



Clean air

*BRIEFING*

**CONSERVATIVE  
ENVIRONMENT  
NETWORK**

*April 2024*

**CEN Councillors: Clean air briefing**

*April 2024*

**Summary:**

Since 2010, we have strengthened our air quality legislation by introducing a number of legally binding targets to limit exposure to the most harmful pollutants, phased out coal-fired power stations, and encouraged the uptake of cleaner and more efficient vehicles. However, air pollution still remains the largest environmental threat to our human health costing the economy billions each year in lost productivity. If we are to reach our safer legal limits, a combination of local and national government will need to deliver changes to our transport network, planning system, how we heat our homes, and to agriculture.

**1. Why should conservatives care about tackling air pollution?**

**Economy:**

- **Dirty air is detrimental to our quality of life and the economy:** Air pollution is estimated to cost the economy between **£9-19 billion per year**. This is through a combination of more people experiencing mild health complaints like the common cold, and the likelihood of contracting acute medical conditions affecting workforce participation and productivity.

**Health:**

- **Making it easier for people of ages to walk and cycle encourages more healthy living:** **Cycling has been rising in popularity** since 1990, with a 30 year peak following the pandemic. However, cycling rates are a fraction of what they were in the 1950s as cars have become more affordable and are very convenient. This has increased the number of us living sedentary lifestyles – causing more cases of obesity, cancer, heart disease, hypertension, high cholesterol, and diabetes, not to mention worsening air pollution.
- **Air pollution is a particularly acute risk to childhood growth and development:** Consistent exposure to harmful air pollutants can stunt lung development, increase the likelihood of developing respiratory conditions like asthma, and hinder cognitive development in children. Air pollution also presents an acute risk in pregnancy — causing low birth weight and premature birth. Encouraging children to walk and cycle more, particularly to school, can give them the best start to the day and embed healthy living — all whilst reducing air pollution exposure comparatively to sitting in the back of the car.

**Community:**

- **Improving air quality is an opportunity to strengthen communities:** Pleasant, shared spaces can create more desirable neighbourhoods, strengthen our sense of community, and

boost our pride in place. Policies like pedestrianising local highstreets and planting street trees, wildflowers, and hedges can improve air quality, but also create an environment where residents can connect with their surroundings and enjoy meeting neighbours, friends and family close to home.

- **Public transport and active travel infrastructure can keep residents without access to a car connected:** Teenagers, the elderly, and job seekers often do not have access to a car. Ensuring that they can stay connected with friends, family, amenities, and employment through reliable public transport and safe active travel infrastructure can give them dignity and independence as they do not have to rely on relatives to get around or face social isolation.

### **Congestion:**

- **British drivers are spending more time than ever sitting in traffic:** Road traffic has increased by nearly 30% since 1990, with the average UK driver spending 32 hours per year sitting in traffic. And while our vehicles are becoming more efficient, cleaner, and less polluting, the growing number of miles driven mean that congestion is not easing and roadside pollution remains too high.
- **When properly consulted measures to encourage using public transport and to walk and cycle more ultimately cut congestion:** Twenty five percent of journeys under one mile and 72% of journeys under five miles, many of these, but not all, would be suited to walking, cycling, or public transport. However, even schemes that have been thoroughly consulted on can see an adjustment period where residents adapt how they take their children to school, go to the shops, or go into town, before active travel alternatives become normalised. Feedback from successfully implemented school street schemes has seen a reduction in tailpipe emissions by 23%.

## **2. Progress since 2010:**

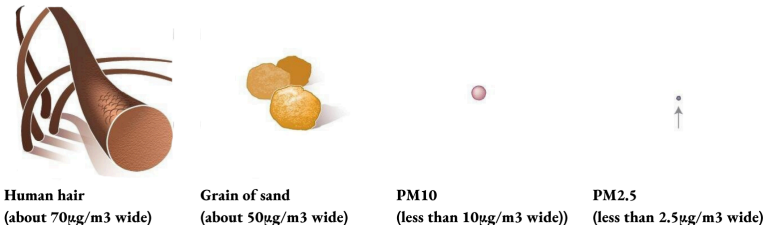
*These are the best environmental policies that were campaigned for by CEN supporters and adopted by a Conservative government.*

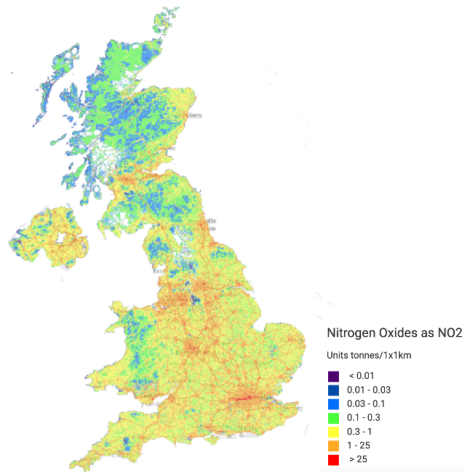
- **Air pollution has reduced significantly:** Nitrogen oxide (NOx) pollution has fallen by 44% - the lowest since records began - and fine particulate matter (PM2.5) has fallen by 18%.
- **Electricity sector decarbonisation has significantly reduced air pollution:** Following pressure from CEN MPs in 2015, the then government committed to phase out coal-fired power stations by 2025. Coal power has nearly disappeared from the grid, having made up 39% of the power mix in 2012. Forty percent of our

electricity is now generated by renewables following the introduction of the Contracts for Difference scheme, which has reduced the cost of capital of renewable energy for investors and spurred demand. Prior to this, large amounts of our [NOx and SO2 pollution](#) was coming from our energy generation.

- **There are now over one million electric vehicles on UK roads:** In February 2024 EVs made up 17.7% of new car sales and the second hand market is beginning to gather steam. The increase in popularity is due to:
  - **Government grants for charge points:** These have included grants for landlords, renters, and flat owners to cover 75% of the cost of an EV charge point installation (up to £350) and for workplaces to install charging infrastructure.
  - **Financial incentives for buying an EV:** In 2011 the government launched the ‘plug-in car grant’ which subsidised the upfront cost of an EV to stimulate demand. This grant has now closed. Businesses and fleets can purchase cheaper EVs using the lower benefit-in-kind company car tax rate. This tax break has been one of the main drivers of the UK’s EV transition so far. The tax break also explains why fleet purchases have come to dominate new car sales, making up nearly 64% of the market.
  - **The newly passed ‘Zero Emission Vehicle’ (ZEV) Mandate:** The ZEV mandate will require 80% of new car sales to be zero emission by 2030 and 100% by 2035. While the effects of the ZEV mandate are yet to be felt, it will ultimately increase the supply of EVs on the market. The mandate will give car manufacturers the certainty to expand their range of models and make more affordable EVs available for sale, which will in turn incentivise them to offer discounts to reach their targets.
- **Since leaving the European Union, the UK has strengthened its legally binding air quality targets:** Through the [Environment Act](#), the UK now has a legally binding target to reduce the annual average level of PM2.5 in England to 10µg/m<sup>3</sup> by 2040 and population exposure by 35% by 2040 compared to 2018 levels. In 2023, Defra also published the [Environmental Improvement Plan](#), which sets a number of interim targets on air pollution to measure progress. It also details how the government will work with landowners, businesses, and communities to improve air pollution.

**3. What is air pollution and what are its impacts in the UK?**

Pollutant	Trend	Sources (2022)	Impact
<b>Fine particulate matter (PM2.5):</b>			
A mix of solid fuels and liquids suspended in the air. Fine PM refers to particulates with a diameter of less than 2.5µg/m3. PM2.5 is the most harmful air pollutant.	PM2.5 fell by 85% (82.2 thousand tonnes) between 1970 and 2021. Average concentration rose slightly in 2022. Average roadside PM2.5 fell from 12.8µg/m3 to 8.7µg/m3 in the last 14 years.	Industrial processes: 16% Domestic burning: 29% Road transport: 18% Industrial combustion: 10% Other (including farming and particulates blown over from the continent): 27%	Exposure to PM2.5 affects our health throughout our lives. Public Health England lists reduced lung function, heart disease, low birth weight, asthma, and strokes, dementia as some of the most acute risks from excessive exposure.
<b>Fine particulate matter (PM.25) comparison</b>		<p><i>The diagram on the left shows how small PM2.5 is. Its size is what makes PM2.5 particularly harmful to human health. Their small diameter means that the particulates can get deep into your organs and bloodstream. A recent study found PM2.5 in the lungs, livers, and brains of unborn babies.</i></p>	
 <p>Human hair (about 70µg/m3 wide)      Grain of sand (about 50µg/m3 wide)      PM10 (less than 10µg/m3 wide)      PM2.5 (less than 2.5µg/m3 wide)</p>			
<b>Nitrogen oxide (NOx):</b>			
Irritant gases, including nitrogen monoxide (NO), which is a colourless gas; and nitrogen dioxide (NO2), which is a reddish brown gas with a pungent, acrid odour.	NOx in the UK fell by 77% between 1970 and 2021. This is primarily because coal-fired power stations closed. It will continue to fall as we transition to EVs as they produce no NOx at the tailpipe.	Road transport: 30% Energy: 19% Non road transport (aviation, shipping, and rail): 15% Industrial combustion: 14% Other (including: 21%	NOx exposure has been linked to poorer lung function in children and adults, with a particular risk to those living alongside busy roads. Other acute heart and lung conditions.



*To the left is a map from the National Atmospheric Emissions Inventory showing NOx pollution in the UK and Northern Ireland. The map shows that NOx pollution generally follows the road network with particular pockets of poor air quality occurring in most major cities.*

**Sulphur dioxide (SO<sub>2</sub>):**

A colourless gas with a pungent and suffocating smell. Direct exposure to SO<sub>2</sub> is associated with asthma and chronic bronchitis.

SO<sub>2</sub> fell by 98% between 1970 and 2022. Largely from the decline in coal in the energy sector. The 99% reduction between 2022 and 2005 were due to stricter limits placed on the sulphur content of liquid fuels.

Domestic combustion: 31%  
Energy: 23%  
Industrial combustion: 26%  
Other (any practice that burns sulphur containing fuels like coal and oil): 20%

SO<sub>2</sub> pollution particularly harms our lung function and can aggravate conditions like asthma in children to a debilitating degree. SO<sub>2</sub> can also destroy the natural environment as it harms trees, plants, and waterways and forms acid rain.



*To the left is an image of a police officer during the Great Smog of 1952, attempting to safely guide traffic. The smog was caused by coal burning — causing SO<sub>2</sub> pollution — contributed to 12,000 respiratory-related deaths. Following the Great Smog, Conservative Prime Minister, Anthony Eden, passed the 1956 Clean Air Act.*



#### 4. What can councils do to tackle air pollution?

Local councils are responsible for delivering many of the policies that will improve our air quality. This includes the new legally binding targets in the Environment Act (listed above), reaching our walking and cycling targets, installing EV charge points, and complying with the law surrounding the NO<sub>2</sub> plan. Below is an overview of the levers councils have at their disposal:

- **Local air quality management areas (LAQM):** Where air pollution breaches national requirements local authorities are required to implement air quality management areas (AQMA). The local authority then has to produce a local air quality action plan (AQAP) to bring down the air pollution from sources such as buildings, transport, and waste management.
  - *We want to hear from you about how you have managed to set out a positive vision for action on air pollution. Or is your local authority struggling to use its existing powers to improve air quality? [Please let us know](#) if you are in the process of updating your local air quality management plan.*
- **Low emission zone (LEZ) or clean air zone (CAZ):** Vehicles travelling inside these areas need to meet a minimum emissions standard for NO<sub>x</sub> or pay a daily charge. Under the [NO<sub>2</sub> plan](#), some local authorities have been instructed by Defra to introduce a charging CAZ when NO<sub>x</sub> breaches the legal limit. The [NO<sub>2</sub> plan](#) acknowledges that there are significant impacts on residents and businesses from these charges, and suggests that if a local authority can identify a measure that will deliver compliance as quickly as effectively it should be preferred.
- **Encourage gentle densification:** The combination of low density housing and large new roads takes up vast swathes of land, locking in car dependency and contributing to the undersupply of new homes. These low-density developments also tend to be more expensive to run a reliable public transport network around. Through their local plans, councils can encourage more gentle density development where residents can easily walk, cycle, or use public transport to get around.
- **Installing and upgrading active travel infrastructure:** The government has a target for 50% of journeys in towns and cities to be walked or cycled by 2030. The government published the [Gear Change](#) strategy in 2020 to detail how it envisions this being delivered. The strategy sets an overarching vision for safe and accessible active travel networks in England and the design and consultation criteria that local authorities will need to meet in order to receive funding. Policies in the document include a requirement for local authorities to embed active travel provision into new housing developments. And along with the Bus Strategy published in 2021 and the [Transport Decarbonisation Plan](#) it sets out

that local authorities can take a more joined up approach between residents walking, cycling, using public transport, or an EV easily.

- **Smoke control areas:** Local authorities can designate smoke control areas where unauthorised fuels cannot be sold unless it is for an exempt appliance. The 2021 Environment Act strengthened our smoke control legislation by making it more consistent and easier for local authorities to enforce. Measures included:
  - Banning the sale of smoky coal and sale of wet wood;
  - Matched indoor burning restrictions to those imposed on outdoor solid fuels;
  - Made it a civil offence to breach a smoke control zone so local authorities can easily issue fines;
  - Increased fines to between £175 and £300.

However, most councils also set out plans and strategies to look longer term at encouraging more journeys to be taken by bike, foot, or public transport to encourage a healthier way of living. Below are three case studies that show how different authorities have made tangible progress on improving air quality:

- **Suffolk County Council - Local Cycling and Walking Infrastructure Plan:** Suffolk County Council successfully applied for £3.9 million from the government's Active Travel Fund in May 2020 to make walking and cycling safer, easier, and more convenient — and to cut air pollution and congestion. Its plans include segregated cycle lanes to avoid collisions, timed pedestrianisation zones, better bike storage, quiet routes for buses and cyclists into town and city centres, and changes at junctions to make it safer for cyclists. Before introducing any changes, the council conducted a comprehensive consultation and made measures temporarily initially so residents could give feedback.
- **Royal Borough of Kensington and Chelsea (RBKC) - Emissions based parking:** To incentivise residents to switch to electric vehicles and simplify the borough's parking structure, RBKC Council introduced a system where the cost of a permit is based on the car's emissions. Vehicles are split into categories based on how much carbon they produce – the lower the pollution, the lower the parking cost. Households that switch to an EV (the average RBKC resident lives within 200 metres of an EV charger) from a petrol vehicle could save £224, and from a diesel vehicle could save £272 per year.
- **Hertfordshire County Council - Whole system approach to obesity:** Nineteen point three percent of 4-5 year olds and 28.6% of 10-11 year olds in



Hertfordshire are obese or overweight – which is lower than the national average. To reverse this and help to embed good habits into children's lives the council introduced the '10 Pillars of Action' for healthy living. It includes measures to encourage children to walk and cycle to school by introducing measures like better and more secure bike storage. And where new schools are being built, only buses are allowed within 500 yards of the school with other car exclusion zones being considered.


We have compiled a series of case studies on a map of the UK to highlight where and how tangible progress has been made by conservatives across the country to share pragmatic and creative environmental policy. You can find our [case study map here](#). We regularly update our case study map. If you would like to contribute to this, please email [local@cen.uk.com](mailto:local@cen.uk.com).

## 5. Fact checking

*While all voters want to see improvements to their local community's air quality, there are sceptical voices in every community to some specific measures that get proposed. It's important to take a balanced approach and build up support within a local community for action on air pollution.*

- **“Won't blanket 20 mph zones worsen air quality as journeys will take longer?”:**  
The [main reason to install a 20 mph zone is road safety](#), hence why they have traditionally been found outside of locations like schools and hospitals. However, their impact on air quality is complex and depends on driving characteristics like vehicle type, road typography and layout, and how often drivers have to accelerate or decelerate. There is evidence that shows lower traffic speeds and less noise pollution can make residents feel it is safer to walk or cycle, which improves congestion, health, and air quality. Local authorities have the power to determine whether a 20 mph is right for their community as they have to know the local area and views of residents best.
- **“Can we plant trees to reduce exposure to air pollution for those living, walking, and cycling next to busy roads?”:** To make a meaningful difference to air quality, [we would need to plant an unrealistic amount of street trees and vegetation](#) in our towns and cities – and densely planted trees can exacerbate air pollution as they restrict air flow. However, both street trees and vegetation have been shown to encourage slower and more careful driving, whilst also serving as sustainable urban drainage systems which protect a road's integrity and provide a smoother driving experience. They can also act as a useful barrier between traffic and pavements and cycle lanes.

- **“Won’t pedestrianising streets and closing roads to through-traffic simply just push traffic onto boundary roads and increase air pollution there?:** Analysis and feedback of planned pedestrianisation and closing roads to through-traffic has shown improvements to [air and noise quality](#). The study conducted by the Department of Transport (DfT) as part of their research for their “plan for drivers” found that, where traffic calming measures have gathered community support through consultation and proper design, the schemes have been successful and popular with residents. But it is also because when well-planned and consulted changes are introduced they make residents feel it is safer to walk and cycle around their community.
- **“EVs still produce pollution and emissions, it is not worthwhile to transition as they will make us reliant on countries with malign intentions like China”.**
  - **While EVs are not a silver bullet for tackling air pollution, they will still dramatically improve air quality:** EVs do produce PM2.5 from brake, tyre, and road wear, but they do not produce tailpipe emissions like NO2. While the weight of EVs from their batteries often make them heavier and produce more particulates than petrol and diesel (ICE) vehicles, manufacturers are [constantly improving tyre designs and reducing vehicle weights](#) to maximise their efficiency. EVs also use [regenerative braking](#) which allows the vehicle to slow without producing the friction from the conventional braking system ICE vehicles use.
  - **EVs are more carbon intensive in production but their lifetime emissions are considerably lower:** The carbon intensity from EV production arises from producing the battery. However, this is made up within [two years of driving an EV and in their lifetime EVs produce about three times less](#) emissions than ICE vehicles. However, production from creating batteries for electric vehicles will also begin to decline as power grids decarbonise. And the UK is looking into improving battery recycling and there is promising research into sodium batteries.
  - **We need to continue our international work setting up secure supply chains for critical minerals like lithium with other democratic countries:** At present the countries with the largest deposits of critical minerals for clean technologies are [Bolivia, Argentina, Chile, Australia, and the United States](#). However, China does currently dominate the processing part of the mineral supply chain. This is not to say that transitioning to EVs will make us reliant on China, but that we need to continue to sign more critical mineral partnerships with democratic countries in order to have a secure and safe supply of materials like lithium.



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