1	34.6	27.0	N/A	
ADDC-122	324530	363839	26.5	27.5	24.4	21.6	22.6	20.1	18.9	17.4	27.6	22.3	30.4	23.4	23.6	18.4	N/A	
ADDC-123	324562	363840			24.5	14.3	20.4	17.0	14.9	10.7	19.9				17.4	14.8	N/A	

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**.

See Appendix C for details on bias adjustment and annualisation.

Appendix B: A Summary of Local Air Quality Management

5.5 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.

5.6 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

5.7 QA/QC of Diffusion Tube Monitoring

Socotec Didcot is a UKAS accredited laboratory which participates in the new AIR-PT Scheme (a continuation of the Workplace Analysis Scheme for Proficiency (WASP)) for NO₂ tube analysis and the Annual Field Inter-Comparison Exercise. These provide strict performance criteria for participating laboratories to meet, thereby ensuring NO₂ concentrations reported are of a high calibre. The lab follows the procedures set out in the Harmonisation Practical Guidance. In the latest assessment (AIR PT AR063) Socotec achieved 100% satisfactory results, the maximum possible score.

In most instances, the diffusion tube monitoring survey was carried out in adherence with the DEFRA diffusion tube calendar by all local authorities. When the tubes were not collected on the exact day specified by the diffusion tube calendar, actual collection occurred within +/- 2 days of the specified date, which is within acceptable margins. On two occasions **CCBC** diffusion tubes were deployed on incorrect dates. In June, **CCBC** tubes were deployed a week late due to the tubes being lost in the post resulting in a slight delay. In August, the tubes were unintentionally replaced a week early.

Diffusion Tube Annualisation

All the diffusion tube monitoring sites which recorded a data capture of less than 75% during 2024 have been annualised according to the methodology set out in LAQM.TG(22). Annualisation is required for any site with data capture less than 75% but greater than 25%. Details of the calculation method undertaken are provided in Table C.1, Table C.2 and Table C.3.

NO₂ diffusion tubes concentrations were annualised using automatic monitoring sites which reported data capture above 85% during 2024. Monitoring sites in background locations were prioritised to avoid any local effects that may occur at Urban Centre, Roadside or Kerbside sites. In some instances, it was necessary to use non-background local automatic monitoring stations, in addition to, the data obtained from the background monitoring locations due to insufficient data capture and limited automatic analysers located throughout North Wales.

GC, **CCBC** and **FCC** used data from the Victoria Road AURN (roadside), Marchlyn Mawr (rural background) and Wrexham Chirk Community Hospital (urban background)

continuous analysers to derive an annualisation factor. Historically data from Aston Hill (Aston Expressway A494 Deeside) has been used for verification. This site is managed outside the jurisdiction of **FCC** and had insufficient data capture for use in annualisation this year. The automatic monitoring locations are representative of the environment surrounding the diffusion tubes that need annualisation. In summary, the annualisation factors for the local authorities were:

- The annualisation factor used for **GC** was 0.97 – 1.06.
- The annualisation factor used for **CCBC** was 1.00.
- The annualisation factors used for **FCC** were between 0.93 – 1.09 depending on the sample period duration.

Table C.1 – Annualisation Summary (concentrations presented in $\mu\text{g}/\text{m}^3$), GC

Site ID	Annualisation Factor Marchlyn Mawr	Annualisation Factor Victoria Road AURN	Average Annualisation Factor	Raw Data Simple Annual Mean ($\mu\text{g}/\text{m}^3$)	Annualised Data Simple Annual Mean ($\mu\text{g}/\text{m}^3$)
GCC 037	1.0733	0.8753	0.9743	15.6	15.2
GCC 039	1.0951	1.0225	1.0588	20.2	21.3

Table C.2 – Annualisation Summary (concentrations presented in $\mu\text{g}/\text{m}^3$), CCBC

Diffusion Tube ID	Annualisation Factor Marchlyn Mawr	Annualisation Factor Victoria Road AURN	Average Annualisation Factor	Raw Data Simple Annual Mean ($\mu\text{g}/\text{m}^3$)	Annualised Data Simple Annual Mean ($\mu\text{g}/\text{m}^3$)
DT/CCBC036	1.0686	0.9355	1.0020	8.7	8.8

Table C.3 – Annualisation Summary (concentrations presented in $\mu\text{g}/\text{m}^3$), FCC

Diffusion Tube ID	Annualisation Factor Marchlyn Mawr	Annualisation Factor Victoria Road AURN	Average Annualisation Factor	Raw Data Simple Annual Mean ($\mu\text{g}/\text{m}^3$)	Annualised Data Simple Annual Mean ($\mu\text{g}/\text{m}^3$)
ADDC-098	0.9363	1.0007	0.9685	28.0	27.1
ADDC-118	0.9712	1.0054	0.9883	12.4	12.2
ADDC-132	0.9864	1.0643	1.0253	12.1	12.5
ADDC-081	0.9121	0.9479	0.9300	19.9	18.5
ADDC-139	0.9706	1.0832	1.0269	9.5	9.7
ADDC-123	0.9366	1.2428	1.0897	17.4	18.9

Automatic Monitoring Annualisation

Two of the three automatic monitoring locations within **WCBC** recorded data capture of greater than 75%. NO₂ data capture at the Wrexham Chirk automatic site was between 75% and 25% (68.4%) and is therefore suitable for annualisation. The particulate matter (PM₁₀ and PM_{2.5}) sensors on all automatic sites in North Wales reported greater than 75% data capture and as such no annualisation of particulate matter data is required. The annualisation calculations are shown in Table C.4 and summarised in Table C.5 below.

Table C.4 – Automatic Annualisation Annual Mean Against Period Mean (concentrations presented in µg/m³), WCBC

Background Site*	Annual Data Capture	Annual Mean (A _m)	Wrexham Chirk Period Mean (P _m)	Wrexham Chirk Ratio (A _m /P _m)
Victoria Road AURN	99.1	13.3	13.3	1.000
Marchlyn Mawr	99.9	1.3	1.3	1.004

* Victoria Road AURN site is not a background site. Data capture at Wrexham Chirk Urban Background site was less than 85% and could not be used for annualisation. There are no other background sites present in North Wales. Consequently, a roadside site (Victoria Road AURN) was chosen to inform the annualisation calculations. This mirrors the approach taken for the diffusion tubes and has been implemented in previous APRs. The Victoria Road Annualisation factor is in agreement with the factor derived from Marchlyn Mawr giving confidence to this approach.

Table C.5 – Automatic Annualisation Summary (concentrations presented in µg/m³), WCBC

Average Wrexham Chirk Ratio (R _a)	Raw Data Annual Mean (M)	Annualised Annual Mean (M x R _a)
1.002	16.4	16.5

The Aston Hill (Aston Expressway A494 Deeside) automatic site in Flintshire also recorded data capture between 75% and 25% (46%) however this site is not operated by **FCC** and lies outside of its jurisdiction.

Diffusion Tube Bias Adjustment Factors - National

The national bias adjustment factor for Socotec Didcot was derived from the [National Diffusion Tube Bias Adjustment Factor Spreadsheet v06/25](#). In 2024, 33 studies were used to inform the Socotec bias adjustment factor as presented in Table C.6.

Table C.6 – Bias Adjustment Factor

Local authority	Laboratory	Method	2024 Bias adjustment factor	Number of studies
IACC	Socotec Didcot	50% TEA in acetone	0.78	33
DCC	Socotec Didcot	50% TEA in acetone	0.78	33
GC	Socotec Didcot	50% TEA in acetone	0.78	33
WCBC	Socotec Didcot	50% TEA in acetone	0.78	33
CCBC	Socotec Didcot	50% TEA in acetone	0.78	33
FCC	Socotec Didcot	50% TEA in acetone	0.78	33

NO₂ Fall-off with Distance from the Road

No diffusion tube NO₂ monitoring locations within North Wales Combined Authorities required distance correction during 2024.

Diffusion Tube Bias Adjustment Factors – Local

WCBC co-located three diffusion tubes alongside the Victoria Road AURN automatic monitor during 2024. The calculation steps and resulting local bias adjustment factor (0.89) for WCBC is presented in Table C.7.

FCC has co-located three diffusion tubes, these are ADDC-008, ADDC-083 and ADDC-101. These diffusion tubes have been co-located with the Aston Hill (Aston Expressway A494 Deeside) automatic monitor on the A494 in Deeside. The resulting local bias adjustment factor (0.63) for FCC is presented in Table C.8. Data capture at the Aston Expressway A494 Deeside site was 46% and therefore unsuitable for calculating a local bias adjustment factor. The calculations have been included in this report for the basis of comparison only.

Table C.7 – WCBC Local Bias Adjustment Calculations

	Local Bias Adjustment Input 1
Periods used to calculate bias	11
Bias Factor A	0.9 (0.8 - 1.02)
Bias Factor B	12% (-2% - 25%)
Diffusion Tube Mean ($\mu\text{g}/\text{m}^3$)	14.4
Mean CV (Precision)	7.3%
Automatic Mean ($\mu\text{g}/\text{m}^3$)	12.9
Data Capture (for periods used to calculate bias)	99%
Overall Data Capture	99%
Adjusted Tube Mean ($\mu\text{g}/\text{m}^3$)	13 (12 - 15)

Table C.8 – FCC Local Bias Adjustment Calculations

	Local Bias Adjustment Input 1
Periods used to calculate bias	5
Bias Factor A	0.63 (0.57 - 0.72)
Bias Factor B	58% (39% - 77%)
Diffusion Tube Mean ($\mu\text{g}/\text{m}^3$)	30.0
Mean CV (Precision)	11.6%
Automatic Mean ($\mu\text{g}/\text{m}^3$)	19.0
Data Capture (for periods used to calculate bias)	99%
Overall Data Capture	46%
Adjusted Tube Mean ($\mu\text{g}/\text{m}^3$)	19 (17 - 22)

For **WCBC** a comparison of the two datasets utilising the national BAF of 0.78 versus the local BAF of 0.89 is shown in Table C.9. Using a local factor has resulted in an average $1.95 \mu\text{g}/\text{m}^3$ increase in the annual mean average concentrations.

Table C.9 – Comparison of Local and National WCBC Bias Adjustment Factors

Site ID	Annual Mean ($\mu\text{g}/\text{m}^3$)	Bias Adjusted Annual Mean ($\mu\text{g}/\text{m}^3$)	Bias Adjusted Annual Mean ($\mu\text{g}/\text{m}^3$)
	Raw Data	National Factor (0.78)	Local Factor (0.89)
1	25.5	19.9	22.8
34	9.5	7.4	8.5
45	24.7	19.3	22.1

Site ID	Annual Mean ($\mu\text{g}/\text{m}^3$)	Bias Adjusted Annual Mean ($\mu\text{g}/\text{m}^3$)	Bias Adjusted Annual Mean ($\mu\text{g}/\text{m}^3$)
	Raw Data	National Factor (0.78)	Local Factor (0.89)
36	16.4	12.8	14.7
10	11.5	8.9	10.2
49	9.4	7.3	8.3
42	21.9	17.1	19.6
50	18.3	14.3	16.3
51	12.0	9.4	10.7
52	19.2	15.0	17.2
53	20.0	15.6	17.9
22	14.8	11.5	13.2
32	23.9	18.6	21.3
30	31.6	24.7	28.2
31	28.7	22.4	25.6
33	22.3	17.4	19.9
37	13.7	10.6	12.2
38	16.1	12.5	14.3
44	27.4	21.4	24.5
40	7.8	6.1	7.0
41	13.0	10.2	11.6
43	19.9	15.5	17.7
46	23.0	18.0	20.6
48	16.5	12.8	14.7
54	19.1	14.9	17.1
55	10.9	8.5	9.7
56	15.1	11.8	13.5
57	12.7	9.9	11.3
58	12.8	10.0	11.4
59	11.6	9.0	10.3
60	6.9	5.4	6.2
61	17.5	13.7	15.7

A comparison of the two **FCC** datasets utilising the national BAF of 0.78 versus the local BAF of 0.63 has resulted in an average 2.82 $\mu\text{g}/\text{m}^3$ reduction in the annual mean average, as shown in Table C.10.

Table C.10 – Comparison of Local and National FCC Bias Adjustment Factors

Diffusion Tube ID	Annual Mean ($\mu\text{g}/\text{m}^3$)	Bias Adjusted Annual Mean ($\mu\text{g}/\text{m}^3$)	Bias Adjusted Annual Mean ($\mu\text{g}/\text{m}^3$)
	Raw Data	National Factor (0.78)	Local Factor (0.63)
ADDC-008	30.3	23.6	19.2
ADDC-009	16.0	12.5	10.1
ADDC-085	20.9	16.3	13.2
ADDC-111	13.0	10.1	8.2
ADDC-105	13.0	10.1	8.2
ADDC-124	35.0	27.3	22.1
ADDC-125	25.3	19.7	16.0
ADDC-126	19.8	15.5	12.6
ADDC-127	29.1	22.7	18.4
ADDC-107	9.1	7.1	5.8
ADDC-084	28.2	22.0	17.9
ADDC-064	28.1	21.9	17.8
ADDC-098	28.0	21.1	17.2
ADDC-117	12.9	10.1	8.2
ADDC-099	25.8	20.1	16.3
ADDC-023	24.3	19.0	15.4
ADDC-024	24.3	18.9	15.4
ADDC-118	12.4	9.5	7.7
ADDC-128	29.2	22.8	18.5
ADDC-129	30.6	23.9	19.4
ADDC-116	17.3	13.5	10.9
ADDC-029	15.6	12.1	9.8
ADDC-130	18.0	14.0	11.4
ADDC-083	30.0	23.4	19.0
ADDC-131	12.6	9.8	8.0

Diffusion Tube ID	Annual Mean ($\mu\text{g}/\text{m}^3$)	Bias Adjusted Annual Mean ($\mu\text{g}/\text{m}^3$)	Bias Adjusted Annual Mean ($\mu\text{g}/\text{m}^3$)
	Raw Data	National Factor (0.78)	Local Factor (0.63)
ADDC-132	12.1	9.7	7.9
ADDC-034	16.6	13.0	10.5
ADDC-120	16.4	12.8	10.4
ADDC-133	11.3	8.8	7.2
ADDC-142	25.0	19.5	15.8
ADDC-093	19.4	15.1	12.3
ADDC-044	17.9	14.0	11.3
ADDC-067	21.7	16.9	13.7
ADDC-068	20.1	15.7	12.7
ADDC-135	12.0	9.4	7.6
ADDC-070	20.1	15.7	12.7
ADDC-081	19.9	14.4	11.7
ADDC-119	9.7	7.6	6.2
ADDC-136	14.3	11.2	9.1
ADDC-137	33.4	26.0	21.1
ADDC-138	20.0	15.6	12.6
ADDC-112	10.7	8.3	6.8
ADDC-144	10.6	8.2	6.7
ADDC-091	19.7	15.4	12.5
ADDC-143	7.8	6.1	4.9
ADDC-110	15.8	12.3	10.0
ADDC-100	26.7	20.8	16.9
ADDC-060	17.2	13.4	10.9
ADDC-061	13.5	10.5	8.5
ADDC-145	10.1	7.9	6.4
ADDC-101	30.3	23.6	19.2
ADDC-109	10.7	8.3	6.8
ADDC-139	9.5	7.6	6.2
ADDC-140	8.0	6.3	5.1

Diffusion Tube ID	Annual Mean ($\mu\text{g}/\text{m}^3$)	Bias Adjusted Annual Mean ($\mu\text{g}/\text{m}^3$)	Bias Adjusted Annual Mean ($\mu\text{g}/\text{m}^3$)
	Raw Data	National Factor (0.78)	Local Factor (0.63)
ADDC-141	10.7	8.4	6.8
ADDC-104	18.8	14.7	11.9
ADDC-089	34.6	27.0	21.9
ADDC-122	23.6	18.4	14.9
ADDC-123	17.4	14.8	12.0

All the sites have remained well below the objective level for NO_2 . Box 7.13 of LAQM.TG(22) leaves the decision of which BAF to use up to the local authority providing helpful reasons to favour one over the other. There are aspects within the favourable reasons reported in Box 7.13 of the LAQM.TG(22) document for both the locally obtained and national BAF's which describe Wrexham's circumstances, namely:

- For a local BAF: "Co-location sites with "good" precision for the diffusion tubes and with high quality chemiluminescence results, i.e. to national AURN standards.
- For national BAF: "Where the survey consists of tubes exposed over a range of settings, which differ from the co-location site."

WCBC has historically used the nationally derived BAF and for this report has continued to do so. This provides consistency across the monitoring period discussed in this report, allowing for reasonable comparisons and conclusions to be made on the local air quality during recent years. This year the **WCBC** local BAF is slightly higher than the local BAF. As a sensitivity test, even if the higher local BAF is applied, all annual mean concentrations remain below $30 \mu\text{g}/\text{m}^3$, well below the relevant AQO. The maximum annual mean concentration applying the local BAF is $28.2 \mu\text{g}/\text{m}^3$ at diffusion tube 30. The diffusion tubes placed across Wrexham can differ in settings compared to the open nature of the co-location study area contrasting with monitoring location, e.g. building facades.

Similarly, **FCC** has historically used the nationally derived BAF, and as a continuation of this approach, the national bias adjustment factor has been applied to monitoring results reported within **FCC** during 2024.

5.8 QA/QC of Automatic Monitoring

PM₁₀ and PM_{2.5} Monitoring Adjustment

WCBC

The particulate monitoring undertaken at Victoria Road AURN site is with a FIDAS analyser which is a light scattering type analyser. As this is an AURN site and therefore owned by DEFRA and Welsh Government, **WCBC** has no control over the analysers. Data is available from the [Welsh air quality website](#).

The particulate monitors used at both the sites in Chirk are also light scattering analysers. They are classed as MCERTs indicative. Hence, they will measure within +/- 5% of the EU Equivalent monitors. These were seen as giving sufficiently robust monitoring versus costs, ease of use and availability of the monitoring data for public access. They can also easily be redeployed where monitoring is required at short notice, such as in the event of a fire for example.

NO₂ Fall-off with Distance from the Road

No automatic NO₂ monitoring locations within North Wales Combined Authorities required distance correction during 2024.

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
AQO	Air Quality Objective
APR	Air quality Annual Progress Report
ATNM	Active Travel Network Map
AURN	Automatic Urban and Rural Network (UK air quality monitoring network)
BAF	Bias Adjustment Factor
CCBC	Conwy County Borough Council
DCC	Denbighshire County Council
Defra	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges – Air quality screening tool produced by Highways England
FCC	Flintshire County Council
FDMS	Filter Dynamics Measurement System
GC	Gwynedd Council
IACC	Isle of Anglesey County Council
LAQM	Local Air Quality Management
LDP	Local Development Plan
LTP	Local Transport Plan
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxides

Abbreviation	Description
PM ₁₀	Airborne particulate matter with an aerodynamic diameter of 10 µm (micrometres or microns) or less
PM _{2.5}	Airborne particulate matter with an aerodynamic diameter of 2.5 µm or less
QA/QC	Quality Assurance and Quality Control
RTP	Regional Transport Plan
SO ₂	Sulphur Dioxide
WCBC	Wrexham County Borough Council