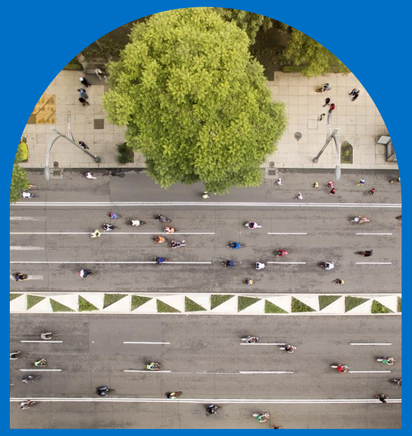
Breathe Cities



Breathe Cities and the Breathe London Community Programme

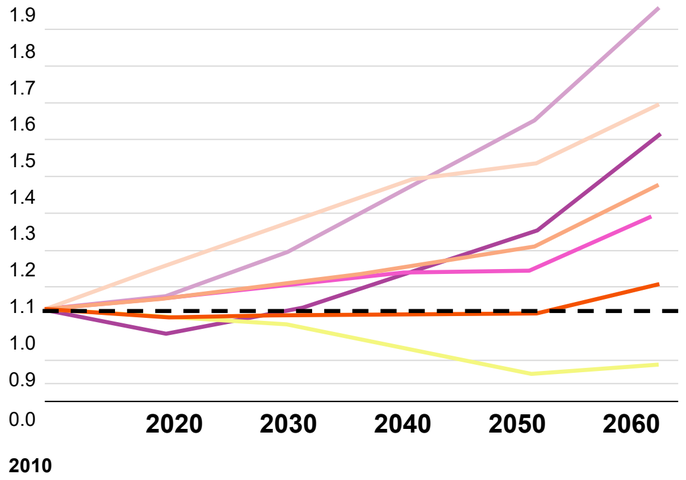
November 2025

Why Breathe Cities

Why air pollution?

Because most pollutant emissions are forecasted to grow by more than 20% from 2010-2060

Annual emissions vs. 2010 baseline (index=1, 2010-2060)

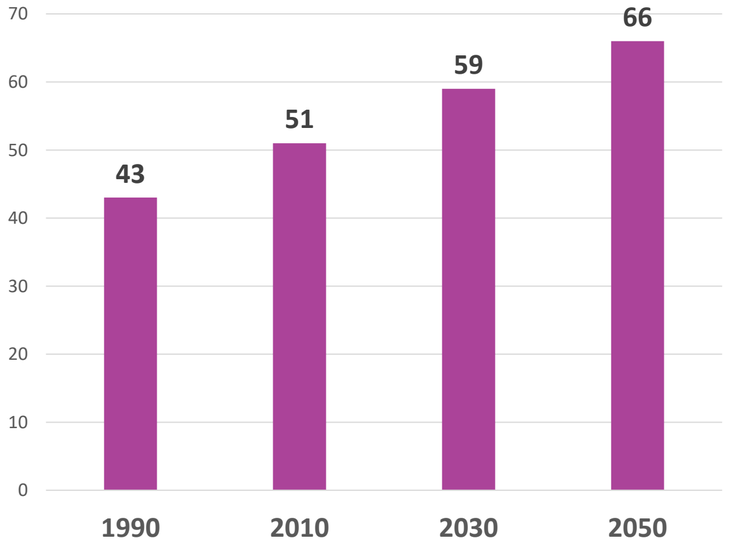


- Nitrogen Oxides **(NOX)**
- Sulphur Dioxide **(SO2)**
- Volatile Organic Compounds **(VOCs)**
- Organic Carbon **(OC)**
- Ammonia **(NH3)** Black
- Carbon **(BC)**
- Carbon Monoxide **(CO)**

Why cities?

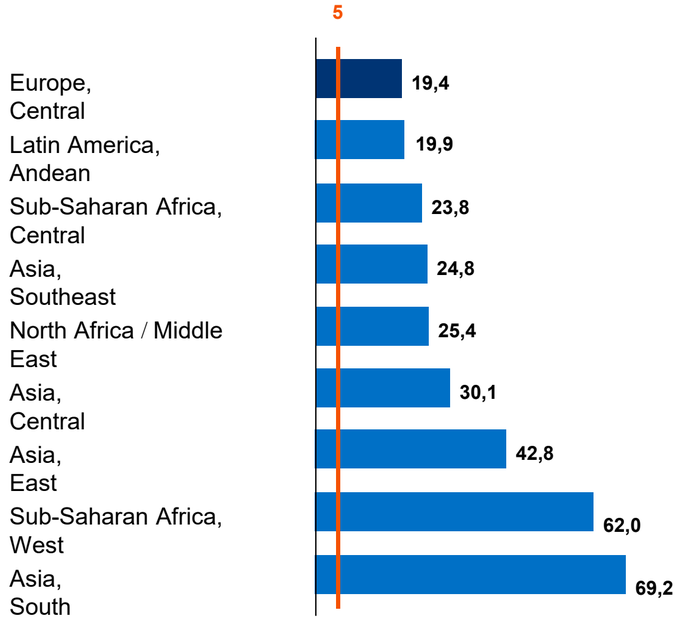
Because the global population in cities is growing…

% global population in urban areas



Global south impact

Regional urban average PM2.5 exposure, 2019 (µg/m³)



Global South Global North WHO Guideline

Sources: (a) OECD (2016), (b) IHS / 2023 / Global Economy Data and WHO (2016), UN, (c) Health Effects Institute / 2022 / Air Quality and Health In Cities: A State of Global Air Report 2022

Breathe Cities

Breathe Cities' founding organisations

CLEAN AIR FUND

Clean Air Fund is a global philanthropic organisation that works with governments, funders, businesses and campaigners to deliver clean air for all. The foundation funds and partners with organisations that promote air quality data, build public demand for clean air and drive policy change.

C40 CITIES

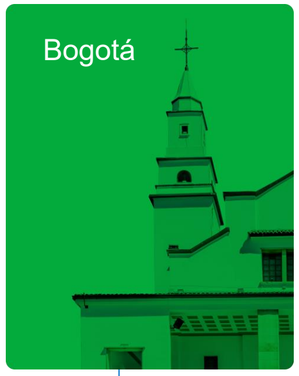
C40 is a global network of nearly 100 mayors of the world's leading cities that are united in action to confront the climate crisis. Mayors of C40 cities are committed to using an inclusive, science-based and collaborative approach to cut their fair share of emissions in half by 2030, help the world limit global heating to 1.5°C, and build healthy, equitable and resilient communities.

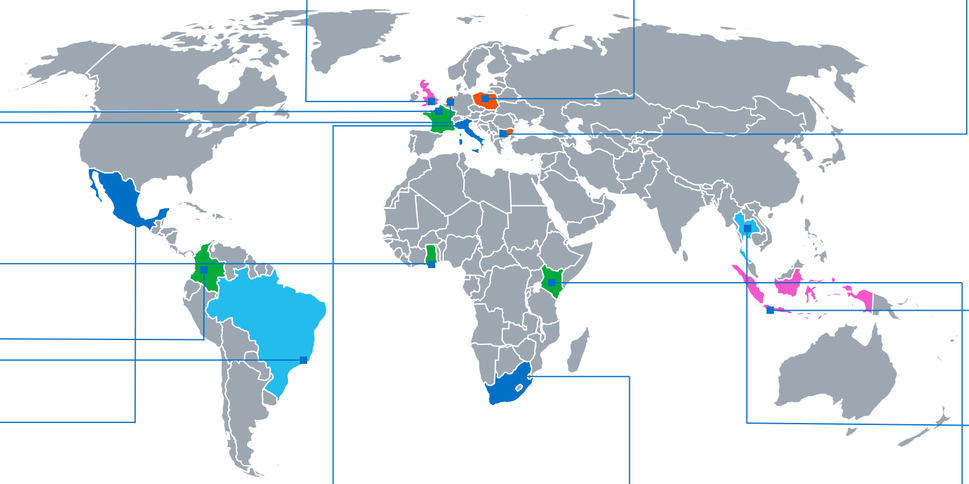
Bloomberg Philanthropies

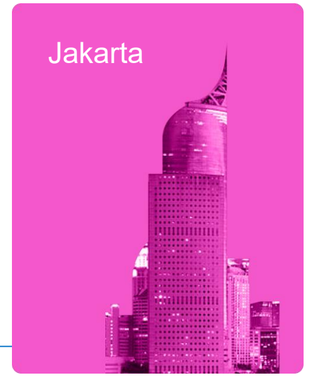
Bloomberg Philanthropies invests in 700 cities and 150 countries around the world to ensure better, longer lives for the greatest number of people. The organisation focuses on five key areas for creating lasting change: the arts, education, environment, government innovation, and public health.

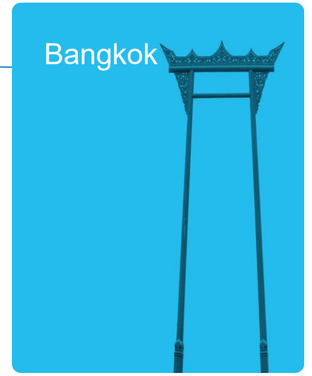
Breathe Cities

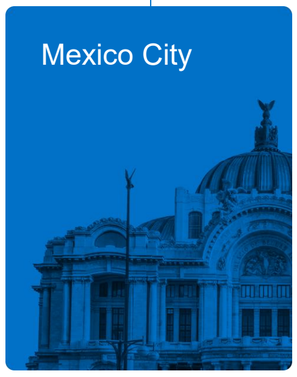
Where we work

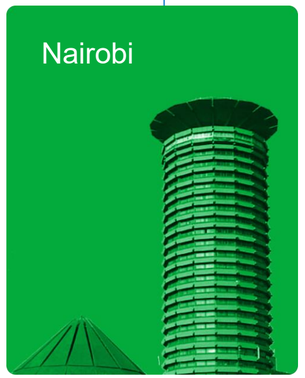












Breathe Cities

Our Theory of Change

	PILLARS OF INTERVENTIONS	OUTPUTS AND OUTCOMES
CITY SCALE	Data and Research	Improved access and use of air pollution health and equity data for policy making at city level, leading to maintenance and investment into data networks
CITY SCALE	Stakeholder and Community Engagement	Widespread public awareness leading to public demand for equitable action and accountability, city governments building institutional awareness, networks and capacity for inclusive action
GLOBAL SCALE	Technical Policy Assistance	City capacity to act on air pollution is improved, leading to city governments enforcing, implementing, financing legislation for clean air policy action that leaves no one behind
GLOBAL SCALE	Lesson Sharing	Cities understand why and how to take action to deliver clean air and equity, leading to city governments replicating approaches from the programme and collectively calling on governments to act on air pollution, social and health injustice

Impact

All residents, including frontline communities, in Breathe cities breathe cleaner air thanks to a 30% reduction in climate and air pollution emissions by 2030, compared to 2019 levels.

Breathe Cities

Our ambition

Achieving a 30% reduction in air pollution across participating cities by 2030 would lead to:

55,000
premature deaths prevented

394 megatons
of **CO2 emissions cut**

111,000
new cases of asthma in children **avoided**

$147 billion
in **avoided hospitalizations and deaths**

Breathe Cities

Impact so far

START OF PROGRAMME	AVG REDUCTION IN PM 2.5 VS 2019	AVG REDUCTION IN NO2 VS 2019	TOTAL POPULATION AFFECTED
2023	-6.5%	-13%	74.5 Million

DATA AND RESEARCH

1,124

Low-cost sensors deployed

22

Research reports published

STAKEHOLDER AND COMMUNITY ENGAGEMENT

111

Convenings held

>8,000

People engaged

TECHNICAL POLICY ASSISTANCE

20

Policies in design

25

Policies adopted

LESSON SHARING

23

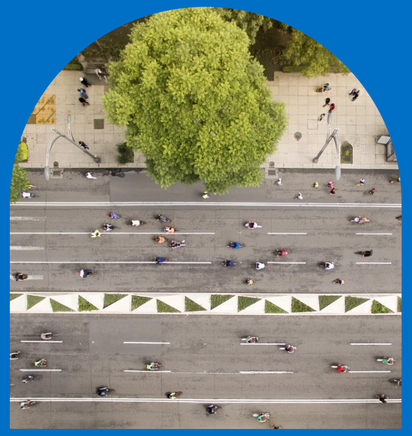
Knowledge sharing events held

>300

City officials engaged in knowledge sharing

Breathe Cities

Case Studies from the Breathe Cities



Breathe Sofia - LEZ for heating and removal of polluting devices

Sofia is charting a new course for clean air in South-East Europe by becoming the first city in the region to introduce Low Emission Zones (LEZs) for both transport and domestic heating.

Backed by the Breathe Cities initiative, the city is pursuing an ambitious vision to halve air pollution by 2030 through a combination of strong policy action, data-driven approaches, and community engagement

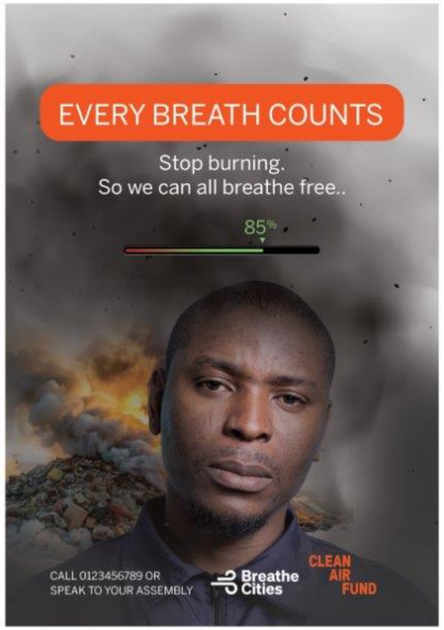
Doctors/Health professionals campaigning for air pollution in Sofia

Measuring impact of LEZ on NO2 levels using NO2 Diffusion Tubes under Za Zemiata project, 2023

Low Emission Zone, Sofia, 2024

Breathe Accra

Breathe Accra is inspiring districts in the Greater Accra Region to adopt air quality policies and strengthen collaboration between the government, local districts, communities and other partners to tackle the climate emergency and create a healthier, more inclusive and thriving future for Accra's residents



Breathe Cities

Common themes and learning across cities

1

City Leadership and Collaboration

Mayoral leadership accelerates action

Cross-sector partnerships (health, environment, transport) drive impact

2

Data drives action

Local air quality and health data make pollution visible

Low-cost sensors empower city-led solutions

3

People-powered change

Awareness campaigns and citizen movement is key to support policy change

4

Health as a unifying message

Framing air pollution as a health crisis builds urgency and public support

5

Affected communities at the core

Pollution impacts are unequal—solutions must prioritise cleaner air for the most affected communities

6

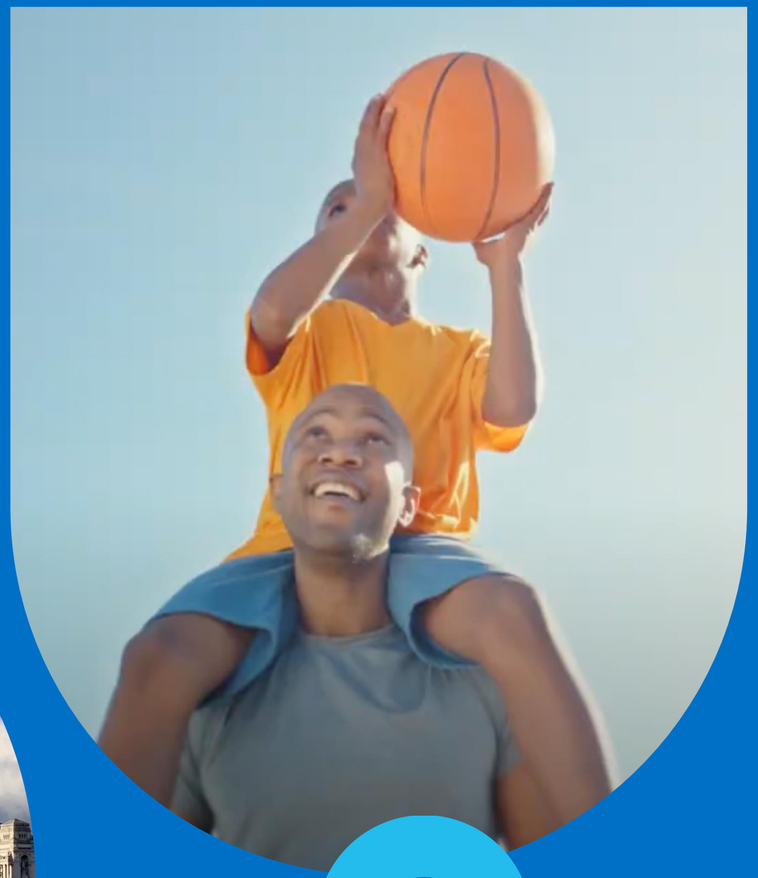
Sustainability & scale

Embedding interventions in budgets and sharing lessons enables long-term impact across cities

Breathe Cities

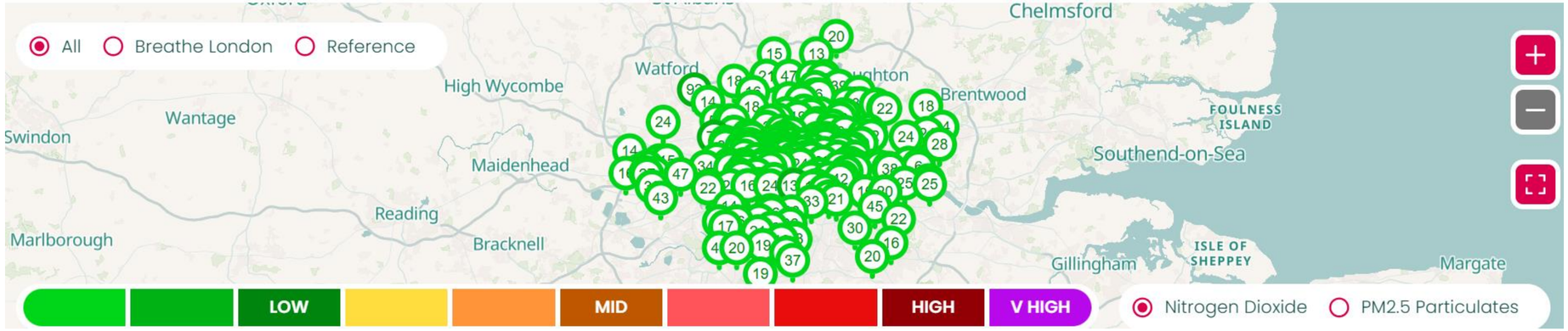
Breathe Cities

Breathe London



BreatheLondon

An air quality sensing network, built by Londoners for Londoners



Breathe Cities

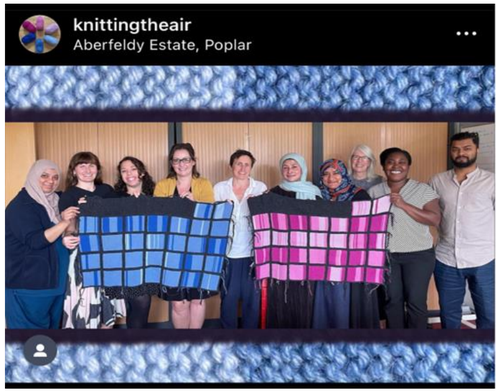
BREATHE LONDON COMMUNITY PROGRAMME

- *Supports locally led action using high quality, real-time calibrated air pollution data*
- *Programme **active since 2021** (Round 1 – 2021, Round 2 – 2022, Round 3 – 2023)*
- *30 highly motivated groups driving local air pollution reduction using data from small sensors*
- ***Co-created** programme aims and support packages*
- *Developing strategy to overcome **capacity constraints, entrenched power dynamics, inaccessible environmental** and **health data formats***

Breathe London Communities

A Breathe London Project

The new home of neighbourhood monitoring for London businesses, local government and residents in their communities, from the Environmental Research Group of Imperial College London



ELSEVIER

Environmental Science & Policy

Volume 170, August 2025, 104092

Advancing participatory sensing and knowledge production methods for city air quality governance: Applying the Breathe London Community Programme model

Kayla Schulte, Andrew Grieve, Benjamin Barratt, Timothy Baker, Hima Coonjobeeharry, Mohammed Mead

The New York Times

HEADWAY

People Need Clean Air. To Get It, They Need Clear Data.

The growing availability of low-cost air quality sensors is helping people across the world track air pollution.

communications earth & environment

A Nature Portfolio journal

Comment

https://doi.org/10.1038/s43247-025-02818-9

Update air quality management to support meaningful public participation

Karl Dudman, Kayla Schulte & Ruaraidh Dobson

Check for updates

Co-created 'Vision Statements'

Local Priorities

We will build bridges between communities and **decision-makers** (i.e. councillors, council staff, MPs)—**ensuring grassroots data directly informs strategy and legislation**

We want air quality data to be **accessible** and **actionable** (with **behavioural guidance**) — giving residents the confidence to take informed steps for their **health**.

We want easy-to-use, visual tools that clearly explain local air pollution trends using BLCP data

Programme-Wide

We are committed to securing **long-term funding** for community nodes— beyond 2026 and beyond dependence on one source

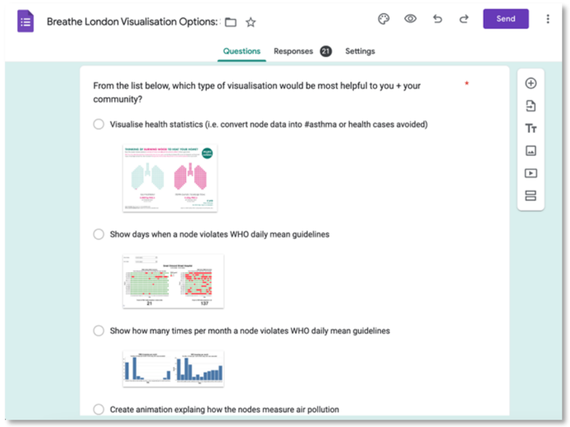
We aim to **shape local and national policy** through **community-led air quality data, campaigns, and lived experiences.**

We aim to **align storytelling** with **key public moments**, like Clean Air Night or Ella's Law, to **deepen widespread public engagement.**

Breathe Cities

Overcoming Barriers to Locally-led Action on Air Pollution

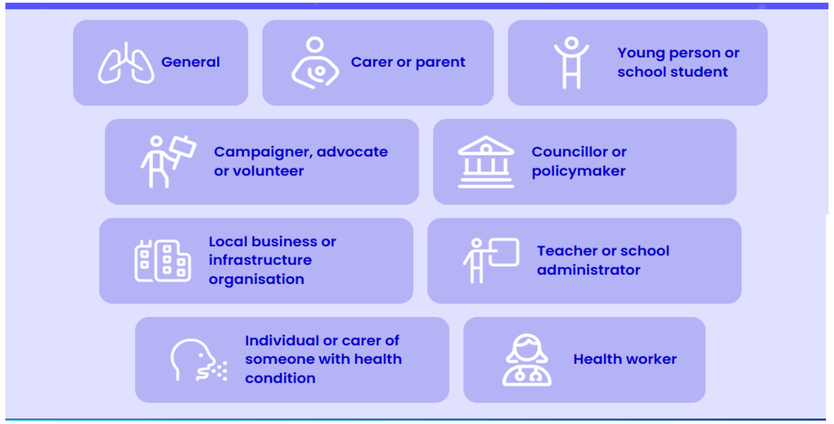
1. **Capacity constraints** → *multiple modes for engaging with the programme (online, in person, quick touch surveys)*



2. **Entrenched power dynamics** → *trust building activities, fostering connections with people currently in positions of decision-making power, building experience with conventional air pollution data and policy.*

3. **Inaccessible environmental and health data formats** → *co-designed mechanisms for communicating data in clear, visually intuitive ways*

4. **Actionable messaging and recommendations** → *co-created, tailored list of recommendations for key social groups (https://www.breathelondon-communities.org/what-can-i-do)*



Thank you

Breathe Cities