What CANZ be done?

Local Authorities leading the way on integrating Clean Air and Net Zero

Sophy Bristow, Fiona Dowson & Karen Barrass | UK100

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UK100’s primary purpose is to support a local-led rapid transition to Net Zero and Clean Air. We do this through collaboration. To accelerate action, we believe in bringing together the most influential leaders across the country to learn together and agree on priorities for legislative and regulatory change while empowering them to engage with national decision-makers. We provide our network with the knowledge, tools and connections to make this happen.
Executive Summary

This report sets out how local authorities in urban and rural areas are integrating and delivering Clean Air and Net Zero (CANZ) approaches – both in terms of actions being taken and processes being implemented. It builds on our Yes We CANZ! Report - which highlighted the benefits of CANZ approaches.

The need for CANZ approaches has been gaining traction, with the National Audit Office (NAO) using whether the government has robust arrangements for managing the links between its work on air quality and Net Zero as one of its evaluation criteria in its report on managing local air quality breaches. It found that whilst the Government has arrangements to manage the links between its work on air quality and Net Zero, these need to be strengthened.

To inform this research we conducted desk-based research, scanning the Net Zero reports and plans of 21 local authorities from within the UK100 membership who are ambitious in their action on climate change and supportive of stronger action to tackle poor air quality. We also convened a workshop in order for local authorities who are taking a combined CANZ approach to share their insight and experiences.

The report demonstrates that whilst CANZ approaches are still in their early stages, several ambitious local authorities are taking steps to integrate clean air into Net Zero responses. We have developed detailed case studies on the actions being taken in Birmingham, Hertfordshire, Camden, Leeds and Nottingham, and also gleaned insight from other notable examples of the responses underway to address these issues in unison.

Yes We CANZ! made seven recommendations for action, including roles for national and local government alongside their local delivery partners and communities.

1. [https://www.uk100.org/publications/yes-we-canz-local-leaders-delivering-clean-air-and-net-zero](https://www.uk100.org/publications/yes-we-canz-local-leaders-delivering-clean-air-and-net-zero)
3. This included, for example, authorities who have had previously committed to WHO air pollution targets, which are more stringent than current local government statutory requirements, or have expressed a commitment to meet the WHO-10 guideline for PM2.5 by 2030 in partnership with the UK Government by signing our letter to Defra in response to consultation on environmental targets [https://www.uk100.org/sites/default/files/2022-10/UK100%20-%20Local%20%20letter%20to%20DEFRA%20on%20WHO%20air%20pollution%20standards%2020%20-%2020.pdf](https://www.uk100.org/sites/default/files/2022-10/UK100%20-%20Local%20%20letter%20to%20DEFRA%20on%20WHO%20air%20pollution%20standards%2020%20-%2020.pdf)

For this research, we built on the Yes We CANZ recommendations by speaking to local authorities about how they are working to maximise the co-benefits that can be derived from addressing Clean Air and Net Zero together, as well as how they are managing the trade offs. From reframing internal governance structures, developing comprehensive strategies to address both issues in tandem, to combining investment opportunities to maximise the 'win-wins', conversations with our members have underlined how important all such actions will be.
This research uncovered some important insight on how the agendas are being linked:

- Leading local authorities are finding diverse and innovative ways to optimise their actions and investments to ensure they deliver both Clean Air and Net Zero
- Overarching particulate matter (PM)/Nitrogen Oxides (NOx) Clean Air targets are not generally being reported in Net Zero strategies and reports at present
- References to Clean Air in Net Zero strategies are largely high-level and focused on the co-benefits, with limited discussion of potential contradictions and trade-offs
- Most current discussion of CANZ in Net Zero plans is limited to the transport sector. However CANZ approaches for heat decarbonisation and indoor air quality are beginning to be developed by a smaller number of LAs
- The CANZ implications of agriculture are frequently overlooked.
- Strategic planning and structural changes are enabling leading local authorities to better integrate CANZ.

Steps to action for local authorities to improve CANZ integration:

- Ambitious narrative and targets
- Optimise local policy and governance for both Clean Air and Net Zero
- Create connections and capacity in delivery and political teams
- Collaborate with strategic partners.

In making sure that future investments in local action to deliver Net Zero and cleaner air deliver their full potential benefit - local authorities need adequate support and guidance at a national level. The next steps to action in this respect are clear.

Recommendations for National Government

- A clear mandate for local action - such as a statutory duty to act on and report progress with both Clean Air and Net Zero, could accelerate action, IF it is accompanied by appropriate resources for local planning and delivery.

Statutory duties are helpful in terms of encouraging change, but there also needs to be the resources to create that change

Head of Clean Air Zone, Steve Arnold, Birmingham City Council

yes, [a statutory duty in relation to climate action and reporting would be helpful], but it would need to come with extra funding

Councillor Martyn Alvey, Cabinet Member for Environment & Public Protection, Cornwall Council

- Government should strengthen the arrangements in place to manage the links between its work on air quality and Net Zero

Our research suggests that local authorities would be supported in their efforts to understand local realities of these trade-offs and opportunities with clearer, more consistent guidance in national policy and programmes.

- Sustained, non-competitive financial and policy support for local action is even more critical as local authorities face more intense resource challenges than ever: more benefits can be delivered with longer term, non-competitive dedicated funding commitments to allow proper and cost-effective planning and implementation.
Background

Our report, Yes We CANZ!, highlighted the benefits of tackling Clean Air and Net Zero challenges holistically. These include health and wellbeing improvements, economic efficiencies, levelling up benefits, and future proofing innovation. According to Professor Bill Bloss, “Optimising CANZ policy choices can help leverage the significant Net Zero investment to deliver the greatest local benefit.”

Both greenhouse gases and air pollutants are produced during the combustion of fossil fuels, so many Net Zero actions result in a Clean Air benefit. Examples of this include replacing gas boilers with renewable heating and switching to electric vehicles (EVs). However, the picture is not always straightforward. EVs, for example, still produce dangerous particulate emissions particulate to PM from brakes and tyres. As air pollution is a pressing health problem, all Net Zero actions should be considered with delivering air quality benefits in mind. For example, the shift to EVs vehicles can be accompanied by initiatives to reduce vehicle journeys overall and encourage modal shift and active travel.

Contrary to expectations, there can sometimes be a tension between Clean Air and Net Zero policies. The risk here is that policies introduced in either area could have a detrimental impact in the other. Examples include housing energy efficiency drives, which can result in hermetically sealed buildings more likely to harbour dangerous indoor air pollution, tree planting strategies that trap road traffic pollution in ‘street canyons’ or even use tree varieties that emit volatile organic compounds (VOCs), and the burning of biomass in locations close to housing, schools and offices. It is not safe for local authorities to assume that every Net Zero action will automatically have a Clean Air benefit and vice versa.

We took Yes We CANZ! as a starting point for this research, its findings gave us the ‘what’ can be done to integrate the Clean Air and Net Zero agendas. Here, we sought to investigate the ‘how’ these things are being done in practice.

Our key findings were as follows:

Leading local authorities are finding diverse and innovative ways to optimise their actions and investments to ensure they deliver both Clean Air and Net Zero. In the context of tightly scoped statutory duties for Clean Air and no clear statutory framework for delivering Net Zero, this demonstrates the strength of commitment and depth of expertise of these leading authorities who have identified the opportunity represented by aligned action on CANZ. In many cases this responds to significant community support for ambitious action, developed through ongoing dialogue over many years. Different approaches have emerged to tackle the issues cohesively. At some local authorities the two agendas are well integrated into governance, team structures and policies and plans, whilst others are at an earlier stage - still working to improve their processes for aligning the agendas and improve awareness across key internal and external stakeholders.

We also found there are many opportunities for local authorities to do more to create clearer, more consistent approaches to ensure opportunities for alignment are not missed.

Overarching PM/NOx Clean Air targets are not generally being reported in Net Zero strategies and reports at present. In the main, even those authorities who have committed to WHO air quality targets had not referenced this in their most recent Net Zero report. This could be because of the time-cycle of reporting - most Net Zero reports are only updated every three to five years. We did find that other targets relevant to Clean Air (reductions in car journey numbers, for example), are frequently reported in Net Zero reports, but they are not usually framed as Clean Air or CANZ goals, and a detailed discussion of the CANZ context is often missing.

This raised the question of where the best place is for local authorities to report on CANZ initiatives and progress. Air quality reporting is a statutory requirement following a standard framework and this does not currently provide for discussing Net Zero linkages. Other options for reporting on CANZ, as well as in Net Zero plans, include separate air quality strategies, transport strategies, sustainability strategies and local plans. Different authorities are currently taking different approaches, and some standardisation could be helpful.
References to Clean Air in Net Zero strategies are largely high-level and focused on the co-benefits, with limited discussion of potential contradictions and trade-offs. For example, many authorities talk in their Net Zero reporting about the health wins that are a co-benefit of Net Zero actions, realised as a result of reductions in pollutants such as PM and NOx. Most authorities clearly understand that this is a strong message with which to reach out to communities, with a direct and tangible impact on local lives. In the same way, the potential to address health and access inequalities and to improve wellbeing more generally through these policies, is often mentioned.

What is currently missing in most Net Zero reporting, however, is a discussion of how Net Zero policies might be tweaked to maximise potential Clean Air improvements (rather than just profit from an assumed win-win), and any discussion of the potential trade-offs. For example, many reports talk about a potential future switch to hydrogen as a heating fuel, without discussion of the need to factor in Clean Air as a consideration. And although most authorities aim to limit vehicle journeys in their Net Zero strategies and to encourage active travel, only a few mention the need to limit PM from tyre and brake emissions as part of this decision-making process. The trade-offs are often complex - such as the variations in carbon impacts from different sources of hydrogen and biomass-based fuels - and place-specific, for example a low carbon solution that would be detrimental to air quality in an urban area may be more appropriate in rural areas. Capacity for detailed, realistic evaluation of benefits and trade-offs isn’t realised in lots of the public-facing policies and reports considered in this research.

Most current discussion of Clean Air in Net Zero plans is limited to the transport sector. Where references to Clean Air and the related health benefits are made in Net Zero reports, this is largely in relation to low emissions zones, active travel policies, public transport initiatives and other sustainable transport interventions – driven by statutory requirements from the national government.

CANZ approaches for heat decarbonisation and indoor air quality are beginning to be developed by a smaller number of LAs. Fossil fuel heating in domestic and commercial buildings is an increasingly significant source of air pollutants - gas boilers, for example, are becoming a relatively more significant source of NOx in cities as pollutants from transport decline. At present, only a handful of leading authorities are making these links in their Net Zero reports. The discussions with authorities undertaken for this report demonstrate that this thinking is being developed, so it may again be a question of reporting cycles and of questions over how to report on complex interactions across multiple issues.

The CANZ implications of agriculture are frequently overlooked. Although the management of nitrogen in agricultural systems, and other changes to agricultural systems management, represent an important CANZ win-win, only a few authorities are flagging this in their Net Zero reports, even in rural areas.

Strategic planning and structural changes are enabling leading local authorities to better integrate CANZ. Although CANZ reporting may be somewhat fragmented and piecemeal, we uncovered a significant amount of progress going on behind the scenes including: looking for ways to embed CANZ at key strategic moments such as planning (via Local Plans) and investment cycles (Business Plans); bringing Clean Air and Net Zero together under one physical Directorate to reinforce linkages and build capacity; developing project assessment tools that enable authorities to assess different interventions against both Clean Air and Net Zero criteria (among others); and setting up data repositories and running information campaigns to engage the public with relevant local information that may encourage them to then take CANZ-positive actions.

Figure 1 highlights the areas in which the local authorities engaged in the research were focusing their efforts to integrate CANZ approaches. It highlights that transport is being addressed by all local authorities, with biodiversity, buildings and energy being addressed by over half. Agriculture and waste are still being addressed, but by a much smaller percentage of local authorities.

% of Local Authorities making efforts to intrgrate clean air & net zero in their work on specific themes

Transport
Greenspace/biodiversity
Buildings - efficiency
Buildings - heat
Energy
Industry

0 25 50 75 100
% of Local Authorities

Figure 2 highlights the varied approaches that are currently being taken to better integrate CANZ into local authority responses. Including Clean Air and Net Zero in strategic corporate objectives is an important first point, which is being undertaken by all the local authorities we spoke to. Joint remits and strategic internal and external communications were important next steps. Pilot projects and policy changes are being undertaken in more than half of the local authorities surveyed.

% of Local Authorities integrating CANZ into policy & action

- Included CA & NZ into corporate objectives
- Staff/department with dual remit
- Engaged strategic/delivery
- Engaged community stakeholders
- Scoped out policy changes
- Scoped out or piloted practical actions
- Assessed CA & NZ in key initiatives
- Other

% of Local Authorities
During the workshop, the convened local authority representatives shared their experiences - successes and challenges - of working to optimise the benefits of tackling Clean Air and Net Zero together, and navigating some of the potential conflicts between the two agendas.

Below we share a summary of some of their key approaches and initiatives highlighted. The case studies are not exhaustive, but serve to demonstrate some ideas and guidance for other local authorities who are seeking better alignment on these agendas.

These experiences also highlight some significant challenges and opportunities for improvement - which have helped to frame the recommendations for next steps outlined below.

**Birmingham City Council**

For Birmingham City Council, sustained community engagement, political leadership and building on statutory air quality management duties, including the Clean Air Zone development, has helped the council make progress with CANZ actions across transport, and more recently to tackle heat decarbonisation in buildings and improving air quality data.

The Council has adopted specific objectives for both Clean Air and Net Zero with their corporate objectives. Their Clean Air goal is “safe air quality for people” which is intended to set an ambition which goes beyond current statutory requirement, alongside their immediate delivery target to ‘comply with legal limits for air quality in the shortest time possible,’ which is mandated by the government. Birmingham’s Clean Air Strategy,8 launched in January 2022, sits alongside their statutory Air Quality Management Plan 2021-20269 and includes a commitment to significantly improve data on air quality across the city to help target improvements effectively. Their Net Zero goal is for “Council and city to become net zero carbon by 2030, or as soon as possible thereafter as a ‘just transition’ allows.” They have set a total carbon budget and annual carbon budget to enable them to track progress. Improved data on both air quality and greenhouse gas emissions can underpin better decisions which optimise CANZ outcomes.

8 Birmingham’s Clean Air strategy: blue sky thinking for a greener city https://www.birmingham.gov.uk/news/article/1051/birmingham_s_clean_air_strategy_blue_sky_thinking_for_a_greener_city
9 The Council has adopted specific corporate objectives for both Clean Air and Net Zero
Taking action to improve air quality also benefits the Route to Zero Programme that will enable the changes required to near carbon neutral in 2030

Birmingham City Council Clean Air Strategy

Birmingham were one of the first local authorities required to pursue a Clean Air Zone (CAZ) as a means to bring local air quality in line with legal limits in the quickest possible time, and launched their CAZ in June 2021. During its development, they focused on building a narrative around health benefits of Clean Air and engaging local communities around this, which was critical to their progress. Transport emissions are also a big part of achieving the city’s Net Zero ambition - around 50% of emissions - they have found using the healthy air message is often a better way to engage with people on transport than climate change, although actions on transport benefit both agendas, because it relates more to people’s personal experiences.

We listened and talked to people about what mattered to them - air quality is personal because everyone knows someone who has asthma, knows people whose lives have been affected by conditions such as diabetes and cancer which are linked to air pollution - and so we have been able to have more meaningful conversations with communities about delivering the Clean Air Zone. This enabled us to design mitigations into the scheme to address concerns of residents on low incomes and city centre businesses and achieve a more acceptable scheme.

Steve Arnold, Head of Clean Air Zone, Birmingham City Council

Moving ahead, as they plan for further reductions in greenhouse gas and air pollution emissions from transport - the CAZ, whilst important for NOx, is unlikely to be enough to bring down PM10 to safe levels as brake and tyres emissions will remain and it will not fully meet the city’s Net Zero goal - the council have continued to listen to communities and businesses in the city about what matters. Cutting vehicle mileage will be critical to delivering more on both agendas. The council sees opportunities ahead to focus on reducing mileage and congestion supported by building an additional narrative about reducing congestion, avoiding wasted time in traffic and associated costs which are holding back business growth, alongside their health narrative. Within their own operations, such as waste collection, there is also a focus on mileage reduction.

In terms of heat decarbonisation in housing, another CANZ win-win, Birmingham are rolling out a series of retrofit trials for around 300 of their own council homes. The trials aim to help the council understand the scale of investment needed to roll out a much wider programme to achieve an Energy Performance Certificate of A or B across all their 60,000 tenanted homes. As the biggest council landlord in the country it is vital not to miss this huge investment opportunity to deliver on both Clean Air and Net Zero. As part of the trials, the council is once again looking at how to get good quality data to inform their work - it aims to integrate digital monitoring systems which they hope will enable them to monitor effectiveness of the retrofit measures and also start to explore implications for indoor air quality.

Birmingham Council also acknowledges there can be potential trade-offs between the two agendas within their strategic risk register, which is updated quarterly. The council have been exploring the potential of hydrogen - their Route to Zero Programme includes a “Clean Air Hydrogen Bus Pilot” which looks to ‘kick-start’ the hydrogen market as a viable zero-emission fuel and also plans to explore hydrogen ready boilers. It will be important to thoroughly assess the implications of these schemes for both Net Zero and clean air, as the deployment of hydrogen will only be appropriate in some contexts. There needs to be a blended approach which factors in such considerations.

Statutory duties are helpful in terms of encouraging change, but there also needs to be the resources to create that change

Steve Arnold, Head of Clean Air Zone, Birmingham City Council

Birmingham City Council: key CANZ facts & targets

<table>
<thead>
<tr>
<th>Authority Type:</th>
<th>Metropolitan district (within West Midlands Combined Authority)</th>
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<tbody>
<tr>
<td>Air Quality Management Area (AQMA):</td>
<td>Whole city designated</td>
</tr>
<tr>
<td>AQMA for NOx and PM10</td>
<td>CAZ: since June 2021</td>
</tr>
<tr>
<td>Targets:</td>
<td></td>
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<tr>
<td>Net Zero:</td>
<td>“Council and city to become net zero carbon by 2030, or as soon as possible thereafter as a ‘just transition’ allows”</td>
</tr>
<tr>
<td>Clean Air:</td>
<td>“safe air quality for people” corporate objective alongside statutory requirements</td>
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10 https://www.birmingham.gov.uk/downloads/download/3935/route_to_zero_action_plan
London Borough of Camden

Camden’s community driven, ambitious approach to Net Zero and Clean Air - which led to Camden being the first local authority in the UK to commit to WHO-recommended air pollution limits back in 2018\(^\text{11}\) and holding one of the UK’s first citizens assemblies for climate change - are helped by joined-up staffing structures, and separate but mutually supportive policies. They are optimising action to address the most urgent social needs in the borough, including health inequalities.

In Camden the air quality team sits alongside the climate team as part of a wider sustainability service - the ‘Sustainability, Air Quality and Energy Department’ - with the same director as the transport planners, waste and recycling and the council’s own vehicle fleet. This fosters connections between teams working on various aspects of the Clean Air and Net Zero agendas and a streamlined approach. The Council have separate Clean Air and Net Zero programmes which have been developed in partnership with communities to be mutually supportive, alongside Camden Transport Strategy\(^\text{12}\) which sets the goal of working towards the same objectives.

The alignment between the two agendas is evident in key strategies and plans: Camden Climate Action Plan 2020–25\(^\text{13}\) highlights Clean Air as a key co-benefit which can be delivered by the strategy. The plan specifically aims to help deliver the council’s air quality target - WHO recommended air pollution limits by 2030 - for example through reducing CO\(_2\) from transport to help meet the commitment, building on an earlier air pollution reduction goal in the previous 10 year environmental sustainability plan.

Community involvement has been a critical driver of Camden’s interconnected approach. The right to Clean Air was initially identified as a core theme within the borough vision which was shaped by a borough-wide citizen panel programme in 2017. A subsequent full council meeting on air quality cemented the council’s ambition to tackle poor local air quality, improve equality, protect children’s health and safeguard health of the wider community.

This clear call to action from the community drove Camden to adopt WHO recommended limits for air pollution, going beyond statutory requirements within the government’s air quality management framework. The council brought together key community stakeholders, including schools, businesses, and health services alongside their own technical expertise and air quality data to develop a set of actions in support of their Clean Air goal, that could be owned collectively and delivered alongside and within the duration of the statutory air quality management action plan. An even broader and more community focused approach has been taken to the development of Camden’s climate action plan, which is based on 17 actions identified via citizens assemblies. Community involvement has been critical in enabling the council to be ambitious on both agendas and also provided significant impetus for the council to ensure the air quality programme has co-benefits for climate and vice versa.

In Camden emissions from road transport have decreased significantly in recent years and now only make up around a third of the NO\(_x\) emissions, and a fifth of PM emissions in the borough. The council’s focus is turning towards air pollution from other sources, including from buildings, which aligns well with their climate programme aim to reduce demand for and decarbonise heating in council buildings and homes, and in private homes and commercial premises. The council has committed to ensuring that new buildings do not add to carbon emissions or air pollution.\(^\text{14}\) They are also working on improving the energy efficiency of existing buildings, targeted for those with most social need. In some examples, the financial case for replacing old boilers with heat pumps is hard to make because the expense of retrofitting doesn’t fit with their desired ‘pounds per tonne of carbon saved.’ Camden is exploring potential to capture better data to quantify and monetise the additional health benefits, which they expect to result from the retrofitting programme, using Defra or UK Health Security Agency (HSA) damage costs calculator to make a stronger case for heat decarbonisation. They hope that having clearer data to show how it contributes to both Clean Air and Net Zero agendas can unlock investments to accelerate their programmes.

\(^{11}\) "Clean Air for Camden" vision https://www.camden.gov.uk/air-quality


One of Camden’s priorities within their work on buildings, as the growing cost of energy for home heating becomes increasingly challenging for residents on lower incomes, is a programme to integrate air quality information within the affordable warmth advice services which the council provides for fuel poor households. Alongside the traditional focus on helping people save energy, reduce emissions and create a more comfortable living environment, the council have revised the information they provide to residents to include advice on health and air quality. Their new guide for residents, aligned to the Clean Air for Camden initiative, and the Camden Climate Change Alliance - aims to raise awareness of sources of indoor air pollution, their typical health impacts on people with different vulnerabilities, and simple actions to reduce exposure. Community outreach, based on the messages in the new guidance, is currently being trialled in one local neighbourhood.

The cost of living crisis, which is a big issue for residents, is going to dominate council communications - we’re fundamentally trying to save people money on their bills by improving housing...trying to save energy and help tackle the cost of living crisis, so I think we need to change the narrative.

Tom Parkes, Senior Air Quality Officer, London Borough of Camden

Other initiatives being pursued by Camden, which have potential to deliver on both Clean Air and Net Zero, include: active travel and travel modal shift, including through public space remodelling and low traffic neighbourhoods, workplace parking levy and other parking levers; low carbon energy transition: including support and encouragement for domestic and commercial renewables, business energy efficiency; and to address the council’s own operations actions such as pursuing lower carbon food and energy sources are being taken.

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Key Camden CANZ facts & targets

- **Authority type:** London Borough
- **AQMA:** The whole of Camden is an AQMA for NO₂ and PM₁₀
- **CAZ:** Parts of borough inside London Congestion Charge Zone since 2003, whole borough within ULEZ since 2021

**Targets:**
- **Net Zero:** Net Zero Camden by 2030
- **Clean Air:** WHO aligned air quality limits by 2030

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15 Improving Indoor Air Quality: Advice for Homes [https://www.camden.gov.uk/documents/20142/0/Improving+Indoor+Air+Quality+-+Advice+for+Homes.pdf/d8bf8fe0-6db7-c7cf-858b-6eef0667a17e?t=1585820778519]
Hertfordshire

Hertfordshire’s approach to CANZ includes systematically making connections between departments, council priorities and plans, raising awareness of how Clean Air and Net Zero are an essential component of delivering on multiple agendas. They’re developing innovative data tools to target their efforts in ways which optimise the local benefits, including health improvements.

Linking activity on Clean Air and Net Zero can help drive your officers together, your politicians together, and your communities together over action which is bigger than the sum of its parts.

Matthew Clark, Programme Manager of Air Quality, Hertfordshire County Council.

Hertfordshire County Council’s efforts to align action on Clean Air and Net Zero are set out in their overarching Sustainable Hertfordshire Strategy and accompanying action plan. The strategy includes a goal ‘cleaner air for all by 2030’ alongside other climate-related goals including: to be climate neutral in their own operations by 2030, a Net Zero county by 2050 and enhance nature across our land and water by 20% by 2030 and across the county by 2050. Off the back of this strategy, and in collaboration with their public health service, they are strengthening their Clean Air programme within the sustainability programme and building their capacity to address Net Zero and Clean Air together.

The Sustainable Hertfordshire Strategy identifies that the main opportunities for tackling Clean Air and Net Zero in an aligned way is through cleaner technologies such as road transport and heating energy sources. The strategy commits the council to supporting policies for zero carbon buildings, travel and energy infrastructure in pursuit of their Net Zero county ambition. It includes complementary activities such as a transition from gas boilers in offices and homes, to heat pumps in order to cut air pollution, particularly in town centres. The council also promotes walking, cycling and public transport through initiatives - such as car-free zones, improving public transport, sustainable travel plans - to ensure that, alongside the anticipated improvements in air quality that will come from the gradual transition to electric vehicles, they take the opportunity to improve air quality further to improve health locally. This also helps them plan for the future air quality targets which will result from the Environment Act 2021.

Hertfordshire have identified two key elements that are critical to making progress with CANZ. Firstly they have been making connections between departments across the council and identifying all the opportunities for Clean Air and Net Zero action to align to departmental agendas and policies. The ‘cleaner air for all’ goal is now enshrined in Hertfordshire’s Corporate Plan; Health and Wellbeing Strategy; Public Health Strategy and Green Infrastructure Plan and looks set to have heightened priority in the forth-coming updated Local Transport Plan. This process cements cleaner air as an essential component of delivering on multiple agendas, raising its profile in the council which is important in the context of increasing local authority budget pressures.

Secondly, alongside policy integration and connecting agendas, Hertfordshire have developed an innovative approach to prioritising their investments in actions to tackle Clean Air and Net Zero to optimise the local benefits. They developed a prioritisation tool to enable them to target initiatives, such as active travel, corridors to areas of most need - including those with the worst health issues and biggest air quality...
problem. The prioritisation tool takes account of local context such as green canopy cover and locations of vulnerable receptors such as schools and hospitals. The tool has to date been used to enable certain tree planting initiatives to be more focussed in areas with higher pollution and poorer health outcomes to ensure that where possible tree planting takes place in areas where it has the greatest and broadest impact.

The approach above aligns well to the place-based health inequality public health approach of the district councils within the county. Several District and Boroughs have place-based health inequality projects set to take forward sustainability aspects to drive forward air quality, Net Zero and wider public health-aligned actions. For example, consideration of creating a focus around active travel where additional exercise would be expected to have a beneficial impact on the health inequality in question e.g. diabetes.

An air quality model for all major road routes is currently being created in Hertfordshire. The tool is being designed to show carbon dioxide emissions as well as air quality pollutants. The tool will predict future years and enable scenario testing to understand predicted impact of schemes on air pollutants and carbon emissions ensuring that there is a firm link between the agendas.

Hertfordshire are carefully designing their approach to communications and behaviour change being mindful of how residents respond to different messages and messengers. The council are concerned that the current cost of living crisis may encourage more people to burn wood and other solid fuels at home, which would worsen local air pollution and create heating habits which would be more difficult to change later. The council is working to upskill medical professionals, such as neonatal community health workers, to raise awareness of health risks associated with wood and solid fuel heating at home. Targeting the most vulnerable residents and working with trusted messengers is critical at this difficult time for residents. The council sees medical professionals and technical experts as critical in helping shape the advice on simple actions people can take to improve health and sustainability to make sure it is well targeted and effective.

Hertfordshire County Council actively seeks partnerships wider than its own operations. To this end they are an active partner in the Hertfordshire and Bedfordshire Air Quality Forum. They are also working with Integrated Care System colleagues both local and regional to consider how cleaner air actions can be taken across the wider area and good practice spread through partner organisations. This has informed the local ICS green plans and created a working relationship with the council being an active member of the ICS green plan implementation group.

The next step for Hertfordshire County Council is to explore how a more ambitious target for cleaner air can improve health for their communities and deliver further benefits on lots of other council agendas. With this in mind consideration will be given to Environment Act air quality limits published for PM$_{2.5}$ on 16/12/2022. Progress on the Clean Air (Human Rights) Bill brings a potential for a tighter, more health-focused nitrogen dioxide limit. This is being watched closely.

**Key Hertfordshire CANZ facts & targets**

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<thead>
<tr>
<th>Authority Type</th>
<th>County Council (10 Districts: rural with towns)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AQMAs</td>
<td>22 small AQMAs, mostly on major/town centre roads for NO$_2$</td>
</tr>
<tr>
<td>CAZ</td>
<td>No Clean Air Zone</td>
</tr>
<tr>
<td><strong>Targets:</strong></td>
<td></td>
</tr>
<tr>
<td>Net Zero</td>
<td>Climate neutral operations by 2030; Net Zero county by 2050</td>
</tr>
<tr>
<td>Clean Air</td>
<td>Cleaner air for all by 2030 (to be defined once revised national targets have been announced)</td>
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27  https://bills.parliament.uk/bill/3165
For Leeds City Council, with highly ambitious targets across both Clean Air (to achieve WHO air quality limits\(^{28}\) by 2030) and climate (Net Zero council and city by 2030\(^{29}\)), their joined up departmental and political organisational structures are critical. They hope proactively engaging health professionals across the city on air quality will unlock new opportunities for optimised actions to deliver on both agendas.

In common with several local authorities that are proactively seeking to optimise investments and decisions to deliver on Clean Air and Net Zero concurrently, Leeds City Council have senior officers responsible for both their climate emergency response and air quality. This connectivity is mirrored in their political structure - with the two agendas held by one cabinet member. They also have strong cross-council and partnership working ethos and structures to bring together key local organisations working on these agendas, such as via a regular public health meeting with NHS, universities and other partners to discuss air quality, and similar approach to shape and deliver their response to the climate emergency. Leeds was tasked with implementing a Clean Air Zone to bring air pollution levels within legal limits, and although they didn’t go ahead with the scheme in the end because air quality had improved, the cross council and partner connections that they built whilst exploring and developing the CAZ are a useful legacy. The team structure at Leeds brings benefits when it comes to implementing projects:

“The benefit we’ve got from our structure is having a wide team who have a really deep understanding of the two issues - so when people are working on specific projects they can understand the implications for both.” Polly Cook, Chief Officer, Sustainable Energy and Air Quality, Leeds City Council

When Leeds were required to push ahead with developing the CAZ, air quality was a real driving force for certain initiatives, such as improving cycling infrastructure. Since becoming compliant, the council’s focus on transport improvements to tackle air pollution has reduced a little—because it is now taking a more holistic view, incorporating transport in an approach to tackle emissions from other sources and consider how to protect the most vulnerable from exposure to air pollution. Connecting Leeds Transport Strategy\(^{30}\) is fully joined up incorporating Net Zero and Clean Air targets together. The Leeds Climate Change Commission is working alongside the council to drive forward the city’s Net Zero ambition, and has developed a roadmap of actions which can contribute to delivering it. The roadmap evaluates the potential actions and rates them as ‘cost effective’, ‘cost neutral’, or as having ‘technical potential’ - air quality, and other co-benefits such as job creation, fuel poverty and other public health improvements, are considered as part of this evaluation.\(^{31}\)

After the initial focus on transport, as a legacy of the CAZ work, the council have now broadened the scope of their work on air quality, in 2021 launching a new Air Quality Strategy which sets stricter targets than national standards, aligned to 2005 WHO levels, and aims to tackle emissions from homes, industry and agriculture as well as transport.\(^{32}\)They will also be focusing on raising awareness of what people can do to protect themselves from poor indoor air quality. As they move ahead with action beyond transport, the need for better data will become increasingly important, for example better data on industrial and agricultural sources of emissions, to target efforts to reduce air pollution, and also better understand locally beneficial CANZ synergies.

\(^{28}\) Leeds target aligns with WHO 2005 standards - WHO revised its safe limits in 2021 to reflect the latest scientific understanding.


Their approach includes the Clean Air Leeds website33 with tips on how residents can reduce and protect themselves from air pollution, emails and social media alerts about local air quality episodes when high levels of pollution are forecast by the Met Office. Proactive campaigning against wood burning for home heating is challenging in the context of the cost of living crisis, where residents are struggling with home heating costs, so has been postponed for the short-term due to potential for being perceived as insensitive. Leeds have been targeting their awareness raising at medical professionals - they convened the “Every Breath You Treat” conference, attended by 150 medical professionals, after they realised there was a gap in awareness about the impacts of air pollution amongst senior medical professionals, as well as residents with conditions that make them more vulnerable to the effects of air pollution. The aim of this was to better equip medical professionals to advise people on ways to protect themselves from poor air quality. A further aim was to demonstrate that there was clinical interest in training opportunities and resources about air pollution—strengthening the case that more of this should be done at a national level.

Leeds see many opportunities to deliver simultaneously on both agendas - rarely a conflict. They are aware of the challenges, for example the issue that if you move away from fossil fuel powered cars to electric cars, there is still some remaining particulate air pollution from brakes, tyres and road dust, but the overall air pollution is lower. In combination with significant efforts to transform Leeds into a city where people don’t need to rely on private cars, the transition to electric vehicles is useful. The council now has one of the biggest local authority electric vehicle fleets in the country, and has supported electric van trials to encourage businesses to also make the transition. Connecting Leeds transport strategy is aiming to achieve ambitious model shift targets away from private cars. For Leeds the key is that all specific initiatives need to be part of a package of measures which, in combination, deliver on the city’s Clean Air and Net Zero ambitions.

Key Leeds CANZ facts & targets

- **Authority Type:** Metropolitan District Council, within West Yorkshire Combined Authority area
- **AQMA:** NO_AQMA revoked in 2017
- **CAZ:** No Clean Air Zone  

**Targets:**
- **Net Zero:** Net Zero Council and City by 2030
- **Clean Air:** WHO air quality limits by 2030.

33 [https://www.leeds.gov.uk/clean-air](https://www.leeds.gov.uk/clean-air)
Nottingham City Council

Nottingham City Council aims to be a carbon neutral city by 2028. The City Council recognises that two air pollutants of concern, NO\textsubscript{2} and particulates (PM\textsubscript{10} and PM\textsubscript{2.5}), are generated by the combustion of hydrocarbon/fossil fuels in air. Thus action to reduce carbon emissions has the co-benefit of reducing these air pollutants thereby improving local and regional air quality, and protecting health.

Since 2000, and following a range of measures introduced by the City Council, air pollution levels have fallen; by over 45% with respect to NO\textsubscript{2} (40\mu g/m\textsuperscript{3} in 2000 falling to 21\mu g/m\textsuperscript{3} in 2021) and by 35% with respect to PM\textsubscript{10} (22\mu g/m\textsuperscript{3} in 2011 falling to 14\mu g/m\textsuperscript{3} in 2021).

In 2020, to protect and improve citizen health, it developed and published the joint Nottingham City Council - Nottinghamshire County Council Air Quality Strategy (2020-2030). The strategy’s range of measures highlights potential opportunities from CANZ alignment, for example encouraging and facilitating actions that deliver improved air quality with co-benefits e.g. active travel (health improvements from increased exercise and reduced carbon) and increased use of public transport.

Implementation of the UK’s first Workplace Parking Levy and the construction of two new tram lines has led to 9.7 million additional public transport journeys each year. Efforts to increase the uptake of Ultra Low Emissions Vehicles (ULEVs) are now beginning to show results; however, ULEVs currently account for only less than 0.5% of all Nottingham’s vehicles. To achieve the 2028 carbon neutrality ambition, it will be necessary to almost entirely replace existing fossil-fuel based Internal Combustion Engine (ICE) vehicles with ULEVs.

Key Nottingham CANZ facts & targets

- **Authority Type:** Unitary authority
- **AQMA:** NO\textsubscript{2} AQMA covers the entire administrative area of Nottingham City Council
- **CAZ:** No Clean Air Zone
- **Targets:**
  - **Net Zero:** Carbon neutral city by 2028
  - **Clean Air:** Reduce the average levels of the main pollutants and reduce the proportion of disease and death caused by air pollution

34 https://www.nottinghaminsight.org.uk/d/abNLsNwK
35 https://www.nottinghaminsight.org.uk/d/aAXJ8Il
36 https://committee.nottinghamcity.gov.uk/documents/310973/Nottingham%20Air%20Strategy%202020%20FINAL%20V1.0.pdf
**Additional notable examples**

**Bath and North East Somerset** have pledged to provide the leadership to enable the district to achieve carbon neutrality by 2030, and identified priority actions across energy efficiency in buildings, transport modal shift and a rapid, large scale increase in renewable energy generation.

They have zoomed in on a key area which delivers on both Clean Air and Net Zero - focusing on both issues in their Transport Delivery Action Plan for Bath with the cross-cutting aim of improving air quality and health, reducing vehicle emissions which are the biggest source of greenhouse gas emissions in Bath. Targets in the plan include increases in active travel, such as more journeys by foot, low traffic neighbourhoods, alongside implementation of their CAZ. Their Climate Emergency Plan also references the transport initiatives. In support of their climate and ecological emergency ambitions and clean air, Bath and NE Somerset are revising two other key policies: they have begun a Partial Update of the Local Plan (coming into force in 2022) to fast track climate and ecological emergency policy updates in advance of a full Local Plan Review, in particular to update renewable energy targets, and also aiming to address climate and environmental impacts via their revised procurement strategy.

**Wiltshire Council** is taking steps to improve alignment between the Environmental Control and Protection Team, which leads on Air Quality and the Climate Team. The services have recently been reorganised and now form part of the new Environment Directorate, bringing together air quality, climate and waste functions. The teams are working together but see opportunities for closer working. They meet regularly with people from the community through the new Climate & Environment Forum and local air quality working groups established in some of the towns with Air Quality Management Areas. The teams see scope to unite air quality and climate change works done locally to optimise local benefits. As a rural area, there’s a heavy reliance on private vehicles and in some instances the council has experienced significant opposition to traffic management schemes, such as low traffic neighbourhoods.

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38 Bath and North East Somerset Climate Emergency Action Plan

Their focus therefore is on providing convenient alternatives, including modal shift out of cars by improving bike storage at train stations for example, and on a shift to electric cars, e-bikes, and car clubs.

**Southampton City Council** have similarly faced local opposition as they try to design effective new transport and travel approaches to optimise local benefits from the significant funding they have been allocated under the Transforming Cities Fund. As they try to reduce pollution on local heavily congested high streets, and encourage less reliance on private vehicles they are aiming to highlight additional benefits such as improved shopping experience, potential increases in footfall for local businesses, faster and more reliable bus travel times as part of building a more positive narrative around the local benefits of transport schemes which can deliver on Clean Air and Net Zero. They, like other authorities, are also concerned about impacts of decisions beyond their control which will impact greenhouse gas and harmful air pollutant emissions. They successfully reduced air pollution from the port through gaining ‘shore power’ for one cruise ship, which was a significant source of emissions. An upcoming challenge is that Southampton Airport in neighbouring Eastleigh District has been granted approval for an additional runway, and is likely to be accompanied by removal of woodland within Southampton district, potentially negating the impact of tree planting planned by the council.

**Cornwall Council**, being a largely rural council, focuses on making the case for transport modal shift based on climate change arguments because there is much less to be gained, in terms of air quality improvements, in a rural area with few AQMAs than in an urban area. They are proactively supporting people who live in the county’s more urban areas to make fewer car journeys, because this delivers more air quality benefits. Cornwall’s rural location also means that the conversations about heating decarbonisation are different than they might be in a more urban area. The council has a significant portion of off-gas grid housing stock for which they are seeking lower carbon heating options and have supported calls for the government to change the taxes on HVO - Hydro treated Vegetable Oil (a fuel made from vegetable oil) to make it more price competitive as they would like to explore its feasibility as a heating fuel. In urban areas, NO\textsubscript{2} from domestic gas boilers is an increasingly significant contributor to local air pollution as emissions from motor transport decline, and so burning other fuels such as hydrogen, biomass, or HVO may not be a good approach to optimise CANZ benefits, but in Cornwall HVO may be more appropriate. Although as we noted previously there are significant complexities and potential challenges in term air quality and Net Zero to consider - HVO would need to be sourced sustainably to ensure a genuinely lower carbon footprint than fossil fuels\textsuperscript{40} and consideration for indoor air pollution from its combustion would need to be considered.

\textsuperscript{40} Summary of some key issues for HVO here: https://passivehouseplus.co.uk/news/general/oil-heating-sector-pivots-to-biofuels-but-green-groups-rain-concern but still not discussing potential issues in terms of air quality and therefore whether it is suitable for urban use in home heating or transport
Steps to action

In Yes We CANZ!41 we made seven recommendations for action, including roles for national and local government alongside their local delivery partners and communities (see Box).

**Recommendations from Yes we CANZ! report:**

- A clearer ambition and **new narrative**: nationally and locally
- **Sustained support** for local action: longer term, dedicated funding commitments to allow proper planning and implementation
- **Good local governance** supported by a national regulatory framework
- **Better access to data**: air pollutants and GHGs
- Identifying **key ‘moments’ and partnerships** for local CANZ alignment
- **Better grid access** for local renewables
- **Upskilling medical practitioners**

Our research has underlined how important these actions will be in making sure that future investments in local action to deliver UK Net Zero and cleaner air deliver their full potential benefit - the steps to action are clear.

In terms of **steps to action for National Government**, we have heard:

- **A clear mandate for local action, such as a statutory duty to act on and report progress with both Clean Air and Net Zero, could accelerate action, IF it is accompanied by appropriate resources for local planning and delivery.** We heard how leading authorities, with community support and a clear view of the local benefits, are finding ways to set their ambition higher than the minimum requirements of their statutory duties. But ambitious local actions to address both air quality and climate change are not ‘nice-to-haves’ - without these the significant benefits of joined-up action will be missed and the local action that is critical to delivering UK Net Zero could be hampered. A stronger national mandate to drive action across all local authorities is critical.

In terms of **steps to action for National Government**, we have heard:

- **Statutory duties are helpful in terms of encouraging change, but there also needs to be the resources to create that change.**
  
  **Steve Arnold, Head of Clean Air Zone, Birmingham City Council**

  Yes, [a statutory duty in relation to climate action and reporting would be helpful], but it would need to come with extra funding.

  **Councillor Martyn Alvey, Cabinet Member for Environment and Public Protection, Cornwall Council**

- **Government should strengthen the arrangements in place to manage the links between its work on air quality and Net Zero**, as recommended by the NAO recent report on tackling local air quality breaches.42 Local authorities are trying to navigate the complex interlinkages between the Clean Air and Net Zero agendas, in the context of a national policy and investment programme which is not always fully joined-up. The NAO highlights the example of how increased uptake of electric vehicles will cut tailpipe emissions of both greenhouse gases and NO₂, but not fine particulate matter from brakes and tyres, and points to a gap in ensuring “specific senior responsibilities for handling the most significant trade-offs and opportunities.”

  Our research suggests that local authorities would be supported in their efforts to understand local realities of these trade-offs and opportunities with clearer, more consistent guidance in national policy and programmes.

- **Sustained financial and policy support** for local action is even more critical as local authorities face more intense resource challenges than ever: more benefits can be delivered with longer term, dedicated funding commitments to allow proper and cost-effective planning and implementation. Whilst recent announcements committing to more support for energy efficiency are welcome, we need to see less short term, competitive pots of funding and more cohesive support for embedded local authority delivery in the government’s approach. And it is fundamentally important that local authorities have a voice on the newly announced Energy Efficiency Taskforce.

**Steps to action for local authorities**

- **Ambitious narrative and targets**

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41 [https://www.uk100.org/publications/yes-we-canz-local-leaders-delivering-clean-air-and-net-zero](https://www.uk100.org/publications/yes-we-canz-local-leaders-delivering-clean-air-and-net-zero)

It often starts with simply raising awareness of issues, and interlinkages, between Clean Air and Net Zero. When key local leaders, inside and outside a council, understand the opportunity of CANZ this can unlock opportunities to build up a clear ambitious local narrative around the benefits which enables a council to take the next step - setting ambitious targets for both agendas which go beyond statutory requirements. UK100 members have taken this step on Net Zero, with our member pledge, and many either have or are on a journey to setting ambitious targets for air quality, alongside advocating for stronger national targets to protect the health of their communities.

In our recent workshop with leading local authorities 100% of participants had taken this step - including Clean Air and Net Zero goals within their official council corporate objectives which serve as a reference point to hold the council to account. A positive narrative around local benefits, such as health, economic benefits, and reducing inequality is important for fostering support amongst political leaders, officers and local communities alike.

- **Optimise local policy and governance for both Clean Air and Net Zero**

Many of the local authorities we spoke to are systematically working to ensure that a variety of local strategies, plans and decision-making processes are aligned to deliver good outcomes on Clean Air and Net Zero. Identifying where there are co-benefits between the two agendas, and general opportunities to support delivery of other council objectives, such as health and inequality, is commonly the starting point. There are additional benefits to be gained by going beyond general statements about co-benefits to identify and prioritise specific opportunities for joined-up action, and acknowledging potential challenges and trade-offs more explicitly. This type of policy integration may seem daunting but is critical to ensuring opportunities aren’t missed and investments are future-proofed - laying the ground to deliver on tightening future standards. Key areas for policy integration include:

- **Net Zero Strategies and Action Plans:** include Clean Air targets, and prioritise actions which deliver on both agendas
- **Air Quality Management Plans and Clean Air Strategies:** add Net Zero goals and prioritise actions which deliver both agendas
- **Local Plans:** including both Clean Air and Net Zero goals and ensure the plan supports both
- **Health and wellbeing plans:** include climate and Net Zero goals; explicitly consider interlinkages and specific opportunities for win-wins/potential contradictions when prioritising actions

- **Other specific and thematic strategies** such as local transport plans; green infrastructure plans; housing policies; energy policies; procurement strategies and local food policy all have opportunities to optimise outcomes for Clean Air and Net Zero.

- Creating decision making tools - such as policy impact assessment tools which incorporate Clean Air, Net Zero and other council goals together, and prioritisation tools to target investment to areas of most need, such as areas with more health vulnerabilities - can underpin optimised local governance ensuring plans and strategies are translated into real local action. Improving data on air quality and greenhouse gas emissions sources is important - local authorities can take a lead on this, and many areas, although national guidance and resources would be beneficial to accelerate progress and drive consistency of data and impact assessments.

- **Create connections and capacity in delivery and political teams**

Several local authorities we spoke to are building expertise and learning through cross-council working and have created staff roles, and political portfolios, with a dual remit. Their experiences suggest there is no substitute for having officers and politicians with a knowledge and expertise to spot the opportunities of aligning the agendas and avoid unintended contradictions. Tapping into technical expertise across the council helps ensure good quality assessments of potential impacts of decisions which can influence both agendas. In some LAs the connectivity between teams is part of a wider sustainability approach which can bring even more benefit, by ensuring other issues such as biodiversity and resource efficiency are also taken into consideration.

- **Collaborate with strategic partners**

We know that LAs are all aware of the power of partnership working - and it is clear from our conversations with LAs on Clean Air and Net Zero that they know how critical working with strategy and delivery partners in local government and beyond is to gaining better alignment between these two agendas.

Each LA will be in a different position in terms of their own remit and priorities - whether they are district councils, combined authorities, unitary authorities, county councils, London Boroughs and the details of any devolution deal they are implementing, and so the critical partners will also be slightly different for each. We heard examples from our members such as Local Economic Partnerships, Health and Wellbeing Boards, Combined Transport Authorities, Local Infrastructure Boards, Community-based Climate organisations/boards and more - ensuring all are aware of and actively working to align clean and air net zero will be a powerful enabler of change.