

Local Net Zero Delivery Progress Report

Clean Air

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About UK100

UK100 is a network of local authorities that have pledged to shift their communities to Net Zero ahead of the government's legal target. They do this to demonstrate their ambition, make the case for rapid change, and enable a fast and fair transition.

The network provides local leaders opportunities to learn from each other, agree priorities for legislative and regulatory change, engage with national decision-makers and businesses, and develop a better understanding of how to build consent and support for rapid climate action in their communities.



Executive Summary



The power and potential of local authorities (LAs) to design and deliver real progress towards Net Zero against a global backdrop of unpredictable and far-reaching challenges has never been clearer.

This report presents an analysis of the progress made towards delivering Net Zero and Clean Air at a local level in the UK in the past year, and our recommendations for actions needed to enable the pace and scale of delivery required for success.

UK100 has been focused on cleaner air for several years. Our ambitious local leaders are committed to working together to improve air quality, implementing innovative solutions to protect their residents. But as well as acting locally, UK100's network is united in calling on the UK government to do more. Clean air is a national problem that needs national action to enable locally-designed solutions.

Many ambitious LAs have already set Net Zero targets that are ahead of the UK Government's 2050 deadline. The LAs that have signed UK100's members pledge - 102 (correct at the time of writing) have committed "to lead the UK's response to climate change, acting sooner than the government's goal by making substantial progress within the next decade to deliver Net Zero."

UK100 has recently developed the concept of Clean Air Net Zero (CANZ), to better understand the clear synergies between the two issues and to enable the development of policy solutions which can consider both and deliver valuable co-benefits.¹

Air pollution is a health emergency, the far-reaching consequences of which are more obvious every day. In its recent assessment of the Government's approach to tackling local air quality breaches (specifically focused on nitrogen dioxide (NO₂)), the National Audit Office (NAO) finds that while progress has been made, it has been slower than expected. The report also highlights concerns related to particulate matter (PM), such as dust, dirt and soot.²

While responses to NO₂ - largely from road transport - are becoming more robust, more evidence on the impact of PM demonstrates that urgent responses are needed to address the wide ranging sources of pollution.

NAO states that although the Government has arrangements to manage the links between its work on air quality and Net Zero, these could be strengthened. The Royal Society³ and Air Quality Expert Group⁴ have both outlined the potential co-benefits of such an approach. And UK100's CANZ report identified that doing so could save £1.6 billion a year on the cost of delivering Net Zero.⁵

So it is clear we need to be simultaneously working to deliver Net Zero, and addressing the root causes of our polluted air. By identifying the synergies in their policy development, LAs can adopt smarter and more efficient responses. The challenge is firm, but the solutions are available. Giving LAs the power to set clear trajectories and build momentum for change will be key to delivering a cleaner, Net Zero future.

The issues raised in this report both influence and are influenced by cross-cutting issues. This report is one of eight sector-based reports produced to assess progress on Local Net Zero Delivery. There are lots of commonalities and synergies between them which are clearly signposted throughout each of the reports.⁶

¹ <https://www.uk100.org/sites/default/files/publications/YES%20WE%20CANZ%20%7C%20Clean%20Air%20Net%20Zero%20.pdf>

² <https://www.nao.org.uk/wp-content/uploads/2022/01/Tackling-local-breaches-of-air-quality.pdf>

³ <https://royalsociety.org/-/media/policy/projects/air-quality/air-quality-and-climate-change-report.pdf>

⁴ https://uk-air.defra.gov.uk/library/reports.php?report_id=1002

⁵ <https://www.uk100.org/sites/default/files/publications/YES%20WE%20CANZ%20%7C%20Clean%20Air%20Net%20Zero%20.pdf>

⁶ <https://www.uk100.org/publications/local-net-zero-progress-reports>



What's in this report?

This report aims to:

- 1** Assess the progress on delivery of Government commitments
- 2** Take stock of UK100's research recommendations and identify areas where key developments have taken place and highlight where barriers remain
- 3** Share success stories from LAs.



Background

UK100 has been advocating for cleaner air in recent years. We hosted two clean air summits in 2019 and 2020, and provide the secretariat for the All Party Parliamentary Group on Air Pollution. In 2021, we brought the Clean Air and Net Zero agendas together, at the International Local Net Zero Delivery Summit in 2021 with a clean air conference panel discussion.

The call to action made at the Clean Air Summit in 2019,⁷ highlighted the following priority areas:

- provision of necessary resources for the meeting of the world-leading World Health Organisation (WHO) air pollution standards as a minimum
- the creation of a £1.5bn Fleet Renewal Programme
- The granting to LAs and Mayors the powers and funding they need to deliver zero emission transport networks
- a strengthened UK Government Clean Air Strategy to create certainty for business and local government.

In June 2022, 21 of UK100's members wrote to the Secretary of State for the Environment, Food and Rural Affairs, urging the Government to:

- bring forward the PM_{2.5} target of 10µg/m³ to 2030 in line with the WHO's interim guideline, and to provide local leaders with the powers and funding to meet this target
- put in place a longer term target to meet the WHO's updated guideline for PM_{2.5} of 5µg/m³
- establish a national public awareness campaign around the health impacts of air pollution and its causes. Domestic combustion from burning wood and coal is one of the largest contributors to PM_{2.5} pollution, yet many people are unaware that their heating choices are producing toxic emissions.

⁷ [UK100 \(2019\), Clean Air Campaign | Local leaders tackle pollution | UK100](#)

In June 2022, UK100 also released a report, Yes we CANZ: Local leaders delivering Clean Air and Net Zero.⁸ It introduced the concept of CANZ - ensuring Net Zero policies include a clean air audit and vice versa. It identifies some of the win-wins that can be achieved if CANZ considerations are factored into decision making as well as some of the areas that can potentially be challenging that need careful consideration. It outlined the following recommendations for action:

- A clearer ambition and a new narrative focused on the benefits of delivering CANZ responses together
- Sustained support for local action: longer term, dedicated funding to allow effective planning and implementation
- Good local governance supported by a national regulatory framework
- Better access to data: monitoring and reporting of both air pollutants and greenhouse gases (GHGs) needs improving
- Identifying key moments and partnerships
- Better grid access for local renewables
- Upskilling medical practitioners.

Safe levels

Science is moving on. There is new evidence all the time on the impacts of pollution, and in 2021 WHO revised its 2005 standards on what safe levels are, based on the latest scientific understanding.⁹

Fine particulate matter ($PM_{2.5}$) - 2005: $10\mu g/m^3$ > 2021: $5\mu g/m^3$

Particulate matter (PM_{10}) - 2005: $20\mu g/m^3$ > 2021: $15\mu g/m^3$

Ground-level ozone (O_3) - 2005: $100\mu g/m^3$ > 2021: $60\mu g/m^3$

Nitrogen dioxide (NO_2) - 2005: $40\mu g/m^3$ > 2021: $10\mu g/m^3$

⁸ <https://www.uk100.org/publications/yes-we-can-z-local-leaders-delivering-clean-air-and-net-zero>

⁹ <https://www.who.int/news/item/22-09-2021-new-who-global-air-quality-guidelines-aim-to-save-millions-of-lives-from-air-pollution>

The NAO recommends that the government should strengthen the links between its work on air quality and Net Zero:

“ Government’s approach to tackling climate change could have knock-on impacts for air quality, with some measures bringing risks as well as potential benefits. For example, increased uptake of electric vehicles will cut tail-pipe emissions of both greenhouse gases and NO_2 , but not fine particulate matter from brakes and tyres.”¹⁰

There is a real appetite from LAs to do more to improve air quality, but they need government support. Setting WHO-10 as the UK target for $PM_{2.5}$ in 2022, and meeting it by 2030, is necessary, beneficial and achievable. It will set us on a pathway to clean air across the UK and deliver continuous improvements for health, the economy and the climate. And this will be made easier by focusing on approaches capable of tying clean air and Net Zero together.

¹⁰ <https://www.nao.org.uk/wp-content/uploads/2022/01/Tackling-local-breaches-of-air-quality.pdf>



Progress



This section of the report offers us an opportunity to take stock of the past 12 months and highlight the main areas where developments have taken place. A more thorough analysis of what these developments mean is provided later in the report.

What’s happened?

June 2021

Birmingham’s Clean Air Zone (CAZ) is introduced¹¹

October 2021

- The Government published its Net Zero Strategy¹²
- London’s Ultra Low Emission Zone (ULEZ) is expanded¹³

November 2022

- The Environment Act is enacted¹⁴
- Portsmouth’s CAZ is launched¹⁵

February 2022

Zero Emission Zone launched in Oxford - all petrol and vehicles are charged within the zone¹⁶

May 2022

The Government consults on new air quality targets for PM_{2.5}¹⁷

June 2022

The Government consults on the designation of National Highways as a relevant public authority¹⁸

There have been some positive indicators of progress in line with our recommendations over the last 12 months.

11 <https://www.tfwm.org.uk/plan-your-journey/ways-to-travel/driving-in-the-west-midlands/birmingham-clean-air-zone/>
12 <https://www.gov.uk/government/publications/net-zero-strategy>
13 <https://www.london.gov.uk/what-we-do/environment/pollution-and-air-quality/mayors-ultra-low-emission-zone-london>
14 <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>
15 <https://www.portsmouth.gov.uk/2021/11/29/portsmouth-charging-clean-air-zone-launches/>
16 <https://www.oxford.gov.uk/zez>
17 <https://consult.defra.gov.uk/natural-environment-policy/consultation-on-environmental-targets/>
18 <https://consult.defra.gov.uk/industrial-pollution-control/consultation-on-designation-of-national-highways/>

Net Zero Strategy

The Net Zero Strategy acknowledges that there are opportunities in decarbonising the economy to significantly reduce air pollution, but also that some proposals could result in negative air quality impacts. It commits to undertaking further work and to providing advice on tailoring the pathway to minimise these impacts. And it states that any impacts from low carbon fuel production on air quality or the environment must be kept under consideration and comply with evolving regulatory standards.

The Environment Act 2021

This legislation was enacted in November 2021.¹⁹ Within the legislation, the national air quality strategy is to be reviewed, with the Secretary of State required to set out an annual statement on the progress made in meeting air quality standards in England. The Minister must also prepare an environmental improvement plan for a period of at least 15 years, and update Parliament annually.

LAs must “have regard to the national air quality strategy when exercising any function of a public nature that could affect the quality of air.” And they must prepare an air quality action plan, setting out the measures the authority will take to ensure air quality standards are achieved and maintained. The authority must also share its plans with its air quality partners, and these partners must help the authority to ensure air quality standards are met.

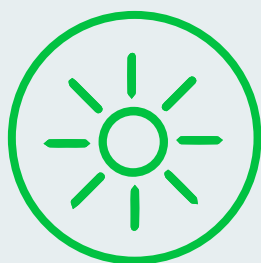
The act establishes the Office for Environmental Protection (OEP) to independently monitor and enforce environmental law. It must report annually.

The Secretary of State must set a long term target in respect of at least one matter within each priority area, including air quality.

COP 26 Breakthrough Agenda

The statements at Glasgow on both Transport and Global Coal to Clean Power Transition²⁰ are both Net Zero commitments that have a potentially positive impact on clean air.

19 <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>
20 <https://ukcop26.org/cop26-world-leaders-summit-statement-on-the-breakthrough-agenda/>



Highlights:

What's going well

- Commitment to target-setting for PM_{2.5} in the Environment Act
- Birmingham, Oxford and Portsmouth have introduced CAZs, with Bradford and Bristol due to follow in September 2022. From those CAZs already in operation, results have been impressive.²¹

In London, the ULEZ has achieved significant air quality improvements: between 2017 and 2019, roadside concentration of NO₂ went down by 44%, alongside a 71% reduction in the number of non-compliant, polluting vehicles in the central zone.²²

Bath and North East Somerset's CAZ - the first outside London was introduced in March 2021. Its first quarterly report demonstrates that:

“Average NO₂ concentrations within the CAZ are 12.6% lower than the same period in 2019 (Q2), representing a reduction of 4µg/m³. This is the average reading from a total of 64 monitoring sites within the CAZ, over the first three months of operation.”²³

Planned CAZs in Greater Manchester and Newcastle have been postponed in order to give residents time to prepare. A CAZ was also proposed for Leeds, but it has since been scrapped as pollution levels in the city dropped significantly when hundreds of taxi and van drivers used grants to help pay for them to upgrade their vehicles.²⁴

²¹ Bath and North East Somerset introduced a CAZ in March 2021 - and are not included in this list because the period under examination is the 12 months from July 2021

²² <https://www.london.gov.uk/WHAT-WE-DO/environment/environment-publications/central-london-ulez-ten-month-report>

²³ <https://beta.bathnes.gov.uk/sites/default/files/2021-09/Appendix%20A%20Bath%27s%20Clean%20Air%20Zone%20Quarterly%20Monitoring%20Report%20Apr%20Jun%202021.pdf>

²⁴ <https://news.leeds.gov.uk/news/leeds-clean-air-zone-has-achieved-its-aims-early-and-is-no-longer-required-joint-review-finds>



Opportunities:

What we'd like to see more of/what has potential

- **Target setting:** The recent consultation on setting targets, as laid out in the 2021 Environment Act, represents a huge opportunity for the UK Government to show ambition. The evidence supports the achievability of the 2030 air quality target, so the government should not wait 18 years to bring exceedances down to the WHO's interim guideline, which has now been halved' - (as the WHO-10 is no longer considered a safe level)²⁵
- **National Highways:** The recent consultation on designating National Highways as a public authority offers real potential to enable better communication and co-working between the strategic road network and local roads, which can make all the difference to communities living near major roads. It would also help address transboundary pollution and make policy development between local and national partners easier. And it would bring the organisation under the scope of the Environment Act's instructions to public authorities
- **Establishment of the OEP:** It is positive that an independent body has been established to oversee the monitoring and enforcement of environmental laws. However, more detail around its likely role on clean air target management, and some clarity on how its responsibilities overlap with Defra and the Joint Air Quality Unit (JAQU) would be welcome.

²⁵ <https://www.cleanairfund.org/wp-content/uploads/2022/02/The-Pathway-to-Healthy-Air-in-the-UK.pdf> https://www.london.gov.uk/sites/default/files/pm2.5_in_london_october19.pdf <https://www.cbi.org.uk/media/5539/2020-09-cbi-economics-caf-report.pdf>



Challenges:

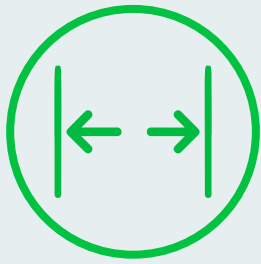
What could be going better

- **Progress on tackling NO₂:** According to the NAO, over the course of the NO₂ programme, the UK Government found 64 LA had potential breaches of NO₂ concentration limits.²⁶ By April 2022, only 14 of those 64 LAs had implemented all of the measures agreed with central government to bring NO₂ levels below legal limits. A further 16 LAs were found to be already compliant, and 17 were in the process of implementing measures. In 2017, it was foreseen that the measures would take under three years to implement, with all measures outside London implemented by 2021.²⁷ As of April 2022, according to the JAQU, the 17 LAs still in the process of implementing measures had been in the programme for 4.5 years on average
- **2030 PM limits:** The NAO have expressed concern that the government is not clear how it will meet the 2030 ceiling limits on PM. We share the NAO's concern about the scale and pace of the government's programme
- **CAZs:** The introduction of local CAZs is a step forward, but there has been a limited approach so far, and the rollout is not fast enough. It needs a supporting package of policies to be effective. Currently the onus is on LAs to introduce CAZ, but support from central government is limited and funding is insufficient
- **Focus on NO₂:** the limited focus on air pollutants thus far has been insufficient. There needs to be much more emphasis in policy and practice on reduction of wider pollutants, particularly on PM and ammonia levels.

²⁶ <https://www.nao.org.uk/wp-content/uploads/2022/01/Tackling-local-breaches-of-air-quality.pdf>

²⁷ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/633270/air-quality-plan-detail.pdf





Gaps:

What's missing?

- **Integrated thinking and urgency:** There are so many opportunities to deliver rapid co-benefits. Committing to WHO-10 by 2030 - and starting delivery in 2022 - will speed up improvement in air quality, it will also deliver benefits to the economy, the climate, and public health. Longer term planning needs to begin now to consider meeting the updated WHO guidelines as a matter of urgency
- **Social equality:** People in more deprived areas continue to be exposed to higher levels of toxicity.²⁸ The Department for Levelling Up, Housing and Communities (DLUHC) should be working in step with Defra and the Department of Transport (DfT) to afford all people the right to clean air.

²⁸ <https://airqualitynews.com/2021/02/15/why-the-fight-for-clean-air-is-a-social-justice-issue/>



Devolved administrations

Scotland

The Scottish Government plans to have four Low Emission Zones (LEZ) operating in 2022, with the first already introduced in Glasgow for buses.²⁹

The zones will next be implemented in Edinburgh, Aberdeen and Dundee, while the Glasgow LEZ will be extended to cover all vehicle types to 2022.³⁰

Wales

The previous Welsh administration published a Clean Air (Wales) White Paper in 2021, with the intention that the legislation would be drawn up in 2022.³¹

The White Paper intended to:

- introduce a legal requirement for a Clean Air Plan or Strategy to be reviewed at least every five years
- strengthen powers for LAs to address vehicle idling, including powers to increase the fixed penalty amount that can be issued
- introduce an enhanced Local Air Quality Management Regime
- enact a new target for PM levels, taking account of WHO guidelines.

It is unclear at this stage when or if the current administration will be taking the bill forward.

²⁹ <https://www.lowemissionzones.scot/about>

³⁰ <https://energysavingtrust.org.uk/advice/guide-to-low-emission-zones/>

³¹ https://gov.wales/sites/default/files/consultations/2021-01/white-paper-on-a-clean-air-wales-bill_0.pdf



Overarching Themes

We have identified three overarching themes which apply across all the progress reports in this series. By identifying blockers and sharing successes in these key areas, we can achieve the step-change we need.

Partnerships

When integrating CANZ approaches, it's important to get teams in LAs aligned and broader stakeholders involved at both policy and delivery levels. Local businesses and small firms need help when measures are introduced, as their costs inevitably increase at first. The government should work with LAs and businesses on effective outcome-focused solutions.

There needs to be consideration to how to raise awareness of the benefits and crucial importance of clean air among local communities, enabling environmental agencies to get more buy-in from residents to support interventions.





Member Insight:

London Greater Authority

The ULEZ expansion (from the first scheme in Central London in 2019) in October 2021 has been a major policy for delivering both CO₂ emission reductions in support of climate and nitrous oxides (NO_x) and PMs in support of improving London's air quality. On 25 October 2021, the Mayor expanded the world's first ULEZ up to, but not including, the North and South Circular Roads.

The zone is now 18 times the size of the central London zone and covers 3.8 million people, making it the largest of its kind in Europe. Compliance has steadily increased since changes associated with the ULEZ began.

As of December 2021, 93% of vehicles travelling in the zone meet the ULEZ standards, up from 39% in February 2017 when changes associated with the ULEZ began. The ULEZ expansion will reduce carbon emissions from cars and vans by 100kt, which is equivalent to taking 60,000 cars off the road, or 3.7 million journeys around the M25. TfL was consulting on expanding the ULEZ London-wide at the time this report was produced.

The expansion of the ULEZ built on work done delivering the central London ULEZ. The central London ULEZ took two years to deliver. The expansion took a further two and a half years to deliver. There is still ongoing work monitoring and evaluating the scheme. Staff from the GLA, TfL, Capita and other partners worked together to deliver the project.

Implementation costs for the ULEZ expansion were £115 million. This cost includes improved access to public transport, staffing and the signs, cameras and back-office systems needed to make the scheme operational. The ULEZ expansion was delivered on time and under budget.



Finance

CAZs and other local solutions are met with opposition from residents and businesses due to the costs of either changing vehicles or paying the charge to enter the area.

The Government should establish a programme that provides financial support for the poorest in our society and for small businesses to switch to cleaner vehicles, shared transport or active travel via schemes such as mobility credits, which also includes a £1.5bn fleet renewal programme, stimulating the market to deliver cleaner vehicles, including heavy freight, municipal vehicles and for retrofit solutions.

Frameworks and Governance

The relationship between Defra and DfT through the JAQU is useful - but as the scope of the issue broadens to other pollutants and to align with Net Zero, a consideration of broadening the scope of focus wider than transport may be warranted. Related to this point, it is not clear how the Local Net Zero Forum will approach the air quality issue. Without clarifying these parameters and roles and responsibilities, there are potentially significant governance barriers here to enabling effective CANZ approaches and the delivery of important co-benefits as outlined in the Net Zero Strategy.

It is also unclear at this point where the OEP will fit into the governance infrastructure until it announces its strategy. Although the OEP has made a response to the Government's target setting consultation stating that it considers that the PM_{2.5} targets proposed are “unambitious or lack sufficient urgency to reflect the scale of change needed.”³²

³² <https://www.theoep.org.uk/report/oep-response-consultation-environmental-targets>





Analysis

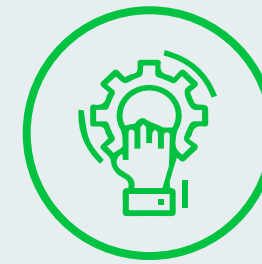
There has been progress since 2019 on reduction of NO_2 , but this has not been everywhere and it has not been fast enough, as the NAO states. The scope of issue has been broadened as more evidence has become available on the impacts of poor air quality, especially with regard to PM - and this is positive. But as the OEP noted in its recent response to the Government's target setting consultation following the Environment Act requirements to do so - the proposed targets are unambitious and lacking in urgency.

As a matter of priority, we need clarity on the support that will be offered to LAs as they seek to tackle the issue in their localities, particularly how they will ameliorate short term financial pressures on residents and businesses.

Risks include:

- a lack of capacity or powers in many LAs to deliver
- poor monitoring
- in rural contexts, a lack of awareness of the impact of pollutants
- that the revised WHO standards on air quality are not reflected in the Environment Act 2021 and the real challenges of $\text{PM}_{2.5}$ are not addressed
- local opposition to action, particularly from businesses which face increased costs as a result of CAZs
- a lack of coordination on CANZ.

COVID-19 lockdowns changed the landscape. Air quality improved and the benefits of cleaner air became more apparent to the general public. But this was temporary. The issue hasn't gone away. Our conclusion must be that more policy levers and support are required to enable LAs to deliver on clean air targets, and that these targets must take into account reduction of pollutants, like $\text{PM}_{2.5}$, not just NO_2 .



Recommendations

- Set a 2030 target for $\text{PM}_{2.5}$ of $10\mu\text{g}/\text{m}^3$ and longer term of $5\mu\text{g}/\text{m}^3$
- Implement a public awareness campaign into the health issues of pollution, and the benefits of CANZ approaches
- The UK Government should support CANZ as an approach to improving air quality and decarbonisation simultaneously, and put in place mechanisms to enable compatible cross-cutting policies.





Glossary of terms

CANZ	Clean Air Net Zero
CAZ	Clean Air Zone
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DLUHC	Department for Levelling Up, Housing and Communities
GHG	greenhouse gases
JAQU	Joint Air Quality Unit
LA	Local authority
LEZ	Low Emission Zone
NO ₂	nitrogen dioxide
NO _x	nitrous oxide
NAO	National Audit Office
OEP	Office for Environmental Protection
PM	particulate matter
ULEZ	Ultra Low Emission Zone
WHO	World Health Organisation
WHO-10	WHO's 2005 interim guideline for PM2.5 of 10µg/m3





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