

Breathe London Scientific Advisory Group Terms of Reference

Background

In July 2018, C40 Cities Climate Leadership Group (C40) awarded a contract to a consortium led by Environmental Defense Fund Europe (EDFE) to conduct a pilot hyperlocal air quality-monitoring project in London to support policymaking, policy evaluation, and citizen engagement (the Pilot). The Pilot aims to demonstrate innovation in hybrid stationary and mobile monitoring systems, coupled with state-of-the-art air quality models, to assess and inform policy interventions, and to present findings in easy-to-access and understand formats. The Pilot, branded as “Breathe London,” will inform future policymaking in London and will provide a replicable model for action across other UK cities and globally. The Pilot will run for 12 months from fall 2018 through fall 2019.

EDFE’s consortium partners are Google Earth Outreach, the National Physical Laboratory (NPL), Air Monitors Ltd., the University of Cambridge, and Cambridge Environmental Research Consultants (CERC).

Data collection covers the area of Greater London, measuring a suite of high priority pollutants including NO₂, PM_{2.5} (and other PM size cuts), CO₂, NO, Black Carbon and Ultrafine Particles. Air quality will be sampled at over 100 fixed locations and across many thousands of 30m road segments using a combination of static sensors housed in AQMesh pods and mobile instruments installed in Google Street View cars.

The data collected across the Pilot will feed into a newly developed public website. The platform is primarily focused on translating air quality data into meaningful maps and other data visualizations that are actionable information for policymakers and citizens.

Role of the Scientific Advisory Group

The Scientific Advisory Group (SAG) will provide specialized scientific and technical expertise to the project team on questions relating to data quality, data analysis, interpretation of data analysis results, and recommendations for replication. Members include researchers prominent in the air quality space from universities and other institutions in the UK and internationally. This group is intended to supplement a Project Advisory Committee, whose remit focuses on ensuring project design advances current and planned air quality improvement policies and programs, and coordination of Breathe London and existing air quality improvement efforts across London and the UK.

Operation and Governance

The SAG will meet periodically over the course of the year-long project. Meetings will be held by videoconference beginning in early 2019. Approximately 2 weeks prior to each of these meetings, the study team will send draft materials to the committee. The panel will summarize its findings and recommendations in written and oral reports.

Over the course of its meetings, the group will be charged with addressing, sequentially, the following questions:

1. Are the mobile and stationary deployment strategies scientifically credible, and likely to lead to data that meets the project's scientific goals, including evaluation of policy interventions? Within the constraints imposed by the project's schedule and budget, are there specific modifications that could be made to the data collection strategy and sampling plan?
2. Are the air quality data, data analyses, and conclusions drawn from these analyses scientifically credible? Have uncertainties been adequately characterized? Are there other analyses which would provide more robust answers to the project's scientific goals?
3. How can learnings from this project be leveraged and replicated in other cities? What changes, if any, to study design and methodologies would be necessary for effective replication?