Camden Climate Alliance

The Fitzrovia Partnership
Business Improvement District

LONDON CLIMATE ACTION WEEK

Fitzrovia Business Breakfast: Clean Air & Climate Resilience

Wednesday 24 June, 9am – 11am
The Society Building
55 Whitfield Street, W1T 4AH

The Fitzrovia Partnership

Through partnership and engagement, we help to create and enhance an economically vibrant Fitzrovia.

TFP CAMDEN

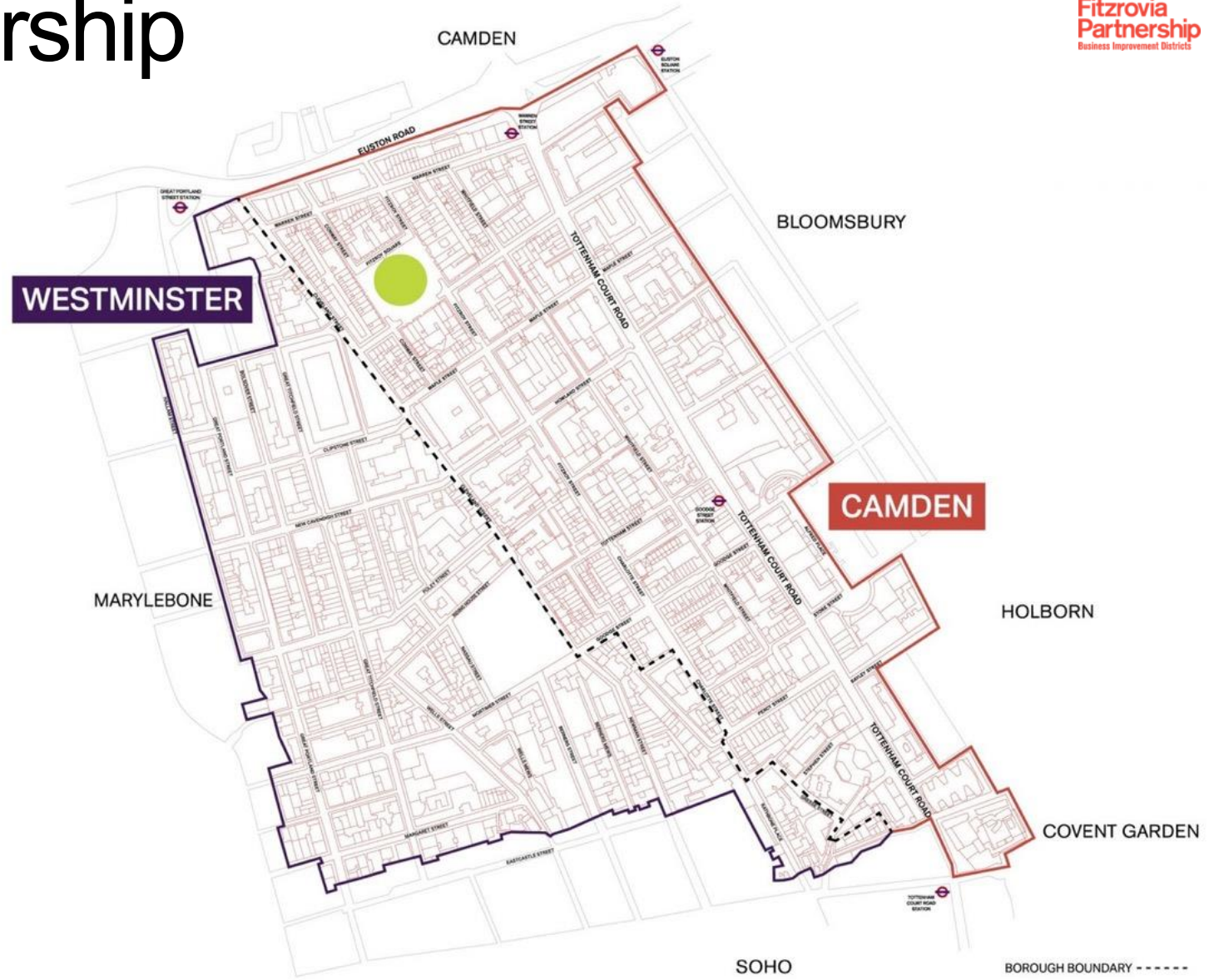
170+

Businesses

TFP WESTMINSTER

150+

Businesses



www.fitzroviapartnership.com

Missions based approach

From 2026/27, our activity will be framed through four clear missions. This is a simple way to set clear aims, focus resources, and report back on what changed.

Mission 1: Safe and Clean
A district that feels welcoming and well managed.

Focus: Street activity, problem hotspots and stronger coordination with partners on safety, antisocial behaviour and environmental issues.

Mission 2: Economic Growth
A district that supports trading and investment.

Focus: Strengthening the conditions for business, supporting members through change and being a voice for Fitzrovia in decisions that affect the area.

Mission 3: Placemaking
Streets and spaces that work better for people.

Focus: Practical improvements that make Fitzrovia easier to navigate, more attractive to spend time in and more resilient through change.

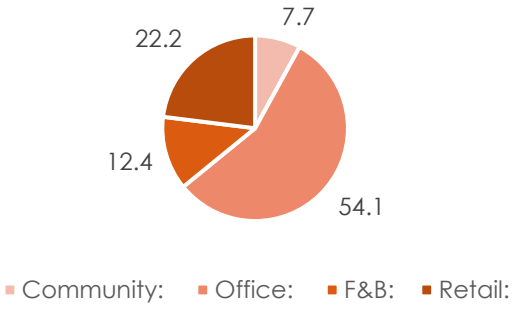
Mission 4: Sustainability
Action that helps reduce impact and meet commitments.

Focus: Work that is practical and local, including cleaner air, waste and recycling, greener streets, and support for businesses.

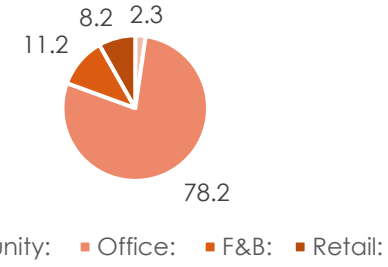
All underpinned by clear reporting to members on actions and results

OUR MEMBERS

East Fitzrovia BID Member Business Catagories (%)



West Fitzrovia BID Member Business Categories (%)



FOUR PRINCIPLES

1. Become a sustainable organisation in all its operations.

2. Support its' members to become more sustainable organisations.

3. Facilitates collaborative working across stakeholders and the community.

4. Ensures robust and accountable governance, tracking and reporting of progress.

AGENDA

Clean Air & Climate Resilience Business Breakfast

LONDON CLIMATE ACTION WEEK

9:00am Introduction and Welcome
Camden Climate Alliance & The Fitzrovia Partnership

09:05 – 09:45 - Presentations

- **Air Pollution: Health & Workplace Impacts**
  Dr. Pauline Paterson & Dr. James Milner,
  London School of Hygiene and Tropical Medicine
- **Building Climate Resilient Workplaces**
  Angie Chan & Elizabeth McNamee, ARUP
- **Camden's Clean Air Action Plan**
  Jonathan Dean, Camden Council

9:45 Q+A with speakers

9:55 Break

10:00am – Workshop
Jonathan Dean, Camden Council

10:50am – Wrap up & Close

WORKSHOP PURPOSE

1. Raise awareness of air quality and climate risks in Camden and their impact on health and workplaces

2. Help businesses start to understand what they can do to improve Air Quality and build resilience

3. Capture business insights to help shape the Council's new Clean Air Action Plan 2027 - 2030

CLEAN AIR FOR CAMDEN

Camden

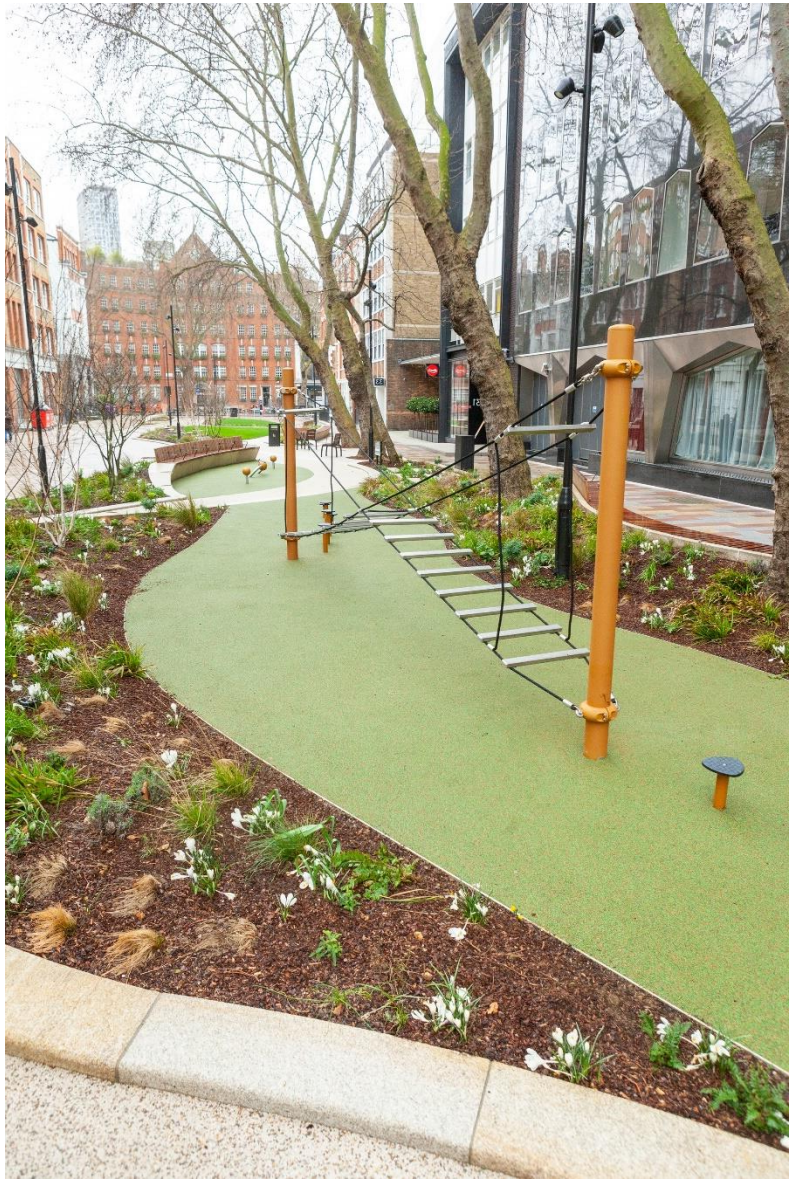
WHY NOW?

Climate change is already being felt by communities in Camden, with rising temperatures and air pollution affecting health, work, and daily life

Heat and air quality are closely linked — reducing overheating can also help improve local air quality

These are not future risks; they are already impacting how we live, travel and work – therefore building resilience is critical

Camden is developing a new Clean Air Action Plan, shaped by local evidence and business insight



CAMDEN CLIMATE ALLIANCE

Who we are:
The Camden Climate Alliance (CCA), established in 2008 by Camden Council, is a network of over 200 members who are committed to collaborating on climate action and sustainability.

Why be part of the network?

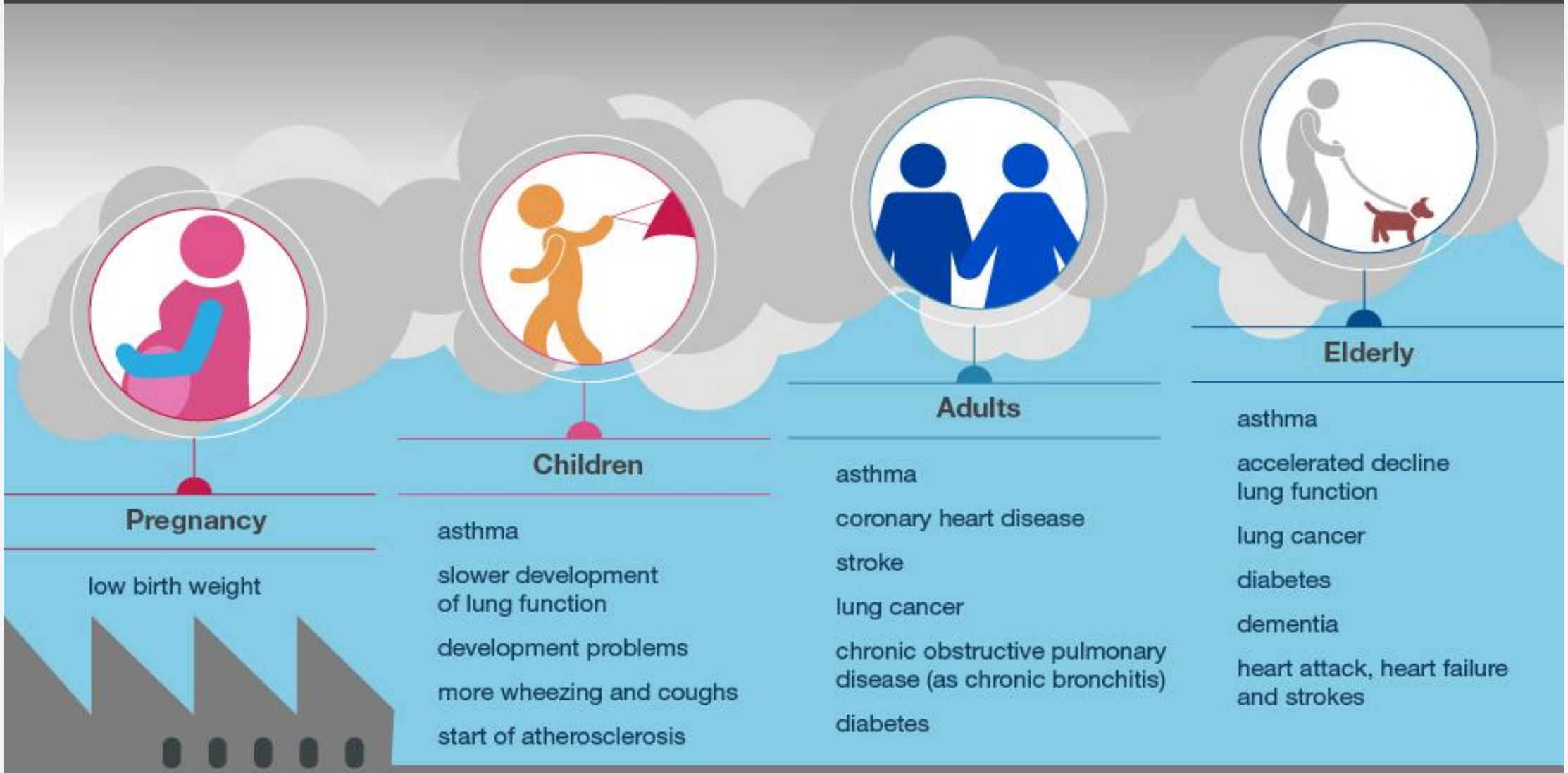
- Connect with like-minded organisations
- Stay updated on sustainability news and projects
- Access funding through the Camden Climate Fund
- Gain recognition for sustainability commitments
- Participate in events and training
- Engage in community projects to fulfil corporate responsibility and generate social value

Air Pollution: Health and Workplace Impacts

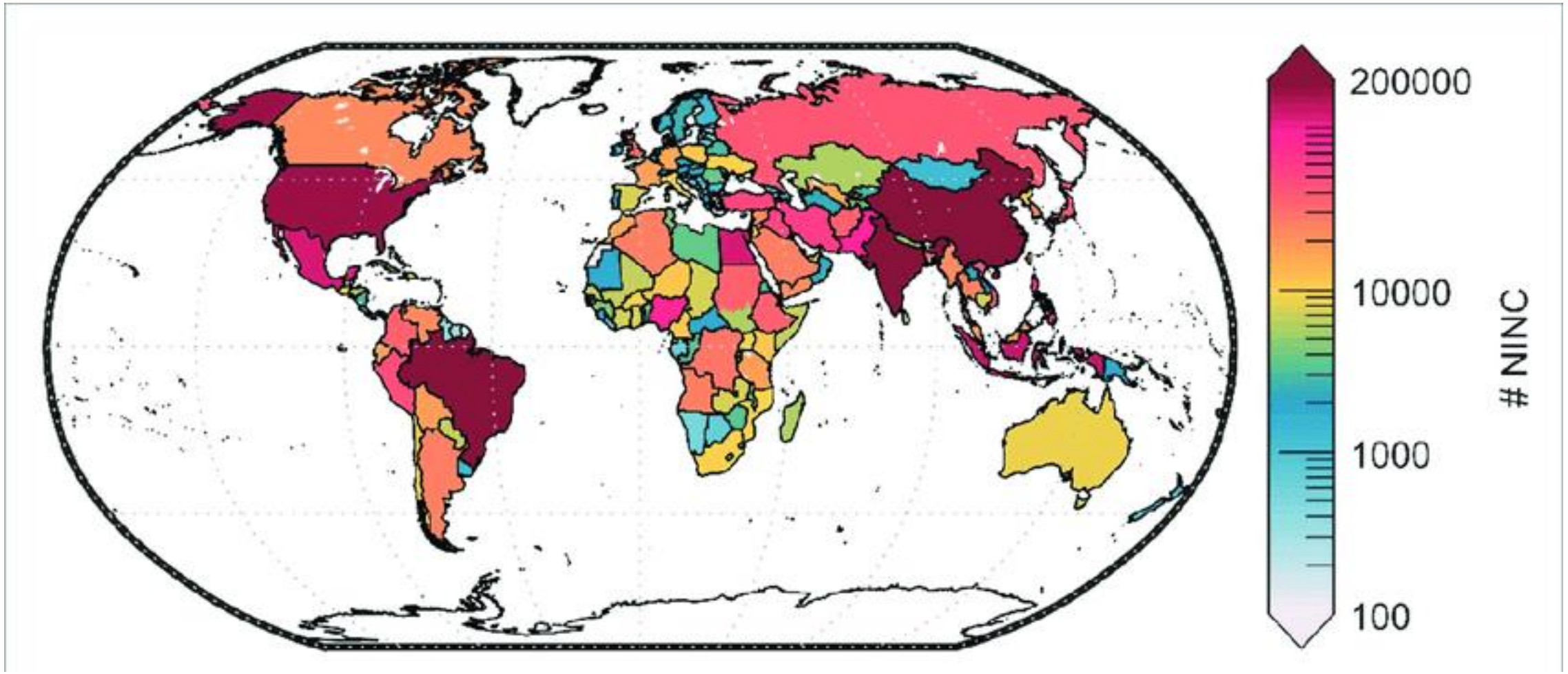
Dr James Milner & Dr Pauline Paterson
London School of Hygiene and Tropical Medicine

LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

Air pollution affects people throughout their lifetime



Incident cases of asthma in children and adolescents from ambient NO_2 air pollution (~3.5 m worldwide annually, 14% total)



NO_2 is mainly emitted through fossil fuel use in land transportation and power generation, and the burning of solid biofuels in households Chowdhury *et al* 2021 *Environ. Res. Lett.* 16 035020

Impacts of air pollution on business

‘Restricted activity days’ (per 10 µg/m^3 change in $PM_{2.5}$):

- restricted activity days: 4.93% (6 studies)
- respiratory restricted activity days: 15.75% (6 studies)
- school-loss days: 1.73% (8 studies)
- work-loss days: 6.99%* (6 studies)

1.2 billion work-days lost globally (source: Clean Air Fund)

Poor indoor air quality (e.g. cognitive function)

Orellano et al. Environmental Health (2023) 22:31
https://doi.org/10.1186/s12940-023-00979-8

Environmental Health

REVIEW Open Access

Effects of air pollution on restricted activity days: systematic review and meta-analysis

Pablo Orellano[1,2*], Julieta Reynoso[3] and Nancy Quaranta[2,4]

Abstract

Background The adverse effects of air pollution on human health include many diseases and health conditions associated with mortality, morbidity and disability. One example of these outcomes that can be translated into economic costs is the number of days of restricted activity. The aim of this study was to assess the effect of outdoor exposure to particulate matter with an aerodynamic diameter less than or equal to 10 and 2.5 µm (PM_{10}, $PM_{2.5}$), nitrogen dioxide (NO_2), and ozone (O_3), on restricted activity days.

Methods Observational epidemiological studies with different study designs were included, and pooled relative risks (RR) with 95% confidence intervals (95%CI) were calculated for an increase of 10 µg/m^3 of the pollutant of interest. Random-effects models were chosen because of the environmental differences between the studies. Heterogeneity was estimated using prediction intervals (PI) and I-Squared (I2) values, while risk of bias was assessed using a tool developed by the World Health Organization specifically designed for air pollution studies, and based on different domains. Subgroup and sensitivity analyses were performed where possible. The protocol for this review was registered with PROSPERO (CRD42022339607).

Results We included 18 articles in the quantitative analysis. Associations between pollutants and restricted activity days in time-series studies of short-term exposures, measured as work-loss days, school-loss days, or both were significant for PM_{10} (RR: 1.0191; 95%CI: 1.0058–1.0326; 80%PI: 0.9979–1.0408; I2: 71%) and $PM_{2.5}$ (RR: 1.0166; 95%CI: 1.0050–1.0283; 80%PI: 0.9944–1.0397; I2: 99%), but not for NO_2 or O_3. Some degree of heterogeneity between studies was observed, but sensitivity analysis showed no differences in the direction of the pooled relative risks when studies with a high risk of bias were excluded. Cross-sectional studies also showed significant associations for $PM_{2.5}$ and restricted activity days. We could not perform the analysis for long-term exposures because only two studies analysed this type of association.

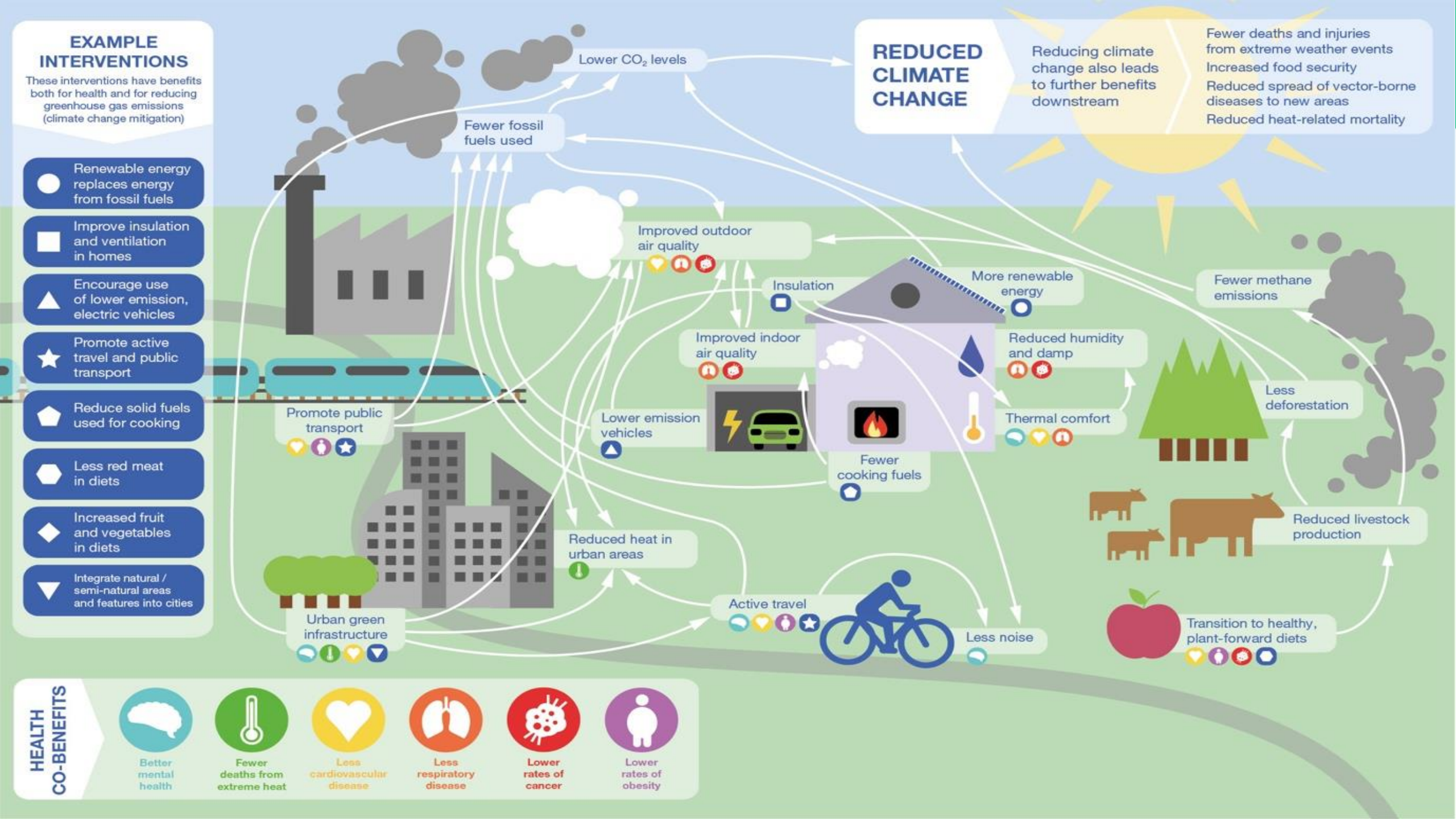
Conclusion Restricted activity days and related outcomes were associated with some of the pollutants under evaluation, as shown in studies with different designs. In some cases, we were able to calculate pooled relative risks that can be used for quantitative modelling.

Keywords Air pollution, Absenteeism, Observational study, Systematic review, Meta-analysis

Impacts on UK economy

Cost to the UK economy estimated at £27 billion in 2019 (source: Royal College of Physicians, 2025) due to:

- costs for healthcare
- productivity losses
- reduced quality of life


EXAMPLE INTERVENTIONS
These interventions have benefits both for health and for reducing greenhouse gas emissions (climate change mitigation)
Renewable energy replaces energy from fossil fuels
Improve insulation and ventilation in homes
Encourage use of lower emission, electric vehicles
Promote active travel and public transport
Reduce solid fuels used for cooking
Less red meat in diets
Increased fruit and vegetables in diets
Integrate natural / semi-natural areas and features into cities
Lower CO_2 levels
Fewer fossil fuels used
REDUCED CLIMATE CHANGE
Reducing climate change also leads to further benefits downstream
Fewer deaths and injuries from extreme weather events
Increased food security
Reduced spread of vector-borne diseases to new areas
Reduced heat-related mortality
Improved outdoor air quality
Insulation
More renewable energy
Fewer methane emissions
Improved indoor air quality
Reduced humidity and damp
Promote public transport
Lower emission vehicles
Thermal comfort
Less deforestation
Fewer cooking fuels
Reduced heat in urban areas
Reduced livestock production
Urban green infrastructure
Active travel
Less noise
Transition to healthy, plant-forward diets
HEALTH CO-BENEFITS
Better mental health
Fewer deaths from extreme heat
Less cardiovascular disease
Less respiratory disease
Lower rates of cancer
Lower rates of obesity

https://a.storyblok.com/f/109506/x/affb6404fc/camden_breathing_better_report.pdf

Year 1

Progress Report

Collective action on air quality and respiratory health

MARCH 2026

Sustainable Markets Initiative

reckitt

Bupa

GSK

ASTHMA+ LUNG UK

CLEAN AIR FUND

*GSK provided financial and in-kind support, in the form of employee time and provision of a venue for an event, to the Camden Breathing Better partnership.

Impact Forecast

Research by LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

Assuming full Charter uptake and implementation by 2030, signatories (30,000 employees) and Camden borough (200,000 employees) could achieve:

Air pollution trend

Conditions are improving, but don't yet meet the WHO standards

PM2.5 levels have fallen from

16.0 µg/m³ (2004 levels)

8.9 µg/m³ (2023 levels)

6.1 µg/m³ (2030 levels)

NO2 levels have fallen from

53.5 µg/m³ (2004 levels)

26.8 µg/m³ (2023 levels)

16.3 µg/m³ (2030 levels)

Air quality impacts

Charter actions can deliver meaningful reductions in air pollution

Current signatories could achieve **PM2.5** reductions of up to **0.335** µg/m³

All Camden borough organisations could achieve **NO2** reductions of up to **0.60** µg/m³

Camden borough could achieve **NO2** reductions of up to **3.99** µg/m³

Indoor interventions provide the largest health protection

Mechanical ventilation could reduce indoor pollution **~30%**

HEPA and charcoal filters could deliver larger improvements, with the potential to reduce PM2.5 by **56%** NO2 by **60%**

Combined interventions could cut **86% – 100%** of indoor pollution levels, which would meet the **WHO air quality standards** for NO2 and PM2.5 in indoor settings, marking a major step towards healthier indoor environments.

Research by

LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

Impact Forecast

Current signatories could prevent 67-478 disease cases per year, and if scaled, all Camden Borough organisations could prevent 373-2,329 cases per year, 3–5× greater impact.

Health Impacts

Asthma cases saved	Depression cases saved	Diabetes cases saved	COPD cases saved	Ischemic Heart Disease cases saved	Stroke cases saved
45	65	41	24	2	-
296	290	183	143	10	6

Signatories (30,000 employees) Camden Borough (200,000 employees) 10 cases

96%

of signatories completed 2025 self-reporting[4]

77%

of signatories feel supported by having a peer-to-peer network on this journey.

77%

of signatories feel that this initiative has positively supported them to take action on air quality and respiratory health.

58%

of signatories feel that this initiative has supported a change in employee awareness on air quality and respiratory health.

[4]Data represents reporting from 25/26 signatories, and excludes organisations who joined the project in 2026

Key findings from interviews with Signatories

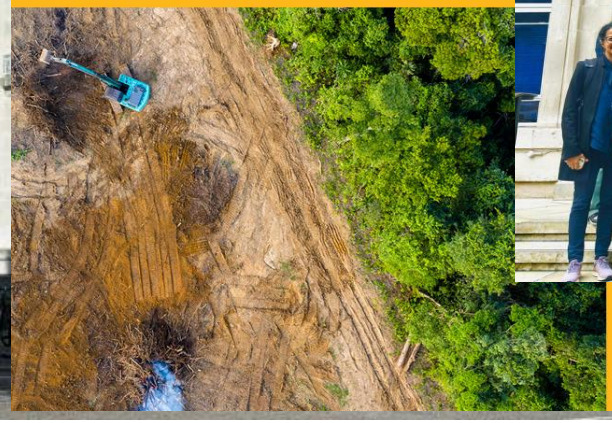
- Signatories value peer learning, cross-sector collaboration, and shared accountability.
- The Camden Breathing Better Charter has helped raise the profile of air quality, respiratory health, and sustainability.
- Implementation is still at an early stage, with barriers around capacity, funding, estates, procurement, and coordination.
- The Charter is building momentum for collective air quality and climate action across organisations.
- Participants viewed the model as highly scalable, especially when adapted to local contexts and existing networks.

LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

Climate Change & Planetary Health

Study an MSc in

Climate Change & Planetary Health



https://www.lshtm.ac.uk/study/courses/masters-degrees/climate-change-planetary-health#overview

ARUP

Clean Air and Climate Resilient Fitzrovia

Air quality and climate resilience at Arup and the workplace

Angie Chan and Elizabeth McNamee

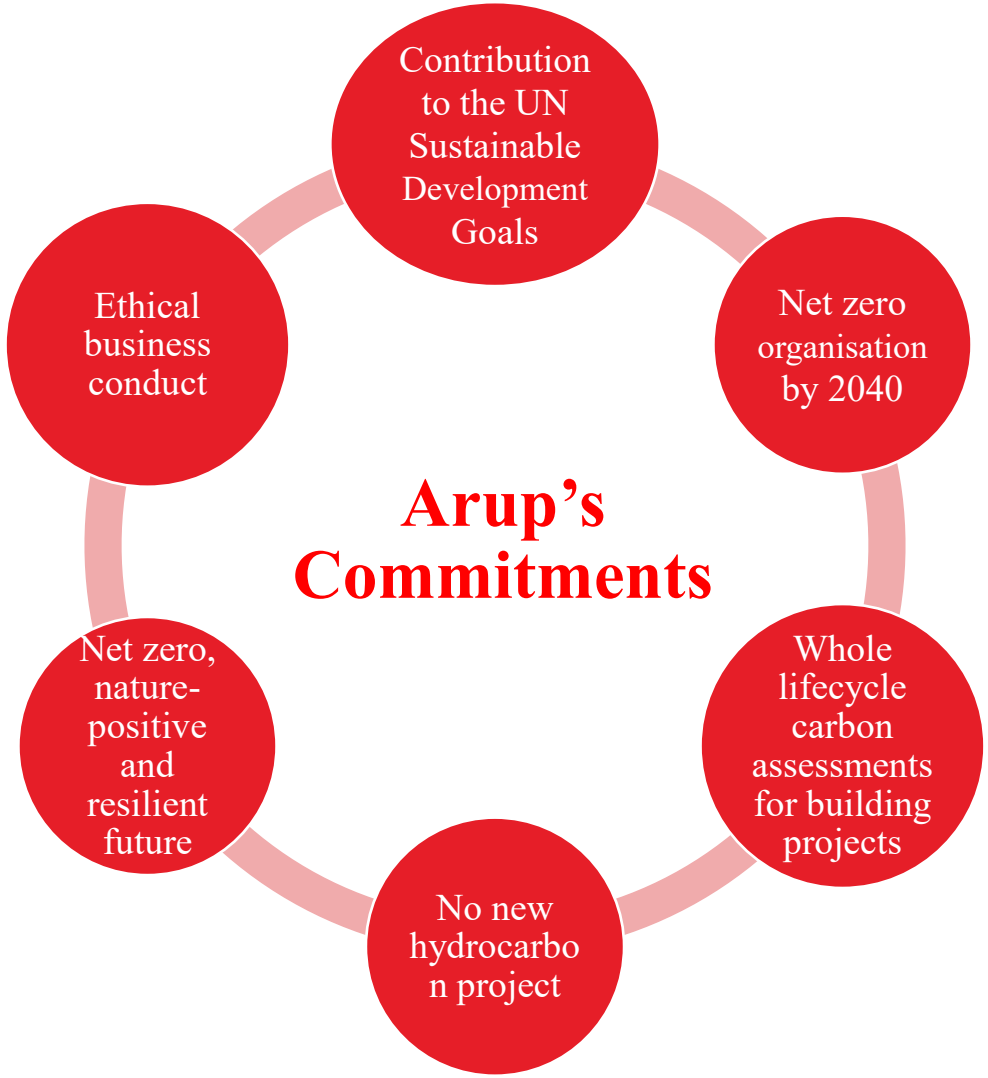
24 June 2026

ARUP

Arup’s commitments

Arup is committed to these actions through both its operational action and client delivery at a local and global scale.

Improving air quality and managing climate risk sit within the wider job of making buildings and organisations healthier, lower carbon and more resilient.



ARUP

Arup’s reporting

To remain accountable and transparent, Arup commits to reporting against air quality and climate resilience factors.

Total greenhouse gas emissions

33%

below baseline

ESG report FY 2023/24

86%

Reduction in Scope 1 and 2 emissions

ESG report FY 2023/24

34%

Reduction in business travel emissions

2025 Net Zero Plan

Emissions intensity per member

45%

below baseline

ESG report FY 2023/24

100%

Electricity use from renewable sources

ESG report FY 2023/24

50%

Reduction in commuting emissions

2025 Net Zero Plan

ARUP

Arup's support of related initiatives

Alongside our internal commitments, Arup support a number of local and global initiatives that drive systematic change to encourage cleaner air and a more climate resilient future.

Camden 'Breathe Better' Charter	• Arup is a signatory, committing to cleaner energy use and sustainable travel.
Wild West End – Fitzrovia Greening Programme	• Arup provides monitoring and technical input to encourage urban greening within Fitzrovia, improving local air quality and reducing heat stress.
Fitzrovia Partnership 'Environmental & Place' Programme	• Arup supported this through the design and construction of its 80 Charlotte Street office, which included a public pocket park.
Global Climate Alliances	• Arup is a signatory to The Climate Pledge, a member of Race to Zero and part of the Alliance of CEO Climate Leaders.

ARUP

Arup’s Operational Actions

London offices

Active travel

- Annual travel survey
- Secure cycle parking and charging points
- Changing facilities with showers, lockers and drying rooms
- Free bike servicing and repairs
- Cycle to work scheme

8 Fitzroy Street/ 80 Charlotte Street

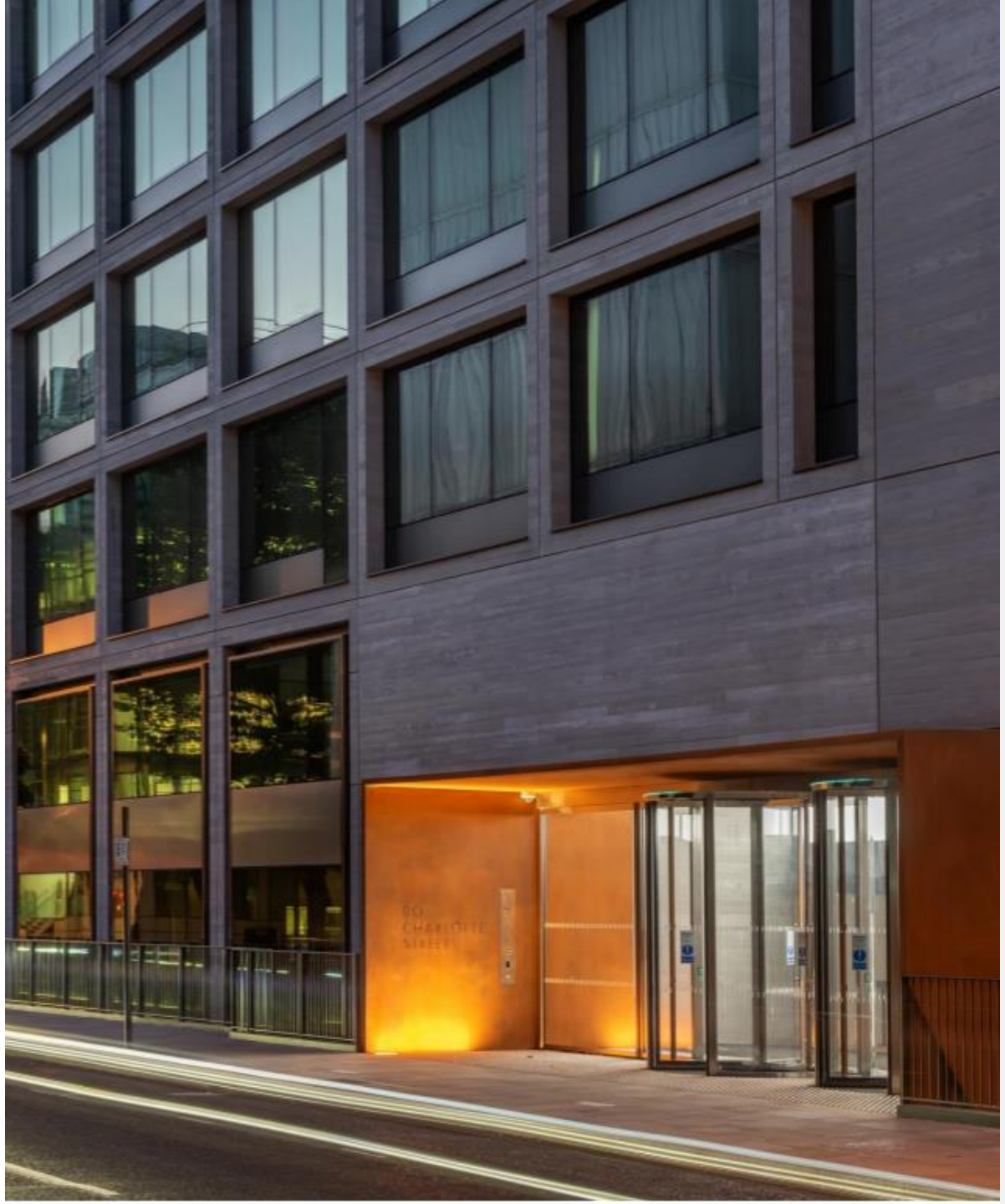
Fresh air and overheating strategies

- Mixed mode ventilation approach, combining natural and mechanical systems
- Openable windows, and automatic air conditioning which switches off when windows are opened
- Air intakes at roof levels and away from major pollutant sources with particulate filters in place
- ‘Glass in the right place’ façades that allow natural daylight while minimising solar gain

80 Charlotte Street

Monitoring and real-time optimisation

- Air quality sensors, temperature sensors and environment controls that are used to optimise indoor conditions
- Includes IoT-based monitoring of indoor air quality to support wellbeing
- WELL v2 Gold certification
- Same monitoring will be deployed at 8 Fitzroy Street this financial year



8 Fitzroy Street

Retrofit and improvements

- Transition to all-electric heat pumps, reducing reliance on fossil fuels and eliminating combustion-related pollutants
- Modernised HVAC systems with higher efficiency and control
- Real-time sensors to track and improve conditions
- Energy efficiency upgrades (e.g., LED lighting, extractor fans → direct-driven fans, etc.)

80 Charlotte Street

Reducing emissions at source

- Energy performance and efficiency considered from design
- Fully electric building, avoiding fossil fuel combustion
- Electricity is purchased from ringfences renewable sources and 80m^2 of onsite solar thermal panels

Arup Operations

Managing ‘hot spells’

- Daily weather monitoring + systems adjustments in anticipation of high heat days
- Heat pumps coping well during heat spells
  - Increasing temperatures factored into technology selection and system sizing during replacement process (tested up to 45°C)
- Monthly tenant engagement
- Effective building management → more efficient and more flexible systems operations, helping ensure adaptability and performance during high heat
- Facilities management strategy joined up with UK-wide Arup strategy (including climate resilience and adaptation)

Arup Operations

Carbon Management and Offsetting

- Applies a carbon levy on business travel emissions, and funds are used to invest in high quality certified carbon offsets
- Targets net zero across value chain by 2040 and to offset residual emissions that cannot be eliminated
- Achieved BSI verification against PAS 2080 (carbon management standard)

ARUP

Air quality and heat resilience focussed projects

ARUP

Impact to air quality and climate resilience

Cleaner Air

- Urban greening helps to reduce exposure to particulate pollution by trapping and filtering pollutants at street level
- People-friendly spaces encourage active transport, reducing reliance on car travel
- Area-wide initiatives enable cumulative improvement

Climate Resilience

- Trees and planting provide shading and evaporative cooling, helping to reduce peak temperatures
- Greener spaces make streets more usable during extreme weather, such as heatwaves
- Green infrastructure can improve rainwater absorption, reducing pressure on drainage systems and risk of flooding

Air quality example

Air quality School Audit

- Understand the sources of air pollution and air quality levels at the school and the surrounding area.
- Analyse the current active travel conditions and identify cleaner air routes for commuting using Arup's in-house modelling toolkit – Staterra.
- Tackle poor air quality in the vicinity of the school through the implementation of practical and pragmatic measures.
- Provide guidance to implement the recommended measures and assessing their appropriateness.
- In-person classroom engagement workshops.
- Deliver social value events including 'A Day at Arup' career workshop and Clean Air Day Summit.

Air quality example

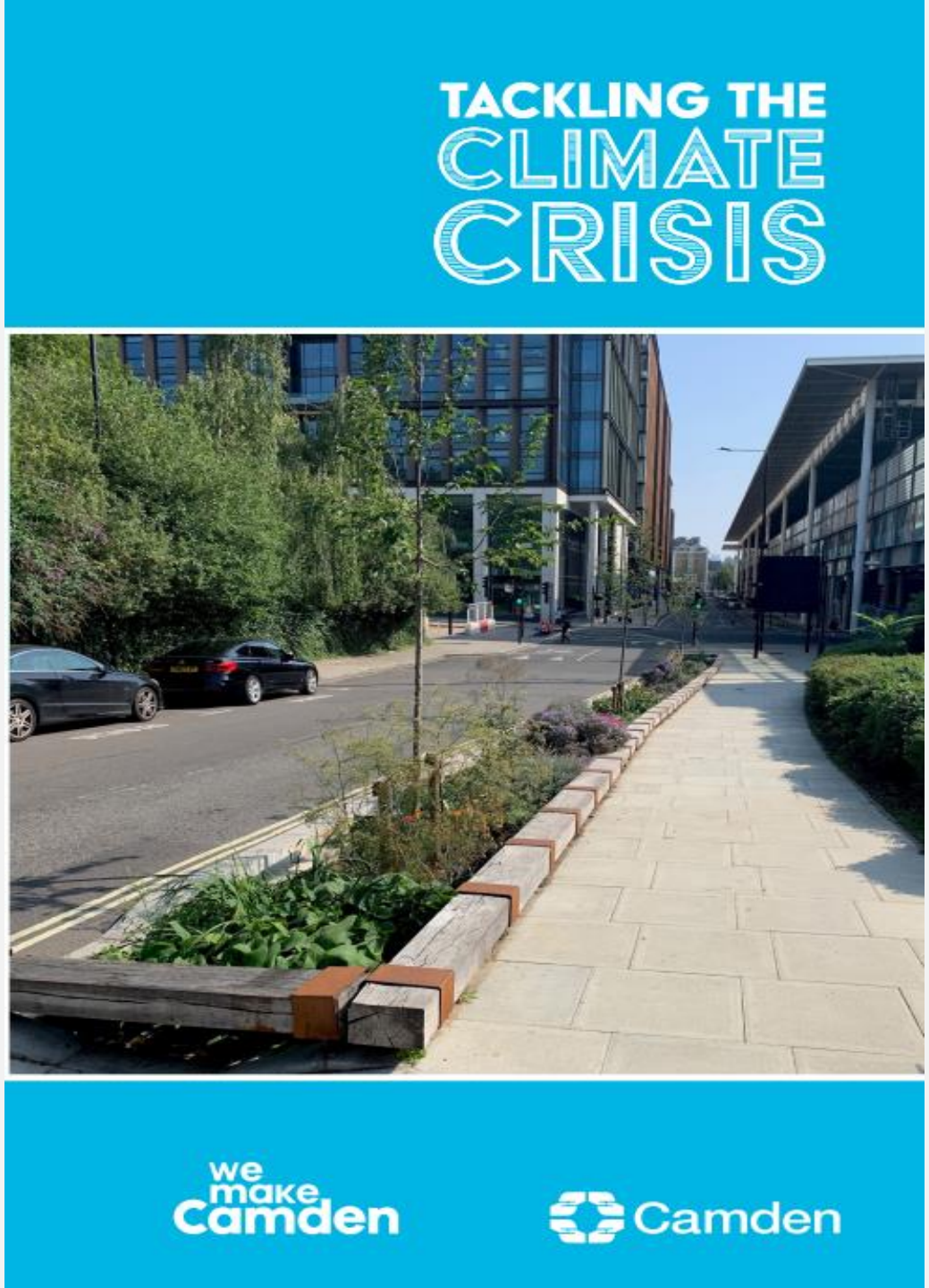
Air Quality in Construction

- Demonstrate how UK construction can reduce emissions to improved air quality
- Initial research and collaboration helped set benchmark and identify achievable goals
- The project demonstrated that emissions can be reduced on-site without cost or time penalties.
- The process is supported by a free and easy-to-use in-house toolkit and practical guidance.

Heat resilience example

Camden Council – Climate Risk and Vulnerability Assessment (CRVA) Data Review

- Detailed review of all existing data that could be used in an upcoming CRVA
- Proposed methodology, data sources and recommendations for Camden to undertake its CRVA, using a combination of GIS and qualitative data to produce standardised risk ratings.



Heat resilience example

Somers Town Schools Climate Adaptation Plans

Three key climate change impacts and risks for London schools are:

Current and future changes	Climate impacts and risks
More intense rainfall events	Flooding
Increased temperatures	Overheating
Greater water stress	Water scarcity

Each school's climate adaptation plan includes:

- Desktop research on baseline hazards
- Analysis from site visits on observed and reported climate-related issues and constraints at the school
- Recommended physical measures
- Recommended educational and behavioural measures
- Further guidance and funding opportunities

- Better environments for learning and playing.
- Improved educational and health outcomes.
- Support a more vibrant and resilient school community.
- Reducing inequalities.
- Reduced operational costs through energy saving/ reduced maintenance.
- Increased biodiversity, air quality, and energy efficiency.

ARUP

Air Quality

Clean Air Strategy and Action Plan

Camden

Things were bad

They are getting better

1952
The Great Smog of London

1956
The Clean Air Act

1995
The Environment Act

1997
The National Air Quality Strategy

2000
Camden Smoke Control Order

2005
World Health Organisation Air Quality Guidelines

2010
UK Air Quality Standards Regulations

2019
Camden Clean Air Strategy

2021
World Health Organisation updates

2025
Camden Breathe Better Charter

2025
Camden Smoke Control Order (waterways)

2027
Camden Clean Air Action Plan

But looks can be deceiving

Ella Roberta Adoo Kissi Debrah

2021 Coroner's Report:

- "I am concerned at the comparatively low level of access to public information."
- There was a lack of public awareness around the health risks associated with air pollution and a deficit of advice about steps that can be taken to minimise exposure to air pollution.
- "Greater awareness would help individuals reduce their personal exposure to air pollution."
- Call for action: ensure patients in hospitals and GP are made aware of how air pollution (indoors and outside) can be a contributing or causal factor in their illness.

Fill in the blank…

When we talk about air quality, we are talking about the quality of the air that we _____ .

health

- - - - -

asthma

- - - - -

breathe

- - - - -

seen

Air Quality and Climate Change

When we talk about air quality, we are talking about the quality of the air that we breathe.

In terms of measurement, it is separate to carbon dioxide, greenhouse gases and climate change.

health

- - - - -

asthma

- - - - -

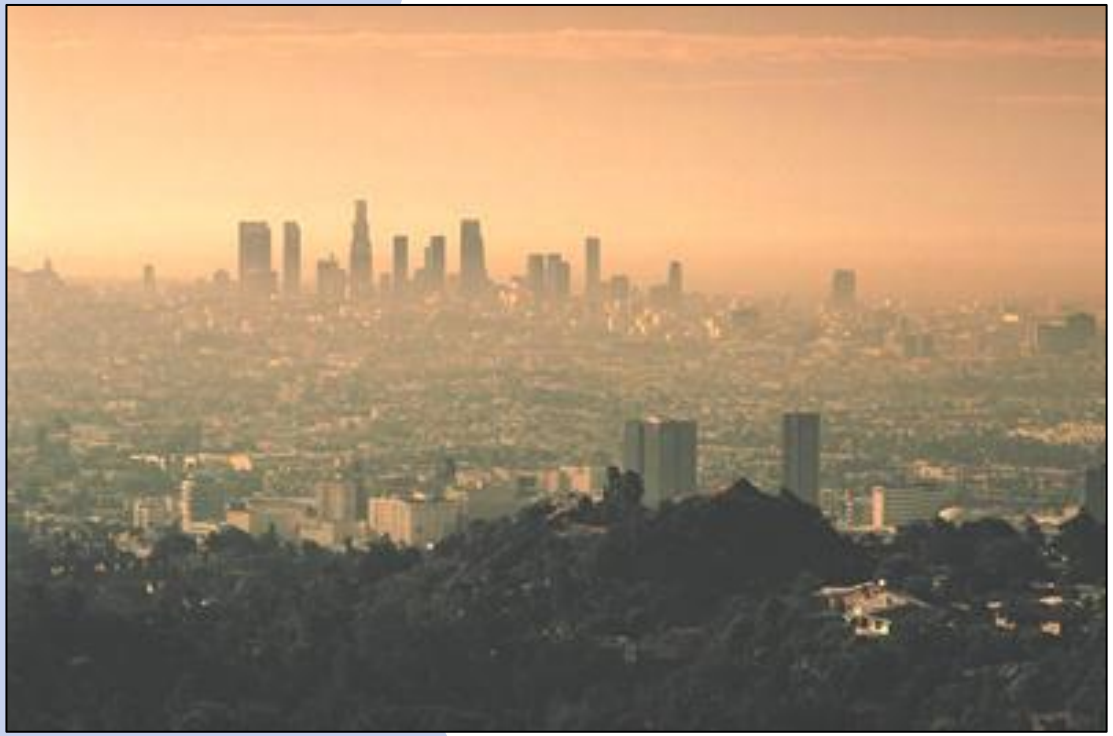
breathe

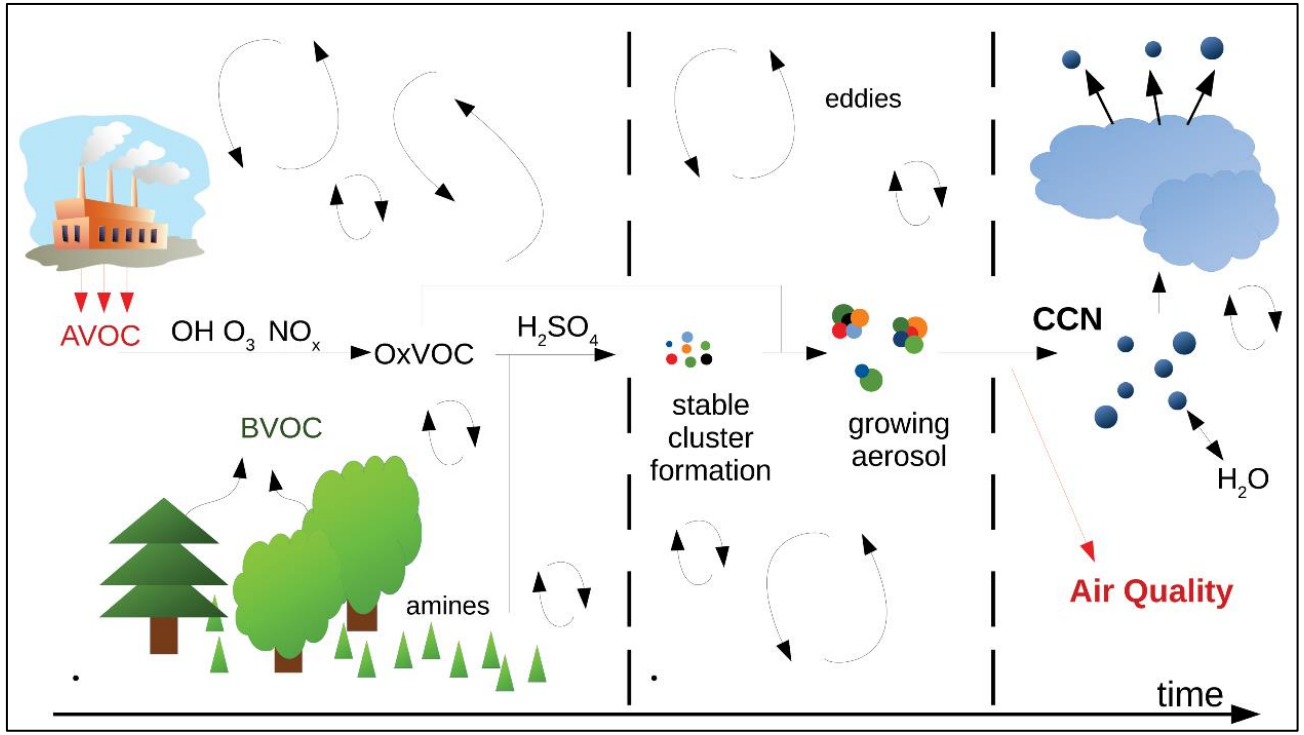
- - - - -

seen

But, keep an eye on both!

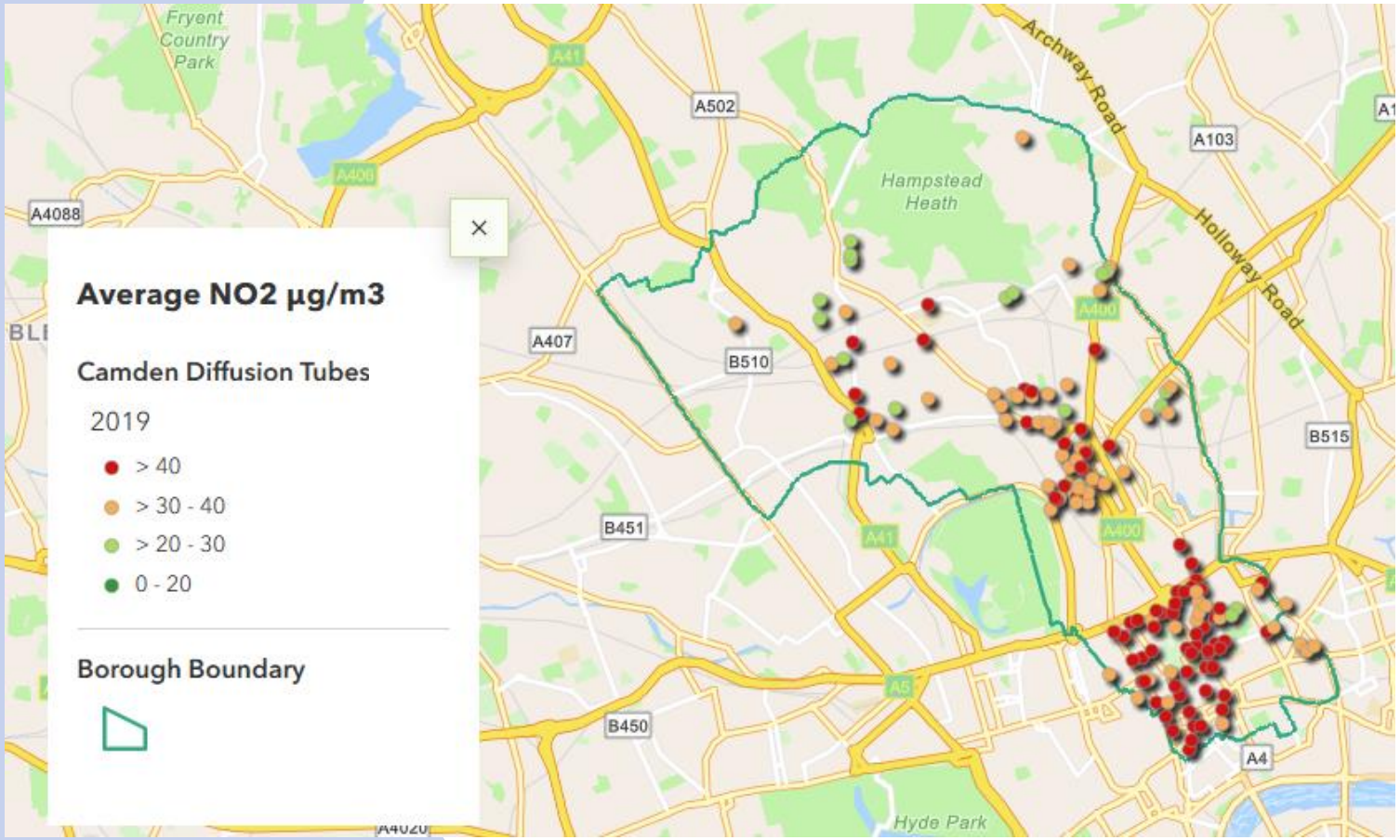
Ground level ozone and volatile organic compounds

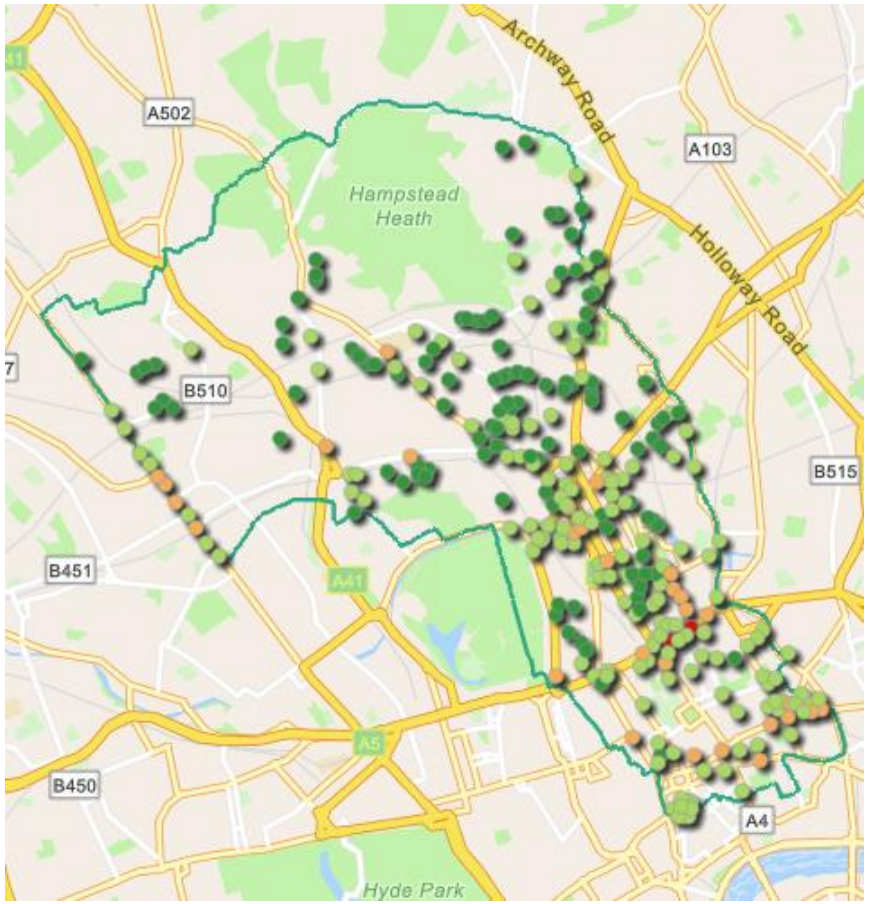




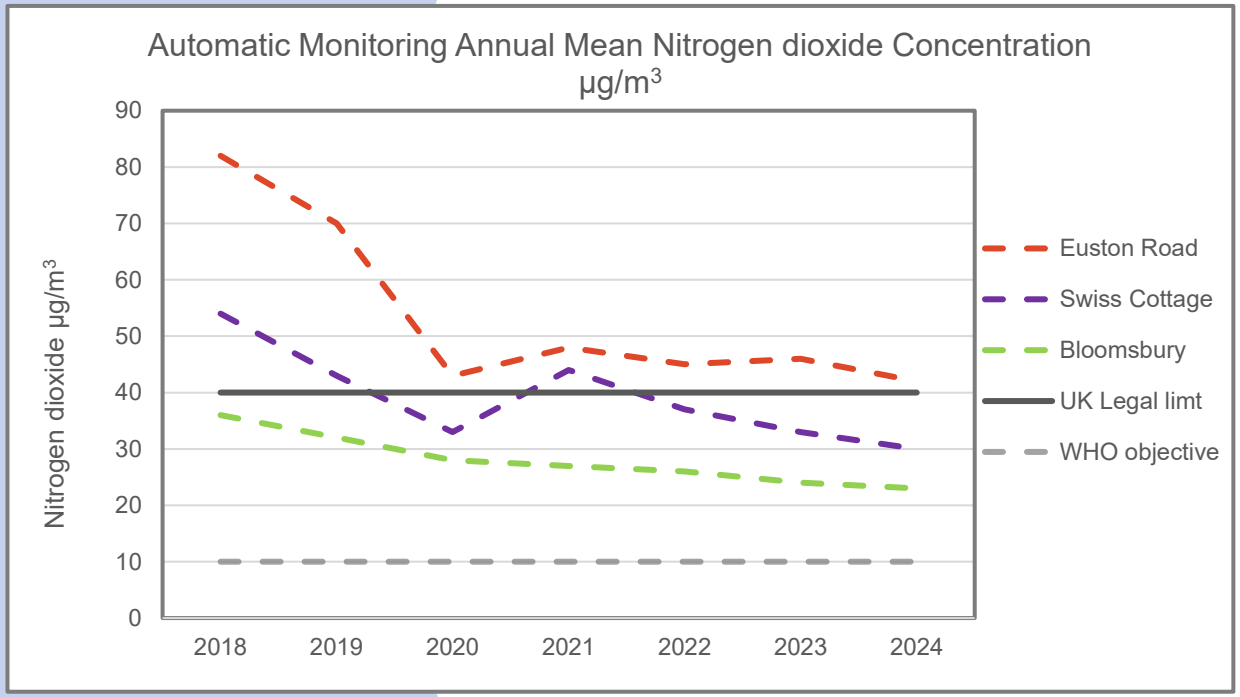
Air Quality Monitoring

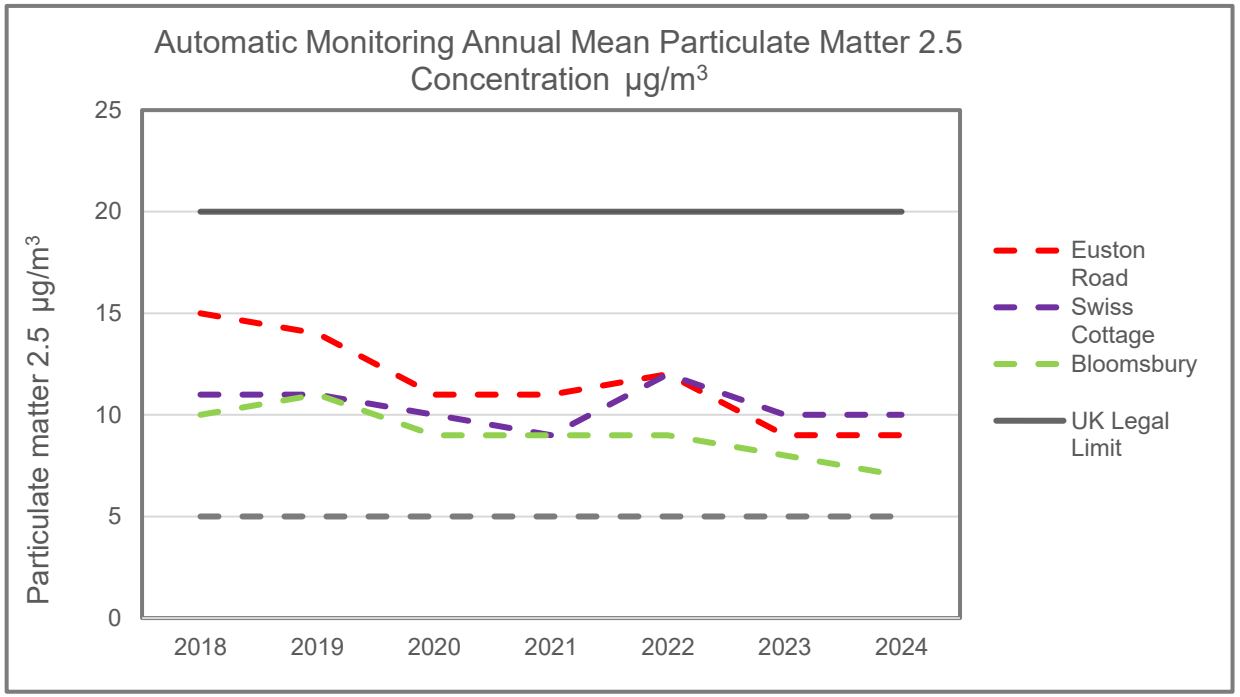
Diffusion tubes, 2019 vs 2024





Automatic reference sensors





Trend analysis:

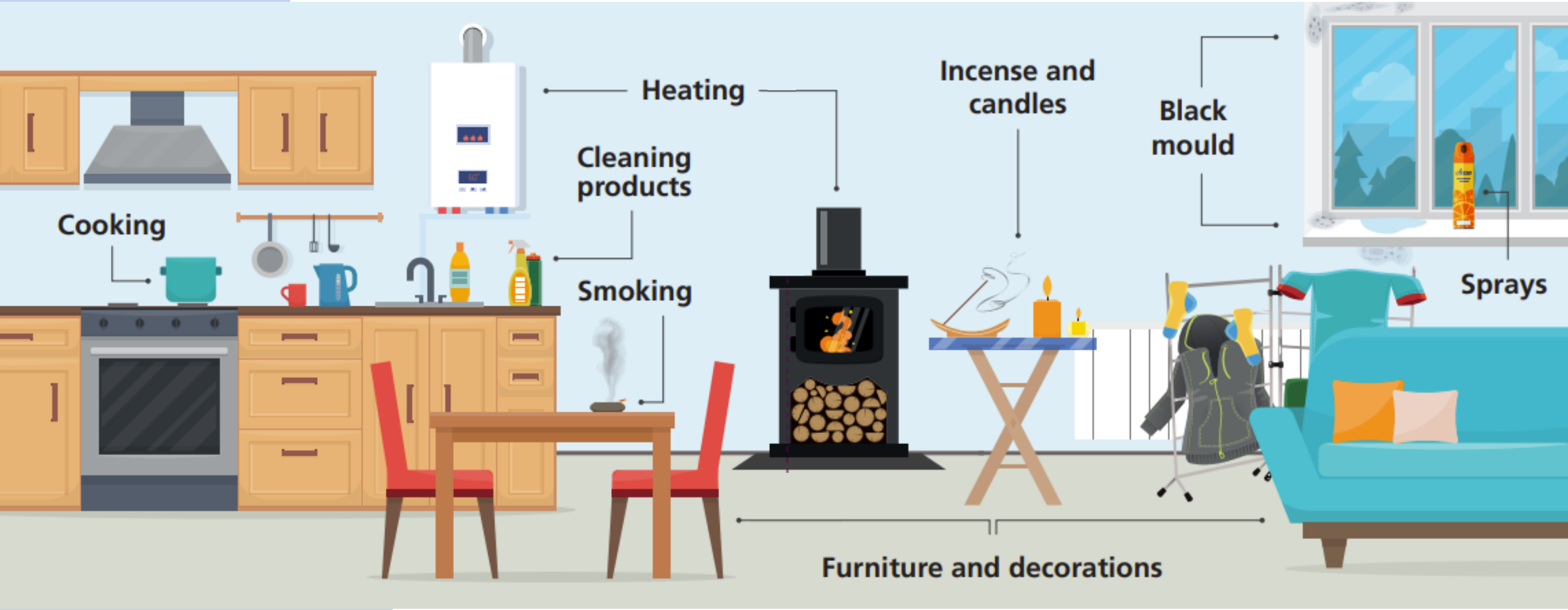
- Significant reduction seen, due to changes in road transport and construction machinery
- Building heating systems, i.e. gas combustion, are now the predominant source in London

Trend analysis:

- Harder to tackle, dependent upon legislation and new powers
- Commercial cooking and wood burning stoves are increasingly predominant sources in London

Workplace indoor air quality

Workplace Indoor Air Quality



Questions?

BREAK 

WORKSHOP (45 mins)

Breakout 1 (10 mins):

1. How are air pollution and extreme heat currently affecting your organisation, staff, customers or operations?

2. In what ways does your organisation contribute to air quality, either positively or negatively?

WORKSHOP (45 mins)

Breakout 2 (10 mins):

3. Looking 10-15 years ahead, what could your organisation start doing now to make sure it is more resilient to air pollution and heatwaves?

WORKSHOP (45 mins)

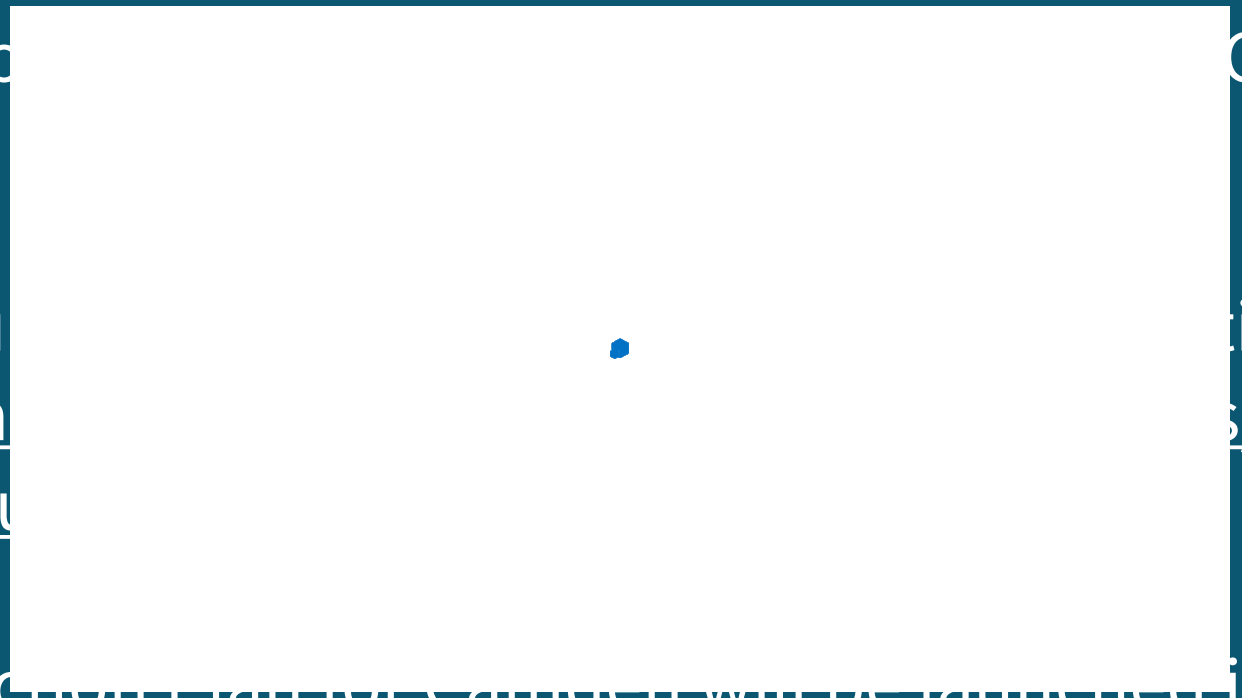
Breakout 3 (10 mins):

4. What support, resources or incentives would help your organisation take action on air quality and the climate crisis?

WRAP UP AND NEXT STEPS

Thank you for yo Camden's new Clean Air Action

Further opportu tion during Summer 2026: h s/en-GB/ or Email us at AirQu



New Clean Air Action Plan for Camden will be launched in early 2027 – stay up to date via the CCA or Clean Air Commonplace

THANK YOU

Camden Climate Alliance

The Fitzrovia Partnership
Business Improvement District

LONDON CLIMATE ACTION WEEK

Join the Camden Climate Alliance

Keep up to date with events and opportunities for businesses