

Evaluation of Clean Air Fund's Low Cost Sensor workstream

Request for proposals August 2024

We are seeking specialist expertise to conduct an evaluation of the Clean Air Fund's work to support the uptake and effective use of low cost air quality sensing technologies. We want to assess the extent to which our activity has met our intended objectives and to generate lessons to inform future grant making in this area. The consultant/firm will have demonstrated experience working with INGOs or foundations preferably, to evaluate programme results derived from multi-project, multi-location initiatives. Significant experience conducting evaluations which incorporate outcome harvesting is highly desirable, as is expertise on environmental monitoring and technical grant making. Experience of working in the unique context of re-granting is also valuable.

Background to the Clean Air Fund

Launched in 2019, the Clean Air Fund is a philanthropic initiative with a mission to tackle air pollution around the world. Our aim is to help build and support a powerful global movement for clean air. We achieve this by bringing together funders, researchers, policy makers and campaigners working on a wide range of issues to find and scale solutions that will provide clean air for all. More information about the Clean Air Fund can be found on our [website](#).

Background to assignment

The Clean Air Fund Data Portfolio

Action on air pollution is far behind where it needs to be. Billions of people are breathing unhealthy air and millions are dying prematurely each year as a result. Air Quality (AQ) data is fundamental to solving this issue. Data tells us how much pollution is in the air we breathe and where that pollution comes from. This information informs our understanding of how air pollution impacts our health, our environment and our economy, and is fundamental in designing, implementing and enforcing policies and solutions.

Creating a compelling case for change, driven by data, is a complex, multistakeholder problem, and one that the Clean Air Fund is committed to solving. As such, our Data Portfolio has worked on this issue under its current strategy (launched in 2022). One of the areas of focus for the Data Portfolio is to lower the cost and complexity of monitoring AQ. To achieve this, we have developed a portfolio of grants which aim to improve the accuracy, reduce the costs, and grow the responsible uptake of low cost sensors (LCS) and wearable AQ monitors.

The Low Cost Sensor (LCS) workstream

Low cost sensors (also known as small sensors or air sensors) are compact devices designed to measure various pollutants at a relatively lower expense (and correspondingly, at lower accuracy and precision)

compared to traditional, high-end reference or research grade monitoring equipment. Their compactness, portability and relative affordability mean LCS are growing quickly as a method of monitoring air quality and, if used appropriately, the technology offers the potential to fill data gaps globally.

The Clean Air Fund's data strategy has funded several approaches to supporting the uptake of LCS, including:

- **Deployment of LCS networks in cities to support air quality management**, such as through the [Breathe Cities](#) initiative
- **Sensor evaluation programs to independently test and verify LCS performance**, such as the [Microsensor Challenge Prize](#) and the [African Sensor Evaluation and Training Facility](#) (Afri-SET)
- **Development of sensor technology and support for its broad uptake**, such as with the non-profit wearable sensor manufacturer [HabitatMap](#)
- **Aggregation of LCS data and promoting that data so it is made openly accessible**, such as with [OpenAQ](#)
- **Supporting campaigners and awareness raising events using LCS technology**, such as through campaigns with [Urban Better](#), [World Athletics](#) and the [Global Alliance for Incinerator Alternatives \(GAIA\)](#)

Evaluation objectives

The evaluation has four key objectives:

1. Understand the degree to which the CAF Data strategy on LCS (to improve accuracy, reduce costs and demonstrate applications of low cost and wearable monitors) has been achieved.
2. Assess the added value of Clean Air Fund in the global LCS space and limitations of CAF's presence in this space.
3. Develop strategic recommendations for CAF's further work on LCS, for consideration in the new Data strategy.
4. Develop one to two deep dive case studies which help tell the story of the LCS part of CAF's Data Theory of Change (ToC).

Proposed evaluation approaches

We intend to commission an evaluation which includes both theory-based approaches and outcome harvesting and incorporates equity considerations throughout.

Theory based approaches

The programme logic and intended outcomes are described in an existing ToC. For the LCS aspect, the evaluation will need to specify in more detail the intended outcomes and pathways to change during the start of the evaluation exercise. This will provide the foundations for a robust assessment of programme outcomes, the extent to which these have been achieved and an understanding of the strength of the evidence that programme outputs have contributed to observed changes. We are also interested in the lessons associated with the context of the interventions. Process tracing or contribution analysis may be considered as suitable evaluation approaches.

Outcome Harvesting

As the full range of potential outcomes, especially those associated with the application of LCS in campaigning and advocacy activities, have not been systematically captured, outcome harvesting is to be considered as part of the evaluation methodology.

Equity

Crucial throughout the evaluation is a focus on equity, drawing on and reflecting the principles set out by the [Equitable Evaluation Initiative](#), and in line with CAF's 'equity sensitive' approach.

Evaluation scope

This evaluation will explore the contribution of Clean Air Fund's work to increasing the reliability, performance, trust and openness of LCS and the data LCS produce. This will include gathering inputs from members of the CAF team, grantees and collaborators as well as external experts. The evaluation will also detail lessons identified from the above, specifically, how Clean Air Fund may replicate any successes/ avoid repetition of approaches and initiatives which were less effective. The evaluation will include work within country portfolios where the data portfolio has supported the inclusion of LCS programming. Out of scope will be an assessment of any potential climate and health co-benefits associated with contributions of LCS data to policy design, adoption, implementation or enforcement.

Key evaluation questions

Reflecting the evaluation objectives, there are three key evaluation questions. These will be refined as part of the inception phase of the evaluation.

1. How effectively has CAF improved the accuracy, reduced costs and demonstrated the applications of low cost and wearable monitors to promote Air Quality data?

- In line with the proposed approach, the evaluation will first refine, finalise and obtain consensus amongst the CAF team regarding the elements within the ToC related to the LCS causal pathway, including the underpinning assumptions. This will provide an agreed outcome or set of outcomes concerning the strategic goals for the LCS work, against which to understand progress and our contribution. The development of this ToC and outcomes will build on preparatory work undertaken by the CAF staff to detail the intervention logic. The evaluation will objectively validate the outcome/s and assess how positive the results are, including for different groups.

2. What evidence is there that CAF has added value in the global LCS space and contributed to building the LCS field and what are the limitations of CAFs presence in this space?

- The evaluation will develop evidence on the relative role which CAF and grantees have played in developing the global LCS space. The relevance and appropriateness of CAF's approach to developing the global LCS space will be examined by the evaluation.
- Outcomes associated with the LCS strand of the data strategy will be collected, including the relative significance of the changes, the contributing factors and the strength of the evidence for CAFs role.
- Limitations of CAF's role in the global LCS space will also be considered with a view to generating recommendations for further initiatives.
- An important part of our work relates to building the clean air ecosystem. Anecdotal evidence suggests that work under this Portfolio has contributed to building capacity and enabling the wider work of partner organisations. The evaluation will document CAF's contributions to change relating to the wider LCS ecosystem and amongst grantee organisations.

- The evaluation will also seek to capture unintended outcomes and consequences (positive and negative) of CAF’s interventions in this space.

3. Which priority lessons need to be considered for the development Data Portfolio strategy and future LCS work?

- The evaluation will detail lessons and insights relevant to future LCS and campaigning programmes, including opportunities identified in global and select local contexts for amplified or adapted programming.
- The evaluation will specify applications of the evidence generated to the development of the next iteration of the Clean Air Fund’s Data strategy. Doing so will help answer questions such as whether we should remain focussed on LCS and wearable monitoring to support campaigning efforts on AQ.

Primary and secondary evaluation users

- The primary users of the evaluation outputs will be the Data Portfolio team, SLT members and funders.
- Secondary users will be other Portfolio team members which include data and LCS elements within their work.

Anticipated deliverables and key dates

The project is expected to commence on the Monday 23 September and will be completed by 21 November 2024. We would like to include a debrief presentation for CAF staff in November.

A summary of the deliverables and key dates are outlined below:

Deliverables	Tentative date (week commencing)
A succinct inception report, including a brief evaluation plan confirming the approach, key evaluation questions, timelines, and collaboration between the evaluation team and Clean Air Fund team members.	23 rd September
Internal workshops and interviews.	30 th September
External workshops and interviews.	14 th October
Validation and recommendations codesign workshop with CAF staff.	28 th October
First draft report	11 th November
Succinct summary presentation of the main findings and recommendations for wider Clean Air Fund team.	11 th November (provisional)
Finalised evaluation report, 30 pages maximum length (excluding annexes) and including a standalone executive summary not exceeding four pages.	18 th November
At least one succinct case study (max three pages) which helps evidence the story of CAF’s Data ToC.	18 th November

Evaluation budget

The budget ceiling for the evaluation is \$40,000.

Proposal format and requirements

The successful consultancy company or individual(s) will have a demonstrated track record of delivering similar activities for global organisations. We are looking for a consultancy company or individual(s) with the following:

- Strong understanding and demonstrable experience embedding equity considerations into evaluation exercises and experience and a commitment to equity in MEL.
- Experience of delivering successful outcome harvesting evaluations and using theory-based approaches in evaluations.
- Expert stakeholder management skills.
- A track record of producing well-written, clear, engaging and action-focused evaluation reports and findings.
- Strong strategic consultancy, planning, assessment and analysis skills.
- Experience of working with philanthropic organisations.
- Excellent communication skills (both verbal and written).
- Ability to work to tight deadlines.

Applicants should provide:

- A CV and cover letter detailing the skills and experience of consultants relevant to this evaluation.
- An expanded set of proposed activities, deliverables, and associated deadlines to meet the evaluation objectives.
- A budget with activity and cost breakdown.
- We would be interested in receiving a relevant sample of previous work.

Timeline and submission

The deadline for submission of proposals is end of day (UK BST) 16th September, 2024. Proposals must be submitted via email to tnelson@cleanairfund.org.

After the application deadline the Clean Air Fund will review proposals and engage with preferred suppliers to expand on the project objectives and approach, and to develop an agreed set of activities and associated budget before contracting. Submissions may be shared with partner stakeholders such as the Clean Air Fund Monitoring, Evaluations, and Learning Advisory Board.

Activity	Date
Deadline for questions	11 th September 2024
Deadline for proposals	16 th September 2024
Interview with shortlisted companies/individuals	Week of the 16 th September 2024
Decision on preferred bidder	Week of the 16 th September 2024
Contracting and project start	23 rd September 2024
Deadline for completing the work	21 st November 2024