

Summary Air Quality Action Plan 2024-2029

In fulfilment of Part IV of the Environment Act 1995
Local Air Quality Management

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December 2024



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Introduction from Councillor Beecher

Addressing poor air quality is crucial for public health and environmental well-being. Efforts to reduce emissions and improve air quality is important and will be of benefit to the health of everyone who lives and works in the borough.

Our new Corporate Plan (2024-2028) aims to work with our residents, suppliers and partners to minimise our impact on the environment and achieve our Council goal of 'net zero' carbon emissions by 2030 and to maintain a clean and attractive Borough which supports biodiversity.

The new Air Quality Action Plan (2024-2029) sets out 7 categories of measures to deal with air pollution. The measures reflect the below listed five priorities of SBC which focus primarily on strategic measures, including; those to reduce emissions from traffic through modal shift to active travel, those working in the longer term to reduce the need to travel, delivery of actions to increase low and zero emission vehicles in the fleet, raising awareness and reducing emissions from commercial and domestic heating sources. As a result of the source apportionment undertaken and outlined in the new Plan, the following priorities have been identified:

1. to maintain air pollutant concentrations below current National Air quality Objectives(AQOs) and where practicable, reduce emissions further to work towards The World Health Organization (WHO) Guideline Values;
2. to work collaboratively with Surrey County Council (SCC) to ensure that wider transport measures are delivered, in particular to increase the use of active travel and public transport and reduce the use of private vehicles, and to increase the proportions of low and zero emission vehicles where modal shift is not feasible;
3. work collaboratively with Heathrow Airport Ltd to address emissions associated with the airport operations;
4. to work collaboratively within Spelthorne Borough Council (SBC), across Surrey, with neighbouring London Boroughs and with wider stakeholders such as National Highways and the Environment Agency to reduce emissions of particulate matter and NOx from a range of sources within and out with the borough; and
5. report on an annual basis to Defra the implementation of the measures set out in this report, as well as monitored concentrations within the Air Quality Management Areas (AQMAs).

Joint effort is key to deal with Air quality. Each and every individual living and working in Spelthorne have the opportunity to collaborate with the Council to achieve these measures and improve their emission contributions and risk of exposure to pollutants.



Understanding Air Quality & Why It Matters

Air quality is measured by the presence of pollutants such as particulate matter (PM_{2.5} and PM₁₀), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), carbon monoxide (CO), and ozone (O₃). High levels of these pollutants can cause serious health problems. For instance, PM_{2.5} particles are tiny enough to penetrate deep into the lungs and even enter the bloodstream, leading to chronic respiratory conditions, heart disease, and premature death.



Health Impacts: Poor air quality is linked to increased rates of asthma, bronchitis, and other respiratory ailments. Children, who are more likely to be outdoors, are particularly at risk. Long-term exposure to polluted air can also contribute to cardiovascular diseases and even affect brain health.

Environmental Effects: Pollutants can damage ecosystems, harm wildlife, and reduce the overall quality of our natural environment. Vegetation and water bodies are adversely affected by pollutants, disrupting the balance of our ecosystems.

Economic Costs: Health issues related to air pollution lead to higher medical costs and loss of productivity. Investing in cleaner air translates to better health outcomes and economic savings



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What is Air Quality Action Plan

All local authorities are required to monitor, review and assess air quality within their administrative areas, as required by Part IV of the Environment Act 1995 (amended 2021), to identify locations where national Air Quality Objectives (AQOs) will not be achieved. Where this is likely to occur, this area must be declared as an Air Quality Management Area (AQMA).

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of heart disease and cancer. Additionally, air pollution particularly affects the most vulnerable in society: children and older people, and those with heart and lung conditions. There is also often a strong correlation with equalities issues, because areas with poor air quality are also often the less affluent areas.

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around £16 billion. Spelthorne Borough Council is committed to reducing the exposure of people in Spelthorne to poor air quality in order to improve health.

In this AQAP we outline how we plan to effectively tackle air quality issues within our control. However, we recognise that there are a large number of air quality policy areas that are outside of our influence (such as vehicle emissions standards agreed in Europe), but for which we may have useful evidence, and so we will continue to work with regional and central government on policies and issues beyond Spelthorne Borough Council's direct influence.



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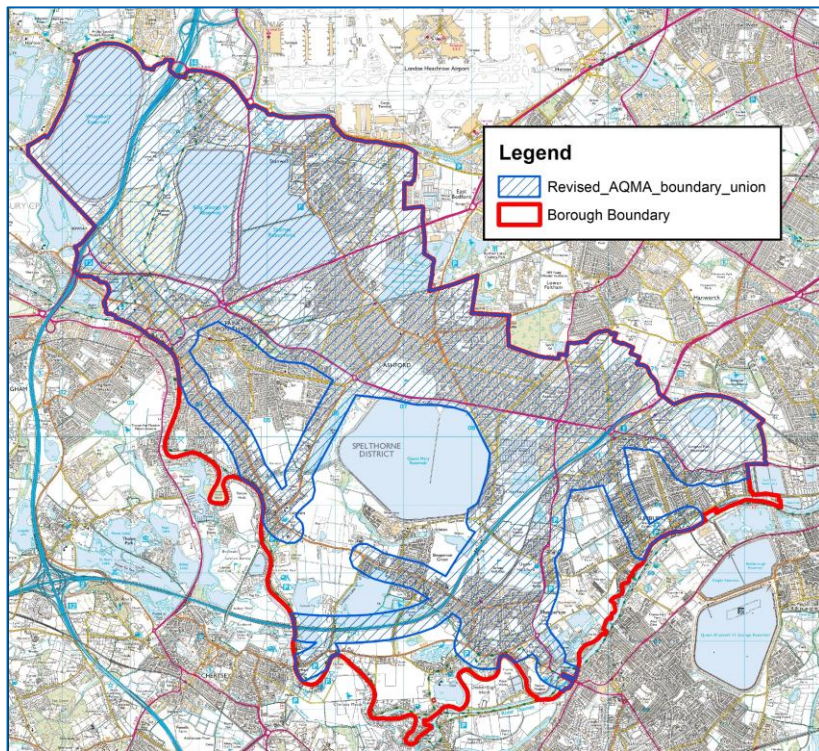
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Air Quality Management Areas (AQMA) in Spelthorne



- A whole borough AQMA was declared in Spelthorne in 2003 for exceedances of the annual mean nitrogen dioxide (NO₂) objective.
- The AQMA was reduced in size in 2024 because of sustained improvements in local air quality.

AQMA No. Order 2024 with effect from 1st April 2024



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What have we achieved since the last action plan?

Our Air quality management achievements are presented in our Annual Status reports available at <https://www.spelthorne.gov.uk/article/17831/Air-quality>

Most recent achievements include:-

- We have maintained and expanded our Air Quality Monitoring network - to understand, where pollution is more acute for appropriate management
- We have achieved an overall reduction of NO₂ annual mean concentrations for roadside and background sites across the borough since 2004. Like most local authorities, we continue to work toward achieving the more stringent WHO guideline levels
- We have worked effectively with all stakeholders for better air quality management and to reduce exposure to poor air quality around schools.
- We will continue to raise public awareness for behavioural Change – we will continue to provide a service like airText to residents and those who wish to receive an alert when local air quality is predicted to deteriorate. To register for airTEXT, visit www.airtext.info/signup
- Helped reduce the use of private vehicles for journeys to school
- We have worked with other partners such as SCC and Heathrow Airport Ltd to implement traffic programs, interventions & management schemes, then promoting of sustainable travel to reduce emission from traffic.



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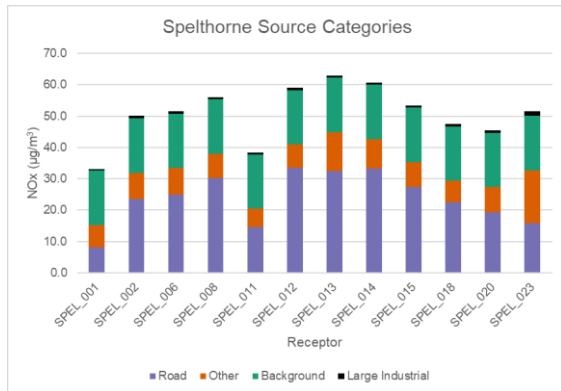


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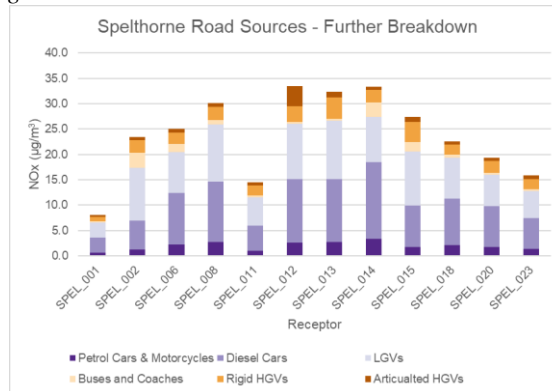
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Air Quality in Spelthorne: Sources/Modelling

To complement actual measurements, modelling is used to understand and predict where pollution is acute and which emissions are significant for better management

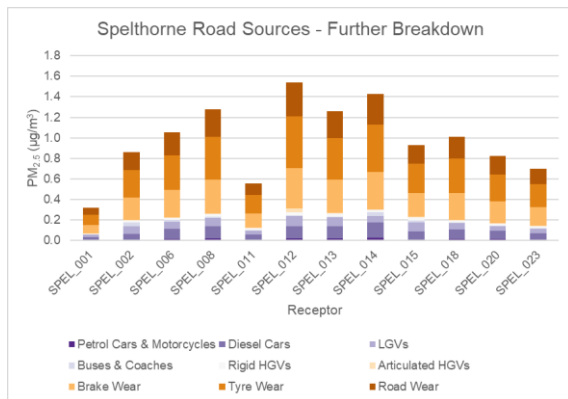


Total NOx Modelled Source Apportionment (2017)

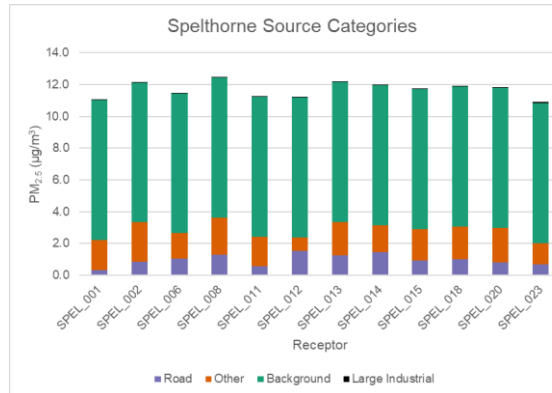


NOx Road Traffic Breakdown (2017)

Nitrogen oxides (NOx) refers nitrogen dioxide (NO2) and to nitric oxide (NO), both of which are mainly formed during the combustion of fossil fuels. The dominant portion of these gases is nitric oxide (NO). NO can react with other gases in the atmosphere to form nitrogen dioxide (NO2) which is harmful to health. These reactions take place very quickly and are reversible, so the two gases are referred to together as NOx.



PM_{2.5} Road Traffic Emissions Breakdown



PM_{2.5} Source Apportionment

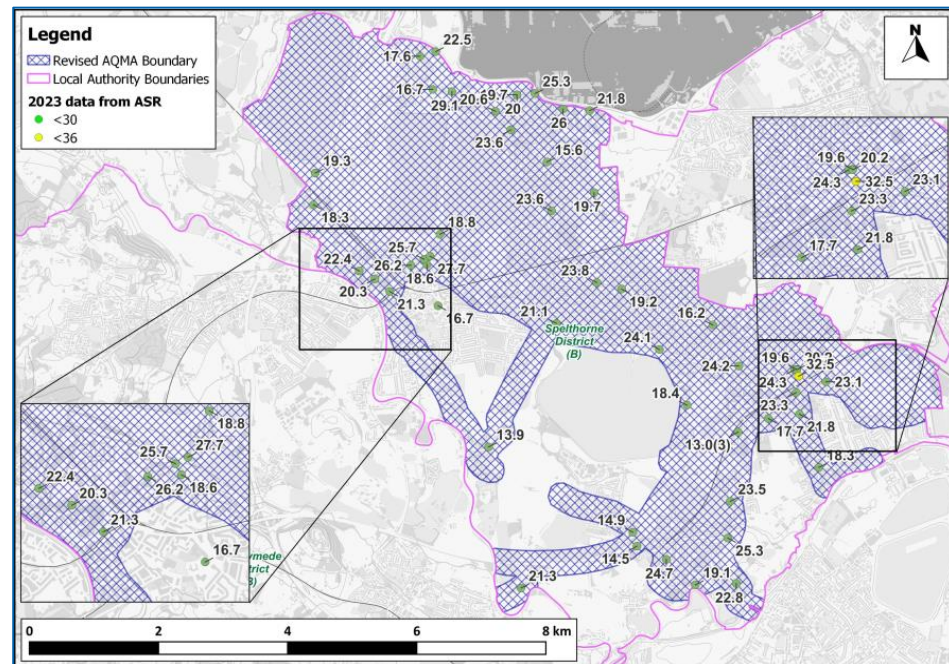


Air Quality Modelling in Spelthorne

- The largest contribution to NO_x concentrations at roadside locations was from road traffic. The largest contribution was from background sources
- Diesel vehicles were the largest contributor to NO_x emissions.
- River emissions have been identified as a potential source of both NO_x, PM₁₀ and PM_{2.5} with regards to diesel pleasure boats.
- As the air quality objectives are currently (2023) being met at relevant locations in Spelthorne, there is no specific reduction in emissions required. However, a general reduction in emissions of the key pollutants (including PM₁₀ and PM_{2.5}) may provide better health outcomes than focusing on hotspot locations.
- Given the above, while this document is an AQAP required in relation to the declared AQMA, strategic measures are included to improve air quality in the Borough more widely which also reflects the priorities of the Council



Air quality in Spelthorne: Measurement

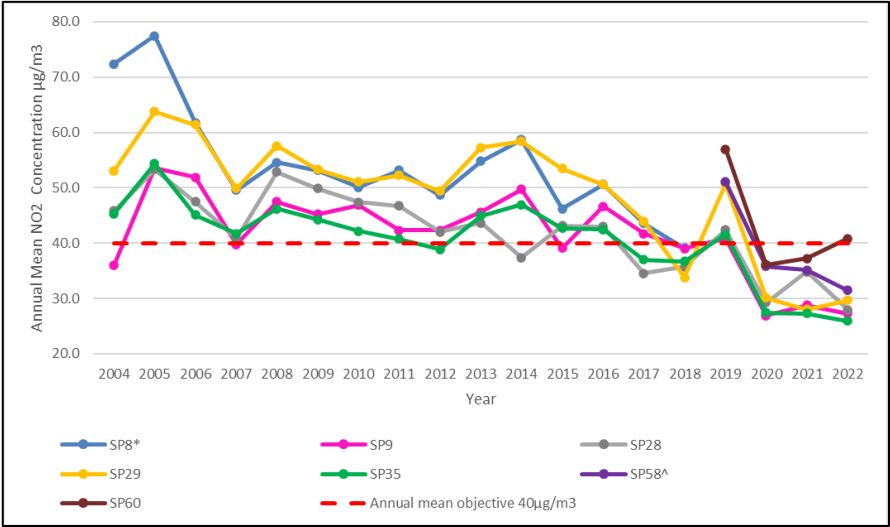


Spelthorne AQMA showing no exceedances of annual mean NO₂ concentrations in 2023

- Air quality in Spelthorne is generally good when compared with national air quality objectives.
- Figure illustrates annual mean NO₂ monitoring data for 2023 within Spelthorne (as compared to an annual mean air quality objective of 40 micrograms per cubic metre of air (µg/m³).
- The 2023 data show no NO₂ exceedances across the borough
- These monitoring sites are part of a wider monitoring strategy across the borough, for both NO₂ and PM₁₀
- The World Health Organization (WHO) Air quality Guideline (AQG), for PM_{2.5} is an annual mean concentration of 5 µg/m³, this was exceeded at all the automatic monitoring stations in 2023.
- The WHO AQG are not legally binding, and we will work toward meeting these stringent guidelines with time.



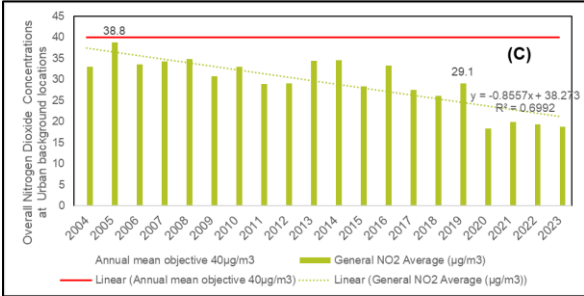
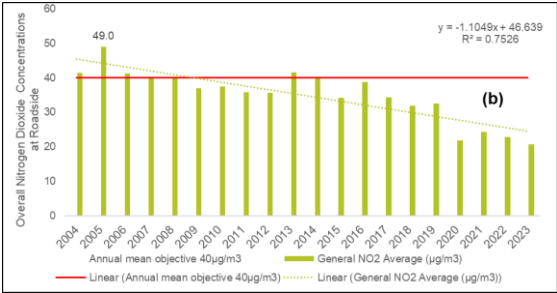
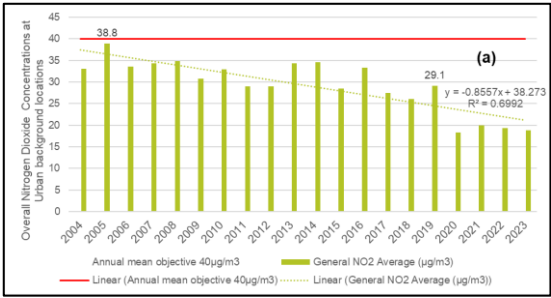
Air quality in Spelthorne: Trends



WHO more stringent guideline for NO₂ is 10 µg/m³

e. g. Trends in Annual Mean NO₂ at Key Roadside Diffusion Tube Monitoring Locations (see ASR, 2023 for monitoring point location)

Overall general reduction of Mean NO₂ concentration across the borough since 2004
(a- All data, b- Roadside & c- Background)



AQAP Development, Sphere of Influence & Control

A systematic approach was followed to identify measures to be included in the AQAP, in accordance with Defra's Local Air Quality Management Technical Guidance (LAQM.TG (22)). The development of the Plan was done in the following stages:

- Establishing the baseline air quality.
- Developing options to address air quality .
- Considerations during the development (Air quality improvements, wider impacts, cost, effectiveness, perceptions and practicality)
- Prioritise the options and draft the action plan, involving colleagues, agencies and wider stakeholder.

This draft AQAP was prepared by Spelthorne Borough Council with the support and agreement of the following departments and wider stakeholders:

- | | |
|---|--|
| • Strategic Planning (SBC); | Climate Change and Sustainability (SBC); |
| • Transport (SCC); | Public Health (SCC); |
| • Environmental Health (SBC); | Neighbourhood services / fleet (SBC); |
| • Leisure (health and wellbeing and active travel) (SBC); | Heathrow Airport Ltd; and |
| • National Highways | |

The draft AQAP was subject to a six-week statutory public consultation which ran from 20 May – 30 June to capture the views of Spelthorne residents and businesses, as well as those of DEFRA and other statutory consultees.

The draft AQAP was subsequently revised to reflect the views and comments received during the consultation.

The Council's Environment and Sustainability Committee approved the adoption of the AQAP on 3rd December 2024.



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What we will do over the next five years

1. Policy Guidance and Development Control. Examples include:
Work within the structure of the planning system to reduce emissions of pollutants from new development. This will include implementing any new requirements for reducing PM _{2.5} through planning which are likely to be in place within the timeframe of this plan.
Establishment of a Climate Change Working Group
Update the Surrey-wide Air Quality Modelling which was completed in 2019 to incorporate up to date input data.
Develop a Green Infrastructure strategy to support the Local Plan.
To investigate the feasibility of introducing Air Quality Supplementary Planning Guidance.
Increase Spelthorne Smoke Control Area to cover the whole borough.
Continue collaboration with Heathrow Airport Ltd to reduce emissions arising from the operation of Heathrow Airport.

2.Promoting Low Emission Plant. Examples include:
Promote access to grant funding for renewable energy installations for residents including Solar Together.
Incorporate energy efficiency measures and renewables into conversions, refurbishments, and maintenance of Council buildings and housing developments.
Work with Knowle Green Estate and suppliers to promote retrofit, insulation, energy efficiency and adaptation measures



What we will do over the next five years

3. Promoting Low Emission Transport
Lobby for and support any future measures by Transport Authorities to encourage and facilitate the use of low emission buses in Spelthorne.
Converting 50% of the Council fleet to electric or hydrogen by 2028 as stated in SBC's response to the Climate Emergency.
To investigate the feasibility of producing annual emissions data for the Councils fleet vehicles in line with the Council's Climate Change Strategy.
Investigate the feasibility of introducing emissions-based parking tariffs.
Promote the use of “cleaner technology and fuels” within Spelthorne.
Deliver EV taxi programme to encourage taxi companies and drivers to invest in electric fleets.

4. Promoting Travel Alternatives
Continue to implement Cycling for Health.
Likeability School Cycling Proficiency training and Feet First Walking Training.
Continue to implement Walking for Health.
Continue to implement School and Business Travel Plans.
Support work on the Health and Wellbeing Strategy.
Continue to promote sustainable transport/ homeworking with staff to reduce travel and explore schemes offering Council employees alternatives to private vehicle use.
Support and help implement the Spelthorne Local Cycling and Walking Infrastructure Plan



What we will do over the next five years

5. Public information

Supporting air quality research and providing public information regarding air quality, including an air alert for vulnerable members of the population

Continue to lobby at national /regional level for the legislation changes needed and on the big strategic infrastructure decisions such as Heathrow Airport's third runway and changes to the regulation and operation of UK airspace.

Raising awareness of poor air quality and the associated health implications. NHS Ask About Asthma campaign.

To continue to fund a comprehensive air quality monitoring network including automatic monitoring of PM₁₀ and PM_{2.5}.

Refresh bonfires and anti-idling campaign.

6. Traffic Management

Support and help implement the Spelthorne Local Cycling and Walking Infrastructure Plan.

Support Traffic Management interventions to reduce road traffic emissions either through smoothing traffic flow or reducing vehicle use.

7. Transport Planning and Infrastructure

Junction improvements to increase capacity and improve road layouts linked to new developments.

Promoting Alternative Travel – Delivery of bus priority measures, cycle parking and interchange opportunities.



How you can help

Exposure to high levels of air pollution can cause various health outcomes. Especially for the most vulnerable like children, the elders and those with pulmonary problems for example.

Solutions to air pollution are everybody's responsibility to protect public health.

Whilst we'll do everything, we can improve local air quality, we'll need your help, as so much of our pollution is linked to personal consumption, like driving, burning wood or using gas-fuelled heating systems. You can help improve local air quality and create greener and healthier neighbourhoods by pledging to make changes, however big or small, that will decrease your carbon footprint.



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How you can help

Make one or more of the following changes to your lifestyle if not already done:

- Sign up to airText app to get air quality alerts on the following website [airText - Sign up to airTEXT](#)
- Walking, cycling or using public transport instead of driving your car
- Making your next car an electric or hybrid one, or joining a car club scheme
- Turning your engine off when you're parked or stationary
- Switching your commute or the school run to foot or bicycle
- Buying local produce from small businesses
- Indoor air quality monitoring and audits:
 - Checking your indoor air quality and do an audit to identify indoor polluting sources in your home and workplace.
 - Replacing your old boilers with ultra-low emission boilers. The Boiler Upgrade Scheme UK is a grant to help homeowners replace their inefficient gas and oil-fed boilers.
<https://www.gov.uk/apply-boiler-upgrade-scheme/how-to-apply>
 - Stop wood burning: wood burning stoves and open fires harms our health
- Improving the energy efficiency of your home to reduce costs and carbon emissions



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More information and Contact details

The best way to get more information on air quality and the AQAP is online at www.spelthorne.gov.uk.
Alternatively, you can contact us

- **by post:** Spelthorne Borough Council, Environmental Health/Pollution Control Council Offices, Knowle Green, Staines, TW18 1XB
- **by email:** Pollution.Control@spelthorne.gov.uk
- **by hand:** Spelthorne Borough Council, Environmental Health/Pollution Control Council Offices, Knowle Green, Staines, TW18 1XB



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