Integrating Action on Air Quality & Climate Change

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Environmental Policy Implementation Community

Part of the IES family

Introduction to EPIC

- EPIC – Environmental Policy Implementation Community at the Institution of Environmental Sciences
- EPIC brings together members from across the environmental sciences to share their experiences and call for ambitious and deliverable policy, as well as providing members with the knowledge, insights and tools to help them deliver on the ground.
- Formed in 2023 from merger of Environmental Protection UK and the IES.
- Environmental Protection UK had a 125 year old history, including publishing air quality guidance for local authorities and others, and creating the Healthy Air Coalition.
- Membership is free to local authority environmental professionals
- https://www.the-ies.org/about_us/epic

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EPIC Plans for 2025

Air Quality:

- Joint webinar and/or thought piece with IAQM on the interim planning guidance on $PM_{2.5}$, highlighting implications for local authorities and consultants
- Webinar on the emerging evidence on ultra fine particulates
- Air Quality Strategy consultation response
- Joint working group with IAQM updating the Land Use Planning and Development Control guidance
- Feeding into the IAQM Air Quality Neutral Guidance update

Other

- A thought-leading research project on implementation science
- Work on Local Nature Recovery Strategies and Biodiversity Net Gain in Practice
- A new Sound, Noise & Vibration Forum and land condition community

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Why we created the guidance

1 in 8 people in the world die due to air pollution.

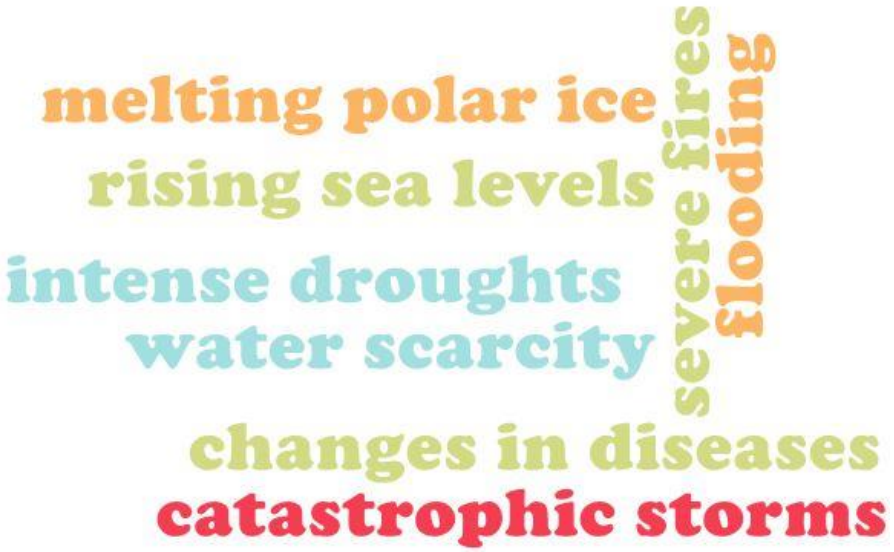
Air pollution has been linked to:

Air pollution:

- causes 7 million premature deaths and the loss of millions more healthy years of life every year worldwide;
- has a disproportionate impact on the young, elderly and ill;
- disproportionately affects deprived communities, linked to environmental justice;
- also affects crops, natural environment & buildings.

We are living in a climate crisis.

Climate change causes:



Climate change will affect every aspect of our society.

Climate change is the biggest threat to human health (WHO).

Air pollution and climate change are closely linked.

Society is changing, and local action can be very effective

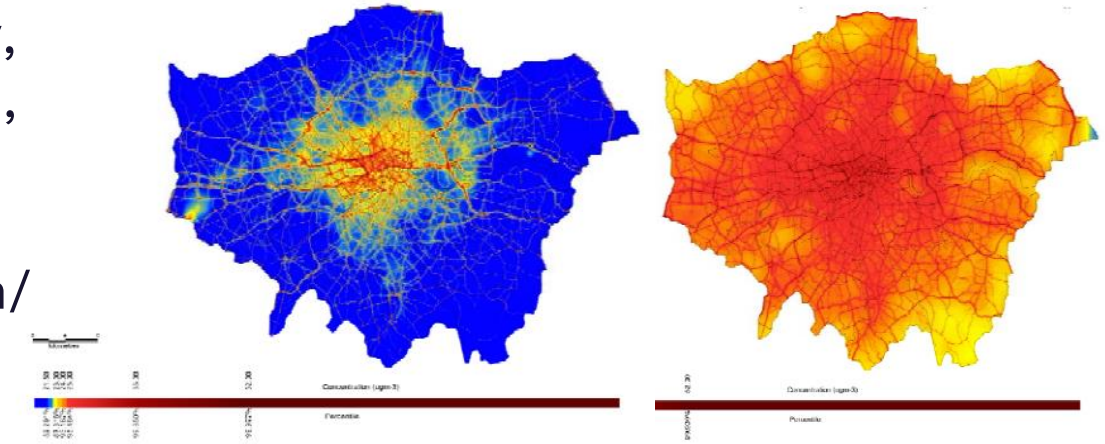
Interactions of Air Pollution and Climate Change

Air pollution impacts on climate change

- Black Carbon Particulates & Ozone
- Action on Short Lived Climate Pollutants (SLCP) could slow down warming by 2050 by 0.6°C, due to their short lifetimes[1]

Climate change impacts on air pollution

- Atmospheric chemistry, high pollution episodes, especially summer smogs, extra health impacts and vegetation/ ecosystem effects



Common emission sources (& actors)

- Transport, buildings, power & heat, industry
- National, city and local governments, developers, industry, consultancy

1 Climate and Clean Air Coalition, based on data from UN Environment Programme & World Meteorological Organization
2 Defra's Air Quality Expert Group, 2007, Air Quality and Climate Change: A UK Perspective

Why we created the guidance

- Air pollution and climate **are closely linked**, with interacting pollutants and impacts, and common sources.
- Local authorities have statutory air quality duties. Many have also declared a Climate Emergency. When isolated, action on these risk unintended consequences and lost opportunities.
- **Integration can make action more effective**, increase motivation and support, optimise benefits and manage trade-offs, and focus measures where and when they will have the most impact.
- **This practical guidance helps support local authorities understand and integrate action on key measures.** It is aimed for officers in a variety of departments, decision-makers and others.

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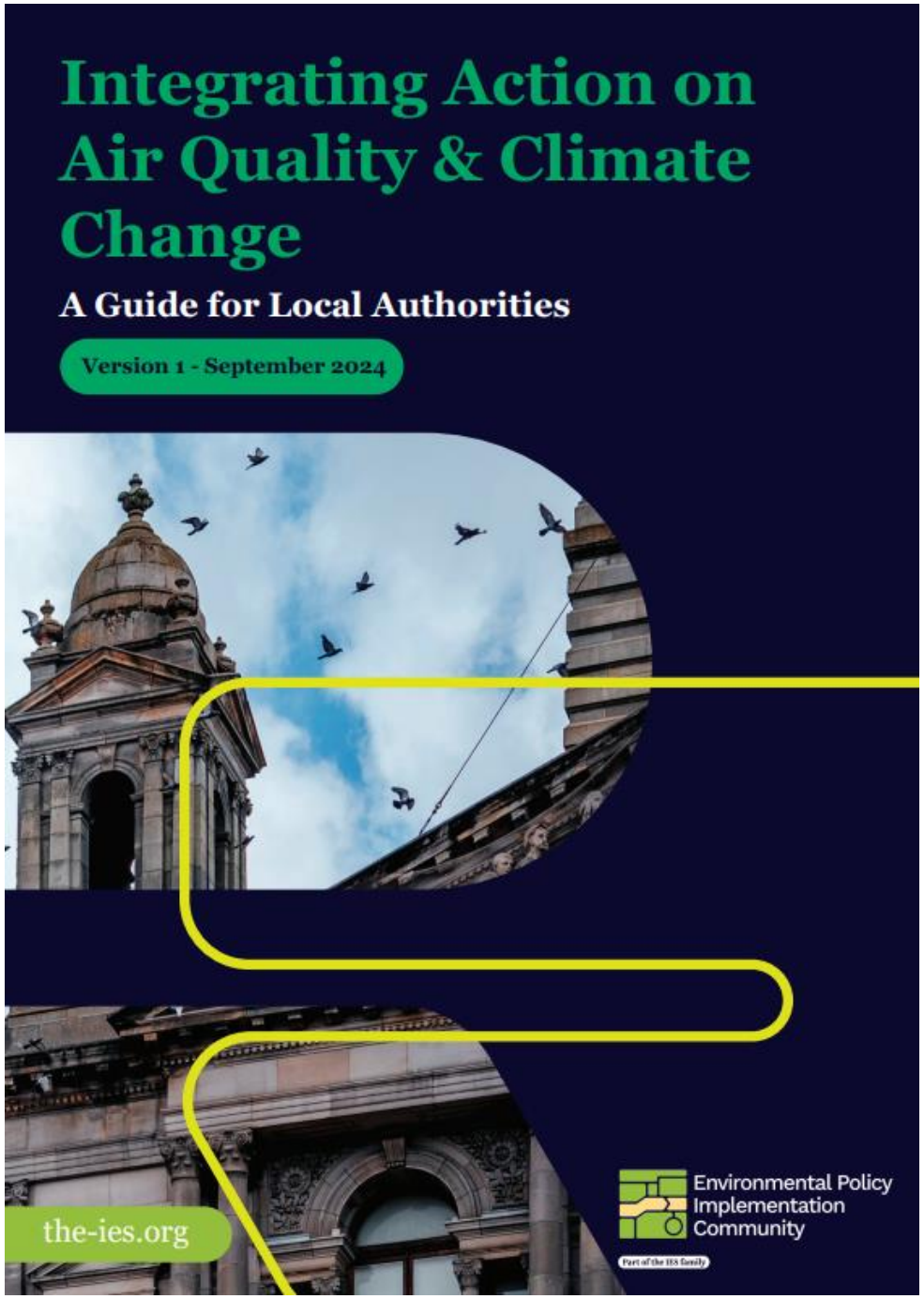
Background to the guidance

- Update of 2013 EPUK Air Quality & Climate Change Guidance for Local Authorities
- EPIC Task Group, with support from external contributors.
- ‘Exposure draft’ launched at the EPIC launch event in early February 2024.
- We received 27 detailed written responses and held a focus group with 40 local authority officers for more detailed feedback.
- Several additional measures were added, following comments at this stage.



What is in the guidance?

- Executive summary
- Introduction
  - Air quality, climate change and local authorities
  - Taking an integrated approach, incl. relationships
- 23 measures that local authorities can take on air quality
  and climate change
  - Transport
  - Built environment
  - Overarching
- Appendices with background information on air quality, climate change and Net Zero plans

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Energy and Heat

B5: Energy efficiency

Using energy more efficiently mean less needs to be generated. Energy efficiency can be improved by upgrading elements such as wall and loft insulation, installing higher efficiency appliances (boilers, lighting and white goods) and encouraging minor changes in behaviour.

Domestic energy efficiency can be one of the most cost-effective means of reducing GHG emissions. Improved domestic heat efficiency can reduce gas boiler use and associated NO_x emissions. It also helps ensure that people can affordably heat their homes.

Energy efficiency in offices, shops and other commercial premises is another cost-effective way of reducing GHG emissions, including insulation and lighting measures, and using more efficient appliances, such as computers, printers, photocopiers and refrigerators.

Air quality impacts		Climate impacts
on hotspots	**on emissions**	**on emissions**
Minor positive	Positive	Positive
Many homes and commercial premises are heated using combustion appliances (gas, coal or oil boilers). Improving energy and heat efficiency means less fuel needs to be burnt and fewer air pollutant emissions are produced. Upgrading boilers to modern high efficiency models or to non-combustion renewables also improves NO_x emissions directly, as modern boilers are manufactured to meet higher NO_x standards than older models and non-combustion renewables produce no direct emissions. Reducing electricity use in a home and commercial premises also reduces emissions of air pollutants from power stations.		Improved energy efficiency means lower emissions of GHGs, either directly from boilers or indirectly from power stations.

Other impacts

Health: Improved energy efficiency helps people afford to heat their homes.	Minor positive
Local economy: Measures which improve efficiency will lead to lower energy costs or more comfortable buildings. Some measures are free and others have a payback period (through reduced energy costs) of only a few years.	Minor positive
Indoor air quality: There can be a tension between the need for relatively airtight buildings to improve energy efficiency and indoor air pollution. When used effectively, airtight systems can be used to balance indoor and outdoor air pollution. However, building occupiers are not always given adequate information to understand the risks of poor ventilation or to manage and maintain their systems.	Minor negative
Vulnerable communities: Many people in the UK, especially people on lower incomes, live in poor-quality housing whose energy efficiency is also poor. Rises in energy costs fall more heavily on people who cannot afford to or have no power to improve the energy efficiency of the building fabric of their homes. The cost-of-living crisis of the early 2020s has made this inequality worse.	Positive

Support mechanisms

The LGA and Local Partnerships produced a *Green Finance Guide* in 2022, which provides practical guidance and examples of good practice to help find the most appropriate and affordable financial support for local authorities.[92]

Many local authorities are retrofitting existing properties to make them more energy efficient. Local Partnerships produced a *Domestic Retrofit Handbook*[93] in 2021, updated in 2023, which provides practical advice to local authorities. The 2023 edition reflects the cost-of-living crisis and highlights funding initiatives which may be of use.

At the time of writing this document, the Government provides advice to the public on energy efficiency, through the Help for Households campaign. Other organisations also provide advice on domestic energy efficiency, including the Energy Saving Trust, the Centre for Sustainable Energy, Citizens Advice Bureau and charities such as Age Concern.

Residents who live in social housing or claim certain benefits can access additional support from their energy supplier for efficiency measures through the Energy Company Obligation.[94]

Each measure has common headings.

What can local authorities do?

Local authorities can:

- Lead by example by improving the energy efficiency of their own premises.
- Set local energy efficiency standards.
- Ensure buildings in their areas comply with minimum energy efficiency standards by reviewing energy performance certificates.
- Ensure that developments minimise emissions from energy use. The London Plan, for instance, requires developers to show that its energy hierarchy has been considered.
- Help point local businesses to appropriate advice and guidance through services such as business advice and licensing, as well as groups such as business/ economic forums, and via links to local chambers of commerce. Corporate social responsibility, brand and reputation drive the behaviour of many private sector organisations. Environmental, social, and governance concerns form part of these concerns. Local authorities can work with local business communities to help connect and communicate work to improve energy efficiency with these concerns.
- Provide energy efficiency funding or sustainable growth grants.

Other issues

Some homes are hard to treat, as common energy efficiency measures such as loft insulation, cavity wall insulation and/ or high efficiency boilers cannot be fitted. Other technologies are available, such as solid wall insulation, but these can be more expensive and harder to access.

The majority of commercial property is rented rather than owned by the occupier. This adds complications due to split responsibilities, where one party is responsible for ownership of the building (and therefore incurs the costs of energy efficiency improvements), whilst another pays for fuel bills.

Further information

- Local Government Association: Financing Green Ambitions
- Help for Households: How to save energy and lower your bills this winter
- Home Energy Scotland
- Centre for Sustainable Energy: Advice and information for households
- UK Government: Help from your energy supplier: the Energy Company Obligation
- Local Partnerships: Domestic Retrofit Handbook
- UK Energy Support: ECO4 Scheme

Impact ratings are based on the assumption that:

- a local authority successfully delivers an ambitious version of the measure, considering constraints such as funding and powers, but without mitigation of negative impacts;
- the emissions source the measure addresses is a significant contributor to the local authority's emissions;
- "ambitious" refers to geographical scale and/or the depth of the measure.

Summary Table (part 1)

Summary table

	Measure	Likely impact			
		Air pollution hotspots	Air pollution emissions	Climate emissions	Other impacts
4.1 Transport	T1 Active travel	Positive	Positive	Positive	• Positive impacts on health • Minor positive impacts on local economy and social value
	T2 Buses	Minor positive	Positive	Positive	• Positive impacts on vulnerable communities and local economy • Minor positive impacts on health • Typically high cost
	T3 Water vessels	Positive	Minor positive	Minor positive	• Positive impacts on local economy • Minor positive impacts on health • Risk for minor negative impacts on vulnerable communities
	T4 Shared transport	Positive	Positive	Positive	• Positive impacts on vulnerable communities and minor positive impacts on social value • Typically low cost
	T5 Integrated transport modes	Minor positive	Positive	Positive	• Positive impacts on health • Minor positive impacts on noise pollution • Risk of negative impacts on vulnerable communities and community backlash
	T6 Emission control zones	Positive	Positive	Minor positive	• Positive impacts on health, local economy, social value and noise pollution • Typically low cost
	T7 Parking controls	Positive	Positive	Positive	• Positive impacts on health, local economy, social value and noise pollution • Typically low cost
	T8 Other vehicle access controls	Positive	Positive	Positive	• Positive impacts on health and noise pollution • Minor positive impacts on local economy • Risk of community backlash
	T9 Anti-idling	Positive	Minor positive	Minor positive	• Positive impacts on health • Typically low cost
	T10 Electric vehicles	Positive	Positive	Positive	• Minor positive impacts on health • Minor positive impacts on noise • High risk of impact on vulnerable communities • Typically high cost

Summary Table

	Measure	Air pollution hotspots
4.1 Transport	T1 Active travel	Positive
	T2 Buses	Minor positive
	T3 Water vessels	Positive
	T4 Shared transport	Positive
	T5 Integrated transport modes	Minor positive
	T6 Emission control zones	Positive
	T7 Parking controls	Positive
	T8 Other vehicle access controls	Positive
	T9 Anti-idling	Positive
	T10 Electric vehicles	Positive

Transport

Public transport, shared transport and active travel measures

- T1: Active travel
- T2: Buses
- T3: Water vessels
- T4: Shared transport
- T5: Integrated transport management

Vehicle control measures

- T6: Emission control zones
- T7: Parking controls
- T8: Other vehicle access controls
- T9: Anti-idling Vehicles

Measures for reducing emissions from different vehicle types

- T10: Electric vehicles
- T11: Alternative fuels
- T12: Retrofitting vehicles
- T13: Fleet management
- T14: Freight management

Built environment

Buildings

- B1: Construction
- B2: Strategic planning and development management

Public realm

- B3: Public realm
- B4: Green infrastructure

Energy and heat

- B5: Energy efficiency
- B6: Non-combustion renewables
- B7: Addressing wood burning and other solid fuels

Overarching

O1: Waste

O2: Sustainable Procurement

Getting the right mix of measures

Box 1. Top measures

Most impactful win-win measures:

- Strategic planning and development management
- Walking & cycling
- Non-combustion renewables

Most impactful air quality measures:

- Strategic planning and development management
- Low emission zones
- Reducing emissions from wood burning

Most impactful climate measures:

- Strategic planning and development management
- Energy efficiency
- Electric vehicles

Measures with highest benefits for low-income residents:

- Walking & cycling
- Buses
- Energy efficiency

Measures with highest benefits for the local economy:

- Integrated transport management
- Sustainable procurement
- Buses

Box 2. Spotlight on:

Low-cost measures:

- Anti-idling
- Shared transport
- Construction
- Wood burning
- Sustainable procurement

Measures for schools:

- Other vehicle access controls (school streets)
- Walking & cycling
- Anti-idling

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Case Studies are included throughout

Low Emission Taxi Incentive Scheme – Southampton City Council

Case Study 2

Southampton City Council (SCC) launched its Low Emission Taxi Incentive Scheme in 2018. The scheme, which ran until 2021, provided grants to drivers in the city's SCC-licensed taxi fleet for switching to electric and hybrid vehicles. The scheme was extended in 2020 to include upgrades to cleaner wheelchair-accessible vehicles

Cost

- SCC received over £250,000 of Defra Air Quality Grant funding in 2017 to implement the scheme.
- Additional funding was received through the Clean Air Fund in 2020, which supported the extension of the scheme of cleaner wheelchair and accessible vehicles

Implementation

- The scheme was launched at a taxi and private hire drivers' event.
- Colleagues across the air quality and taxi licensing departments worked together to ensure continuity in the process of applicants.

Impact

- Over 60% of SCC's fleet are now hybrid or electric vehicles, up from less than 5% when the scheme first started.
- The fleet now is estimated to save 7.53 tonnes of NO_x per year.

Lessons Learnt

- More stringent rules were perhaps needed to mitigate dishonest applicant behaviour. For example, despite stating that the vehicle to be replaced cannot be 'recycled' within the SCC taxi fleet, the council still received applications for older vehicles from previous applicants.
- More oversight was required from the licensing department to ensure that the applicant's new vehicle matched what was declared in their application and that this vehicle was kept in ownership for a minimum of three years.

Next Steps

- SCC is continuing to encourage uptake of electric and hybrid vehicles through a "try before you buy" scheme for electric taxis and light commercial vehicles.

You can find more information about this case study, and many others, on the *Air Quality Hub*

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Next steps

- The guidance is available on the IES website and the Air Quality Hub https://www.the-ies.org/resources/integrating-action-air-quality
- Further promotion on social media, through newsletters, communities and networks, etc. and a joint webinar with CIHT
- We would like to **thank you all for using and sharing** this guidance.
- We plan to hold a **feedback meeting** this autumn to discuss the guidance and its use.
- For more information, to register an interest, or join EPIC, please contact ellie@the-ies.org.

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Thank you.