



## **Report of the Cabinet Member for Environment Enhancement and Infrastructure Management**

### **The Natural Environment Scrutiny Performance Panel 29<sup>th</sup> June 2021**

#### **An update on Air Quality in Swansea**

<b>Purpose</b>	To brief/update the Natural Environment Scrutiny Performance Panel Tuesday 29 <sup>th</sup> June 2021 at 10am
<b>Content</b>	An update on air pollution levels measured across Swansea and policy/practical options for reducing such levels
<b>Councillors are being asked to</b>	Consider the information provided and give views
<b>Lead Councillor(s)</b>	Councillor Mark Thomas, Cabinet Member for Environment Enhancement and Infrastructure Management
<b>Lead Officer &amp; Report Author</b>	Tom Price Team Leader Pollution Control and Private Sector Housing Tel: 01792 635600 E-mail: tom.price@swansea.gov.uk

#### **1. Air Quality in Swansea Council**

- 1.1** Swansea Council submits an Annual Progress Report (APR) to Welsh Government (WG) each year advising upon the assessment of ambient air quality in accordance with the EU objective concentrations. Due to the Coronavirus Pandemic, the APR has not been submitted in 2020 and is currently being prepared for submission to WG.
- 1.2** The draft conclusions reached for 2019 & 2020 are that the objectives for benzene, lead and sulphur dioxide have been met and that there is no requirement to proceed any further in reporting upon these pollutants. The council no longer monitors for benzene and lead and currently has two monitoring locations for sulphur dioxide.
- 1.3** All monitoring sites remain compliant with both the annual mean and daily mean exceedance (35 days permitted) for particulate matter PM<sub>10</sub>.

- 1.4 There are also three fixed monitoring locations for particulate matter PM<sub>2.5</sub> in Swansea.
- 1.5 The main pollutant of interest, for exceeding the National Air Quality Objective Concentration in Swansea, is Nitrogen Dioxide (NO<sub>2</sub>), for the annual mean Objective of 40µgm<sup>-3</sup>.
- 1.6 Monitoring data collected during 2019 and 2020 indicates that compliance with the annual mean concentration for NO<sub>2</sub> continues.
- 1.7 Acknowledgment is made to the Coronavirus Pandemic and the 'Lock Down' processes and the effects upon people's activities.

## **2. Air Pollution Concentrations Measured Across Swansea**

- 2.1 Real-time monitoring data is available via <http://swansea.airqualitydata.com/> and data can be downloaded from this site. The Council's data can also be viewed and downloaded via the Welsh Air Quality Forum website <https://airquality.gov.wales/>

## **3. Nitrogen Dioxide**

- 3.1 Swansea Council utilises both automatic and non-automatic monitoring methods when undertaking it's Local Air Quality Management duties.
- 3.2 See Appendix A for the map to show the location of the automatic monitoring sites in Swansea.
- 3.3 See Appendix B for the map to show the location of the non-automatic monitoring sites in Swansea.
- 3.4 The ratified 2019 and provisional 2020 datasets show that there continues to be no exceedences of the of the annual mean NO<sub>2</sub> Objective at locations within Swansea Council.
- 3.5 See Appendix C for the annual mean data for the continuous monitoring locations.
- 3.6 See Appendix D for the graphs for the datasets for the following areas, that have previously indicated elevated concentrations of NO<sub>2</sub>:
  - 3.6.1 Hafod
  - 3.6.2 High Street
  - 3.6.3 Sketty
  - 3.6.4 Port Tennant
  - 3.6.5 Fforestfach
  - 3.6.6 Mumbles
  - 3.6.7 City Centre
  - 3.6.8 Gowerton

### 3.6.9 Bevans Row, St. Thomas

## **4. Particulate Matter (PM<sub>10</sub>)**

- 4.1 PM<sub>10</sub> is monitored at 5 locations in Swansea. The map in Appendix A shows their locations.
- 4.2 The National Air Quality Objective Concentration, for PM<sub>10</sub>, is annual mean of 40µgm<sup>-3</sup>.
- 4.3 Monitoring data collected during 2019 and 2020 indicates that compliance with the annual mean concentration for PM<sub>10</sub> continues.
- 4.4 See Appendix C for the annual mean data for the continuous monitoring locations.

## **5. Particulate Matter (PM<sub>2.5</sub>)**

- 5.1 PM<sub>2.5</sub> is monitored at 3 locations in Swansea. The map in Appendix A shows their locations.
- 5.2 Currently, in Wales, there is no Air Quality Objective Concentration for PM<sub>2.5</sub>
- 5.3 The World Health Organisation guideline concentration for PM<sub>2.5</sub> is 10µgm<sup>-3</sup>
- 5.4 See Appendix C for the annual mean data for the continuous monitoring locations.

## **6. Policy/Practical Options for Reducing Air Pollution**

- 6.1 The Pollution Control & Private Sector Housing Team continues to monitor air quality across the authority. During the Coronavirus Pandemic, the demand upon provision of Environmental Health Services has increased dramatically and as we work towards the recovery phase, more resource will be redirected towards collaborative air quality approaches.
- 6.2 Whilst Swansea is currently compliant with Welsh Governments' Air Quality Objectives, in-line with Welsh Government policy, the Council will continue to work towards reducing exposure where possible.
- 6.3 Air quality is considered as part of the Planning Consultation processes by the team on a case by case basis.
- 6.4 Collaboration with the Council's Highways Service takes place to provide input and assessment of air quality impacts for highway schemes. For example, the changes to the layout in Tycoch.

- 6.5** The team continues to respond to complaints regarding burning of waste, domestic combustion appliances and provide advice on the appropriate usage of fuels.
- 6.6** As part of a collaboration with the Nature Conservation Team, the installation of a 'Green Screen' along Fabian Way (junction of Port Tennant Road) took place in March 2020. Analysis of the data will take place to assess whether the installation has had an impact on air quality and noise.
- 6.7** The Nowcaster forecast model continues to operate and future works are being scoped to utilise the output for use on social media platforms.
- 6.8** The Council has made a commitment to 'work with others to provide sustainable and low carbon transport and infrastructure, providing improved and cheaper connectivity and mobility and associated benefits at reduced environmental cost and improved air quality'.
- 6.9** The Team continues to collaborate with outside organisations to look at funding possibilities to carry out research in the air quality field. An example can be seen in Appendix E: Estimation of ambient NO<sub>2</sub> and PM<sub>2.5</sub> concentration change in Wales during the COVID-19 outbreak
- 6.10** Recent Welsh Government consultations, White Paper on a Clean Air (Wales) Bill and Reducing emissions from domestic burning of solid fuels, provided an opportunity for all stakeholders to respond to the questions asked by Welsh Government on their future plans to tackle air quality.
- 6.11** The Team will scope potential interventions to look at 'anti-idling' measures for vehicles in Swansea, implantation of new measures to reduce domestic combustion and approaches to the 'New Ways of Working' that have arisen due to the Coronavirus Pandemic.

## **7. Legal Implications**

- 7.1** None

## **8. Finance Implications**

- 8.1** Revenue to fund the existing monitoring set out in this report is contained within existing budgets. Additional development of interventions would need to be assessed for additional funding opportunities.

## **9. Equality & Engagement Implications**

- 9.1** TBC

***Glossary of terms:***

APR – Annual Progress Report

NO<sub>2</sub> – Nitrogen Dioxide

ugm<sup>-3</sup> – micrograms per metre cubed

PM<sub>10</sub> – Particulate Matter <10microns

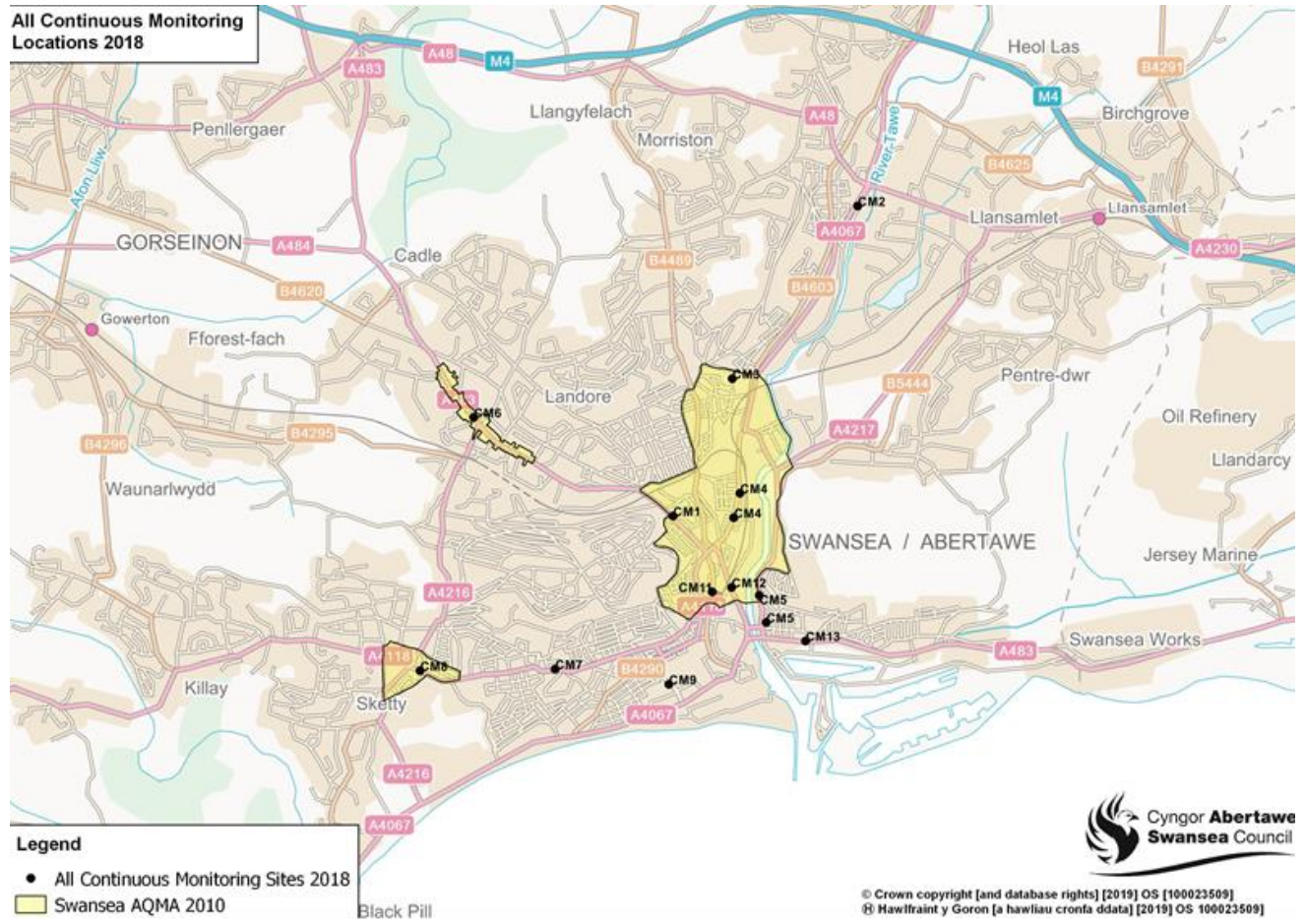
PM<sub>2.5</sub> – Particulate Matter <2.5microns

WAQF – Welsh Air Quality Forum

**Background papers:**

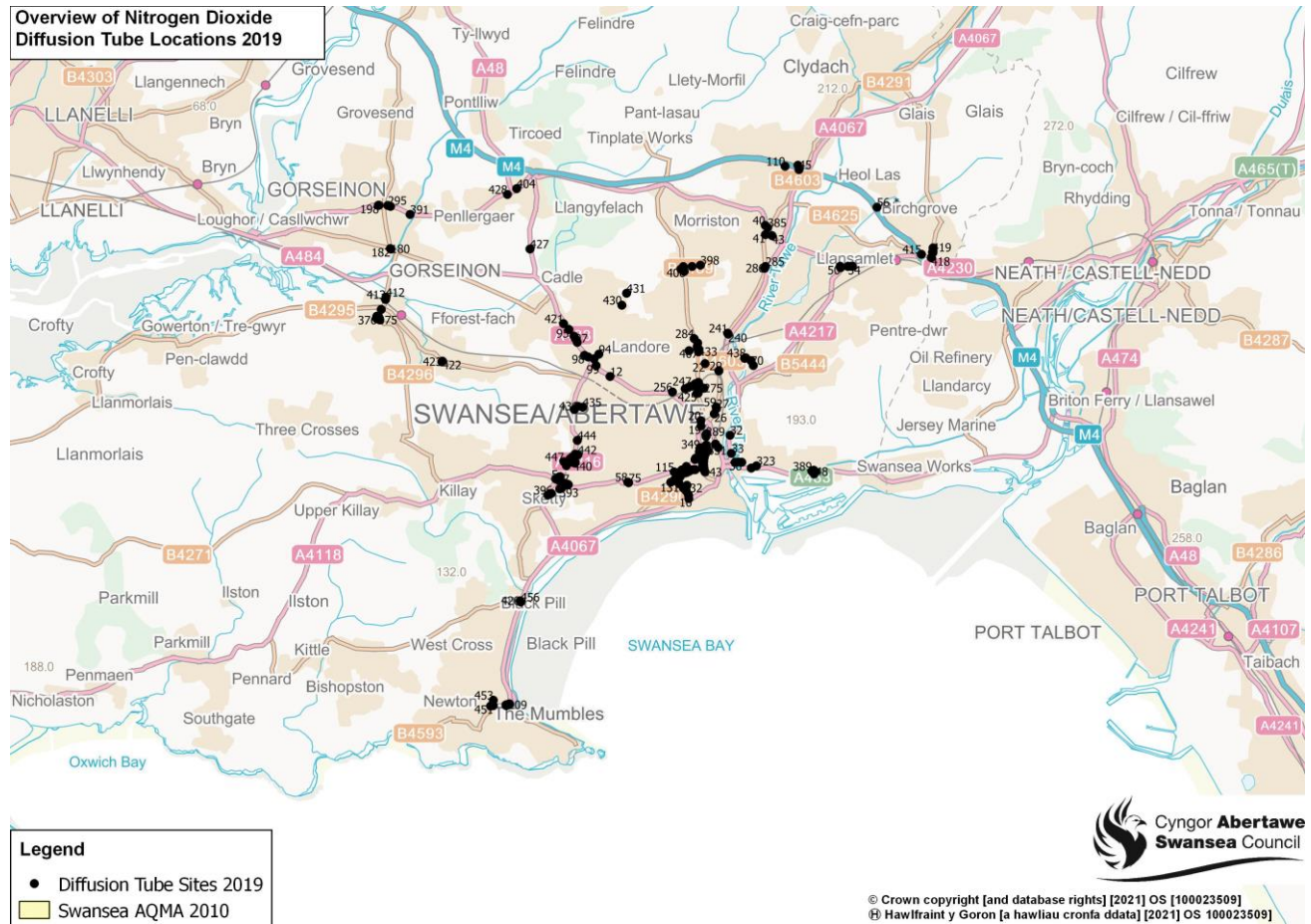
None

# Appendix A: Map to show the location of the automatic monitoring sites in Swansea





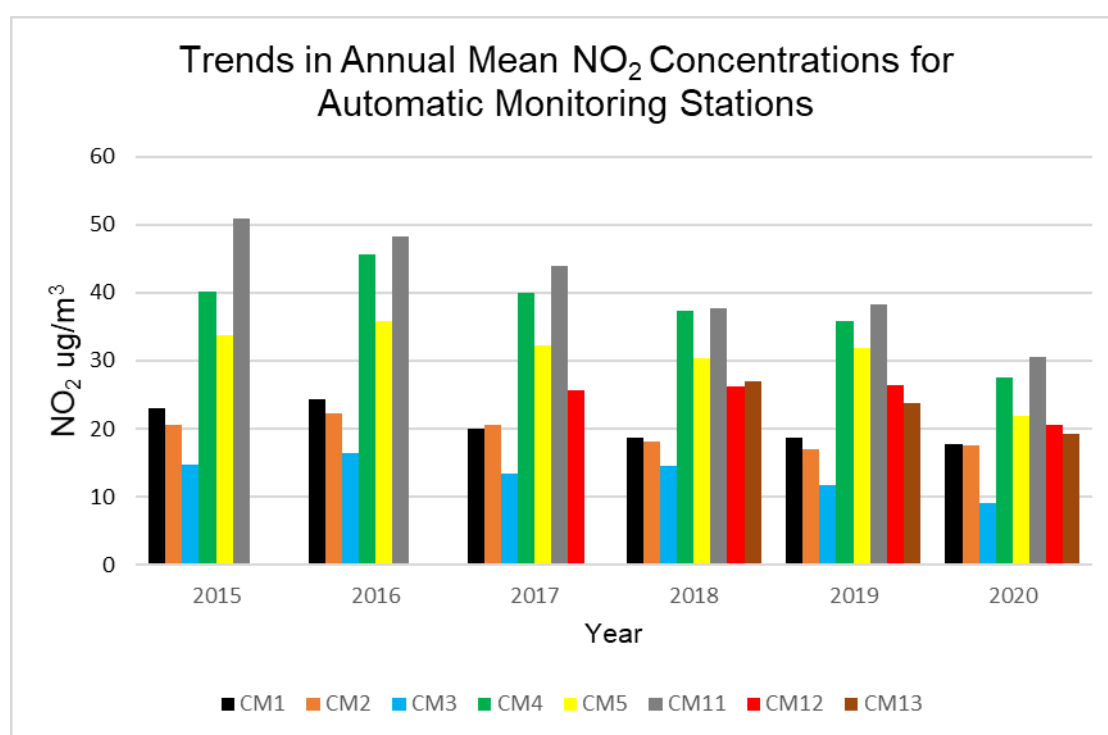
**Appendix B: Map to show the location of the non-automatic monitoring sites in Swansea.**



**Appendix C: The annual mean data for the continuous monitoring locations.**

**Table to show annual mean NO<sub>2</sub> concentrations (µgm<sup>-3</sup>)**

	CM1	CM2	CM3	CM4	CM5	CM11	CM12	CM13
2014	25	21.1	17.08	48.99	35.83	56.85	-	-
2015	23	20.5	14.75	40.24	33.71	50.9	-	-
2016	24.4	22.3	16.39	45.59	35.83	48.3	-	-
2017	20	20.6	13.41	40.04	32.19	44	25.73	-
2018	18.7	18.1	14.46	37.29	30.3	37.7	26.18	27
2019	18.7	16.9	11.72	35.74	31.84	38.2	26.42	23.7
2020	17.67	17.49	9.05	27.59	21.98	30.62	20.6	19.31

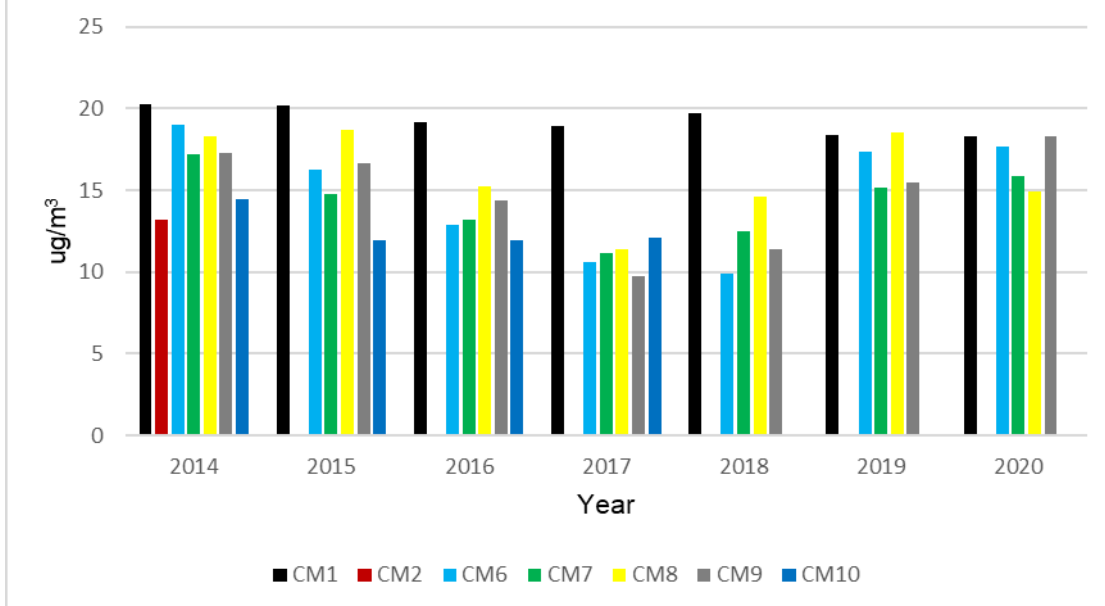


**Table to show annual mean PM<sub>10</sub> concentrations (µgm<sup>-3</sup>)**

	CM1	CM2	CM6	CM7	CM8	CM9	CM10
2014	20.29	13.18	19.02	17.18	18.28	17.27	14.49
2015	20.2		16.25	14.76	18.72	16.62	11.98
2016	19.14		12.91	13.2	15.28	14.4	11.93
2017	18.9		10.61	11.13	11.43	9.74	12.11
2018	19.69		9.9	12.46	14.65	11.39	
2019	18.38		17.35	15.13	18.55	15.47	
2020	18.28		17.7	15.9	14.9	18.3	

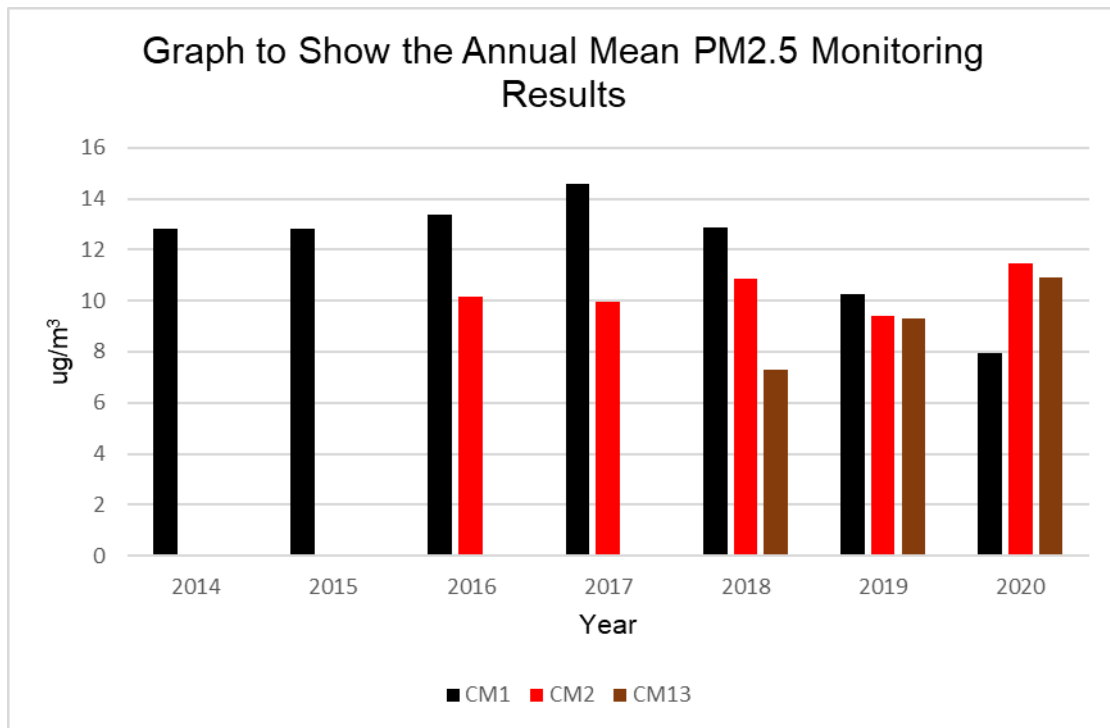


### Graph to Show the Annual Mean PM10 Monitoring Results



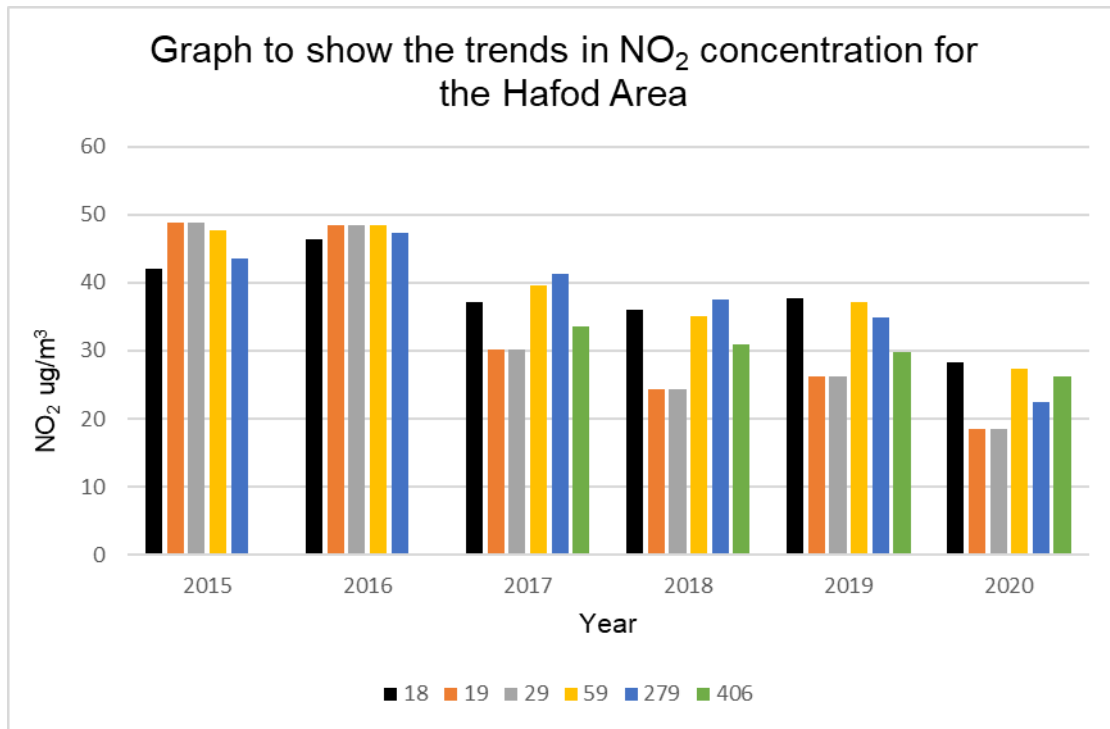
**Table to show annual mean PM<sub>2.5</sub> concentrations ( $\mu\text{g}\text{m}^{-3}$ )**

	CM1	CM2	CM13
2014	12.8		
2015	12.8		
2016	13.37	10.14	
2017	14.6	9.95	
2018	12.86	10.86	7.28
2019	10.27	9.39	9.31
2020	7.97	11.47	10.89

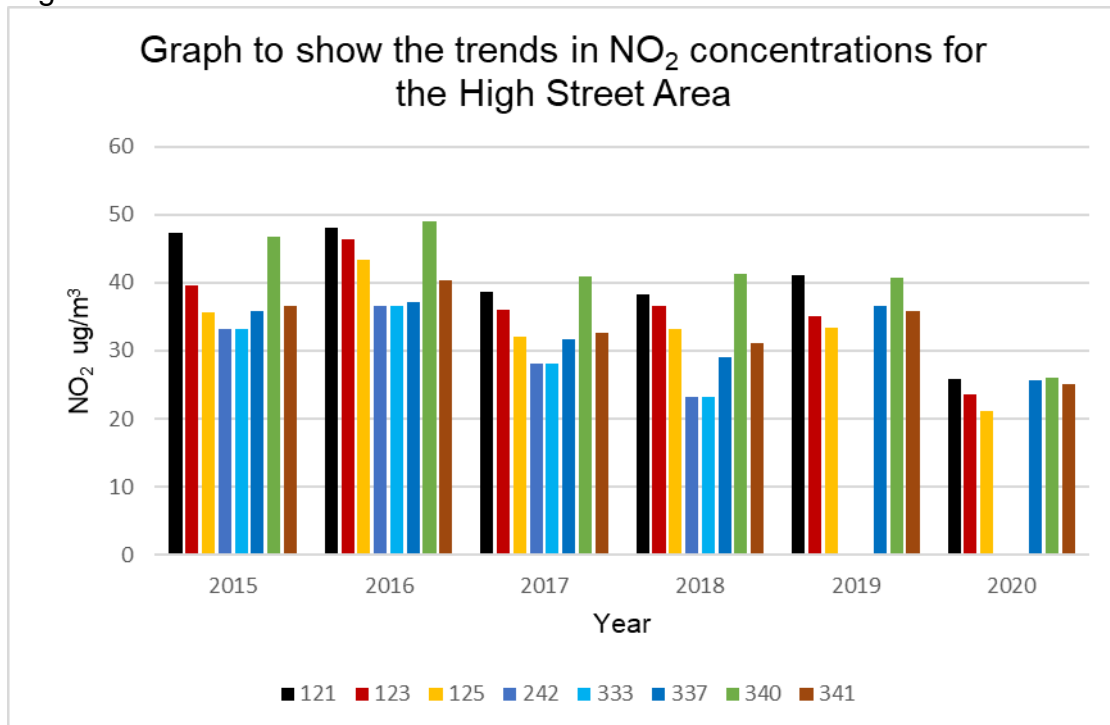


**Appendix D: Extracts from the datasets for the following areas, that have previously indicated elevated concentrations of NO<sub>2</sub>**

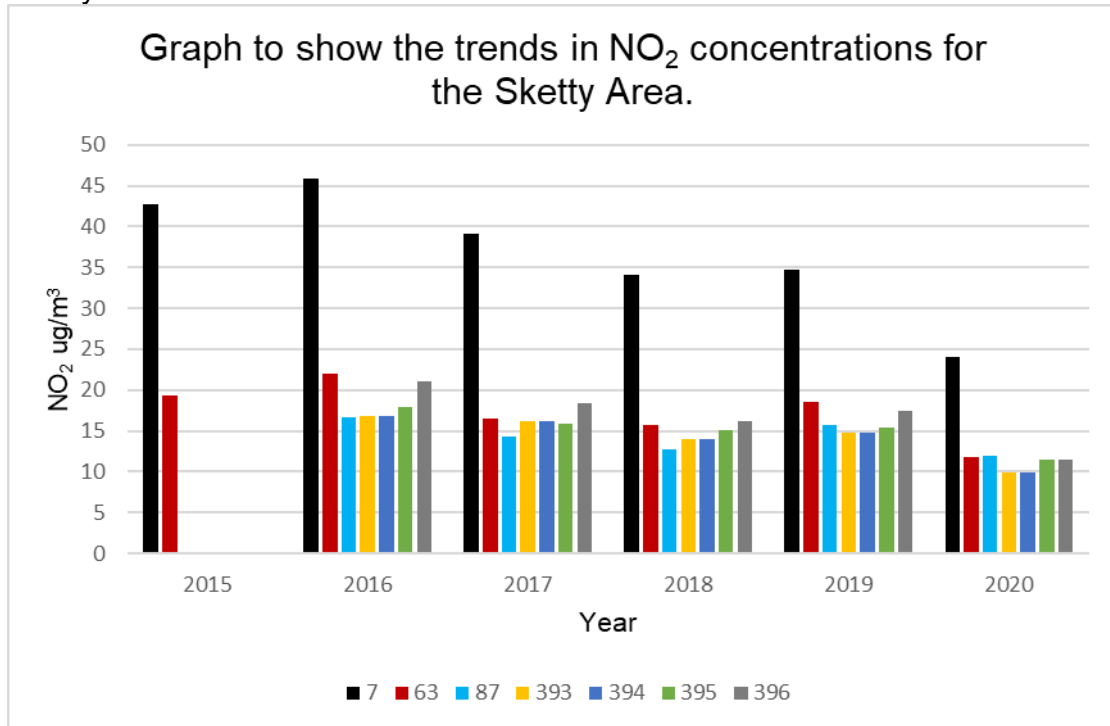
Hafod:



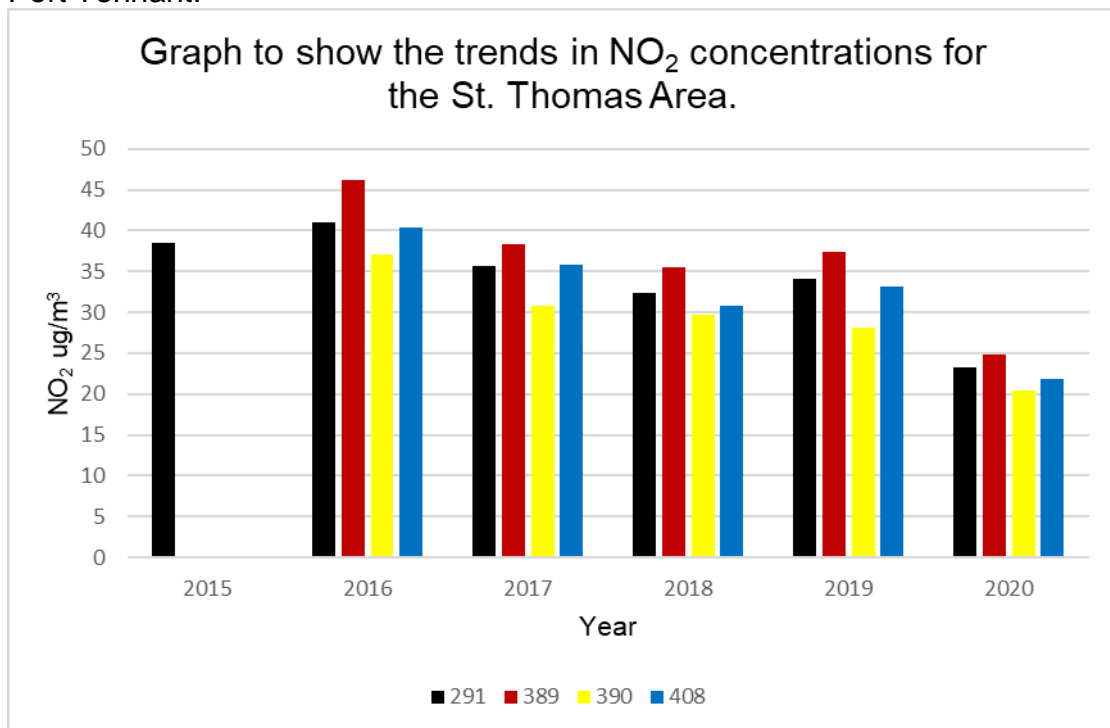
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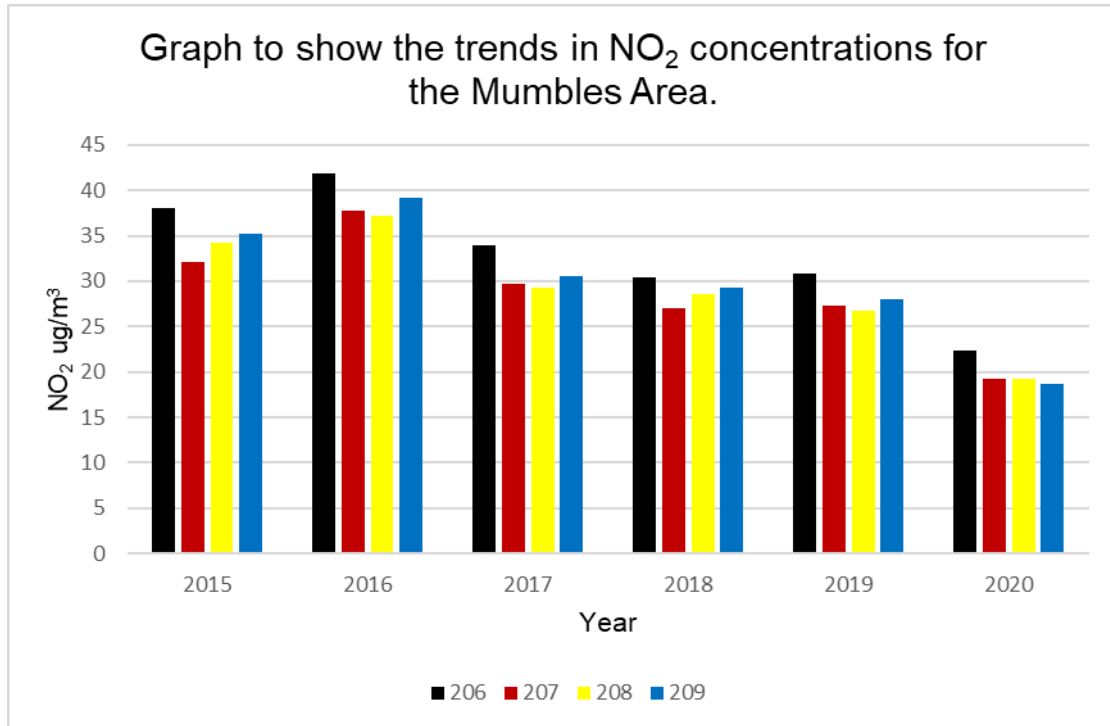
Sketty:



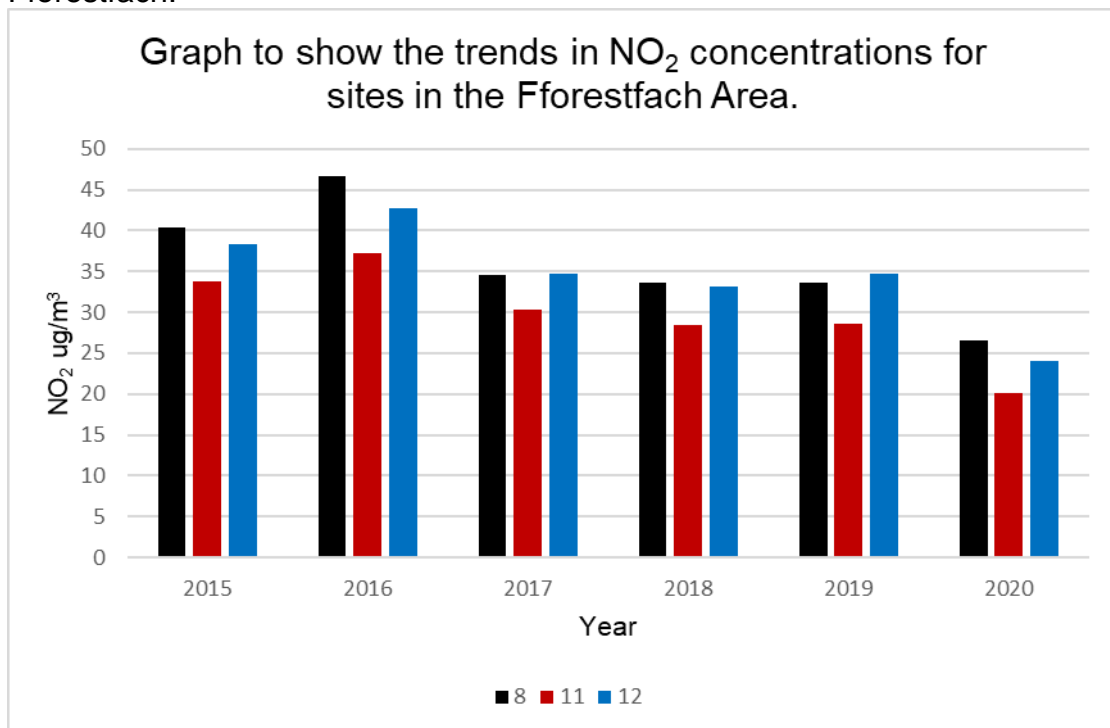
Port Tennant:



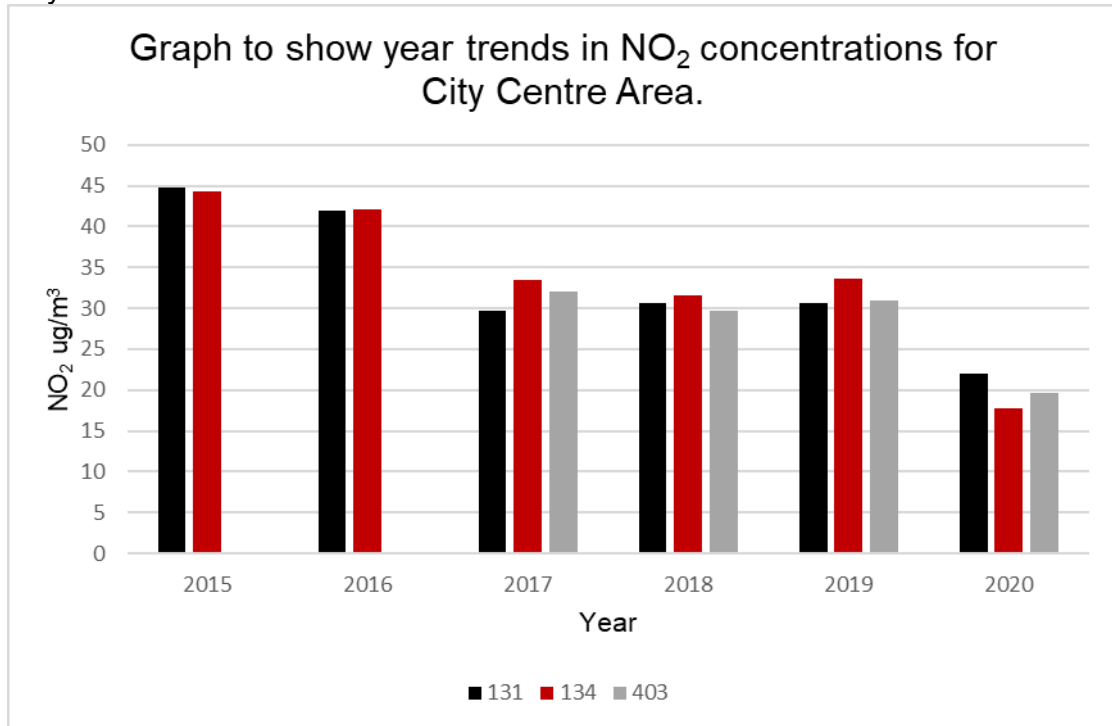
Mumbles:



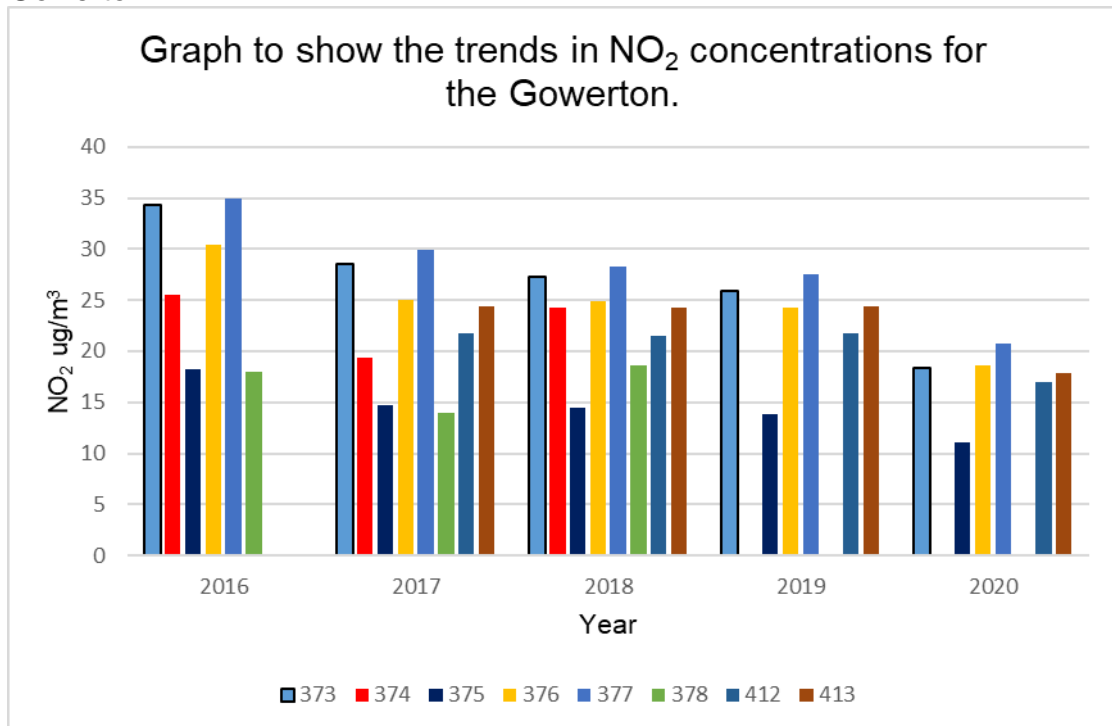
Fforestfach:



City Centre:

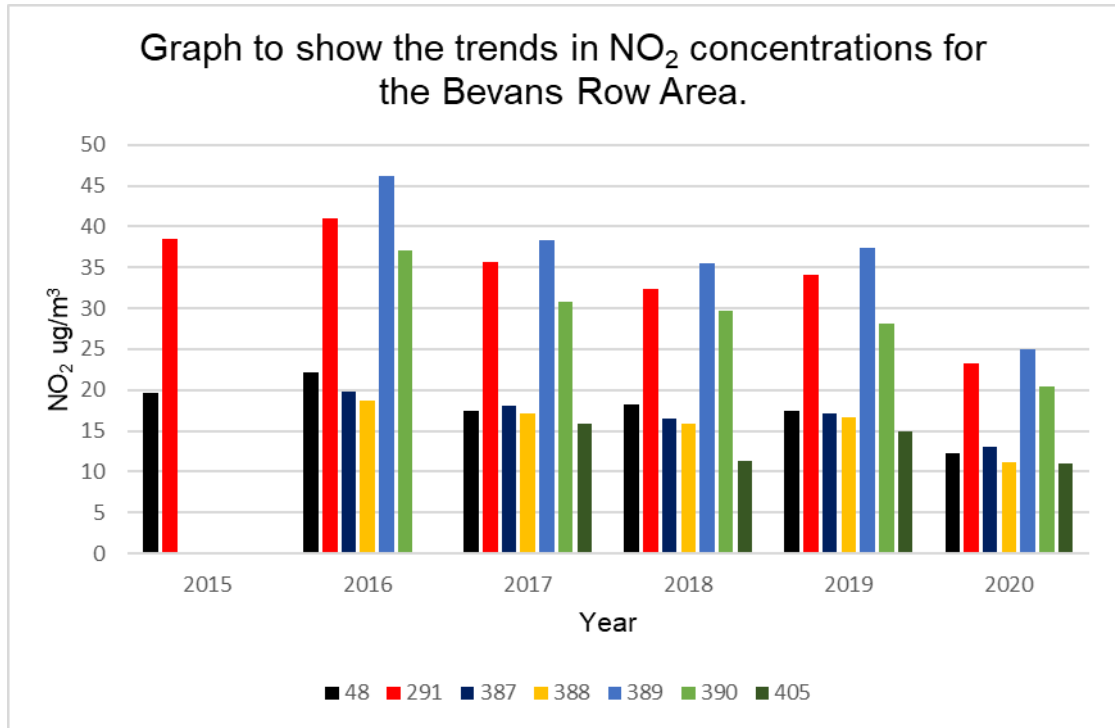


Gowerton:





Bevans Row:



## Appendix E: Estimation of ambient NO<sub>2</sub> and PM<sub>2.5</sub> concentration change in Wales during COVID-19 outbreak



Estimation of  
ambient NO<sub>2</sub> and PI