East Cambridgeshire District Council

Air Quality Strategy for East Cambridgeshire

2024-2029

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

September 2024

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Air Quality Strategy v.1.0
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Executive Summary

Although air quality has improved across the UK over recent decades it continues to be the biggest environmental risk to public health, with children, the elderly and the already vulnerable most affected.

Under the Environment Act 2021, all local authorities are now required to produce an air quality strategy. This document is East Cambridgeshire District Council's Air Quality Strategy. It highlights the air pollutants of particular concern such as fine particulate matter, nitrogen oxides and ammonia, and outlines the consequences for society and the environment of poor air quality. It sets out the council's powers and responsibilities and the actions we will take to maintain and improve air quality in the district.

Air quality in East Cambridgeshire is relatively good and is improving. We will take action using our powers under Local Air Quality Management, Local Authority Pollution Prevention and Control, Town and Country Planning and the Environmental Protection Act 1990, and work with government and others to maintain and improve air quality.

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1. Introduction

Although air quality has improved across the UK over recent decades it continues to be the biggest environmental risk to public health, with children, the elderly and the vulnerable most affected. Poor air quality also affects the natural environment and biodiversity.

Local authorities have an important role to play in delivering cleaner air as they have many of the powers and local insights needed to address the issues that lead to poor air quality at a local level. The Environment Act 1995 introduced the Local Air Quality Management Framework (LAQM) which requires local authorities to monitor and assess the quality of the air in their areas, and if it does not comply with relevant concentration limits, put in place measures to remedy the problem.

Local authorities also regulate industrial emissions under the Pollution Prevention and Control Regulations 2000 through the Local Authority Pollution Prevention and Control regime (LAPPC). As the Local Planning Authority (LPA), the council considers air quality as a material consideration in the Town and Country Planning process. Local authorities also deal with air quality at a local level when investigating statutory nuisance complaints regarding burning.

1.1 National Air Quality Strategy

In 2023 the Department for Environment Food and Rural Affairs (DEFRA) published a revised national Air Quality Strategy[1] which requires that local authority functions should, as far as practicable, be exercised in a way which improves air quality. It sets out six priorities for better air quality. These are:

- using planning reforms to help deliver better air quality
- building capacity in local councils through training, guidance and knowledge sharing
- reducing emissions from industrial sources through improved enforcement of environmental permits
- reducing pollution from domestic burning through smoke control areas and cleaner fuels
- raising awareness within local communities of air quality impacts and how to reduce them
- boosting active travel and public transport to improve air quality

[1] DEFRA. Air Quality Strategy: Framework for local delivery, 2023

All local authorities, the Environment Agency, and certain other relevant public authorities such as National Highways must have regard to the national Air Quality Strategy in the exercise of their functions.

1.2 Environment Act and $PM_{2.5}$ Targets

In addition, the Environment Act 2021 introduced two ambitious, legally binding targets to reduce concentrations of fine particulate matter ($PM_{2.5}$). These are:

- an annual mean concentration target for $PM_{2.5}$ of 10 microgrammes per cubic metre ($\mu g/m^3$) or below across England by 2040
- an average $PM_{2.5}$ population exposure reduction target of 35% in 2040 compared to a 2018 baseline

1.3 Air Quality in East Cambridgeshire

Air quality in East Cambridgeshire is relatively good and is improving. East Cambridgeshire District Council fulfils its duties under LAQM, LAPPC and Town and Country Planning; and we will support and work with others toward achieving the targets for $PM_{2.5}$ reduction and the priorities set out in the national Air Quality Strategy.

This document is East Cambridgeshire District Council's Air Quality Strategy. It sets out how the council will deliver on air quality and contribute to the UKs long-term air quality goals, including the new targets to reduce $PM_{2.5}$ emissions. Previously, only those local authorities where air quality limits were exceeded or were close to exceedance were required to produce a local air quality strategy. However, changes introduced under the Environment Act 2021 now require all local authorities to produce an air quality strategy.

2. Air pollutants of particular concern

The air pollutants which are regarded as of most concern are fine particulate matter, nitrogen oxides and ammonia. Other substances include sulphur dioxide and volatile organic compounds (VOCs) which are found in many household products, and which can impact indoor air quality.

2.1 Fine particulate matter

The size of airborne particles governs their behaviour. PM_{10} particles comprise both fine and coarse particulate matter under 10 micrometres in size. $PM_{2.5}$ is defined as fine particulate matter under 2.5 micrometres in size. Attention in recent years has focused on $PM_{2.5}$ as these particles can pass through the lungs and into the bloodstream damaging health and therefore having a more widespread impact.

$PM_{2.5}$ is either emitted directly from pollution sources, known as primary $PM_{2.5}$, or formed in the air from chemical reactions between other pollutants, and known as secondary $PM_{2.5}$. Primary $PM_{2.5}$ is emitted from human activities, like burning fuels, road vehicle braking and tyre wear, and various industrial processes; as well as from natural sources such as sea spray and dust. Domestic combustion contributed 29% of UK $PM_{2.5}$ emissions in 2022, and industrial combustion of biomass fuels accounted for 18%.[2]

The very low density of $PM_{2.5}$ particles means that they can remain airborne for extended periods of time and can travel long distances. A portion of the $PM_{2.5}$ present in UK air originates in continental Europe, and correspondingly, a portion of $PM_{2.5}$ originating in the UK travels abroad.

2.2 Nitrogen Dioxide

Nitrogen dioxide (NO_2) and nitric oxide (NO) are gases which are generally emitted from high-temperature combustion processes. They are often considered together as “NOx” because they convert between each other in the air very quickly. The main sources of NOx in the UK are from road transport (27% in 2013) and other forms of transport such as aviation, rail and shipping (14% in 2013).[3] NOx can have a serious impact on human

[2] DEFRA. Emissions of Air Pollutants in the UK: Particulate matter (PM10 and PM2.5), 2024

[3] DEFRA. Emissions of Air Pollutants in the UK: Nitrogen oxides (NOx), 2024

health. It can exacerbate asthma and other respiratory diseases, and it also damages biodiversity by depositing reactive nitrogen onto plants and soil.

2.3 Ammonia

Ammonia (NH_3) is a key air pollutant that can have significant effects on both air quality and the environment. It also reacts with other chemicals in the air to form particulate matter. Around 88% of ammonia emissions in the UK are from agriculture. The government has agreed to reduce ammonia levels by 16% in 2030 compared to 2005 levels.[4]

[4] DEFRA. Emissions of Air Pollutants in the UK: Ammonia (NH3). 2024

3. Effects of Poor Air Quality

Poor air quality can have a number of negative impacts on human health, the environment and society.

3.1 Air Quality and Public Health

Poor air quality is regarded as the biggest environmental threat to public health. Air pollution particularly affects the most vulnerable in society including those with existing heart and lung conditions. It is recognised as a contributary factor in the onset of heart disease, cancer and asthma, and leads to increases in hospital admissions and mortality.

In 2017, the government, jointly with the Local Government Association, published guidance for Directors of Public Health on the role they should play in addressing air quality.[5] The Public Health Outcomes Framework (PHOF) includes an indicator on mortality attributed to air quality, which they should seek to reduce.[6] (The PHOF is published by the Office for Health Improvement and Disparities. It sets out a vision to protect and improve the nation's health). In 2023, legally binding targets were set by the government relating to population exposure to $PM_{2.5}$.

3.2 Air Quality and Economic Growth

By making people less healthy, poor air quality harms productivity and increases the costs to society through extra expense on health and social care. Improving air quality can have economic benefits, even when the up-front costs are high. The Organisation for Economic Co-operation and Development (OECD) estimates that reducing $PM_{2.5}$ concentrations by just $1ug/m^3$ can increase GDP (Gross Domestic Product) by 0.8%.[7]

3.3 Air Quality and Biodiversity

Poor air quality is a major contributor to the long-term decline of biodiversity in the UK, with ammonia and NO_x being contaminants of particular concern. Many sensitive habitat types exceed critical loads for nitrogen and ammonia, including woodlands and peatlands - two habitats integral to meeting the UK's net zero target. Critical loads are thresholds for pollutant

[5] DEFRA, Public Health England and the Local Government Association. Air Quality: A Briefing for Directors of Public Health, 2017

[6] Office for Health Improvement and Disparities. Public Health Outcomes Framework, 2024

[7] Organisation for Economic Co-operation and Development (OECD). The Economic Cost of Air Pollution: Evidence from Europe, 2020

loading above which significant harmful effects may occur on sensitive habitats.[8]

Local authorities are required to exercise their functions in a way which conserves and enhances biodiversity under section 40 of the Natural Environment and Rural Communities Act 2006. Reducing pollution which impact on biodiversity is an integral part of this.

Under the Environment Act 2021, local authorities are required to produce local nature recovery strategies. A nature recovery strategy for East Cambridgeshire is in preparation. 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.

3.4 Air Quality and Net Zero Carbon

In 2019 the UK became the first major economy in the world to legislate to end its domestic contribution to man-made climate change. Many sources of greenhouse gases, like transport and heat generation, also contribute to poor air quality. In 2019 East Cambridgeshire District Council in common with other local authorities declared a Climate Emergency and has prepared an Environmental and Climate Change Action Plan. Many of the measures to reduce greenhouse gas emissions will also help improve air quality.

[8] Rowe et al. Trends Report 2022: Trends in Critical Load and Critical Level Exceedances in the UK. Report to DEFRA, 2022

4. Framework for Local Authority Action

This section outlines the actions East Cambridgeshire District Council will take to maintain and improve air quality.

4.1 Local Air Quality Management

The Environment Act 1995 introduced the Local Air Quality Management Framework (LAQM) under which local authorities have a duty to monitor air quality in their areas and take action where air quality fails to meet the air quality objectives.

The Air Quality Standards Regulations 2010 introduced the objectives to be met for several pollutants, including nitrogen dioxide and particulate matter (PM_{10}). These are set out in Table 1 below.

Table 1: Air Quality Objectives in England

Pollutant	Air Quality Objective: Concentration	Air Quality Objective: measured as
Nitrogen Dioxide (NO_2)	200µg/m^3 not to be exceeded more than 18 times a year	1-hour mean
Nitrogen Dioxide (NO_2)	40µg/m^3	Annual mean
Particulate Matter (PM_{10})	50µg/m^3, not to be exceeded more than 35 times a year	24-hour mean
Particulate Matter (PM_{10})	40µg/m^3	Annual mean
Sulphur Dioxide (SO_2)	350µg/m^3, not to be exceeded more than 24 times a year	1-hour mean
Sulphur Dioxide (SO_2)	125µg/m^3, not to be exceeded more than 3 times a year	24-hour mean
Sulphur Dioxide (SO_2)	266µg/m^3, not to be exceeded more than 35 times a year	15-minute mean

The units are in microgrammes of pollutant per cubic metre of air (µg/m^3).

East Cambridgeshire District Council monitors nitrogen dioxide concentrations using a network of chemical diffusion tubes. Local authorities are not required to monitor particulate matter or sulphur dioxide concentrations. However, nitrogen dioxide concentrations give an indication of the likely concentrations of other pollutants. Monitoring results indicate that East Cambridgeshire is compliant with the Air Quality Objectives.

The Local Air Quality Management Framework sets out a range of tasks for local authorities. They must assess air quality in their areas for the specified pollutants and publish an Annual Status Report (ASR). They must

declare an Air Quality Management Area (AQMA) if concentrations are above legal limits or are likely to breach the objectives. Each AQMA declaration must be accompanied by an Air Quality Action Plan, setting out the measures required to bring air quality back into compliance.

All local authorities are now expected to take proactive action to improve air quality, whether or not they have an Air Quality Management Area, and are required to produce an air quality strategy. Air quality strategies should be informed by the monitoring and assessments set out in Annual Status Reports and should outline the proactive measures the local authority will take to improve air quality.

Local authorities do not always have control over the sources of emissions that affect their areas. 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 which causes an Air Quality Management Area to be declared, the relevant body can be declared an Air Quality Partner by the relevant local authority. Air Quality Partners must propose the measures they will take to contribute to the Air Quality Action Plan and include a date by which the measures will be carried out.

ASRs for East Cambridgeshire are published on the council's website. It has not been necessary to declare any AQMAs in East Cambridgeshire.

4.2 Industrial Emissions

Industrial emissions have decreased significantly over recent decades but are still a major source of pollution in the UK. The Environment Agency and local authorities are key delivery partners in achieving further reductions of pollution from industry.

Industrial installations are subject to the Environmental Permitting Regulations (EPR) which set emission limit values and other conditions which permit holders must meet. Large installations are subject to the UK "best available techniques" regime (BAT), through which standards are developed and agreed by regulators and industry and published as BAT conclusions by DEFRA.

Large installations and medium combustion plants are permitted and regulated by the Environment Agency. Where a large industrial installation or medium combustion plant is causing or contributing to air quality exceedances requiring an Air Quality Management Area to be declared, local authorities should liaise with the Environment Agency to ensure compliance at any 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 BAT, and therefore local authority regulators are required to reflect UK BAT when issuing new permits and are required to update existing permits within 4 years of new BAT 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 is contributing to, an AQMA, the local authority should enforce environmental permits and check the industrial sites' compliance with legal limits.

East Cambridgeshire District Council regulates 21 permitted sites in the district. It will ensure that regular monitoring of permit conditions takes place, and that appropriate enforcement is taken when conditions are not met. The council will seek to recover the costs of any remediation it is required to put in place due to non-compliance with permit conditions. Appropriate action will be taken against those who fail to comply with the requirement to obtain a permit. There are no AQMAs in East Cambridgeshire.

4.3 Town and Country Planning

As the Local Planning Authority, East Cambridgeshire District Council works to maintain and improve air quality through the Town and Country Planning regime. Paragraph 180 of the National Planning Policy Framework states that planning policies and decisions should contribute to and enhance the natural and local environment preventing development from contributing to, being put at risk from, or being adversely affected by unacceptable levels of soil, air or water pollution; and that development should, as far as possible, help to improve air and water quality.

East Cambridgeshire District Council will ensure that planning policies and decisions sustain and contribute towards compliance with relevant limit values or national objectives for air quality. Policy ENV 9 of the East Cambridgeshire Local Plan 2015 (as amended 2023) states that development proposals will be refused where there would be unacceptable impacts on air quality. East Cambridgeshire District Council will apply guidance set out in the document Land Use Planning and Development Control: Planning for Air Quality, published by Environmental Protection UK and the Institute of Air Quality Management (EPUK & IAQM, 2017).

4.4 $PM_{2.5}$ Reduction

As well as meeting local objectives, local authorities play a role in contributing to national targets. As a regional pollutant, $PM_{2.5}$ also travels long distances and increases background levels across a wide area. It is therefore important that all local authorities across the country act and collaborate accordingly. All local authorities are required to support the delivery of the national $PM_{2.5}$ targets by taking action to reduce emissions from sources within their control.

The government recognises that many of the sources of $PM_{2.5}$ are outside local authority control. Therefore, while $PM_{2.5}$ 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 $PM_{2.5}$ emissions from the sources which are within their control.

East Cambridgeshire District Council is taking a number of measures to address $PM_{2.5}$ reduction, including promoting sustainable transport alternatives, promoting active travel, encouraging the use of Ultra Low Emission Vehicles (ULEVs), moving its own vehicle fleet to low emission fuels and reducing business mileage.

4.5 Domestic Burning and Bonfires

DEFRA estimates that domestic burning of solid fuels accounted for 29% of $PM_{2.5}$ in the UK in 2022.[2] Where Smoke Control Areas exist, local authorities can enforce restrictions on domestic burning. Smoke Control Areas were originally introduced under the Clean Air Act of 1956 to control smoke emissions in mainly urban areas where air quality was particularly poor.

There are no Smoke Control Areas in East Cambridgeshire. In cases where smoke from domestic properties is considered to constitute a statutory nuisance, East Cambridgeshire District Council will take appropriate action in the form of service of abatement notices under section

80 of the Environmental Protection Act 1990. Breaching an abatement notice is a criminal offence punishable with fines. In cases where a statutory nuisance cannot be established but activities are considered to be having a persistent and detrimental effect on persons in the vicinity, control measures using powers under the Anti-Social Behaviour, Crime and Policing Act 2014 are available.

Local authorities are required to enforce the Air Quality (Domestic Solid Fuels Standards) (England) Regulations 2020. The regulations 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 (known traditionally as house coal, or bituminous coal). The regulations introduced a mandatory certification scheme to demonstrate that wood sold in volumes under 2m³ 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 5 grammes smoke per hour. Fuel being sold for domestic purposes should have the required “Ready to Burn” logo and certification number. From 1 May 2023, retailers were banned from selling coal for domestic burning. In East Cambridgeshire as a two-tier local authority area, responsibility for enforcement of these regulations lies with Cambridgeshire County Council Trading Standards Department. East Cambridgeshire District Council provides information to householders on its website on how to reduce smoke emissions from open fires and wood burning stoves.

The Council will also consider taking action under section 33 of the Environmental Protection Act 1990 in cases of illegal burning of controlled waste and/or use their powers under statutory nuisance and anti-social behaviour legislation.

4.6 Transport and Active Travel

Road transport is a key emitter of air pollution in the UK contributing 18% of total $PM_{2.5}$ emissions 2022.[2] Delivering emission reductions from transport will be vital in reaching the UK air quality targets. Local authorities have an important role to play as they have a strategic planning function and powers with regard to public transport. East Cambridgeshire District Council will work with the Cambridgeshire and Peterborough Combined Authority (CPCA) as the local transport authority to ensure air quality is considered within the Local Transport and Connectivity Plan in line with guidance published by the government.

Improved bus networks help achieve both clean air and wider climate goals. The National Bus Strategy 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.

A Bus Service Improvement Plan has been developed by the CPCA in collaboration with the district councils, local bus operators, community transport bodies, businesses and local people. Improvements are needed to ensure that homes, schools, places of work, hospitals and places where people shop are well connected.

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. East Cambridgeshire District Council will promote active travel through implementation of its Cycling and Walking Routes Strategy.

4.7 Agriculture

Agriculture is the largest source of ammonia emissions and also contributes to $PM_{2.5}$ levels through chemical reactions in the atmosphere. While not having any direct regulatory powers with regard to agriculture, East Cambridgeshire District Council supports any initiatives to reduce ammonia emissions, including the Code of Good Agricultural Practice for Reducing Ammonia Emissions produced by DEFRA in collaboration with the farming industry.

4.8 Indoor Air Quality

Poor indoor air quality can be caused by particulate matter and NOx given off by domestic fires, wood burning stoves and cooking, as well as VOCs from cleaning products and furniture. Actions to reduce emissions from domestic burning to protect open air quality will also help to improve indoor air quality.

The respiratory effects of damp and mould can cause serious illness and, in the most severe cases, death. The presence of damp and mould can also affect tenants' mental health. This could be due to worries about the

health impacts of damp and mould, unpleasant living conditions, and destruction of property and belongings, among other concerns.

Everyone is vulnerable to the health impacts of damp and mould, but people with certain health conditions, children and older adults are at greater risk of more severe health impacts. Information and guidance on indoor air quality and reducing damp and mould within the home is available on the council's web site.

Under the Housing Act 2004 inspections of peoples living conditions require an assessment to be undertaken using the Housing Health and Safety Rating System (HHSRS). Of the 29 hazards for which officers are required to assess, the physiological impacts of poor housing caused by issues such as damp and mould, excess cold or heat, pollutants (non-microbial), biocides, carbon monoxide and fuel combustion products, un-combusted fuel gas and VOCs are included within the assessment.

Judgements on the risks posed from indoor air quality are made with reference to a range of best practice guidelines including the 2024 government guidance on Understanding and Addressing the Health Risks of Damp and Mould in the Home; and the guidance on Indoor Air Quality at Home produced by the National Institute for Health and Care Excellence (NICE) and Public Health England.

5. Summary of Local Actions to Maintain and Improve Air Quality

East Cambridgeshire District Council will take the following the actions to maintain and improve air quality in the district:

- monitor and report on air quality under the LAQM Framework and take appropriate actions
- regulate industrial emissions under LAPPC
- ensure that planning application proposals protect air quality; and require the production of Construction Environment Management Plans to ensure emissions to air are minimised during construction
- work with the Cambridgeshire and Peterborough Combined Authority and others to prioritise sustainable transport options and reduce traffic congestion
- promote active travel
- encourage the use of Ultra Low Emission Vehicles (ULEVs)
- move the council's own vehicle fleet to cleaner fuels and reduce its business miles
- ensure that, where applicable, robust action is taken against landlords of private rented properties who fail to protect the health of their tenants with regard to the indoor air quality of their homes
- implement government guidance and reforms to improve air quality including planning reforms and $PM_{2.5}$ reduction targets

References and Guidance

Cambridgeshire and Peterborough Combined Authority. Cambridgeshire and Peterborough Local Transport and Connectivity Plan, 2023

Cambridgeshire and Peterborough Combined Authority. Bus Service Improvement Plan for Cambridgeshire and Peterborough, 2021

DEFRA. Code of Good Agricultural Practice (COGAP) for Reducing Ammonia Emissions, 2024

DEFRA. Air Quality Strategy: Framework for Local Delivery, 2023

DEFRA. Local Air Quality Management Policy Guidance LAQM.PG22, 2022

DEFRA. Local Air Quality Management Technical Guidance LAQM.TG22, 2022

Department for Transport. National Bus Strategy: 2024 Bus Service Improvement Plans, 2024

East Cambridgeshire District Council. 2024 Air Quality Annual Status Report (ASR), 2024

East Cambridgeshire District Council. Cycling and Walking Routes Strategy, 2021

East Cambridgeshire District Council. The East Cambridgeshire Local Plan 2015 (as amended 2023), 2023

East Cambridgeshire District Council. Environment Plan Year 4, 2023

Environmental Protection UK and Institute of Air Quality Management. Land Use Planning and Development Control: Planning for Air Quality, 2017

Ministry of Housing, Communities & Local Government. National Planning Policy Framework, 2023

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National Institute for Health and Care Excellence (NICE) and Public Health England. Indoor Air Quality at Home, 2020