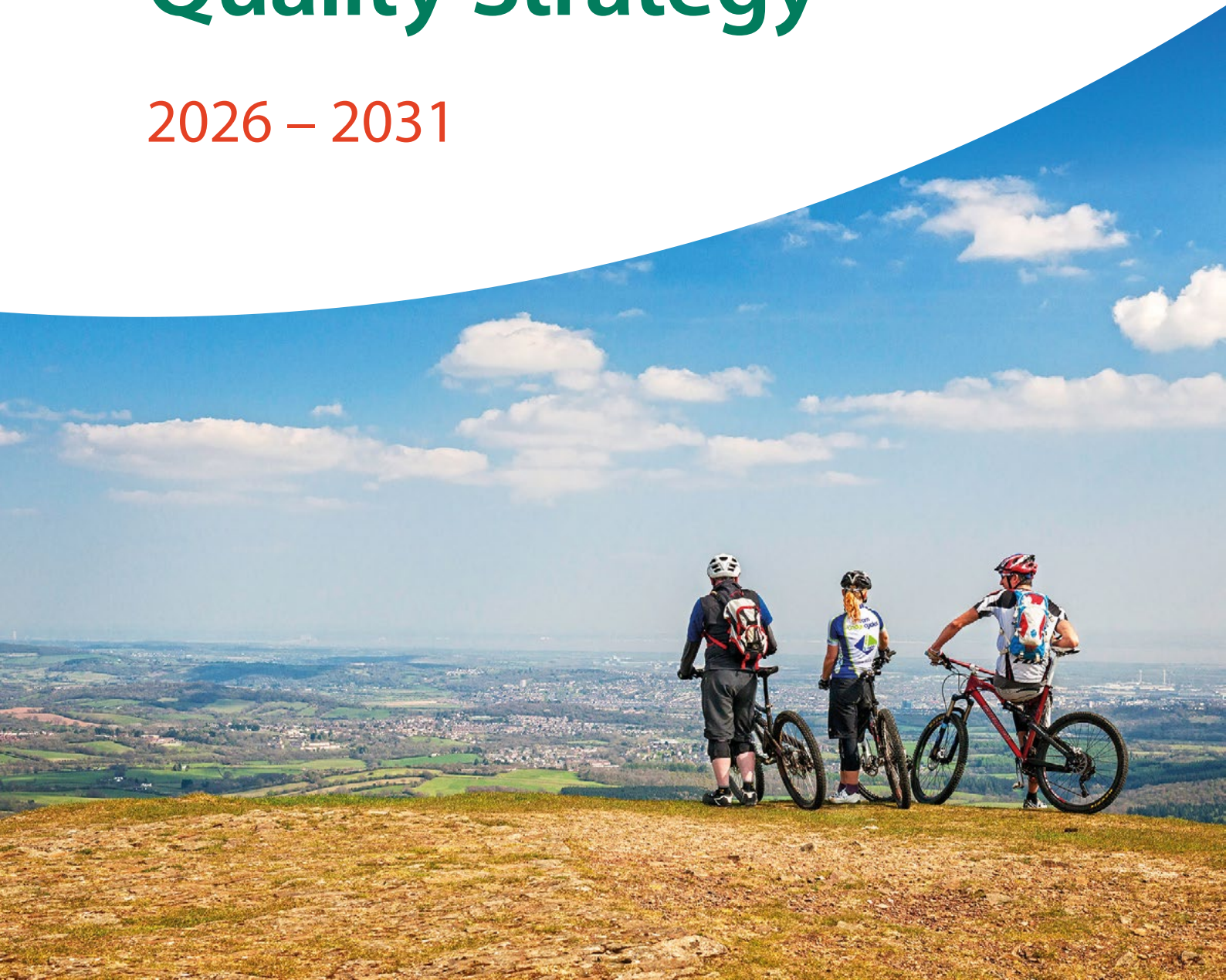


Caerphilly Air Quality Strategy

2026 – 2031



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Glossary and abbreviations

The glossary below provides clear definitions of abbreviations used throughout this Air Quality Strategy, helping readers navigate technical language and understand the concepts that underpin air quality management in Caerphilly.

Abbreviation	Term	Definition
AQMA	Air Quality Management Area	A designated area where national air quality objectives are not met and where a local authority must take action to improve air quality.
AQS	Air Quality Strategy	The strategic document setting out Caerphilly's approach to improving air quality.
APR	Annual Progress Report	A statutory yearly report under LAQM summarising monitoring data and actions taken by the Council.
CCRRTP	Cardiff Capital Region Regional Transport Plan	The regional transport strategy outlining sustainable and low-carbon transport priorities for the Cardiff Capital Region.
COVID 19	Coronavirus Disease 2019	Global pandemic that temporarily affected traffic levels and emissions.
DEFRA	Department for Environment, Food and Rural Affairs	UK Government department responsible for national air quality policy and the UK AIR platform.
HGV	Heavy Goods Vehicle	Large freight vehicles that contribute to emissions of NO _x and particulate matter.
LAQM	Local Air Quality Management	The statutory framework requiring local authorities to review, assess, and manage air quality.
LDP	Local Development Plan	Caerphilly's planning framework guiding land use, development and environmental policies.
LSOA	Lower-layer Super Output Area	A small geographic statistical area used for population and deprivation analysis (e.g., in WIMD).
NAEI	National Atmospheric Emissions Inventory	The UK's official emissions database, used for analysing sources of NO _x , PM ₁₀ and PM _{2.5} .
NHS	National Health Service	Public health system providing healthcare services affected by air pollution-related illnesses.
NO₂	Nitrogen dioxide	A pollutant primarily from road traffic and combustion, harmful to lung health.
NO_x	Nitrogen oxides	A group of gases (including NO and NO ₂) produced during combustion processes.
PM₁₀	Particulate matter ≤ 10 micrometres	Coarse particles that can enter the lungs and affect respiratory health.
PM_{2.5}	Particulate matter ≤ 2.5 micrometres	Fine particles that penetrate deep into the lungs and bloodstream, posing significant health risks.
SPG	Supplementary Planning Guidance	Additional planning guidance supporting policies in the Local Development Plan.
TfW	Transport for Wales	The organisation responsible for delivering public transport services and the South Wales Metro.
VOCs	Volatile Organic Compounds	Organic chemicals emitted from products like paints, solvents and fuels; some contribute to air pollution.
WHO	World Health Organization	International body providing health-based air quality guidelines.
WIMD	Welsh Index of Multiple Deprivation	Official measure of relative deprivation in Wales, used to identify vulnerable communities.

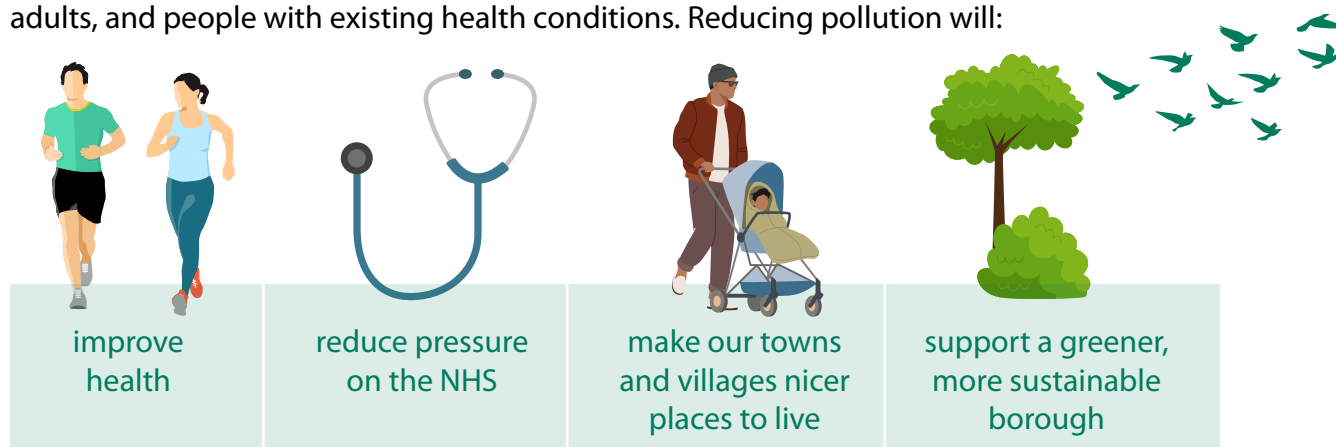


Executive Summary

Clean air is essential for keeping Caerphilly County Borough's communities healthy. Although air quality has improved in recent years, pollution from traffic, industry, domestic burning and construction still affects people across the borough. This Air Quality Strategy sets out how Caerphilly County Borough Council will work over the next five years to create cleaner, healthier places for everyone.

Why air quality matters

Air pollution can affect our lungs, heart and overall wellbeing, especially for children, older adults, and people with existing health conditions. Reducing pollution will:



Air Quality in Caerphilly County Borough

Air quality across Caerphilly County Borough has been improving over the past few years. Monitoring shows that all current air quality monitoring sites meet national limits for Nitrogen Dioxide (NO₂), and particulate matter (PM). Some areas still experience pollution from busy roads, domestic burning and industrial activities, but the overall trend is positive.

What we're doing

The Strategy focuses on four main areas:



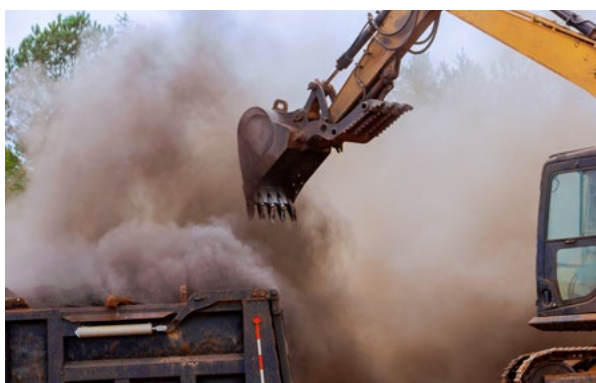
1. Reducing road traffic emissions



2. Smoke and domestic combustion



3. Industry and commerce



4. Construction and new developments

How progress will be tracked

We will keep monitoring air quality, report results every year, and update actions if things change. We'll also continue working closely with Welsh Government, health partners and neighbouring councils.

How residents can help

Small changes make a big difference. You can help by:

- choosing walking, cycling or public transport for short journeys
- avoiding unnecessary engine idling
- reducing domestic burning
- improving home ventilation and energy efficiency

Foreword

Clean air is fundamental to the health, wellbeing and quality of life of everyone who lives, works and spends time in Caerphilly County Borough. It affects how our communities feel on a day to day basis and, more importantly, has a lasting impact on our long term physical and mental health. As Cabinet Member for Planning and Public Protection, I am proud to introduce Caerphilly County Borough Council's Air Quality Strategy for 2026–2031.

Over recent years, air quality across the borough has improved, reflecting the sustained efforts of the Council, our partners, local businesses and residents. However, these improvements also highlight the need to continue our work. Evidence shows that even relatively low levels of air pollution can harm health, particularly for children, older people and those living with existing health conditions. We also recognise that the impacts of poor air quality are not felt equally and can place a greater burden on our more vulnerable communities.

This Strategy sets out a clear, practical and ambitious framework for how we will continue to improve air quality over the next five years. It focuses on areas where action will have the greatest impact, including reducing emissions from road transport, tackling pollution from domestic burning, managing emissions from industry and commerce, and ensuring that new development supports healthier places. It is grounded in robust evidence, shaped by engagement with communities, and aligned with Welsh Government policy and statutory responsibilities.

Improving air quality is not something the Council can achieve alone. It relies on strong partnerships across public services, collaboration with neighbouring authorities, and positive action from businesses and residents. This Strategy therefore places strong emphasis on working together to deliver meaningful and lasting change across Caerphilly County Borough.

This Air Quality Strategy sits alongside our wider commitments on climate change, decarbonisation, active travel and placemaking. Many actions that reduce air pollution also bring wider benefits, including safer streets, more attractive town centres, reduced congestion and healthier lifestyles. Taking an integrated approach will help us deliver cleaner air while supporting economic growth and improving quality of life across the borough.

I would like to thank everyone who has contributed to the development of this Strategy, including Council officers, members of the Air Quality Steering Group, partner organisations and residents who took part in consultation. Your insight and experience have been invaluable.

I am confident that this Air Quality Strategy provides a strong foundation for continued progress. By maintaining a clear focus on health, fairness and prevention, and by working together, we can ensure that everyone in Caerphilly County Borough can breathe cleaner air now and in the future.



A handwritten signature in black ink that reads "P. Leonard".

Councillor Philippa Leonard

1 Introduction

Caerphilly County Borough is defined by its valleys, ridgelines, and close-knit communities. Across the market towns of Caerphilly and Blackwood to villages stretching through the Rhymney, Sirhowy, and Ebbw valleys, the borough's landscapes shape how people live, travel, work and spend time outdoors. Clean air is essential to protecting these communities, supporting healthier lives, and ensuring that the borough of Caerphilly remains a great place to live for current and future generations.

1.1 Vision and aims

Our vision is for every community across Caerphilly County Borough – from rugged peaks to valley floors, and from elevated suburban settlements to thriving towns and rural communities alike – to benefit from cleaner, healthier air throughout their daily lives. The Air Quality Strategy sets out how we will work towards this goal by reducing pollution at its source, prioritising the health of our most vulnerable residents, and creating safer, cleaner, and more accessible places. To deliver this vision, the Strategy aims to:



Improve local understanding of the sources and solutions of air pollution in Caerphilly County Borough



Support cleaner, more sustainable ways of travelling, heating homes and operating businesses

Focus action in areas where pollution and health inequalities overlap



Work collaboratively with partners to address challenges that extend beyond our borders



1.2 How was the Strategy developed?

Caerphilly's Air Quality Strategy has been shaped through a collaborative, evidence-driven process grounded in local knowledge. A multi-disciplinary Air Quality Steering Group established by Caerphilly County Borough Council, including environmental health officers, planners, transport teams, housing and decarbonisation teams, social services, and local councillor representatives, guided the development of the Strategy to ensure it reflects the borough's needs and priorities.

1.2.1 Community engagement

To ensure the Strategy represents a diverse range of perspectives, we carried out a borough-wide community survey and public consultation between January and February 2026 to understand how residents perceive air quality, the issues they notice in their neighbourhoods, and what they believe should be prioritised. Contributions from local groups, businesses, and community representatives provided insight into the everyday realities of air quality in Caerphilly County Borough's towns and villages. This combination of evidence and community voice has helped create a Strategy that is shaped by the people it serves. A summary of the community engagement survey results can be found in Appendix A.



2 Why do we need to improve air quality?

Improving air quality is essential to protecting the health, wellbeing, and economic resilience of communities across Caerphilly County Borough. Air quality has improved in recent years; however, even relatively low levels of pollution can affect people of all ages, and particularly for vulnerable groups and communities already experiencing deprivation. UK and Welsh Government evidence shows that air pollution remains the most significant environmental risk to public health, and Caerphilly County Borough Council has a responsibility to safeguard current and future generations^{1,2,3,4,5,6,7}.

2.1 Health impacts of air pollution

Air pollution is recognised as the greatest environmental threat to health in Wales. Public Health Wales estimates that 1,000-1,400 deaths each year in Wales can be attributed to long-term exposure to air pollution⁸, and there is now strong scientific evidence that air pollution affects every organ of the body^{9,10}. This includes the brain, lungs, heart, liver and kidneys and the 700 health conditions now associated with air pollution exposure.

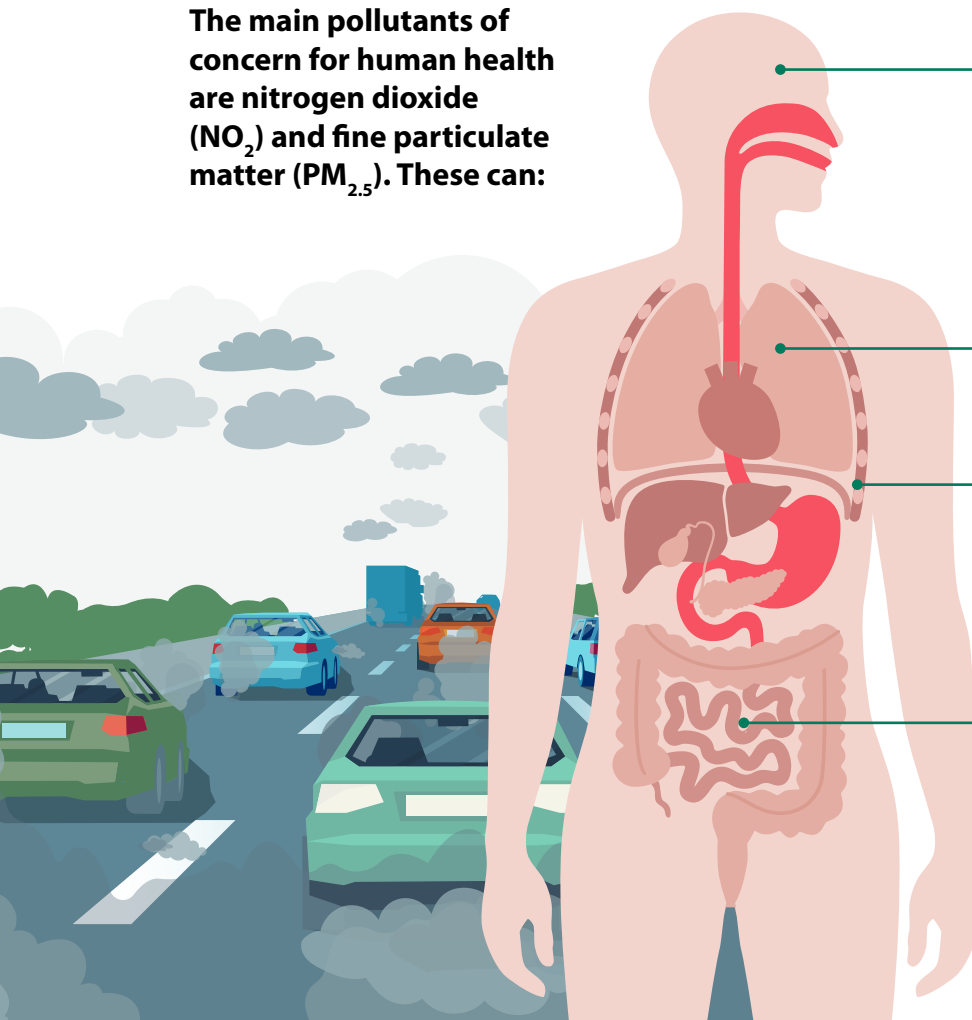
The main pollutants of concern for human health are nitrogen dioxide (NO₂) and fine particulate matter (PM_{2.5}). These can:

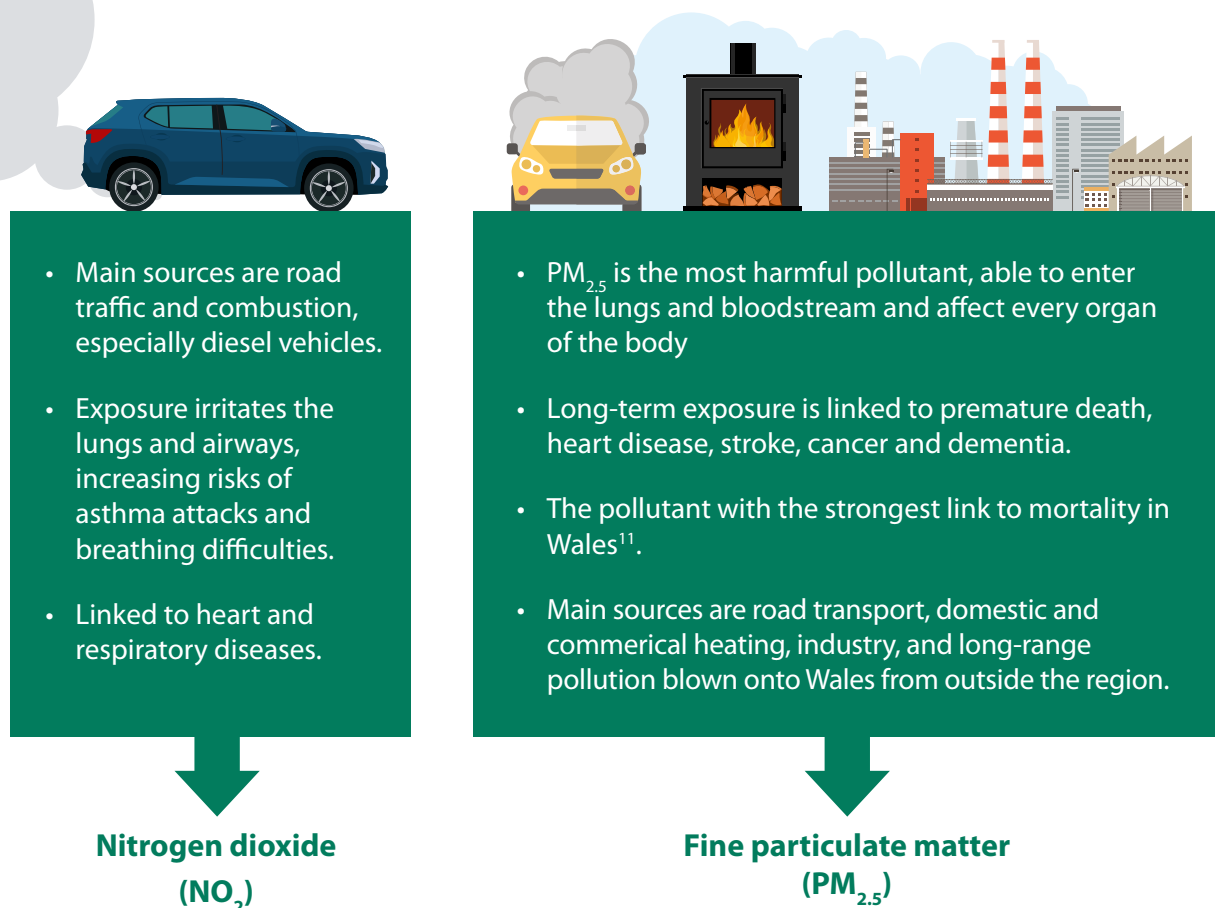
Harm brain health, including child and adult mental health, and increase the risk of neurodegenerative disorders like dementia and Parkinson's disease

Worsen heart and lung disease

Increase the risk of stroke, cancer and respiratory conditions

Affect pregnancy and foetal development, leading to low-birth-weight babies and pre-term babies





Short-term exposure to air pollution can trigger eyes, nose, and throat irritation, breathing difficulties, asthma attacks and reduced lung function, while long-term exposure can reduce life expectancy. Children, young people, older adults, and those with underlying health conditions are among the groups who experience the most harm, even at relatively low concentrations of pollution.

Improving Caerphilly County Borough's air quality will bring wide health benefits, helping to prevent illness and improve long-term wellbeing across the borough.

- 1 Welsh Government. (2025) The Air Quality Targets (Fine Particulate Matter) (Wales) Regulations 2026: integrated impact assessment sections 1 and 8. Available online: <https://www.gov.wales/air-quality-targets-fine-particulate-matter-wales-regulations-2026-integrated-impact-assessment>
- 2 Public Health Wales. (2020) Air pollution and health in Wales. Available online: <https://phw.nhs.wales/services-and-teams/environmental-public-health/air-quality/air-pollution-and-health-fact-sheet/>
- 3 Public Health Network Cymru. (no date) Air quality. Available online: <https://publichealthnetwork.cymru/topic/environment/natural-environment/air-quality/>
- 4 Office for Health Improvement & Disparities. (2022) Air pollution: applying All Our Health. Available online: <https://www.gov.uk/government/publications/air-pollution-applying-all-our-health/air-pollution-applying-all-our-health>
- 5 World Health Organization. (2024) Ambient (outdoor) air pollution. Available online: [https://www.who.int/news-room/fact-sheets/detail/ambient-\(outdoor\)-air-quality-and-health](https://www.who.int/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health)
- 6 European Environment Agency. (2026) Air pollution. Available online: <https://www.eea.europa.eu/en/topics/in-depth/air-pollution?activeAccordion=4268d9b2-6e3b-409b-8b2a-b624c120090d>
- 7 Welsh Government. (no date). Health advice. Available online: <https://www.airquality.gov.wales/about-air-quality/health-advice>
- 8 Senedd Research, Welsh Parliament. (2024). Clean air for Wales. Available online: <https://research.senedd.wales/research-articles/clean-air-for-wales/>
- 9 World Health Organization. (no date). Air quality, energy and health: Health Impacts. Available online: <https://www.who.int/teams/environment-climate-change-and-health/air-quality-energy-and-health/health-impacts>
- 10 Royal College of Physicians. (2025). A breath of fresh air: responding to the health challenges of modern air pollution. Available online: <https://www.rcp.ac.uk/policy-and-campaigns/policy-documents/a-breath-of-fresh-air-responding-to-the-health-challenges-of-modern-air-pollution>
- 11 Clean Air Advisory Panel. (2024) Advice Note (2024): Development of New PM_{2.5} Air Quality Targets for Wales. Available online: <https://www.gov.wales/sites/default/files/consultations/2025-11/annex-a-advice-note-development-of-new-pm2-5-air-quality-targets-for-wales-clean-air-advisory-panel-november-2025.pdf>

2.2 Economic impacts of air pollution

Poor air quality has substantial economic consequences for Wales and the UK. The Royal College of Physicians estimate that the resulting reduction in life expectancy, increased healthcare spending, and productivity losses costs the UK an estimated £27 billion per year, increasing to as much as £50 billion per year when wider impacts, such as dementia, are considered¹². These costs are driven by hospital admissions, long-term treatment of chronic health conditions, and the wider impacts of people needing to take time of work due to illnesses linked to air pollution.



Reduced demand on health and social care services that places a substantial cost burden on the NHS and local care systems.



Improved productivity and attendance at work and school, with fewer pollution-related illnesses, reduced sickness absence, and better conditions for children's learning and physical activity.

Cleaner air can therefore bring major economic and social benefits for Caerphilly County Borough

A healthier and more resilient workforce, supporting stronger long-term economic performance across the borough.

More attractive, economically vibrant towns and neighbourhoods, helping to support regeneration and investment, and making Caerphilly County Borough a better place to live, work and visit.



2.3 Air pollution and social equity

Air pollution does not affect everyone equally. Evidence from Wales, the UK and the World Health Organization (WHO) shows that poorer air quality amplifies existing inequalities, with the greatest health burdens falling on communities that are already more vulnerable^{12,13,14}. These patterns reflect the wider social determinants of health, where factors such as age, long-term health conditions, access to services and socioeconomic circumstances combine with environmental exposures to shape health outcomes. Improving air quality in Caerphilly County Borough is therefore not only an environmental priority, but also essential for fairness, health equity, and long-term wellbeing.

Air pollution, deprivation and poor health are inextricably linked, with more deprived areas often experiencing higher pollution levels and greater health vulnerabilities. More vulnerable populations are more likely to live near busier roads or areas with higher background pollution and are more likely to have pre-existing health conditions made worse by poor air quality. These inequalities mean that disadvantaged communities, who typically contribute least to emissions and are less likely to benefit from air pollution reduction interventions, may suffer the greatest health impacts, reinforcing wider social and health disparities.

2.3.1 Health inequalities across Caerphilly County Borough

Health outcomes are not the same everywhere, and some communities in Caerphilly County Borough face circumstances that may make them more sensitive to the effects of air pollution. Data from the Welsh Index of Multiple Deprivation (WIMD) shows that certain parts of Caerphilly County Borough experience higher levels of long-term illness, health conditions, or reduced access to services¹⁵. These underlying health and social factors can increase vulnerability to air pollutants such as PM_{2.5} and NO₂. Population statistics¹⁶ also show that several neighbourhoods in Caerphilly County Borough have higher proportions of children and older adults, both of whom are more affected by air pollution because their lungs and immune systems are still developing or are less resilient.

When these social and economic population characteristics are considered alongside 2024 PM_{2.5} concentration mapping¹⁷, as shown in Figure 1, a number of Caerphilly County Borough's more vulnerable neighbourhoods coincide with areas where PM_{2.5} concentrations are slightly higher. Areas of slightly higher pollution levels across Caerphilly County Borough are indicated with warmer shading (red, orange and yellow), and the dotted neighbourhoods represent communities with a higher proportion of younger

12 Royal College of Physicians. (2025). A breath of fresh air: responding to the health challenges of modern air pollution. Available online: <https://www.rcp.ac.uk/policy-and-campaigns/policy-documents/a-breath-of-fresh-air-responding-to-the-health-challenges-of-modern-air-pollution>

13 H. Brunt, J. Barnes, S.J. Jones, J.W.S. Longhurst, G. Scally, E. Hayes. (2017). Air pollution, deprivation and health: understanding relationships to add value to local air quality management policy and practice in Wales, UK. *Journal of Public Health*, 39(3), pp. 485–497, <https://doi.org/10.1093/pubmed/fdw084>

14 World Health Organization. (no date). Air quality, energy and health: Equity impacts of air pollution. Available online: <https://www.who.int/teams/environment-climate-change-and-health/air-quality-and-health/health-impacts/equity-impacts>

15 StatsWales. (2025) Welsh Index of Multiple Deprivation (WIMD) 2025: index and domain ranks and groups, for Lower layer Super Output Areas (LSOA). Available online: <https://stats.gov.wales/en-GB/9706edd9-73ad-4902-bb12-7ccd7038626e>

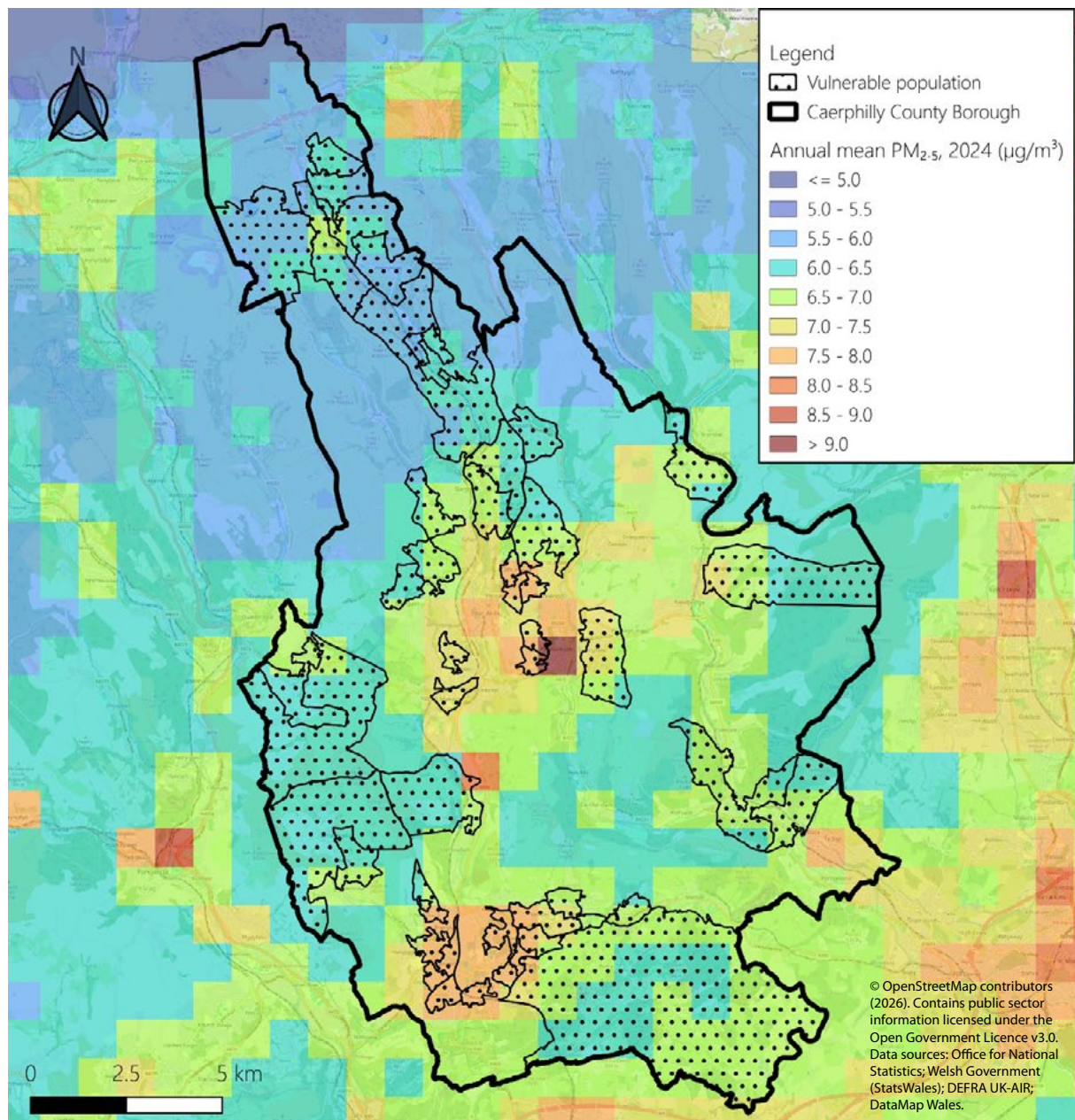
16 Office for National Statistics. (2025). Lower layer Super Output Area population estimates (supporting information). Available online: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/lowersuperoutputareamidyearpopulationestimates>

17 UKAir. (2021). Background Mapping data for local authorities – 2021. Available online: <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2021>

residents, older residents, or those within the most deprived 25% in Caerphilly County Borough. While overall pollution levels remain below current legal limits, residents in these communities may experience a greater potential health impact due to existing health conditions and/or age-related sensitivities.

These patterns do not indicate that any one community is responsible for air pollution, nor that poorer air quality is confined to specific areas. Instead, they reflect wider trends seen across Wales, where health vulnerabilities and environmental pressures can overlap in certain places. Understanding these relationships helps the Council identify where improvements to air quality can deliver the greatest health benefits, ensuring that support is directed where it can make the most positive difference.

Figure 1: Vulnerable communities in Caerphilly County Borough overlaid on average $PM_{2.5}$ concentrations, 2024. Warmer colours (yellow, orange, red) indicate areas with slightly higher $PM_{2.5}$ levels, while dotted neighbourhoods highlight communities with larger proportions of children, older adults, or higher levels of deprivation. The map illustrates where health vulnerability and air quality pressures may overlap.



2.4 Air quality standards in Wales

Air quality in Caerphilly County Borough is shaped by Welsh, UK, and international standards that guide how air pollution is monitored, assessed, and reduced. Wales has one of the most robust air quality frameworks in the UK, strengthened by the **Environment (Air Quality and Soundscapes) (Wales) Act 2024**¹⁸, which requires Welsh ministers to set national air quality targets, review progress, promote awareness, and update Local Air Quality Management duties for councils. These duties build on earlier obligations under the **Environment Act 1995**¹⁹ and the **Environment (Wales) Act 2016**²⁰.

While Wales applies UK legal limits²¹ for key pollutants, the World Health Organization (WHO)²² recommends even lower guideline levels, emphasising that there is no safe level of air pollution and there is a continued need for improvement. However, expert advice to Welsh Government indicates that meeting WHO PM_{2.5} guidelines in the short term is not realistic for Wales because a relatively substantial share of PM_{2.5} comes from natural and long-range source beyond national control, including sea salt, volcanic eruptions, and particles transported from outside of Wales²³. These national and regional contributions, which are predicted to account for up to 78% of total PM_{2.5} concentrations in Wales in 2030²⁴, help explain why background PM_{2.5} levels can never reach zero, and why WHO guidelines are best seen as a long-term health ambition, rather than an immediate legal requirement.

Table 1: Annual mean pollutant concentration standards in microgram per cubic metre (µg/m³) based on the 2021 WHO guidelines and the UK Air Quality Standards Regulations 2010.

Pollutant	World Health Organization Guideline (2021)	Wales Air Quality Standard (2010)
Nitrogen dioxide (NO ₂)	10 µg/m ³	40 µg/m ³
Fine particulate matter (PM _{2.5})	5 µg/m ³	25 µg/m ³

As part of its commitments under the 2024 Act, Welsh Government has undertaken consultation on setting a stricter national PM_{2.5} target, reflecting growing evidence of its significant health impacts and the need to align more closely with international best practice. This work aims to introduce more ambitious limits to better protect public health, particularly vulnerable groups. The updated targets are expected to be drafted as statutory instruments by February 2027 and details of the consultation can be found on the Welsh Government website: <https://www.gov.wales/fine-particulate-matter-air-quality-targets>.

18 Environment (Air Quality and Soundscapes) (Wales) Act 2024. Available online: <https://law.gov.wales/environment-air-quality-and-soundscapes-wales-act-2024>

19 Environment Act 1995. Available online: <https://www.legislation.gov.uk/ukpga/1995/25/contents>

20 Environment (Wales) Act 2016. Available online: <https://www.legislation.gov.uk/anaw/2016/3/contents>

21 Defra. (2010) UK Air Quality Limits. Available online: <https://uk-air.defra.gov.uk/air-pollution/uk-limits>

22 World Health Organisation. (2021) WHO global air quality guidelines: particulate matter (PM2.5 and PM10), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide. Available online: <https://www.who.int/publications/i/item/9789240034228>

23 Clean Air Advisory Panel. (2024) Advice Note (2024): Development of New PM2.5 Air Quality Targets for Wales. Available online: <https://www.gov.wales/sites/default/files/consultations/2025-11/annex-a-advice-note-development-of-new-pm2-5-air-quality-targets-for-wales-clean-air-advisory-panel-november-2025.pdf>

24 Welsh Government. (2025) See Figure 3 in Welsh Government Consultation Document, Cleaner and healthier air: Consultation on draft regulations to implement fine particulate matter (PM2.5) air quality targets. Available online: <https://www.gov.wales/sites/default/files/consultations/2025-11/consultation-document-fine-particulate-matter-air-quality-targets.pdf>

3 Air quality in Caerphilly County Borough

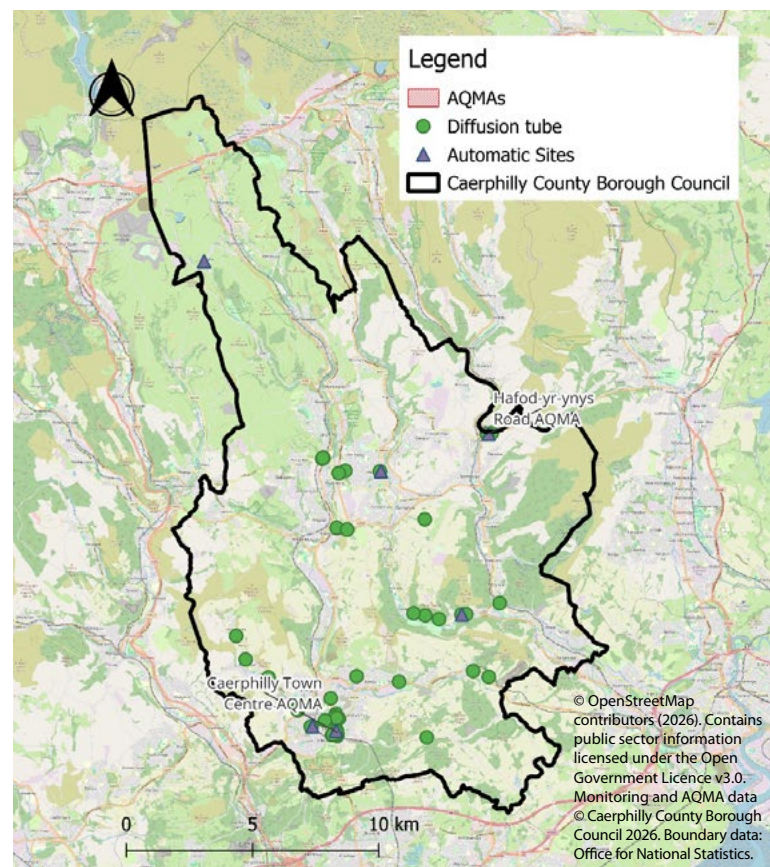
This section gives an overview of current air quality in Caerphilly County Borough, drawing on local monitoring, national datasets and long-term trends to explain how pollution levels vary across the area and where the key challenges and opportunities lie.

3.1 Monitoring air quality

Caerphilly County Borough Council monitors air quality throughout the borough to understand local pollution levels and how they change over time. This helps us to understand where improvements are needed and ensures we continue to meet national air quality standards and protect public health.

We currently operate a borough-wide network of 4 automatic monitoring stations and 56 diffusion tubes across 52 locations, giving good coverage of town centres, residential areas, and busy roads. These sites measure key air pollutants such as nitrogen dioxide (NO_2) and particulate matter (PM_{10} and $\text{PM}_{2.5}$). Monitoring locations are selected following Welsh Government's Local Air Quality Management (LAQM) guidance, which prioritises areas where people are most likely to be exposed. As a result, more monitors are placed in busier parts of the borough with higher traffic and development. In contrast, the northern areas have fewer sites because they are more rural, have lower traffic levels, and present a lower risk of exceeding national objectives. In several locations where long-term monitoring has shown consistent compliance with national NO_2 limits, monitoring has been phased out in line with LAQM guidance. The network is reviewed regularly, and new locations are added when development patterns or community feedback indicate a need.

Figure 2: Air pollution monitoring sites (automatic and diffusion tubes) and Air Quality Management Areas (AQMAs) in Caerphilly County Borough in 2024.



Overall, air quality in Caerphilly County Borough has been improving over the past 5 years. Nitrogen dioxide levels increased slightly as traffic levels returned to normal after the COVID-19 pandemic, but since then have continued to fall. By 2024, all monitoring sites were below the national NO₂ objectives, and no exceedances were recorded at our automatic monitors.

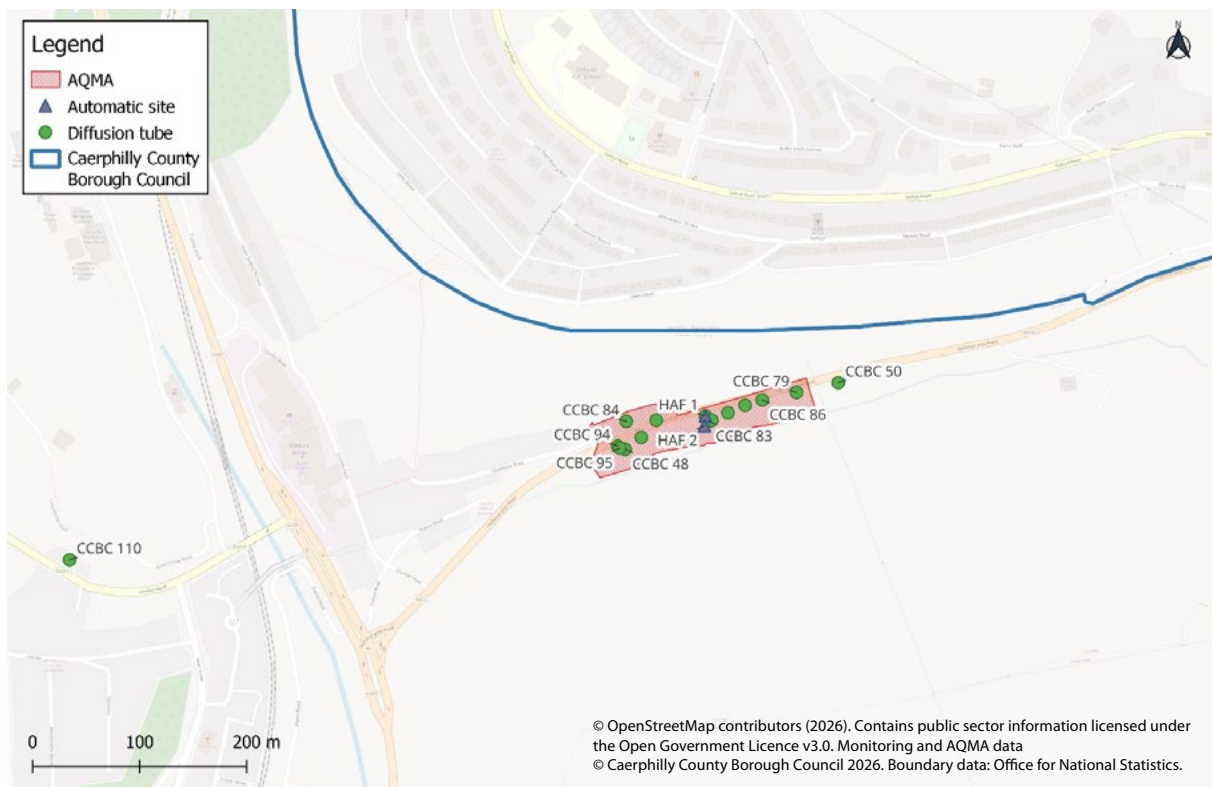
Particulate matter (PM₁₀ and PM_{2.5}) is also monitored at selected locations. PM₁₀ annual average concentrations follow a similar trend to NO₂, and the past five years has seen no more than two short-term exceedances at any site in Caerphilly County Borough. PM_{2.5} levels measured at our Fochriw site have consistently met both Welsh Air Quality Objectives and international guidelines and fell further after the nearby open-cast coal mine closed in 2023.

Caerphilly County Borough currently has two Air Quality Management Areas (AQMAs) located at Caerphilly Town Centre and Hafodyrynys Road, both originally declared due to high NO₂ levels linked to road traffic and high congestion levels²⁵. Recent monitoring has demonstrated sustained improvements at both locations, and the Council is now reviewing whether the Caerphilly Town Centre AQMA can be revoked. Monitoring continues at Hafodyrynys Road to ensure that recent positive trends are maintained.

Figure 3: Air pollution monitoring sites in Caerphilly Town Centre Air Quality Management Area in 2024



25 AQMAs declared by Caerphilly County Borough Council <https://www.airquality.gov.wales/laqm/air-quality-management-areas>

Figure 4: Air pollution monitoring sites in Hafodyrynys Road Air Quality Management Area in 2024

As we move forward with the new Air Quality Strategy, we will continue to strengthen and refine our monitoring network. This includes reviewing locations regularly, adding monitoring where new developments or traffic changes occur, and paying particular attention to places where people may be more vulnerable, such as schools, residential streets, and busy walking routes.

Each year, we share our latest monitoring results and report on the actions we've taken to improve air quality in our Air Quality Annual Progress Report (APR), which you can find on our website www.caerphilly.gov.uk/services/environmental-health-and-pollution/pollution/air-quality.

3.2 What causes air pollution in Caerphilly County Borough?

Air pollution in Caerphilly County Borough comes from a mix of everyday activities, both within the borough and from wider regional sources. Different pollutants are produced by different types of activities, so understanding where these pollutants come from helps us target our efforts to more effectively improve air quality and protect the health of our communities.

3.2.1 Sources in Caerphilly County Borough

The pie charts in Figure 5 show how nitrogen dioxide (NO₂), coarse particulate matter (PM₁₀) and fine particulate matter (PM_{2.5}) emissions arise from various sources in Caerphilly County Borough, based on 2023 sector-specific emissions data from the UK National Atmospheric Emissions Inventory (NAEI). This uses 1 km² gridded emissions data for each pollutant and sector, including point sources.



Road transport

Road transport is the single largest contributor to NO_x emissions in Caerphilly County Borough (41%) and also makes a significant contribution to particulate matter (17% of PM_{10} and 18% of $\text{PM}_{2.5}$). This reflects emissions from cars, buses, heavy goods vehicles and other vehicles travelling through the borough's towns and main routes. Reducing traffic volumes, congestion, and engine idling is essential for reducing pollution linked to transport.



Industry, manufacturing, and heating

Industrial activity also plays a key role in air pollution in Caerphilly County Borough. Manufacturing processes account for 19% of NO_x , 13% of PM_{10} , and 22% of $\text{PM}_{2.5}$. Additional emissions come from non industrial combustion plants (such as domestic and commercial heating systems), contributing 11% of NO_x , 15% of PM_{10} , and 27% of $\text{PM}_{2.5}$.

These sources highlight how heating and energy use in the home and in workplaces contribute significantly to particulate pollution, especially the fine particulate matter ($\text{PM}_{2.5}$) which have greater health impacts.



Production processes and machinery

Industrial production processes are responsible for the largest share of PM_{10} emissions (36%), as well as 8% of $\text{PM}_{2.5}$. Although these sources have a minimal contribution to NO_x , their influence on particulate levels is substantial. Smaller contributions also come from other mobile machinery, such as construction equipment and off road engines, which contribute around 5% of NO_x , 1% of PM_{10} , and 2% of $\text{PM}_{2.5}$.



Point sources and energy production

Point sources, typically larger industrial or commercial stacks, account for 22% of NO_x emissions, though their contribution to particulate matter is smaller (2% of PM_{10} and 3% of $\text{PM}_{2.5}$). These emissions mainly arise from sectors such as waste treatment facilities, where combustion used in waste handling can release NO_x ; food and drink manufacturing, which uses boilers and industrial cooking equipment; and the minerals industry, where quarrying and material processing involve high-temperature operations that generate combustion emissions.

Energy production in Caerphilly County Borough is a very minor contributor to emissions (below 1% of total emissions for most pollutants).



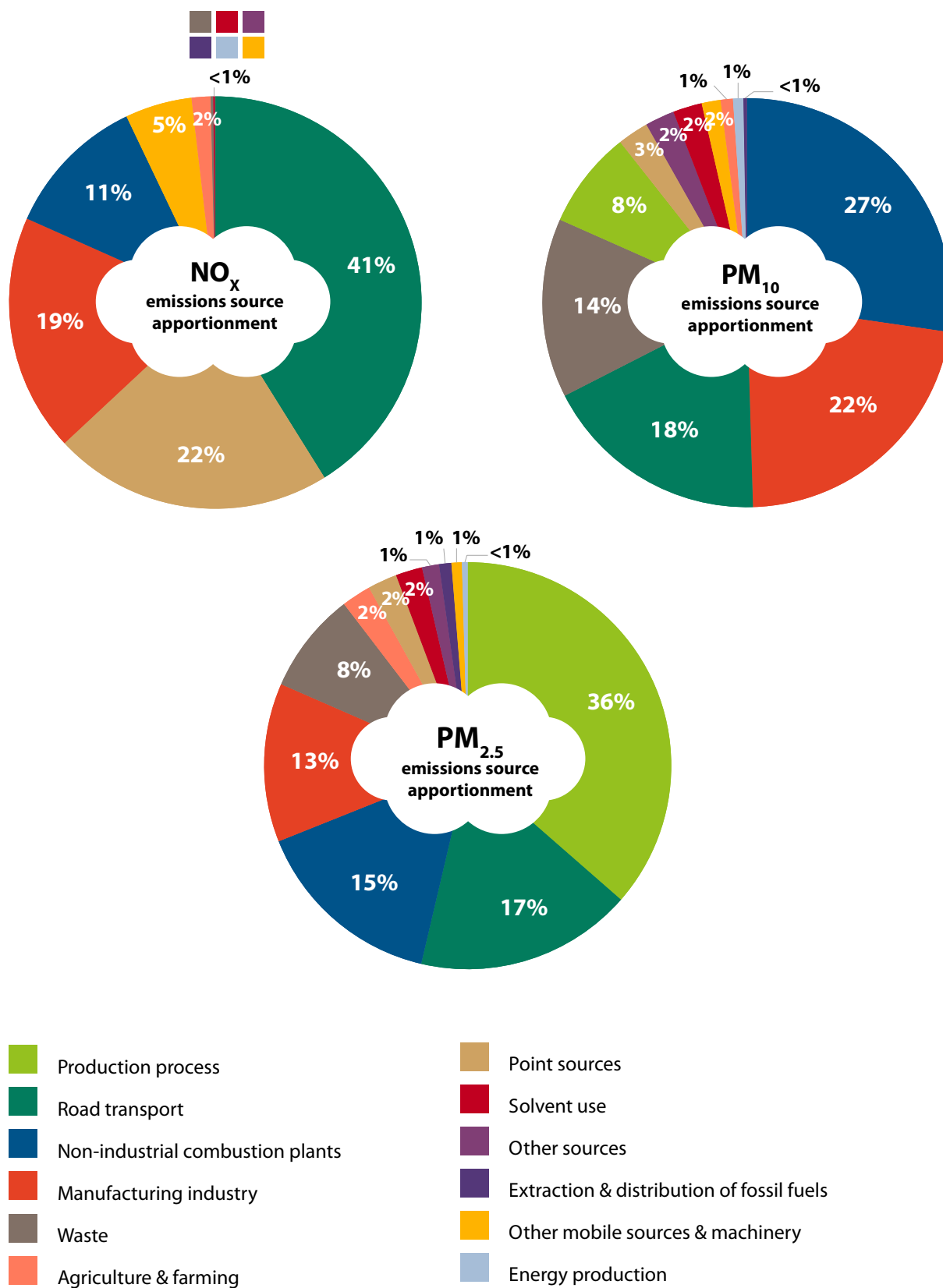
Waste, agriculture and everyday activities

Some air pollution arises from everyday activities and local services:

- Waste management contributes <1% of NO_x , 8% of PM_{10} , and 14% of $\text{PM}_{2.5}$ emissions, particularly through waste handling and combustion processes.
- Agriculture and farming play a small role across all pollutants (around 1-2% of emissions).
- Solvent use, such as in cleaning products and paints, accounts for 2% of PM_{10} and $\text{PM}_{2.5}$ emissions.

Although individually small, these sources show how many day to day activities add to local air pollution.

Figure 5: Primary emission sources of NO_x , PM_{10} and $\text{PM}_{2.5}$ in Caerphilly County Borough Council, based on the UK National Atmospheric Emissions Inventory 2023 data²⁶



²⁶ 1 km² pollutant-specific gridded emissions (2023) across sectors and point sources from the National Atmospheric Emissions Inventory: <https://naei.energysecurity.gov.uk/data/maps/download-gridded-emissions>

3.2.2 Sources of air pollution outside Caerphilly County Borough

Air quality in Caerphilly County Borough is influenced not only by local sources, but also by activities outside the county boundary. Pollutants, especially particulate matter, can travel long distances, meaning emissions from neighbouring authorities and the wider South Wales region contribute to local air quality conditions. As mentioned earlier, national and regional contributions may account for up to 78% of total PM_{2.5} concentrations in Wales.²⁷

Because these external sources fall outside Caerphilly County Borough Council's direct control, improvements in local air quality rely not only on action within the borough, but also on broader regional and national efforts. Collaboration at a local, regional and national level is therefore essential to tracking shared air quality challenges and addressing the sources that Caerphilly CBC cannot influence alone. Caerphilly CBC works closely with neighbouring councils and Welsh Government to share data, coordinate transport and planning policies, and support a consistent approach to air quality management across South Wales.

3.2.3 What this means for Caerphilly County Borough

Understanding the mix of pollution sources inside and outside the borough helps the Council focus action where it will have the most impact. Locally, this means targeting transport emissions, cleaner industrial and heating practices, and addressing everyday sources of particulate pollution. At the same time, as some pollutants travel from outside the borough, continued collaboration with neighbouring authorities and Welsh Government to manage cross-boundary air pollution remains essential. This combined approach enables the Council to better protect public health and support long-term air quality improvements across Caerphilly.

27 Welsh Government. (2025) See Figure 3 in Welsh Government Consultation Document, Cleaner and healthier air: Consultation on draft regulations to implement fine particulate matter (PM_{2.5}) air quality targets. Available online: <https://www.gov.wales/sites/default/files/consultations/2025-11/consultation-document-fine-particulate-matter-air-quality-targets.pdf>

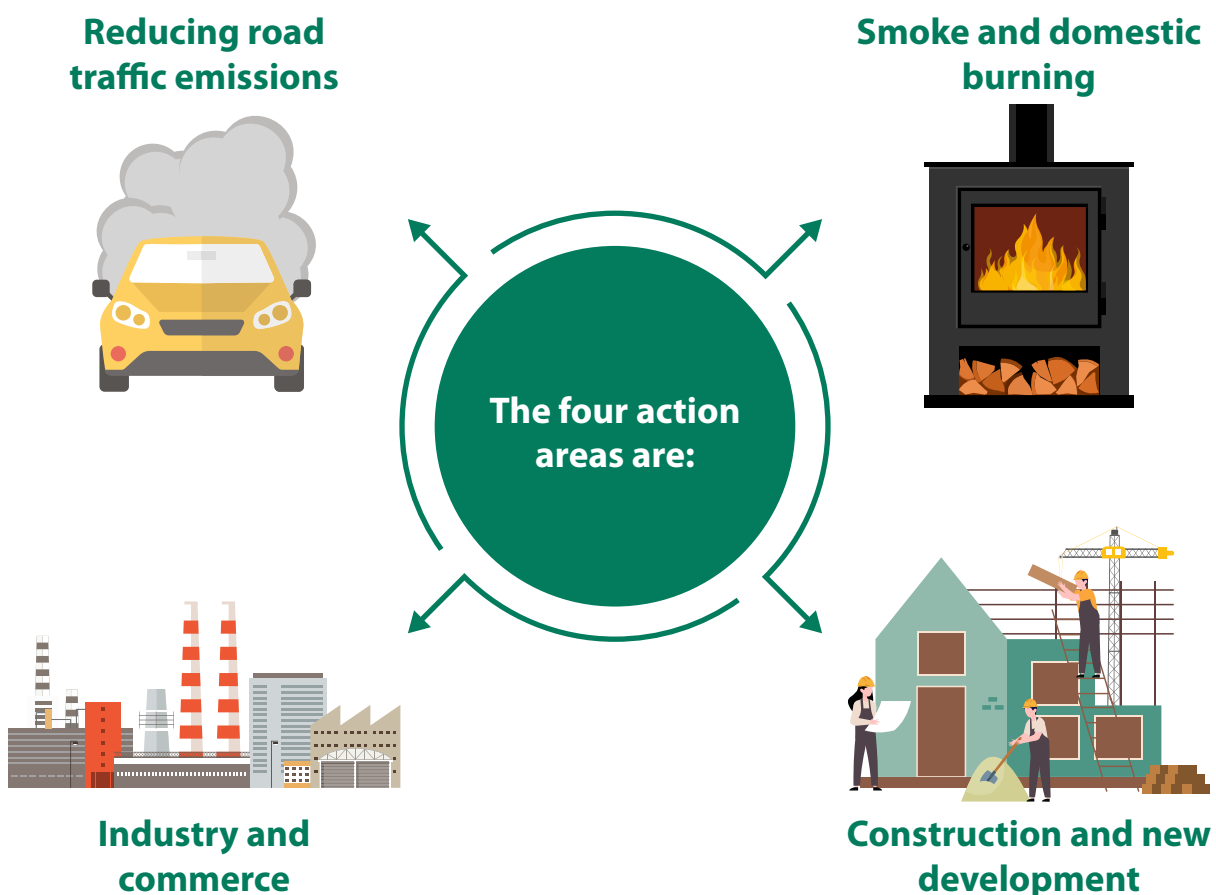


4 Actions across thematic areas

As part of this Air Quality Strategy, Caerphilly County Borough Council has committed to a focused programme of actions structured around four key priority areas. Together, these action areas address the main sources of emissions within the borough and reflect both local evidence and national policy direction.

The four priority areas were identified following a comprehensive review of existing policies, strategies, and regulatory frameworks operating at local, regional, and national levels, including Welsh Government and UK legislation. This policy review was combined with analysis of local air quality data and feedback gathered through community outreach, and also considers where the Council has the most influence and power to facilitate change.

Engagement with residents, stakeholders, and community groups has played an important role in shaping the Strategy. The results of the public survey highlighted the issues of greatest concern to local communities and reinforced the need for clearer communication, stronger coordination, and practical action. The chosen action areas therefore reflect both the technical evidence base and the priorities expressed by residents, ensuring that the Strategy responds directly to the issues that matter most to people across Caerphilly County Borough.



4.1 Reducing road traffic emissions

Emissions from road transport have decreased substantially in recent years across the borough as a result of actions taken by Caerphilly County Borough Council, combined with technological advances prompted by vehicle emissions standards and other measures and policies enacted by the UK government. Despite these improvements, road transport is still the largest source of NO_x and NO₂ in Caerphilly County Borough and is a major contributor to particulate matter emissions.

In line with the ambitions of the Cardiff Capital Region's Regional Transport Plan²⁸, as well as investment through Transport for Wales, Caerphilly CBC will prioritise a shift toward sustainable transport, reducing reliance on private car travel and enabling cleaner, healthier alternatives.

Through this Air Quality Strategy, the Council is committing to action in three key areas, described in the following sub-sections.

4.1.1 Public transport

Improving and integrating regional public transport is essential to reducing road traffic emissions. The Cardiff Capital Region Regional Transport Plan (CCR RTP) sets out a long-term vision for a well-connected, low-carbon transport network that provides viable alternatives to private car use, particularly for commuting and regional travel.

A key component of this transformation is the delivery of the South Wales Metro²⁹ by Transport for Wales (TfW). This expansion of the rail network will deliver enhanced rail services, new stations with increased frequency, and improved integration between rail and bus services within the borough. Electrification and modern rolling stock will reduce emissions per passenger journey while improving reliability and journey times.

Caerphilly County Borough Council will work collaboratively with regional partners to:

- Support the metro integration, including improved access to stations and interchange facilities;
- Enhance local bus infrastructure and priority measures to improve journey time reliability;
- Promote multi-modal travel through integrated ticketing, real-time information and improved passenger facilities;
- Encourage modal shift from private car to public transport for commuting and longer distance trips.

4.1.2 Active transport

Increasing the levels of walking, wheeling and cycling is key to improving air quality and reducing congestion. Short car journeys can contribute disproportionately to urban emissions; enabling residents to choose active travel for local trips can deliver immediate air quality and health benefits.

²⁸ Cardiff Capital Region. (2023) Regional Transport Plan. Available online: [cardiff-capital-region-regional-transport-plan.pdf](#)

²⁹ The South Wales Metro Project. (2025) Transport for Wales. Available online: <https://tfw.wales/projects/metro/south-wales-metro>

Caerphilly CBC is progressing schemes under the Active Travel (Wales) Act³⁰, identifying and delivering improvements to walking and cycling routes across the borough. Through its Active Travel Programme³¹, the Council is developing safer routes to schools, improving crossings, segregating cycle infrastructure, and enhancing links between residential areas, town centres and public transport hubs.

The Council will:

- Deliver and update its Active Travel Network Maps³² to prioritise key walking and cycling corridors;
- Improve safety and accessibility for pedestrians and cyclists, particularly in areas of highest need;
- Integrate active travel routes with public transport interchanges to enable seamless multi-modal journeys;
- Promote behaviour change initiatives that encourage residents to choose active travel where feasible.

4.1.3 Vehicle fleet

Road transport emissions are not only influenced by the mode by which people travel, but also by the type of vehicle in use. Transitioning to low- and zero-emission vehicles is therefore an important component of improving local air quality and reducing carbon emissions.

The authority approved an Electric Vehicle Strategy and Action Plan in 2019³³ setting out its vision to *“Introduce an electric vehicle infrastructure across Caerphilly County Borough, to maximise the economic, social and environmental benefits and opportunities that the electric vehicle agenda will provide, and for electric vehicles to be a fundamental part of our fleet”*. Work is underway to dramatically improve the charging infrastructure throughout the borough including publicly accessible charge points aimed at supporting both private vehicles and fleet vehicles, to encourage and empower residents to go electric with their vehicles.

The Council is also reviewing its internal fleet of vehicles to identify potential carbon and emissions savings. This work will include reviewing and reducing grey fleet mileage (the travel that employees undertake in their own vehicles on behalf of the council) and identifying low-emissions alternatives for vehicles due for replacement at the end of their lifespan.

The Council also recognises the importance of wider behaviour change in reducing emissions associated with staff travel. Including exploring opportunities to reduce emissions from staff commuting, by reviewing the status of car-sharing schemes, and making use of existing salary sacrifice schemes that support low-emission vehicle uptake alongside active travel schemes such as Cycle to work.

30 Active Travel (Wales) Act (2021) Welsh Government. Available Online: <https://www.gov.wales/sites/default/files/publications/2022-01/active-travel-act-guidance.pdf>

31 Caerphilly County Borough Council. (no date) Active Travel. Available online: <https://www.caerphilly.gov.uk/services/transport-and-parking/active-travel>

32 Welsh Government. (2022). Active Travel Network Map. Available online: <https://datamap.gov.wales/maps/active-travel-network-maps/>

33 Caerphilly County Borough Council. (2018) Electric Vehicle Strategy. Available online: <https://democracy.caerphilly.gov.uk/documents/s25387/Appendix%201.pdf>



4.2 Smoke and domestic combustion

The combustion of solid fuels, including wood and coal, contributes to emissions of fine particulate matter ($PM_{2.5}$), which can have significant impacts on human health. While domestic burning can be a primary source of heating for some households in rural parts of Caerphilly County Borough, for many it is used alongside central heating. Emissions from wood burners and open fires can affect both indoor and outdoor air quality.

National legislation regulated the sale of solid fuels and the standards for stoves that can be installed in homes, including requirements for approved fuels and Ecodesign-compliant appliances. Within the borough, prevention, awareness, and nuisance management are the primary methods of smoke control. The actions being taken are expanded upon below.

4.2.1 Energy efficiency

It is recognised that in some rural communities, solid fuels can be perceived as a cost-effective heating option, particularly where properties are not connected to the gas grid. Complaints relating to smoke from wood burners are, however, becoming more frequent.

The Council supports energy efficiency improvements through grant schemes and housing retrofit programmes aimed at improving boiler efficiency, installing insulation and heating systems. These programmes help households reduce their energy costs while also lowering emissions. Through the Energy Crisis Grant (ECG) Scheme, in 2025 and 2026, 350 households have been given bespoke energy advice to support the uptake of energy efficiency measures. Of these, 68 have received an Energy Crisis Grant, totalling £301,006.47. Based on pre and post ECG data, this has resulted in 121 tonnes of CO_2 saved.

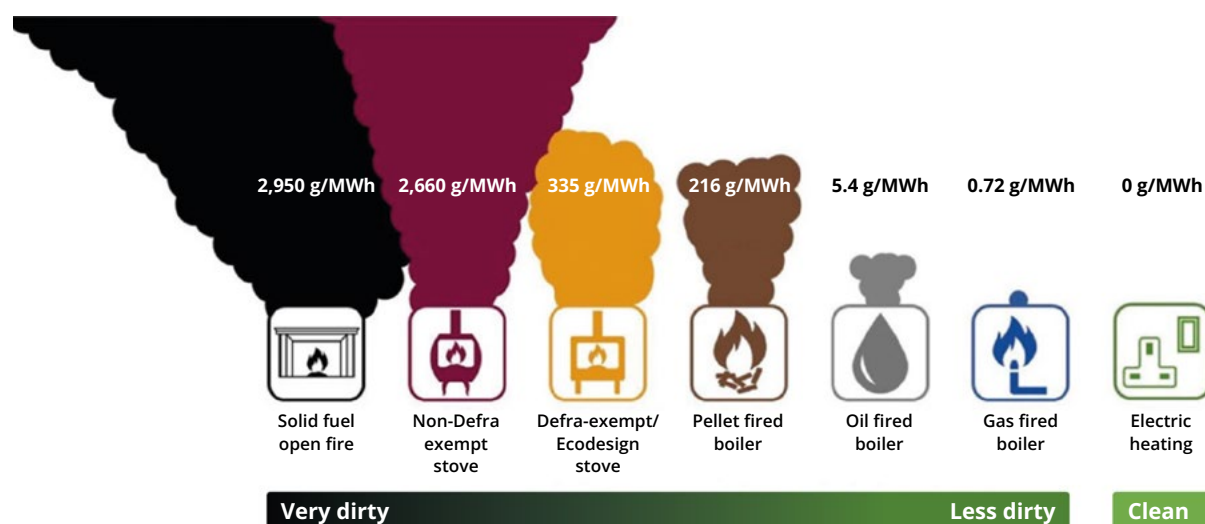
In addition, the Council employs staff who are able to provide home visits on a reactive basis to support residents with personalised guidance on heating, insulation and energy efficiency. Information is available via the Council's webpage [Caerphilly - Caerphilly County Borough](#).

The Council's Housing Team is progressively upgrading heating systems within its own housing stock, replacing older and more polluting systems with cleaner and more efficient alternatives as part of ongoing improvement programmes.

4.2.2 Education

Not all forms of burning are equally polluting. The figure below, taken from the Chief Medical Officer's 2022 report³⁴ demonstrates how different types of heating vary significantly in the amount of particulate matter they emit.

Figure 6: The relative PM_{2.5} emissions from domestic heating methods. Adapted from the Chief Medical Officer's Annual Report 2022.



It is therefore important to help residents understand how domestic burning affects air quality and health, and to promote cleaner, safer alternatives. The Council will develop targeted communications on best practice for those who rely on solid fuels, emphasising the health impacts of PM_{2.5}, and raising awareness of the risks associated with outdoor bonfires.

Where smoke gives rise to nuisance or affects local air quality, the Council will continue to investigate complaints under the Environmental Protection Act 1990 (Part III – Statutory Nuisance)³⁵ and take appropriate action where necessary.

4.2.3 Ongoing review

The Council will continue to review available data on domestic solid fuel use, housing types and heating systems to better understand the scale of solid fuel combustion within the Caerphilly County Borough. This will help inform future air quality actions and ensure that support and advice are targeted appropriately.

Information on bonfires and outdoor burning will continue to be monitored separately through complaints data, as these activities relate to nuisance and localised smoke impacts. Insights from this ongoing review will support evidence-based decision-making and help shape future interventions to reduce smoke emissions and protect community health.

³⁴ Department of Health and Social Care. (2022) Chief Medical Officers Annual Report 2022: air pollution. Available online: <https://www.gov.uk/government/publications/chief-medical-officers-annual-report-2022-air-pollution>

³⁵ Environmental Protection Act 1990. Available online: <https://www.legislation.gov.uk/ukpga/1990/43/part/III>

4.3 Industry and commerce

Industrial activities have historically played a significant role in the economic development of Caerphilly County Borough. The area's industrial heritage is strongly linked to coal mining and associated industries, which have shaped settlement patterns, employment, and local transport networks. While coal mining has now ceased, the legacy of this industrial past remains an important part of the country's identity.

Today, a more diverse mix of industry and commercial activity exists within the borough, including manufacturing, processing and waste management operations. These activities can contribute to emissions of air pollutants such as particulate matter, NO₂ and volatile organic compounds (VOCs).

Effective regulation and management of industrial emissions are vital to protect local air quality and public health. The following sub-sections outline ongoing and future actions the Council is undertaking to manage these emission sources.

4.3.1 Regulatory framework and permitting

Industrial and waste operations that have the potential to emit significant quantities of pollutants are controlled through a suite of regulatory frameworks, set out below.

Environmental permitting

Certain industrial activities require an environmental permit under the Environmental Permitting (England and Wales) Regulations³⁶. Permits set legally binding limits on emissions to air and require operators to implement appropriate control measures.

Permitted processes may include, but are not limited to:

- Combustion plants above a specified size or capacity;
- Surface treatment and coating processes;
- Certain waste treatment and recycling activities.

Environmental permits are typically issued by the relevant regulator (Natural Resources Wales or Caerphilly County Borough Council) and may include conditions on emissions monitoring, emissions control technologies, maintenance, and reporting. Permits are designed to ensure that industrial emissions do not cause unacceptable impacts on local air quality.

Planning controls

Air quality considerations for industrial development are managed through the development control process, where planning applications are assessed against relevant environmental protection and design policies, and where necessary, conditions are attached to control emissions, dust, noise and odour.

The replacement Local Development Plan will explore opportunities to strengthen policies related to air quality. Further information can be found in section 4.4.1.

36 The Environmental Permitting Regulations (2016) for England and Wales. Available online: <https://www.legislation.gov.uk/uksi/2016/1154/contents>

4.3.2 Council powers and responsibilities

Caerphilly County Borough Council has certain statutory powers and responsibilities available to manage the impacts of industrial emissions.

Environmental Protection Act powers

Under the Environmental Protection Act 1990, the Council can investigate statutory nuisance complaints related to emissions from industrial premises, including dust, smoke, odour, and other air pollutants. Where statutory nuisance is found, the Council can serve abatement notices requiring actions to abate the nuisance.

Planning enforcement

Through planning enforcement powers, the Council can ensure that industrial development operates in accordance with planning conditions designed to minimise emissions by adjusting the site layout, landscaping and operating hours, monitor dust emissions, prohibit waste burning, and consider other measures to protect environmental quality.

The Council also undertakes broader regulatory duties, including:

- Regulating prescribed industrial processes under the Local Air Pollution Prevention and Control (LAPPC) system;
- Enforcing provisions of the Clean Air Act, including chimney height approvals and controls on smoke emissions from certain industrial activities;
- Monitoring compliance with permit conditions across a range of industrial sectors;
- Providing advice to operators to support best practice and emission reductions.

4.3.3 Managing industrial impacts

The Council will continue to work with operators, regulators, and neighbouring authorities to ensure that industrial and waste activities in the borough do not adversely affect air quality. This includes:

- Applying planning and permitting controls effectively;
- Using statutory nuisance powers where necessary;
- Supporting best practice guidance for emissions control;
- Monitoring air quality in industrial and adjacent residential areas;
- Providing information to local residents on health impacts and mitigation.



4.4 Construction and new developments

New development and construction activity play an important role in shaping future air quality across Caerphilly County Borough. Development is essential to support housing delivery, economic growth, and regeneration; however, it can give rise to short-term air pollution impacts during construction, and longer-term impacts associated with traffic generation, heating systems, and land use patterns.

Managing these impacts effectively through the planning system is therefore critical to ensuring that growth does not compromise air quality or public health. How the Council achieves this is set out in more detail below.

4.4.1 Local Development Plan (LDP)

The Adopted Local Development Plan provides the strategic framework for guiding development within the borough. Although the Adopted LDP does not contain a standalone air quality policy, relevant provisions are embedded within wider environmental and design policies.

Work is now underway on a Replacement Local Development Plan. As part of this process, the Council will consider the inclusion of a more explicit policy framework directly related to air quality. This may include:

- A dedicated air quality policy, setting out clear requirements for assessment and mitigation;
- Stronger links between development, transport planning, and emissions reduction;
- Clear expectations around low-emission heating systems in new developments;
- Supplementary Planning Guidance (SPG) for new developments.

By strengthening the policy framework within the Replacement LDP, the Council aims to embed air quality considerations more clearly and consistently into decision-making.

4.4.2 Construction

Construction activity can generate dust (particulate matter), emissions from plant and machinery, and additional vehicle movements. These impacts are typically temporary but can affect nearby residents and sensitive receptors.

The Council will continue to use planning conditions and Statutory Nuisance powers to ensure that developers:

- Implement best practices, dust suppression and effective site management;
- Use appropriately maintained, lower-emission plant and machinery;
- Manage vehicle movements and routing to reduce localised impacts;
- Respond promptly to complaints relating to noise and dust.

The Council also routinely requires Construction Environmental Management Plans (CEMPs) as a pre-commencement planning condition for relevant developments. CEMPs set out detailed measures to control dust, emissions, construction, traffic, noise and site practises.

5 Monitoring and evaluation

Regular monitoring and evaluation are fundamental to assessing the effectiveness of the actions set out in this Air Quality Strategy. Ongoing review ensures that interventions remain proportionate, evidence-based and responsive to changing local conditions, including traffic patterns, development growth, industrial activity and domestic emissions.

The Council will continue to undertake local air quality monitoring across the borough in accordance with national guidance. Monitoring data will be used to assess compliance with national air quality objectives, identify emerging hotspots, and track long-term trends in key pollutants such as nitrogen dioxide (NO₂) and fine particulate matter (PM_{2.5}).

Air quality findings will be reported annually through the Council's statutory Air Quality Progress Reports (APRs), ensuring transparency and keeping members, stakeholders, and residents informed of progress and any changes in pollutant concentrations.

The Council will work collaboratively with regional partners, Public Health colleagues, Welsh Government, Natural Resources Wales, and neighbouring authorities where cross-boundary sources and shared transport corridors influence air quality within the borough. This partnership approach will support coordinated action and consistent evidence gathering.

Where monitoring demonstrates that actions are not delivering the intended outcomes, the Council will review and adapt measures accordingly. This agile approach will ensure that resources are targeted effectively and that the Strategy remains aligned with wider climate, transport, planning, and public health objectives.

In evaluating the broader impacts of air quality interventions, the Council recognises the importance of considering public health data and wider determinants of wellbeing. Working closely with public health partners will help to identify positive health outcomes associated with improved air quality, including reductions in respiratory and cardiovascular risk.

Through robust monitoring, transparent reporting, and collaborative evaluation, Caerphilly County Borough Council will ensure that this Air Quality Strategy remains dynamic, accountable, and responsive to the needs of communities across the borough.



6 How can you help?

Improving air quality is something we all have a role in. The national government sets standards and regulations, and the Council works with partners and businesses to deliver local action – but the everyday decisions made by residents, commuters, and businesses also matter. Choices about how we travel, heat our homes, and how we use energy can all affect the air we breathe. Even small, practical changes, such as walking or cycling for short journeys, reducing engine idling, or improving your home's energy efficiency, can help cut pollution, protect health, and create cleaner, healthier communities for everyone.

Below are some practical steps you can take to reduce your air pollution footprint and reduce your exposure to air pollution, based on local guidance and wider health advice.

Making cleaner choices outdoors:

- Limit short car journeys, especially those under 2-3 kilometres, as these produce proportionally more air pollution and fuel use.
- Use public transport, car-share, or combine trips to reduce the number of separate journeys.
- Choose to walk or cycle where possible, particularly for local errands or school runs.
- Avoid unnecessary engine idling, such as waiting outside schools or shops.
- Drive smoothly, avoiding harsh braking and rapid acceleration, which increases emissions and fuel consumption.
- Keep your vehicle well-maintained, including correct tyre pressure, to reduce engine strain and pollution.
- Avoid burning waste or having bonfires – burning plastics, rubber or treated materials is illegal and produces harmful pollutants.
- Support green spaces by planting suitable trees or shrubs where appropriate, which can improve local environmental quality.

Improving air quality indoors:

- Service boilers, heaters and fuel-burning appliances regularly to ensure they operate safely and cleanly.
- Reduce reliance on solid fuel burning and consider cleaner heating alternatives where possible.
- Ventilate your home while cooking, cleaning or painting, using extractor fans or opening windows where safe to do so.
- Be mindful of products that release chemicals, such as aerosols, scented candles, cleaning sprays or solvents; choose low-emission or fragrance-free alternatives where you can.
- Avoid smoking indoors, as this significantly worsens indoor air quality and affects others in the home.

Be part of local action:

- Stay informed about local air quality by checking Council updates.
- Take part in local engagement activities, surveys and consultations to help shape future air quality programmes.
- Support school or community initiatives that promote active travel, green spaces or anti-idling campaigns.



7 Where can you find more information?

If you want to find out more about current air quality levels in Caerphilly, actions that we are taking, or useful information on health and wellbeing, please see the following list of useful resources.

Tool/Resource	Description	Link
Caerphilly County Borough Council	Provides information on air quality monitoring in Caerphilly, and provides access to air quality reports	https://www.caerphilly.gov.uk/services/environmental-health-and-pollution/pollution/air-quality
Caerphilly Local Development Plan	Provides context on policies within Caerphilly County Borough	https://www.caerphilly.gov.uk/business/planning-and-building-control-for-business/local-development-plan/local-development-plan-2010-(adopted)/the-adopted-ldp
Clean Air Plan for Wales: Healthy Air, Healthy Wales	Welsh Government's strategy for improving air quality and reducing pollutant emissions across Wales.	https://www.gov.wales/clean-air-plan-wales
UK Health Security Agency	Provides information about the health impacts of air pollution	https://ukhsa.blog.gov.uk/2022/06/16/clean-air-day-how-ukhsa-is-tackling-air-pollution-and-how-you-can-help/
Defra Air Pollution Forecast	Defra's air pollution forecast tool provides the latest outlook for air quality across the UK	https://uk-air.defra.gov.uk/
Air Quality in Wales	Provides national air quality information, monitoring data, guidance and tools for Wales.	https://www.airquality.gov.wales/
Public Health Network Cymru	Provides health guidance on reducing exposure to air pollution and understanding its health impacts in Wales.	https://publichealthnetwork.cymru/topic/environment/natural-environment/air-quality/
Cardiff Capital Region, Regional Transport Plan	Provides information on the transport plan including Caerphilly	https://www.cardiffcapitalregion.wales/wp-content/uploads/2025/10/cardiff-capital-region-regional-transport-plan.pdf
Caerphilly Decarbonisation Strategy	Provides information on the County's Decarbonisation strategy	https://www.caerphilly.gov.uk/caerphillydocs/council-and-democracy/decarbonisationstrategy/decarbonstrategy2020_eng.aspx
Caerphilly Smoke and Odour	Provides more information on Smoke and Odour in the borough	https://www.caerphilly.gov.uk/services/environmental-health-and-pollution/pollution/smoke-and-odour/smoke-and-odour-from-businesses
Cycling UK	Offer a range of impartial advice, guides, reviews, inspiration, and routes to help people experience the joy of cycling	https://www.cyclinguk.org/
Burn Right	Information about causes and ways to reduce air pollution from wood burning	https://burnright.co.uk/how-to-burn-right/
NACE – National Association of Chimney Engineers	Professional body for qualified chimney engineers offering inspections, diagnostics, repairs and safe operation guidance for chimneys and solid-fuel systems	https://www.nace.org.uk/

Appendix A: Summary of community engagement results

To ensure the Strategy represents a diverse range of perspectives, The Council carried out a borough wide community survey and public consultation during January and February 2026 to understand how residents perceive air quality, the issues they notice in their neighbourhoods, and what they believe should be prioritised. Contributions from local groups, businesses, and community representatives provided insight into the everyday realities of air quality in Caerphilly's towns and villages. This combination of evidence and community voice has helped create a Strategy that is shaped by the people it serves.

The consultation provided valuable insight into how residents across Caerphilly County Borough experience and understand local air quality, with over one hundred participants completing the survey from a range of communities including Caerphilly, Bargoed, Llanbradach, Bedwas, Cwmfelinfach, Ystrad Mynach and many others. Most respondents live within the Borough, and a significant proportion reported respiratory or other long term health conditions that can increase their vulnerability to poor air quality. These responses helped the Council understand where concerns are most concentrated geographically and which population groups may require additional support or targeted communication.

Feedback from the survey highlighted that residents have mixed views about local air quality, with around a third describing it as "very good" but a similar proportion describing it as "poor" or "very poor." Levels of concern were higher when respondents considered the potential effects on their health and the local environment, both of which were identified as important drivers for improvement. These findings reinforced the importance of maintaining a strategy that not only addresses emissions but is also sensitive to the lived experience of communities who report issues such as dust, odours, congestion, and proximity to industrial or waste related activities.

The consultation also highlighted clear challenges in how people currently access information about air quality. Most respondents said they had not previously sought information, and those who had often found it difficult to access or unclear. Residents expressed a strong preference for receiving more regular and transparent updates, particularly through the Council website, email updates, social media channels, and user friendly tools such as weather and air quality apps. Participants stressed the need for clearer communication about where pollution levels are highest, what the Council is doing to address the issues, and how new developments and transport plans are being assessed for air quality impacts.

In shaping the Strategy's actions, the Council also drew on insights into the changes residents want to see and the practical steps they are willing to take themselves. Many respondents said they would walk more, use public transport, avoid idling, or reduce vehicle use where possible, but there are also barriers in achieving such behavioural change. These included limited public transport options, the cost of switching to cleaner vehicles, a lack of safe walking and cycling routes, and wider mobility or accessibility constraints. Such findings emphasised the need for the Strategy to focus not only on encouraging behaviour change but also on improving the conditions that enable it, including better transport infrastructure and accessibility.

Overall, the consultation played a central role in shaping priorities for the Air Quality Strategy. It helped identify the issues of greatest concern to residents, such as HGV movements through residential areas, traffic congestion, industrial emissions, and dust from development sites, as well as the changes residents most wish to see, including better public transport, stronger control of emissions from construction and industry, and improved green infrastructure.



**For any enquiries please contact the
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