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Policy paper

# Air quality strategy: framework for local authority delivery

Updated 25 August 2023

## Applies to England

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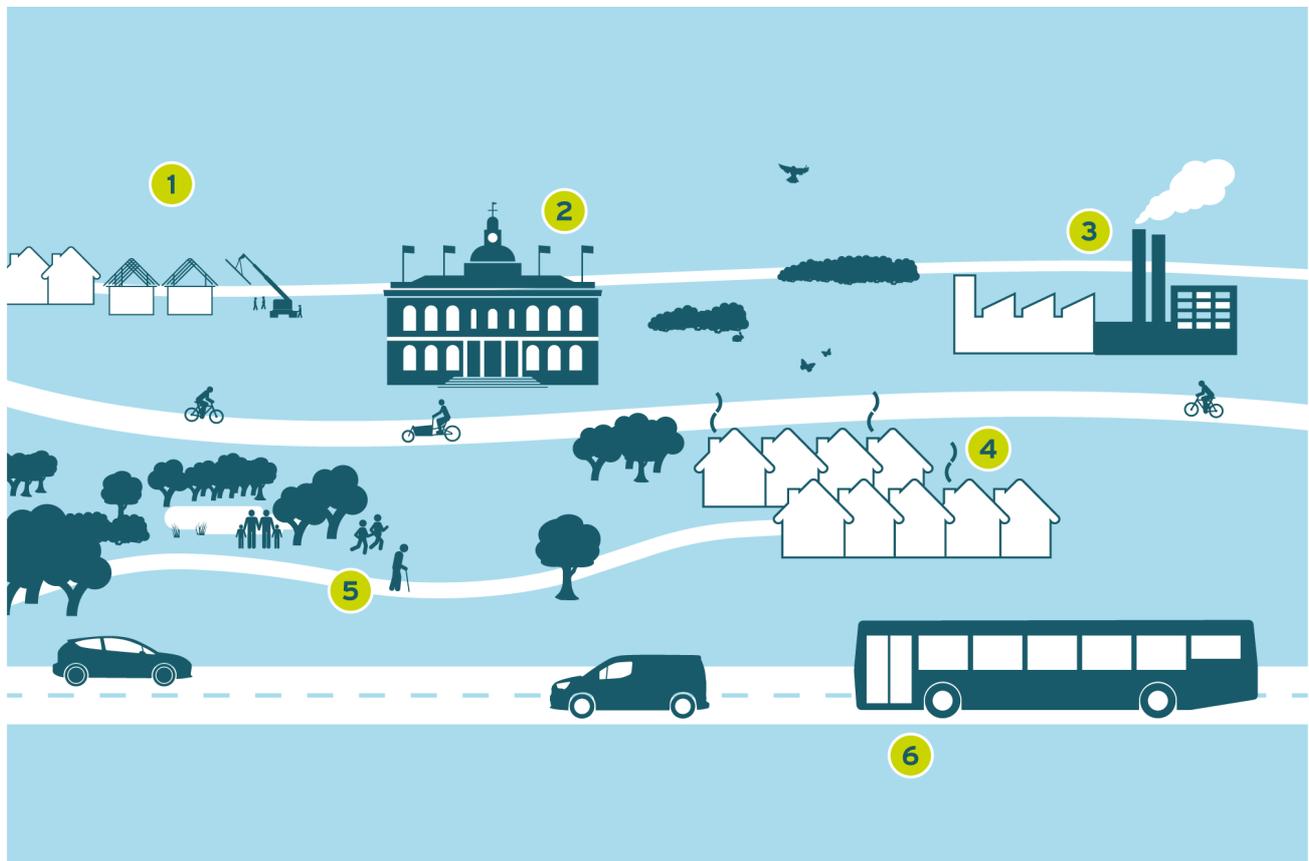
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# 1. Introduction

This document is our strategic framework for local authorities and other partners. It sets out their powers, responsibilities, and further actions the government expects them to take.

Air quality has improved in England over recent decades. However, it continues to be the biggest environmental risk to public health, with children, the elderly and the already vulnerable most affected. Poor air quality also has consequences for crop yields and, particularly in the case of ammonia and oxides of nitrogen (NO<sub>x</sub>), significant impacts for the natural environment and biodiversity.

Local government has an essential role to play in delivering cleaner air for communities and nature right across England. They have many of the powers and local insight to tackle issues that cause pollution locally. Local authorities (the lower tier in two-tier areas, and unitary authorities) already have a duty to address air quality exceedances in their area. This includes declaring Air Quality Management Areas and publishing Air Quality Action Plans setting out the measures they will take to come back into compliance. We also expect local authorities to take preventative action, through a local Air Quality Strategy, rather than waiting for a legal limit to be breached.



Our priorities are:

1. Planning reforms helping to deliver on air quality.
2. Building capacity in local councils through training, guidance and knowledge sharing.
3. Reducing emissions from industrial sources through improved enforcement of environmental permits.
4. Reducing pollution from domestic burning through smoke control areas and cleaner fuels.
5. Raising awareness within local communities of air quality impacts and how to reduce them.
6. Boosting active travel and public transport to improve air quality.

## 1.1 About the Air Quality Strategy

This document sets out a framework to enable local authorities to deliver for their communities and contribute to our long-term air

quality goals, including our ambitious new targets for fine particulate matter (PM2.5).

It fulfils the statutory requirement of the Environment Act 1995 as amended by the Environment Act 2021 to publish an Air Quality Strategy setting out air quality standards, objectives, and measures for improving ambient air quality every 5 years.

It does not replicate or replace our other air quality guidance documents relevant to local authorities, a summary of which is set out in Annex B. The clean air chapter of our [Environmental Improvement Plan 2023](#) (<https://www.gov.uk/government/publications/environmental-improvement-plan>) builds on and updates the 2019 Clean Air Strategy, setting out our delivery plan to achieve our targets.

## 1.2 Who the Air Quality Strategy is for

All local authorities in England, including upper tier authorities (where they exist) and those in London, must have regard to this document. This reflects the fact that where there are two tier authorities, county councils are expected to contribute to district council air quality plans and strategies. In particular, we expect this strategy to be relevant where local authorities are preparing Air Quality Action Plans to address local exceedances. Last year, we expanded this duty to have regard to this strategy to National Highways.

## 1.3 Air quality standards and objectives

The UK has a longstanding framework to improve air quality, consisting of 2 main pillars – emissions and concentrations.

Emissions are a measure of how much pollution is released into the air, and concentrations are the levels at which pollution is present in the air. While the two are closely linked, concentrations are also affected by emissions from neighbouring countries, natural sources, and weather patterns. It is therefore important that we have a legislative framework incorporating both. The full list of pollutants and concentrations is set out at Annex A.

Concentration limits apply both nationally, where they are the responsibility of national government, and locally, where they are the responsibility of the relevant local authority. In areas with two tiers of local government (districts and counties), the air quality duties sit at the lower tier. In unitary areas, the single authority holds responsibility. In two-tier areas, county councils have a duty to contribute improvements to air quality where relevant.

### 1.3.1 National air quality regulations

Our national-level air quality regulations for concentrations consist of the Air Quality Standards Regulations 2010, which set limits for several pollutants, including nitrogen oxides, particulate matter, and others. We are compliant with these standards, except for concentration limits for nitrogen oxides. We are delivering our 2017 [air quality plan for nitrogen dioxide \(NO<sub>2</sub>\) in the UK \(https://www.gov.uk/government/publications/air-quality-plan-for-nitrogen-dioxide-no2-in-uk-2017\)](https://www.gov.uk/government/publications/air-quality-plan-for-nitrogen-dioxide-no2-in-uk-2017) to bring areas into compliance.

Under the Environment Act 2021, we have also set 2 new legally-binding long-term targets to reduce concentrations of fine particulate matter, PM<sub>2.5</sub>. The two new targets are an annual mean concentration of 10 micrograms per metres cubed ( $\mu\text{g}/\text{m}^3$ ) or below and a reduction in average population exposure by 35% by 2040, compared to a 2018 baseline. These targets will help drive reductions in the worst PM<sub>2.5</sub> hotspots across the country, whilst ensuring nationwide action to improve air quality for everyone.

We also set out an interim target for each long-term target in our [Environmental Improvement Plan](#)

<https://www.gov.uk/government/publications/environmental-improvement-plan>) which will ensure we drive early action and do not delay improvement.

Finally, under the National Emission Ceilings Regulations 2018, we have legally-binding emission reduction commitments to reduce the amount of 5 key pollutants released into the air each year, compared to a 2005 baseline. This arises from our membership of the international Convention on Long-Range Transboundary Air Pollution, in which we were a founding member in 1979 and continue to play a leading role.

The 5 pollutants are:

- fine particulate matter (PM2.5)
- oxides of nitrogen (NOx)
- sulphur dioxide (SO2)
- ammonia (NH3)
- non-methane volatile organic compounds

We are compliant with emission reduction commitments for 4 of the 5 key pollutants, except for PM2.5 in 2021. We were below our 2020 to 2029 emission ceiling for PM2.5 in 2020 but emissions increased following the lifting of COVID-19 restrictions. We also have legally-binding emission reduction commitments for 2030 for these 5 pollutants. We set out our delivery plan for achieving emissions reductions in our [Environmental Improvement Plan](https://www.gov.uk/government/publications/environmental-improvement-plan) (<https://www.gov.uk/government/publications/environmental-improvement-plan>).

## 1.4 Local Air Quality Management Framework

The Local Air Quality Management Framework underpinned by the Environment Act 1995 sets local limits put into place through the Air Quality (England) Regulations 2000 (as amended in 2002). The framework requires relevant local authorities to

assess the quality of their air and, if it does not comply with relevant concentration limits, put in place a plan to remedy the problem.

## 1.5 Air pollutants of particular concern

We expect most action will be directed towards the 3 pollutants which have the majority of impact - fine particulate matter, nitrogen oxides and ammonia. Other pollutants include non-methane volatile organic compounds which are found in many household products and can impact on indoor air quality.

### Fine particulate matter – PM2.5

Particulate matter is everything in the air that is not a gas. The size of airborne particles governs their behaviour. The legislation encompasses both PM10 (particles under 10 micrometres comprising both fine and coarse particulate matter) and PM2.5, (particles under 2.5 micrometres or fine particulate matter). This strategy focuses on PM2.5; recognising this has widespread impact.

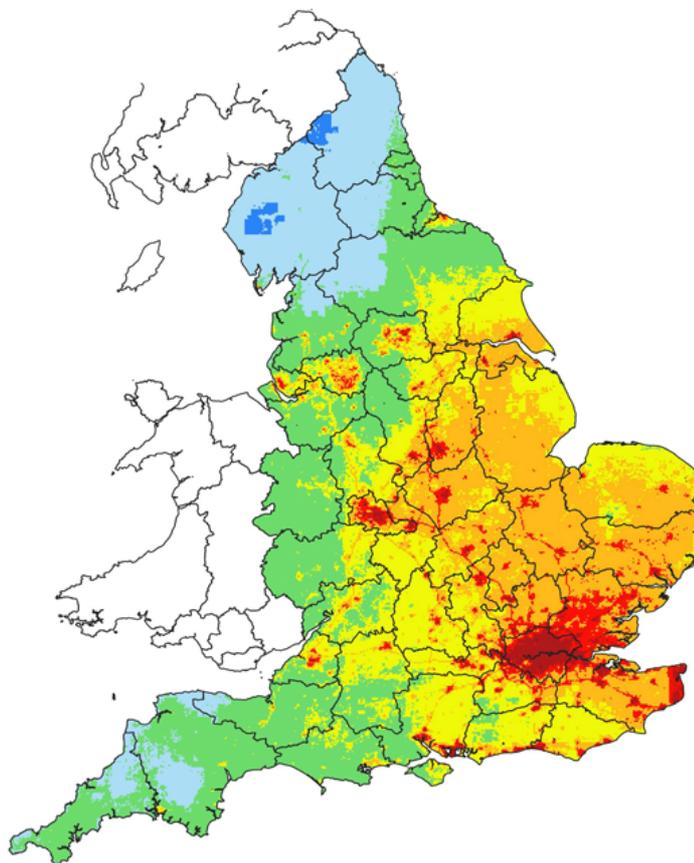
PM2.5 is either emitted directly from sources, known as primary PM2.5, or formed in the air from chemical reactions between other pollutants, known as secondary PM2.5. Primary PM2.5 is emitted from human activities, like burning fuels, braking and various industrial processes, as well as from natural sources like sea spray and dust. Domestic combustion contributed 27% of emissions in 2021 and industrial combustion of biomass fuels accounts for 18%[\[footnote 1\]](#).

A portion of the PM2.5 present in our air originates in other countries, with southeast England particularly affected. Correspondingly, some PM2.5 emitted in the UK travels abroad.

**Map of modelled PM2.5 concentrations across England in 2018, the base year for the PM2.5 targets (produced by Imperial College London).**

## PM2.5 Conc.

Total\_PMf\_B2018



Concentrations range from the lowest (in blue) to the highest (in red). Key features in the map are:

- the gradient from southeast to northwest across the country is due to the difference in natural and transboundary contributions which are higher in the southeast due to emissions from the European continent and shipping
- the highest concentrations are in large urban areas, due to emissions from activities within major towns and cities

## Nitrogen oxides – NO<sub>x</sub> (nitrogen dioxide, NO<sub>2</sub>, and nitric oxide, NO)

Nitrogen oxides are gases which are generally emitted from high-temperature combustion processes. We deal with nitrogen dioxide and nitric oxide together as “NO<sub>x</sub>” because they convert between each other in the air very quickly.

The main sources of NO<sub>x</sub> in the UK are road transport (27% in 20213) and other transport (aviation, rail, shipping) (14% in 20213). Read Annex A for details.

NO<sub>x</sub> can impact human health, usually recognised for exacerbating asthma and other respiratory diseases. It also damages biodiversity by depositing reactive nitrogen into plants and soil.

### **Ammonia (NH<sub>3</sub>)**

Ammonia is a reactive gas which impacts biodiversity. It also reacts with other chemicals in the air to form particulate matter. Its main source in the UK is agriculture (87% in 2021) - read Annex A for details.

## **Actions for local partners: 1**

- All English local authorities (including county councils), the Environment Agency, and designated relevant public authorities, must have regard to this strategy when exercising functions of a public nature that could affect the quality of air.

## **2. How air quality fits with health, economic growth, nature, and net zero**

This section sets out the co-benefits delivered by air quality improvements.

## **Actions for local partners: 2**

- Air quality is a public health issue. Local air quality action (including Local Air Quality Action Plans, Air Quality Strategies,

local communication, and public awareness campaigns) should involve Directors of Public Health at every stage, with collaboration encouraged between lower and upper tier authorities.

- Local authorities should robustly assess the monetised benefits of air quality interventions, implementing those which boost healthy life expectancy and are economically beneficial to their area. The government publishes evidence damage costs for pollutants, which local authorities can use to support economic assessment of air quality interventions.
- Actions to reduce air pollution impacting biodiversity form an integral part of local authorities' duty to conserve and enhance biodiversity under the Natural Environment and Rural Communities Act, as well as have regard to the impact on biodiversity in their policy formation as set out in the Environment Act 2021.
- Local authorities should integrate climate change mitigation and adaptation measures with measures which improve air quality, being mindful to avoid trade-offs and tensions where possible.

## 2.1 Air quality and health

Poor air quality is the biggest environmental threat to public health. Air quality interventions should be designed in a way which takes account of the disparities in exposure to and impacts from poor air quality.

In 2017, the government, jointly with the Local Government Association, published [guidance for directors of public health](https://www.local.gov.uk/publications/air-quality-briefing-directors-public-health) (<https://www.local.gov.uk/publications/air-quality-briefing-directors-public-health>) on the role they should play in addressing air quality. The Public Health Outcomes Framework includes an indicator on mortality attributed to particulate matter, which local authorities should seek to improve. In 2023, legally-binding targets were agreed relating to population exposure to PM2.5.

## **Case study: Health professionals becoming Air Quality Champions in Islington, London**

Islington were supported by the Defra Air Quality Grant Scheme in 2021 to train General Practitioners (GPs) and health professionals as Air Quality Champions. This helped patients, including in hard to reach or vulnerable populations, reduce their exposure.

In partnership with Global Action Plan, Islington council provided online teaching on the causes and health impacts of air pollution to 17 GPs, nurses, and allied health professionals, enabling them to cascade learning to 113 more practice staff. GPs from one practice also engaged in a citizen science project using air quality monitors during their daily commute.

Half of all patients (52%) who received advice on improving air quality from their GP said that it made them want to understand more about air pollution and changed their behaviour. Ventilating while cooking or cleaning and walking more were the most popular actions.

A community communication campaign reached one quarter of the patient population. Patients who had seen this information were twice as likely to take action compared to those who only received advice from their health professional.

The materials developed through the project were shared with national groups such as the Royal College of General Practitioners and are freely available for download on the [Global Action Plan website \(http://www.actionforcleanerair.org.uk/\)](http://www.actionforcleanerair.org.uk/).

## **2.2 Air quality and economic growth**

By making people less healthy, poor air quality harms productivity and increases costs to society through medical and social care.

Reducing poor air quality has direct, proven economic benefits, in many cases even when the up-front cost over intervention is high. It is estimated that reducing PM2.5 concentrations by 1  $\mu\text{g}/\text{m}^3$  increases GDP by 0.8% on average in Europe<sup>[footnote 2]</sup>.

## 2.3 Air quality and biodiversity

Poor air quality, particularly ammonia and NOX, is a major contributor to the long-term decline of biodiversity in the UK.

Approximately 93.5% of England's sites of special scientific interest (SSSIs) exceed the lower critical ammonia level set to protect sensitive plants, such as mosses and lichens. Eight sensitive habitat types in England exceed nitrogen critical loads across 98.5% to 100% of their area. These include woodlands and peatlands - two habitats integral to meeting the UK's net zero target.

Local authorities must exercise their functions in a way which conserves and enhances biodiversity under section 40 of the Natural Environment and Rural Communities Act 2006.

Tackling pollutants which impact on biodiversity is an integral part of this. Through the Environment Act 2021, local authorities are required to produce local nature recovery strategies. Whilst local nature recovery strategies will not be a primary delivery mechanism for air quality measures, air quality impacts on habitats should be considered during their preparation, where relevant. They should be considered in combination with protected sites strategies and shared nitrogen action plans to form an holistic approach to alleviating impacts of air pollution on nature.

## 2.4 Air quality and net zero

In 2019, the UK became the first major economy in the world to legislate to end our domestic contribution to man-made climate change. Many sources of greenhouse gases, like transport and heat generation, also contribute to poor air quality. However, some measures to reduce greenhouse gas emissions are in tension with improving air quality, and these interactions must be carefully considered.

The government published our [2030 Strategic Framework for International Climate and Nature Action](https://www.gov.uk/government/publications/2030-strategic-framework-for-international-climate-and-nature-action) (<https://www.gov.uk/government/publications/2030-strategic-framework-for-international-climate-and-nature-action>), setting out how we will meet the linked global challenges of climate change and biodiversity loss.

## 3. Framework for action

This section sets out the existing Local Air Quality Management framework under the Environment Act 1995 and the range of powers which local authorities have available to them<sup>[footnote 3]</sup>. Whilst London Boroughs do follow the Local Air Quality Management Framework set out in the Environment Act, responsibility for air quality within London is devolved from the Secretary of State to the Mayor of London under the Greater London Authority Act 1999. London Boroughs therefore also follow separate London Local Air Quality Management guidance.

### Actions for local partners: 3

- Under the Local Air Quality Management framework, local authorities must assess their air quality for the specified pollutants and submit their Annual Status Reports.
- Local authorities must declare an Air Quality Management Area if concentrations are above legal limits or are likely to

breach limits.

- Each Air Quality Management Area must be accompanied by an Air Quality Action Plan, setting out measures to fix the problem, and dates by which they will be carried out.
- Where causes of, or contributors to, an Air Quality Management Area fall within the control of another relevant body, those bodies should contribute measures to the Air Quality Action Plan and carry out those measures.
- All local authorities are expected to take proactive action to improve air quality, whether or not they have an Air Quality Management Area. Local authorities without an Air Quality Management Area, should specify proactive measures they will take in their Air Quality Strategy.
- Local authorities' Air Quality Strategies should be informed by their monitoring and assessments. Air Quality Strategies should set out an enforcement strategy which prioritises reduction of population exposure, including in areas experiencing disproportionately high levels of pollution.
- Directors of Public Health should be involved in the preparation of Air Quality Action Plans and Air Quality Strategies.

## 3.1 Local Air Quality Management Framework

### Assessment of air quality

Through the Local Air Quality Management system local authorities must assess air quality in their area against air quality objectives. They must submit an Annual Status Report reporting on their air quality actions, including progress implementing Air Quality Action Plans and local Air Quality Strategies. The list of pollutants that must be assessed is set out in Annex A, but those of particular concern are NO<sub>x</sub> and PM<sub>10</sub>. PM<sub>2.5</sub> is not included in this assessment.

## **Air Quality Management Areas and Air Quality Action Plans**

Where local authorities identify an exceedance of objectives, or a likely exceedance, they must designate an Air Quality Management Area.

Where an Air Quality Management Area is designated, local authorities must produce an Air Quality Action Plan describing the pollution reduction measures required and the dates by which each measure will be carried out.

The expectation is that local authorities and their partners deliver air quality improvements within reasonable timeframes. Local authorities should consider prevention and reduction of polluting activities in preference to only taking steps to improve air quality once exceedances have been identified.

To assist local authorities with their Air Quality Action Plan, the action toolbox in the Local Air Quality Management Technical Guidance 2022 provides a list of potential actions that can be taken to tackle local air quality issues along with their impact on reducing air pollution. For instance, where an exceedance of an air quality objective is linked to a particular junction with congestion, a local authority could consider making changes to traffic light timings to reduce the build-up of traffic or change priorities to allow some vehicles to pass through junctions quicker than others.

### **Case study: Improving local traffic flow in West Suffolk**

West Suffolk Council identified that an existing pedestrian crossing, adjacent to an Air Quality Management Area, was causing significant disruption to traffic flows on a busy A road.

Following public consultation and technical surveys, an intelligent crossing enabled to react to traffic and pedestrian flows to keep traffic moving smoothly was relocated in December 2019, with associated air quality benefits measurable from January 2020. West Suffolk Council have reported substantial reductions of pollution within the Air Quality Management Area as a result of the project. The relocation of the crossing is considered to contribute to a 7.8% reduction in levels of nitrogen dioxide in the

area and the council are now on track to revoke the Air Quality Management Area 2 years earlier than otherwise anticipated.

The project has also created a safe walking route for residents to access the nearby school and village hall, encouraging active travel and physical activity further improving local air quality and benefiting the wellbeing of the community.

## **Air Quality Strategies**

Where a local authority is not required to declare an Air Quality Management Area they are expected to develop and publish a local Air Quality Strategy. The content of each strategy will be determined locally but should be produced in consultation with the director of public health and set out the steps the local authority will take to improve local air quality.

## **Air Quality Partners**

Local authorities will not always have control over the sources of emissions affecting their area. To promote effective local action, a wider range of bodies has been brought into the process of creating and delivering Air Quality Action Plans including neighbouring local authorities, the Environment Agency, and National Highways. These bodies are eligible to be declared Air Quality Partners by the local authority responsible for the area which is exceeding relevant pollution levels.

Where a source within the control of a relevant body is causing or contributing to an exceedance causing an Air Quality Management Area to be declared, the relevant body can be declared an Air Quality Partner by the relevant local authority responsible for the area in exceedance. Defra has set out detailed guidance on the process in our Local Air Quality Management policy guidance. Air Quality Partners must propose measures they will take to contribute to the Air Quality Action Plan and include a date by when they will be carried out.

## 3.2 Local action to reduce PM2.5

As well as meeting local objectives, local authorities play a role in contributing to national targets. The government recognises that as a regional pollutant, many of the sources of PM2.5 are outside of local authority control. However, there are sources of PM2.5 over which local authorities do have control. Therefore, while PM2.5 is not currently part of the Local Air Quality Management framework, the government still expects all local authorities to effectively use their powers to reduce PM2.5 emissions from the sources which are within their control.

We have set 2 new legally binding PM2.5 targets, each with an interim target:

- 10  $\mu\text{g}/\text{m}^3$  annual mean concentration PM2.5 nationwide by 2040, with an interim target of 12  $\mu\text{g}/\text{m}^3$  by January 2028
- 35% reduction in average population exposure by 2040, with an interim target of a 22% reduction by January 2028, both compared to a 2018 baseline

Our annual mean concentration target will drive action in the worst-polluted areas. Our population exposure reduction target requires concentrations be driven down everywhere, including where they are already below 10  $\mu\text{g}/\text{m}^3$ . As a regional pollutant, PM2.5 also travels long distances and increases background levels across a wide area. It is therefore important that all local authorities across England act and can collaborate accordingly.

We have been clear in guidance to local authorities since 2016 that we expect local authorities to use their powers to reduce PM2.5. We still have not seen sufficient action from the majority of local authorities. In light of the new targets, if we consider further action to be insufficient, we will consult on introducing a standalone legal duty on local authorities to take action to reduce PM2.5 emissions.

### Actions for local partners: 4

- All local authorities should support the delivery of national PM2.5 targets by taking action to reduce emissions from sources within their control.
- If the government considers local action has not gone far enough, we will consider introducing a statutory duty on local authorities.

### **3.3 Local transparency and accountability**

The public rightly expect timely and accurate information in environmental matters, including in air quality.

Local authorities have a duty to publish air quality information regularly and transparently. Often this is hard to read, buried deep on council websites, years out of date, or is simply missing. The government is currently improving the UK-Air website and other air quality web services. We will work with local authorities to ensure that local air quality information is more easily accessible.

In our Environmental Improvement Plan, we committed to re-align regional air quality zones in line with local government boundaries to drive effective coordinated action. We want to make it easier for local authorities to identify their role in addressing areas of non-compliance which are monitored under England's Air Quality Standards Regulations 2010. This will empower local authorities to deliver localised solutions as key delivery partners in meeting our legal limits and targets.

The public rightly expect timely and accurate information in environmental matters, including in air quality.

#### **Actions for local partners: 5**

- Local authorities must fulfil their statutory duties to make high quality, accurate air quality information available to the public in a timely fashion.

## **Actions for the UK government: 1**

- The government will align air quality reporting zones with local government boundaries, to empower councils, increase transparency and accountability.
- The government will work with local authorities to improve the UK-Air website and other air quality web services.

### **Case study: Access to local air quality information in Boston, Lincolnshire**

Residents of Boston can access relevant and clear information on local air quality and the steps their local authority is taking to reduce air pollution on the local authority website ([Air Quality in Boston - Boston Borough Council](#))

(<https://www.boston.gov.uk/article/21218/Air-Quality-in-Boston>).

As well as including links to statutory documents such as Annual Status Reports and Air Quality Actions Plans, the council use this webpage to provide information on the health impacts associated with air quality.

The information allows residents to understand the actions the council has taken to address the issues in the Air Quality Management Area such as :

- the provision of a bypass to redistribute HGV traffic
- the installation of 23 electric vehicle charging points to support the transition to low emission vehicles
- diverting green waste from bonfires through the promotion of green waste services

## **3.4 Audit of use of local authority powers**

As set out in our Environmental Improvement Plan, Defra will audit local authority action on air quality, including the powers available and any barriers to delivery. We will carry out this audit

collaboratively with local authorities, expert bodies, and the wider public. We want to ensure that local authorities, who are well-placed to decide how to clean up their air, have the necessary tools at their disposal and examine the reasons for why these are not being used to improve air quality in poorly performing areas.

## **3.5 The Local Air Quality Management Framework: annual process**

### **Monitoring and assessment**

Local authorities are required to monitor and assess the quality of the air in their district.

### **Annual Status Report**

Local authorities publish their monitoring and assessment annually, and update on the measures they have taken since the last Annual Status Report.

### **Air Quality Management Areas**

Local authorities not meeting AQ objectives, or likely not to meet them, declare Air Quality Management Areas, and prepare Air Quality Action Plans.

### **Air Quality Strategy**

Local authorities without Air Quality Action Plans should set out the actions they're going to take to improve air quality in their area.

### **Delivery phase**

All local authorities take the actions they've set out in their Air Quality Action Plans and Air Quality Strategies.

## 4. Summary of powers available to local authorities

Local authorities' functions should, as far as practicable, be exercised in a way which improves air quality. This section sets out the range of powers already available to local authorities and further action which the government intends to take. We will continue to work with local authorities to raise awareness on how to use these powers.

### Actions for local partners: 6

- Local authorities' functions should be exercised in a way which improves and maintains air quality.

### 4.1 Domestic burning

Domestic burning of solid fuels accounted for 27% of PM2.5 in 2021.

### Actions for local partners: 7

- Local authorities should keep the boundaries of existing Smoke Control Areas under review, especially if development has taken place outside of the boundaries. They should consider whether it would be beneficial to declare a new Smoke Control Area.
- Local authorities with Smoke Control Areas are expected to enforce restrictions which apply within those areas.

- All local authorities should enforce solid fuels regulations by ensuring that fuel being sold for domestic purposes has the “Ready to Burn” logo. Local authorities should ensure that no retailers are selling coal for indoor domestic burning from 1 May 2023.

## Actions for the UK government: 3

- The government will look to strengthen the effect of Smoke Control Areas. We will consult on tougher stove standards for Smoke Control Areas, potentially lowering the smoke limit for newly installed stoves from 5g smoke per hour.
- We will consult on tougher emission standards for Manufactured Solid Fuels reducing both smoke emissions and sulphur levels.
- We will explore policies to incentivise a shift from older, more polluting devices towards newer appliances which meet our tough new emission standard.
- We will provide updated guidance, templates, and information to support local authorities in reducing emissions from domestic burning.

### Smoke control areas

Within [smoke control areas \(https://www.gov.uk/smoke-control-area-rules\)](https://www.gov.uk/smoke-control-area-rules) rules apply, setting out that smoke must not be emitted from chimneys, which means using only approved fuels or exempt appliances.

Given the increase in popularity of domestic burning, local authorities should keep the boundaries of their smoke control areas under review<sup>[footnote 4]</sup>. Local authorities without an smoke control area can declare one through a streamlined process<sup>[footnote 5]</sup>. It is also now possible to bring waterways in scope of an existing or new smoke control area, subject to local consultation.

We expect that in most cases, providing information to householders will be sufficient to address smoke emissions in smoke control areas. However, where this is not the case, we expect local authorities to enforce the smoke control area. The Environment Act 2021 streamlined enforcement of smoke control areas by making breaches a civil rather than criminal offence. We have supported these changes with new funding to local authorities over this spending review period. Local authorities with smoke control areas should set a policy stipulating the level of the fine, between £175 and £300. Proceeds from fines can be used towards enforcement costs<sup>[footnote 6]</sup>. We will be providing template enforcement materials for local authority officers to use, including information to reduce smoke emissions and warning letters to be issued ahead of any fines.

Where persistent smoke causes a nuisance, local authorities should issue an abatement notice under section 80 of the Environmental Protection Act 1990 to prevent further nuisance. Breaching an abatement notice is a criminal offence punishable with fines. Following changes made under the Environment Act 2021, these provisions now also apply to nuisance smoke from chimneys inside smoke control areas, in addition to smoke from chimneys outside smoke control areas and smoke from other sources such as bonfires, which were already covered.

We are not considering a ban on domestic burning in England. The UK government recognises that some households are reliant on solid fuel burning as a primary source for heating, hot water, and cooking, with this in mind government is not seeking to ban burning. This is particularly pertinent in light of the current focus on energy security, and the global rise in energy prices.

## **Solid Fuels Regulations**

Local authorities are also responsible for enforcing legislation restricting the sale of the most polluting fuels used in domestic burning. The Air Quality (Domestic Solid Fuels Standards) (England) Regulations 2020 restrict the sale of wet wood for domestic burning, limit the emission of sulphur and smoke from

manufactured solid fuels, and phase out the sale of smoky coal (also known as traditional house coal, or bituminous coal).

The regulations introduce a mandatory certification scheme demonstrating that wood sold in volumes under 2m<sup>3</sup> is dry (not more than 20% moisture). Manufactured solid fuels sold for use in domestic burning must have a sulphur content below 2% and emit less than 5g smoke per hour. Local authorities should check that fuel being sold for domestic purposes has the required “Ready to Burn” logo and certification number. From 1 May 2023, retailers are banned from selling coal (bagged or loose) for domestic burning.

## 4.2 Industrial emissions

Industrial emissions have decreased significantly but are still a large source of pollution. The Environment Agency and local authorities are key delivery partners in achieving further reductions of pollution from this source.

Industrial emissions have decreased significantly but are still a large source of pollution. The Environment Agency and local authorities are key delivery partners in achieving further reductions of pollution from this source.

Industrial installations are subject to an environmental permitting regime which sets emission limit values and other conditions permit holders must meet. Large installations are subject to the UK best available techniques regime, through which standards are developed and agreed by regulators and industry and published as best available techniques conclusions.

Large installations and medium combustion plant are permitted and regulated by the Environment Agency. Where a large industrial installation or medium combustion plant is causing or contributing to exceedances requiring an Air Quality Management Area, local authorities should liaise with the

Environment Agency to ensure compliance at industrial sites they are responsible for regulating. In their role as an air quality partner, the Environment Agency should contribute measures which will reduce the pollution for inclusion in any Air Quality Action Plan.

Across England, both medium and smaller industrial sites are permitted by local authorities. Medium-sized sites (Part A2 sites) are subject to UK best available techniques, and therefore local authority regulators are required to reflect UK best available techniques standards when issuing new permits and are required to update existing permits within 4 years of new UK best available techniques conclusions being published.

Smaller sites (Part B sites, Solvent Emission Activities and Small Waste Incineration Plant) operate in accordance with process guidance notes issued by Defra. These smaller sites are more numerous and more likely to be located closer to or in residential areas. If an industrial site permitted by a local authority is responsible for, or contributing to, an air quality management area, the local authority should enforce granted environmental permits and check industrial sites' compliance with legal limits.

Local authorities should make sure that regular monitoring of permit conditions takes place and appropriate enforcement is taken when conditions are not met. Local authorities should seek to recover the costs of any remediation they are required to put in place due to non-compliance with permit conditions. Appropriate action should be taken against those who fail to comply with the requirement to obtain a permit.

The Environment Agency is a statutory consultee for specific types of development under the planning regime. Where planning and permitting decisions rely on and consider similar or the same information, these data processes should be aligned to avoid duplication as far as possible.

## **Actions for local partners: 8**

- When undertaking enforcement activity, local authorities should focus on areas where exposure is highest, and industrial activities are taking place nearby to, or in, residential areas.
- Local authorities should take a robust, proportionate enforcement approach.
- Local authorities should seek to recover remediation costs where appropriate.
- Where information provided for planning and permitting decisions is similar, it should be aligned.

### **Actions for the UK government: 4**

- We will continue to roll out the UK best available techniques framework for large and medium industry, and develop it further to cover new technologies
- We are exploring a similar approach for smaller industrial installations, allowing out- dated regulatory standards to be updated more frequently.
- We will consider closer alignment between the Local Air Quality Management and permitting regimes, so that swifter, more complementary action can be taken to resolve local air quality issues.
- We will consider how to boost local authority regulatory capacity and capability including exploring how the fees and charges system can be improved to provide better cost recovery.

## **4.3 Transport and non-road mobile machinery**

Transport is a key emitter of air pollution and delivering emission reductions from this source will be vital in reaching our air quality targets. Local authorities have an important role to play, with powers over local transport and a strategic planning function.

## **Actions for local partners: 9**

- Local authorities should ensure air quality is considered within Local Transport Plans, in line with guidance published by the government.
- Local authorities should consider rolling out traffic management schemes using existing powers to improve air quality, whilst taking into account the views of local residents and businesses.
- Local authorities should work closely with ports and airports to reduce air quality impacts, particularly where they are in an Air Quality Management Area.
- Where the biodiversity of a protected site is being damaged by nitrogen deposition from road transport, the local authority should take action to reduce this source of pollution and prevent damage.
- Local authorities are encouraged to promote the use of cleaner non-road mobile machinery as part of construction and environment management plans for development they grant planning permission for and consider incentivising cleaner construction equipment through tendering processes where there is clear evidence of air quality issues.

## **Actions for the UK government: 5**

- We will require that an increasing proportion of car and van sales from each manufacturer are zero tailpipe emission from 2024 onwards.
- We are investing in research programmes to develop methods to prevent or reduce emissions from non-exhaust vehicle sources, such as brake and tyre wear.
- Through Active Travel England, we will continue to support cycling and walking.
- We will consider actions to improve air quality on the Strategic Road Network as part of developing the next Road Investment Strategy 2025 to 2030.

## Public transport

Improved bus networks help achieve both clean air and wider climate goals. The [national bus strategy](https://www.gov.uk/government/publications/bus-back-better) (<https://www.gov.uk/government/publications/bus-back-better>) was published in March 2021 to encourage more people to travel by bus.

All local authorities are required to improve their local bus services using the powers set out in the Transport Act 2000, to meet the requirements of the National Bus Strategy and qualify for government funding. Local authorities must decide whether to deliver these improvements via a statutory enhanced partnership with their local bus operators or to pursue a franchising assessment to operate their buses through local service contracts.

Bus Service Improvement Plans have been developed by Local Transport Authorities in collaboration with local bus operators, community transport bodies and local businesses, services, and people.

Enhanced partnerships can work together to reduce congestion outside of sensitive sites such as hospitals, care homes and schools, by ensuring that bus routes are well connected to these sites.

## The Strategic Road Network

We will consider actions to improve air quality on the Strategic Road Network as part of developing the next Road Investment Strategy 2025 to 2030.

National Highways will continue to work closely with Local Authorities in their role as a Relevant Public Authority to, where possible, identify and implement solutions to mitigate poor air quality.

## Active travel

Enabling more people to make their local journeys by walking or cycling is an important part of improving air quality. Well-designed active travel schemes can deliver significant air quality benefits. Government is investing around £3 billion in active travel over the 5 years to 2025. This funding includes both dedicated funding and funding from wider sources such as the City Region Sustainable Transport Settlements and the Levelling Up Fund.

The government has also established a new executive agency, Active Travel England, to work with local authorities and help them deliver new footways, cycle lanes and pedestrian crossings. Active Travel England will also have a key role in the planning system, helping to ensure that new developments are planned and designed in such a way as to maximise the potential for walking and cycling. Active Travel England has also announced a £32.9 million local Capability Fund, to boost capability in local authorities to deliver active travel schemes. This will increase the rollout of active travel schemes in local authorities outside London, training officers and councillors, supporting network design and planning, and public engagement and consultation.

### **Case Study: Active Travel**

Travelling to education is the most common single purpose of walking journeys but there is huge potential to increase the proportion of children walking to school. Living Streets, with support from the Department for Transport, has been running the Walk to School Outreach (WTSO) project since 2017. It does so mainly through behaviour change interventions delivered in schools, including “WOW”, Living Streets’ year-round walk to school challenge, and by influencing local infrastructure decisions. An evaluation carried out in 2022 shows that walking rates increased by 48% among new WTSO project schools and increased walking rates were sustained in existing schools in 2021 to 2022. This represents around 13 million new walking trips and 4 million fewer school run car journeys in that academic year.

## **Vehicle idling**

Local authorities have powers to issue fixed penalty notices of £20 (rising to £40 if not paid within 28 days) to drivers of vehicles idling unnecessarily.

Local authorities can choose to target anti-idling enforcement at sites and times where unnecessarily idling is known to be a particular problem such as schools at the start and end of the school day, or around areas which are particularly vulnerable to poor air quality such as hospitals.

### **Case Study: Research on influencing driver behaviour in Colchester, Essex**

Colchester Borough Council were funded by the Defra Air Quality Grant scheme to conduct research into anti-idling schemes.

Undertaken in partnership with the University of Essex, a local trial sought to identify which anti-idling messages encouraged the largest number of drivers to switch off their engines, even when the signs were removed. Data was collected from 150,705 vehicles making it the largest study into roadside signage of its kind in the UK and over the longest period.

The research found that roadside signage is a low maintenance and cost-effective way to influence driver behaviour, generating immediate results. The study recorded an 11% increase of drivers switching off their engines while waiting at crossings and junctions. The most effective of anti-idling messages were focused on the threat to health and subscribing to social norms. Drivers were less influenced by messaging that referred to their impact on air quality in the area or self-regulation.

The study also revealed that the signs that were displayed for longer periods were more effective, with no signs of signage fatigue. Colchester also found there was a positive spill over effect with people continuing to switch off their engines two weeks after the signage had been removed indicating that signs can be effective at forming habits.

## Clean air zones

Local transport authorities have longstanding powers under the Transport Act 2000 to implement road user charging schemes. Clean air zones, which involve charging typically alongside non-charging measures, have also been rolled out by local councils in cities across England to deliver reductions in NO<sub>2</sub> concentrations as part of our NO<sub>2</sub> Plan, principally where other measures are not modelled to achieve compliance in the shortest possible time.

Through the NO<sub>2</sub> programme we have also funded a number of measures such as road and junction improvements, as well as a variety of vehicle upgrades, all improving air quality. Detailed guidance for local authorities is available in our [clean air zones framework \(https://www.gov.uk/government/publications/air-quality-clean-air-zone-framework-for-england/clean-air-zone-framework\)](https://www.gov.uk/government/publications/air-quality-clean-air-zone-framework-for-england/clean-air-zone-framework).

## Ports

The government is supporting ports to work with local authorities and communities to develop Ports Air Quality Strategies setting out proactive plans to reduce emissions from shore activities and visiting ships. This will help ports and local authority planners to understand and mitigate the air quality impact of maritime operations, especially within Air Quality Management Areas.

## Airports

Every major commercial airport in the UK is required by law to have facilities for consultation, providing a forum for discussing airport-related issues – including air quality - with all those who may be affected by its operations.

Local authorities have an important representational role on these forums, particularly when they represent communities close to or affected by the airport's operations. Local air quality issues must be considered as part of these discussions.

## Non-road mobile machinery

Non-road mobile machinery, such as construction equipment, can be a significant source of pollution in local areas.

Non-road mobile machinery is subject to placing-on-the-market standards, similarly to road vehicles, with increasingly stringent standards applied. These are known as emission stages, the most recent of which is 'Stage V'.

Local authorities are encouraged to promote the use of the cleanest construction equipment available and to encourage the use of zero emission machinery, such as electric equipment. This should form part of construction and environment management plans for development they grant planning permission for. Local authorities should also consider incentivising cleaner construction equipment through tendering processes where there is clear evidence of air quality issues. Local authorities should show flexibility where only a few units of the highest standard equipment are available, for instance in relation to specialised machinery.

Local authorities should also consider incentivising cleaner construction equipment through tendering processes for which they are responsible. For instance, if a local authority is issuing a tender for a road maintenance contract, it may be appropriate to ask bidders to demonstrate that their fleet is comprised mainly or wholly of equipment which meets the latest emission stages or is zero-emission.

In the Net Zero Growth Plan, the government announced its intention to publish a non-road mobile machinery decarbonisation strategy, with work starting on the strategy in 2023.

## 4.4 Agriculture

Agriculture is the largest source of ammonia and contributes to PM<sub>2.5</sub> through chemical reactions in the atmosphere. While not

having direct regulatory powers over agriculture, local authorities should work with the agricultural industry to minimise emissions from this source. This should include supporting innovation providing advice and engagement to work with farmers to make improvements where possible<sup>[footnote 7]</sup>.

Where local authorities hold agricultural land, they should have a clear policy covering how they will work with tenant farmers to manage land more sustainably and reduce ammonia emissions. All local authorities should encourage farmers (whether tenants or not) to follow the [Code of Good Agricultural Practice for Reducing Ammonia Emissions](https://www.gov.uk/government/publications/code-of-good-agricultural-practice-for-reducing-ammonia-emissions/code-of-good-agricultural-practice-cogap-for-reducing-ammonia-emissions) (<https://www.gov.uk/government/publications/code-of-good-agricultural-practice-for-reducing-ammonia-emissions/code-of-good-agricultural-practice-cogap-for-reducing-ammonia-emissions>), produced by Defra in collaboration with the farming industry.

Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and clean air zones, and the cumulative impacts from individual sites in local areas, as per paragraph 186 of the National Planning Policy Framework. Local Planning Authorities should therefore consider the relevance of the impact of ammonia emissions on the environment when making local plans and may need to consider it as part of their strategic environmental assessment, including policies where it is considered necessary.

Depending on the local circumstances (and in light of any relevant national or local policies), ammonia emissions may be a material planning consideration for planning applications. This may include the reductions in ammonia emissions from development such as new or improved slurry stores and livestock housing applications. It is for the decision-maker to determine what is a relevant material consideration based on the individual circumstances of the case. Further guidance may be found in the Air Quality chapter of the [Planning Practice Guidance](https://www.gov.uk/guidance/air-quality--3) (<https://www.gov.uk/guidance/air-quality--3>).

## **Actions for local partners: 10**

- Local authorities should encourage tenant and other farmers to reduce ammonia emissions by following the Code of Good Agricultural Practice for Reducing Ammonia Emissions.
- The implications of development for ammonia emissions may be a material consideration in planning decisions. It is for the decision-maker to determine what is a relevant material consideration based on the individual circumstances of the case.

## **Actions for the UK government: 6**

- The government will consult on bringing dairy and intensive beef farms within scope of environmental permitting.
- We will continue to issue funding to invest in slurry storage infrastructure to reduce ammonia emissions, with an increased budget of £33.9 million made available in April 2023 and two further rounds to follow.
- We will consult on new rules to reduce ammonia emissions from organic manure, including requirements for low emission techniques for slurry and digestate spreading.

## **4.5 Indoor Air Quality**

Action to reduce emissions from domestic burning will help tackle indoor air pollution. Indoor air quality is also impacted by pollutants released indoors, including from cleaning products, furniture and as the result of damp. Markers of dampness and moisture in buildings such as visible mould, mould odour, or moisture in the walls have been associated with respiratory health outcomes, such as exacerbation of asthma, respiratory infections, and allergies.

Local authorities should ensure that environmental, planning, housing, health, and social care staff are aware best practice on

indoor air quality. The [indoor air quality at home](https://www.nice.org.uk/guidance/ng149/) (<https://www.nice.org.uk/guidance/ng149/>) guidance co-produced by Public Health England (now the UK Health Security Agency) and the National Institute for Health and Care Excellence on indoor air quality provides a summary of actions that can be taken to improve air quality in the home. This may include for instance advising the public on the importance of ventilation (such as using trickle vents, extractor fans and opening windows where possible) and tailoring advice to those who are already vulnerable such as pregnant women and babies under 12 months.

The government also recognises that there is a specific gap in guidance tailored to the housing sector. We will therefore review existing guidance on the health impacts of damp and mould in homes, and issue new consolidated guidance tailored to the housing sector this year.

### **Actions for local partners: 11**

- Local authority front line, public health, environmental and planning professionals should be familiar with best practice on indoor air quality, including around ventilation.
- Where social housing is provided by local authorities, guidance to tenants on ventilation could be provided.

### **Actions for the UK government: 7**

- The government will develop new guidance on mould and damp for the housing sector.

## **4.6 Communicating air quality information**

Local authorities are well placed to communicate relevant air quality information to residents.

Defra makes a wide range of air quality information available to the public through the [UK-Air website \(https://uk-air.defra.gov.uk/\)](https://uk-air.defra.gov.uk/) and Twitter feed. This includes forecasting, measurements from our nationwide monitoring networks, and health. However, we know there is more to do, and are undertaking a review of how we communicate air quality information to ensure that members of the public, and vulnerable groups, have the information they need to protect themselves and understand their impact.

We will support local authorities by providing template communications tools and assets which they can deploy in their own communications. As part of the 2023 Burn Better Campaign, Defra has already provided all local authorities with communications assets that raise awareness around better burning habits. We will ensure that communications assets created by local authorities using funding from the Air Quality Grant are made available to local authorities more widely.

### **Case study: Knowledge sharing across local authorities through the Air Quality Hub**

Acting in collaboration as the Low Emission Partnership, City of York, Lancaster City, Mid Devon District and Bradford Metropolitan District Councils were funded by Defra's Air Quality Grant, to set up and manage an online air quality knowledge sharing platform for local authorities.

The [Air Quality Hub \(https://www.airqualityhub.co.uk/\)](https://www.airqualityhub.co.uk/) was launched in November 2021 with over 170 people joining the online launch event. From its establishment, the AQ Hub has enabled air quality officers to network, readily share their experience on different air quality issues, contribute to case studies on measures addressing air pollution and share best practice or lessons learned.

Since then, the Low Emission Partnership have been building the site into a 'one stop shop' by creating a comprehensive library of resources from a number of organisations (such as Defra, UKHSA, DfT) and regularly adding advice notes (such as on the enforcement of Smoke Control Areas). Through provision of practical information and by facilitating efficient use of resources,

the AQ Hub is helping to increase local authority capability and deliver air quality benefits throughout the country.

## **Actions for the UK government: 8**

- The government has launched the Air Quality Information System review in December 2021. The remit of the two-year review is to provide a series of actionable, evidence-based improvements which could be made to the government's provision of air quality information.
- The government will develop a best practice guide on outdoor burning that can be provided to members of the public to help reduce emissions.
- The government will share communications assets and other material of wider relevance with local authorities to use in their own communications.

# **5. PM2.5 target implementation**

## **5.1 PM2.5 target implementation**

Under the Environment Act 2021, the government has set 2 ambitious, legally-binding targets to reduce concentrations of PM2.5:

- an annual mean concentration target for PM2.5 of 10  $\mu\text{g}/\text{m}^3$  across England by 2040
- an average population exposure reduction target of 35% in 2040 compared to a 2018 baseline

Having set these targets, we are now turning to implementation including how other bodies should take them into account in decision-making to help achieve these targets, particularly as the

population exposure reduction target is an important but novel approach to improving air quality.

Wider planning reforms are currently underway, being led by the Department for Levelling Up, Housing and Communities. Planning reforms are being partly delivered through the Levelling up and Regeneration Bill and partly through reviews of national planning policy. Proposals for potential reform to planning policy proposed by this strategy may be subject to various further government consultations as part of these wider reforms. This strategy does not pre-empt the outcomes of wider planning reforms, nor the outcome of any supporting government consultations. The government will continue considering this strategy, and responses to the consultation on it, as part of the wider planning reforms.

## **5.2 Design-stage emission prevention approach**

Design-stage emission prevention means influencing the design of a scheme at an early stage, so the minimum amount of pollution is emitted during the scheme's life. Our ongoing planning reforms will place environmental issues at the heart of the reformed system. New approaches like Environmental Outcomes Reports will ensure environmental assessment is an effective tool for managing the effects of development on the natural environment. A reformed system will ensure decision-makers are equipped with the information they need to make informed choices that support sustainable development. Our aim is that this should drive the achievement of statutory environmental targets and the Environment Improvement Plan.

We will consider how promoters can demonstrate to the relevant authorities that emissions have been considered and designed out of a scheme, as far as possible. We will continue to consider how this approach should be integrated into local plans, as well

as the scope of the emissions and the type of plans or schemes that this approach might apply to.

To support the principle of design-stage emission prevention, we will develop and consult on approaches towards quantitative assessment including low emission benchmarks.

Low emission benchmarks are a series of published emission estimates based on best-practice design for a range of land-use types. Developers compare their scheme against these best-practice values.

The government will consider how to best promote the principles of design stage emission prevention in planning policy and guidance as it is reviewed, consulted upon, and updated following passage of the Levelling Up and Regeneration Bill through Parliament. This will include the Air Quality Planning Policy Guidance, and the various National Policy Statements which apply to Nationally Significant Infrastructure Projects.

## **Environmental Outcomes Reports**

The government is making significant reforms to how environmental matters are considered in planning through the Levelling Up and Regeneration Bill. The bill will create Environmental Outcomes Reports which front-load environmental considerations into the design stages of both the strategic plan-making and planning application process.

Schemes' Environmental Outcomes Reports will also include detail of how the plan or scheme contributes to other environmental outcomes. The government expects that this will include air quality, subject to an [ongoing consultation on the detail of Environmental Outcomes Reports](https://www.gov.uk/government/consultations/environmental-outcomes-reports-a-new-approach-to-environmental-assessment)

[\(<https://www.gov.uk/government/consultations/environmental-outcomes-reports-a-new-approach-to-environmental-assessment>\)](https://www.gov.uk/government/consultations/environmental-outcomes-reports-a-new-approach-to-environmental-assessment).

The effects on the environment will be identified in the Environmental Outcomes Reports and discussed in the accompanying planning statement, which also discusses the design evolution of the scheme and how it complies with policy. This will provide a balanced justification for the development.

The relevant authority will then be able to make a decision taking into account a comprehensive assessment of the environmental impacts of the plan or scheme. It is important for the local planning authority to be able to balance these factors when making the decision on whether to grant planning permission or not.

## **Actions for the UK government: 9**

- We will consult further on the detail of a combined design stage emission prevention and quantitative assessment approach.
- The government will continue considering the responses to the recent National Planning Policy Framework consultation which closed on 2 March 2023.

# **6. Annex A: tables of pollutants and limits**

## **6.1 Local Air Quality Management Framework**

The [Air Quality \(England\) Regulations 2000](https://www.legislation.gov.uk/ukxi/2000/928/contents/made) (<https://www.legislation.gov.uk/ukxi/2000/928/contents/made>) ([2002 as amended](https://www.legislation.gov.uk/ukxi/2002/3043/contents/made) (<https://www.legislation.gov.uk/ukxi/2002/3043/contents/made>))

These pollutant limits apply locally under the Air Quality Management framework.

<b>Pollutant</b>	<b>Objective</b>	<b>Averaging Period</b>
<b>Nitrogen dioxide - NO<sub>2</sub></b>	200 µg/m <sup>3</sup> not to be exceeded more than 18 times per year	1-hour mean
<b>Nitrogen dioxide - NO<sub>2</sub></b>	40 µg/m <sup>3</sup>	Annual mean
<b>Fine and coarse particulate matter - PM<sub>10</sub></b>	50 µg/m <sup>3</sup> not to be exceeded more than 35 times/ year	24-hour mean
<b>Fine and coarse particulate matter - PM<sub>10</sub></b>	40 µg/m <sup>3</sup>	Annual mean
<b>Sulphur dioxide (SO<sub>2</sub>)</b>	266 µg/m <sup>3</sup> not to be exceeded more than 35 times per year	15 minute mean
<b>Sulphur dioxide (SO<sub>2</sub>)</b>	350 µg/m <sup>3</sup> not to be exceeded more than 24 times per year.	1 hour mean
<b>Sulphur dioxide (SO<sub>2</sub>)</b>	125 µg/m <sup>3</sup> not to be exceeded more than 3 times per year	24 hour mean
<b>Benzene</b>	16.25 µg/m <sup>3</sup>	Running annual mean
<b>Benzene</b>	5.00 µg/m <sup>3</sup>	Annual mean

<b>Pollutant</b>	<b>Objective</b>	<b>Averaging Period</b>
<b>1,3-butadiene</b>	2.25 µg/m <sup>3</sup>	Running annual mean
<b>Carbon monoxide</b>	10.00 mg/m <sup>3</sup>	Maximum daily running 8-hour mean
<b>Lead</b>	0.5 µg/m <sup>3</sup>	Annual mean
<b>Lead</b>	0.25 µg/m <sup>3</sup>	Annual mean

## 6.2 Environment Act PM2.5

[The Environmental Targets \(Fine Particulate Matter\) \(England\) Regulations 2023](https://www.legislation.gov.uk/ukxi/2023/96/contents/made)  
(<https://www.legislation.gov.uk/ukxi/2023/96/contents/made>)

<b>Pollutant and metric</b>	<b>Target</b>	<b>Target year</b>
<b>PM2.5 annual mean concentration</b>	Interim target: 12 µg/m <sup>3</sup>	2028
<b>PM2.5 annual mean concentration</b>	Legally binding target: 10 µg/m <sup>3</sup>	2040
<b>PM2.5 population exposure</b>	Interim target: 22% reduction in exposure compared to 2018	2028

<b>Pollutant and metric</b>	<b>Target</b>	<b>Target year</b>
<b>PM2.5 population exposure</b>	Legally binding target: 35% reduction in exposure compared to 2018	2040

## 6.3 Air Quality Standards Regulations

### [The Air Quality Standards Regulations 2010](https://www.legislation.gov.uk/uksi/2010/1001/contents/made)

(<https://www.legislation.gov.uk/uksi/2010/1001/contents/made>)

### Pollutant limit values

<b>Pollutant</b>	<b>Objective</b>	<b>Concentration measured as</b>	<b>Date to be achieved by (and maintained thereafter)</b>
<b>PM10</b>	50 µg/m <sup>3</sup> not to be exceeded more than 35 times a year	24 hour mean	31 December 2004
<b>PM10</b>	40 µg/m <sup>3</sup>	annual mean	31 December 2004
<b>PM2.5</b>	20 µg/m <sup>3</sup>	annual mean	1 January 2020

<b>Pollutant</b>	<b>Objective</b>	<b>Concentration measured as</b>	<b>Date to be achieved by (and maintained thereafter)</b>
<b>PM2.5</b>	Target of 20% reduction in concentrations at urban background	annual mean	Between 2010 and 2020
<b>Nitrogen dioxide (NO<sub>2</sub>)</b>	200 µg/m <sup>3</sup> not to be exceeded more than 18 times a year		1 January 2010
<b>Nitrogen dioxide (NO<sub>2</sub>)</b>	40 µg/m <sup>3</sup>		1 January 2010
<b>Ozone (O<sub>3</sub>)</b>	100 µg/m <sup>3</sup> not to be exceeded more than 10 times a year	8 hour mean	

### Critical levels for the protection of vegetation

<b>Pollutant</b>	<b>Level</b>	<b>Averaging time</b>
<b>Oxides of nitrogen (NO<sub>x</sub>)</b>	30 µg/m <sup>3</sup>	One calendar year
<b>Sulphur dioxide (SO<sub>2</sub>)</b>	20 µg/m <sup>3</sup>	Calendar year and winter (1st October to 31st March)

## 6.4 National Emission Ceilings Regulations

### [The National Emission Ceilings Regulations 2018](https://www.legislation.gov.uk/ukxi/2010/1001/contents/made)

(<https://www.legislation.gov.uk/ukxi/2010/1001/contents/made>)

	<b>2005 baseline (kilotonne)</b>	<b>Reduction required by 2020</b>	<b>2020 to 2029 ceiling (kilotonne)</b>	<b>Reduction required by 2030</b>
<b>NOx</b>	1710	55%	769	73%
<b>SO2</b>	785	59%	322	88%
<b>NMVOCs</b>	1123	32%	763	39%
<b>PM2.5</b>	115	30%	81	46%
<b>NH3</b>	279	8%	257	16%

## 7. Annex B: reference list of air quality documents

### National strategies and plans

#### [Environmental Improvement Plan](https://www.gov.uk/government/publications/environmental-improvement-plan)

(<https://www.gov.uk/government/publications/environmental-improvement-plan>): we published our second Environmental Improvement Plan on 31 January 2023, setting out our 5-year delivery plan to improve the natural environment and work towards our long-term environmental targets.

## [Clean Air Strategy 2019](https://www.gov.uk/government/publications/clean-air-strategy-2019)

<https://www.gov.uk/government/publications/clean-air-strategy-2019>):

our wide-ranging plan for clean air, setting out the actions we will take to reduce concentrations and emissions of air pollutants.

The Clean Air Strategy remains the government's strategy for air quality.

## [Air quality plan for nitrogen dioxide \(NO<sub>2</sub>\) in the UK \(2017\)](https://www.gov.uk/government/publications/air-quality-plan-for-nitrogen-dioxide-no2-in-uk-2017)

<https://www.gov.uk/government/publications/air-quality-plan-for-nitrogen-dioxide-no2-in-uk-2017>):

our plan to achieve compliance with NO<sub>2</sub> concentration limits across England

Air Pollution – 2022's report laying out the scale of the challenge of reducing air pollution, the substantial progress that has been made and highlighting achievable solutions

## [The Economics of Biodiversity: The Dasgupta Review](https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review)

<https://www.gov.uk/government/publications/final-report-the-economics-of-biodiversity-the-dasgupta-review>):

Final Report of the Independent Review on the Economics of Biodiversity led by Professor Sir Partha Dasgupta

## [Gear Change: A bold vision for cycling and walking](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/904146/gear-change-a-bold-vision-for-cycling-and-walking.pdf)

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/904146/gear-change-a-bold-vision-for-cycling-and-walking.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/904146/gear-change-a-bold-vision-for-cycling-and-walking.pdf)) and [Gear Change: One year on](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1007815/gear-change-one-year-on.pdf)

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1007815/gear-change-one-year-on.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1007815/gear-change-one-year-on.pdf)):

DfT's plan which describes the vision to make England a great walking and cycling nation. It sets out the actions required at all levels of government to make this a reality.

## **Local guidance**

### [Local Air Quality Management Policy Guidance](https://www.gov.uk/government/consultations/local-air-quality)

[https://www.gov.uk/government/consultations/local-air-quality-](https://www.gov.uk/government/consultations/local-air-quality)

[management-policy-guidance](#)) is our policy guidance to air quality practitioners in English local authorities (except London)

### [Local Air Quality Management Technical Guidance](#)

(<https://laqm.defra.gov.uk/air-quality/featured/uk-regions-exc-london-technical-guidance/>) is our technical guidance to air quality practitioners in local authorities across the UK (except London)

[Air Quality Hub](#) (<https://www.airqualityhub.co.uk/>) is an online air quality information and knowledge sharing resource for local authorities. Smoke control area guidance

### [Smoke control area enforcement by local authorities in England](#)

(<https://www.gov.uk/government/publications/smoke-control-area-enforcement-local-authorities-in-england>). This guidance covers the rules which local authorities should apply in smoke control areas under the [Environment Act 2021](#)

(<https://www.legislation.gov.uk/ukpga/2021/30/part/4/enacted>).

### [Smoke Control Area Interactive Map](#) ([https://uk-](https://uk-air.defra.gov.uk/data/sca/)

[air.defra.gov.uk/data/sca/](https://uk-air.defra.gov.uk/data/sca/)). This interactive map allows you to explore the location of Smoke Control Areas and exemptions in England. The data for the map has been provided to Defra by local authorities but may not include all designated smoke control areas in England at this stage. You should always contact your local council to confirm if you live in a smoke control area.

### [Nuisance smoke: how councils deal with complaints](#)

(<https://www.gov.uk/guidance/nuisance-smoke-how-councils-deal-with-complaints>) is guidance setting out how councils should deal with smoke from premises which is a statutory nuisance.

## **Indoor air quality guidance**

### [Indoor air quality at home](#) ([nice.org.uk](https://www.nice.org.uk))

(<https://www.nice.org.uk/guidance/ng149/resources/indoor-air-quality-at-home-pdf-66141788215237>). This guidance covers indoor air quality in residential buildings. It aims to raise awareness of the importance of good air quality in people's homes and how to achieve this.

# National statistics

Our national statistics: [Emissions of air pollutants](https://www.gov.uk/government/statistics/emissions-of-air-pollutants) (<https://www.gov.uk/government/statistics/emissions-of-air-pollutants>) provides detail of emission sources across the UK.

The NAEI website provides the most granular data, broken down by source, activity, and fuel type ([Data - NAEI, UK](https://naei.beis.gov.uk/data/) (<https://naei.beis.gov.uk/data/>)).

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1. [Emissions of air pollutants in the UK - Summary](https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-summary) (<https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-summary>)
  2. [The economic cost of air pollution: Evidence from Europe](https://www.oecd-ilibrary.org/economics/the-economic-cost-of-air-pollution-evidence-from-europe_56119490-en) ([https://www.oecd-ilibrary.org/economics/the-economic-cost-of-air-pollution-evidence-from-europe\\_56119490-en](https://www.oecd-ilibrary.org/economics/the-economic-cost-of-air-pollution-evidence-from-europe_56119490-en)), Organisation for Economic Co-operation and Development (OECD)
  3. For more detail on the powers available, please refer to the [Local Air Quality Management Policy Guidance](https://laqm.defra.gov.uk/guidance/) (<https://laqm.defra.gov.uk/guidance/>) relevant to their area.
  4. [Smoke Control Area Interactive Map](https://uk-air.defra.gov.uk/data/sca/) (<https://uk-air.defra.gov.uk/data/sca/>) - based on information provided by local authorities about smoke control area boundaries
  5. Local authorities should contact Defra through the Local Air Quality Management Portal for guidance on establishing smoke control areas.
  6. Guidance for local authorities on [Smoke control area enforcement in England](https://www.gov.uk/government/publications/smoke-control-area-enforcement-local-authorities-in-england/smoke-control-area-enforcement-by-local-authorities-in-england) (<https://www.gov.uk/government/publications/smoke-control-area-enforcement-local-authorities-in-england/smoke-control-area-enforcement-by-local-authorities-in-england>)
  7. [NFU helping local authorities work with farmers towards net zero](https://www.nfuonline.com/updates-and-information/nfu-helping-local-authorities-work-with-farmers-towards-net-zero/) (<https://www.nfuonline.com/updates-and-information/nfu-helping-local-authorities-work-with-farmers-towards-net-zero/>)
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