

Request for Proposals: Analysis of the Climate Impacts of Sectoral Solutions in Black Carbon-Rich Sectors

Issued by: Clean Air Fund

RFP issue date: Sep 3

Deadline for questions: Sep 10

Proposal submission deadline: Sep 17

Expected project start date: Oct 15

Expected project duration: 60 days from contracting maximum (speed of delivery prioritized)

Budget range: Up to 70,000 USD

Summary

Clean Air Fund is seeking proposals from a suitably qualified consultant, research institution, consortium or organisation to conduct analysis on the climate impacts of a specific set of sectoral emissions solutions in black carbon-rich sectors. The work will help Clean Air Fund better understand, compare and communicate the priority interventions that can reduce black carbon emissions. This includes the contribution of the interventions to near-term climate mitigation, their interactions with co-emitted climate forcers, and their local, regional and global climate implications. The analysis should provide scientifically robust, and decision-useful evidence that can inform Clean Air Fund's internal prioritisation, funder engagement and wider ecosystem engagement on black carbon mitigation. We have allotted up to 70,000 USD for this work. The last date of submission is September 17, 2026.

Context

Clean Air Fund is a global philanthropic organisation working with governments, funders, businesses, researchers and civil society to tackle air pollution and create a future where everyone breathes clean air. We fund and partner with organisations around the world to improve air quality data, build public demand for clean air and drive policy and practical action.

Clean Air Fund's Super Pollutants programme focuses on fast-acting climate pollutants that also harm health and ecosystems. The programme has a focus on black carbon, also known as soot: a component of fine particulate matter (PM_{2.5}) produced during incomplete combustion of fossil fuels, biomass and waste and forest fires. Black carbon has significant adverse impacts on health and climate, including atmospheric warming, accelerated snow and ice melt, disruption to rainfall patterns and localised heat effects. It is also a harmful air pollutant and a development and equity issue, with many of its sources disproportionately affecting the health of lower-income communities.

Clean Air Fund's ambition is to accelerate action to reduce black carbon emissions from major sources. This includes generating evidence, building coalitions across climate and health communities, supporting development of national and international policy frameworks and opportunities, and showcasing viable solutions that can deliver rapid climate, clean air, and health co-benefits.

Although many black carbon mitigation options are already available, clear, comparable evidence on their climate impacts is often missing. This is partly because black carbon is short-lived, spatially heterogeneous and commonly emitted alongside other climate-relevant pollutants, including organic carbon, sulphur dioxide, nitrogen oxides, carbon monoxide, and carbon dioxide. Clean Air Fund is therefore commissioning analysis to better understand the net climate implications of selected sectoral and sub-sectoral solutions, including their near-term and longer-term effects, local and regional climate impacts, global temperature implications, and any potential trade-offs.

Purpose and objectives of the assignment

The purpose of this assignment is to assess the climate impacts of selected interventions that reduce black carbon emissions across different sectors and sub-sectors. The work should support the Clean Air Fund to prioritise potential interventions internally and engage funders, partners, and the wider clean air and climate ecosystem on where action could deliver fast climate benefits alongside air quality improvements.

The objectives are to:

- Identify and evaluate sector-specific mitigation interventions, including feasible emission reduction targets that achieve regional and global reductions in black carbon emissions.
- Develop a baseline and plausible sectoral mitigation scenario, run suitable reduced-complexity climate models and calculate near-term and long-term climate benefits for the intervention. Also calculate associated air quality impacts from that intervention as well.
- Provide a communication carousel and slide deck for communication purposes on the results which Clean Air Fund and partners can use to communicate the findings.
- Highlight evidence gaps, uncertainties and methodological choices that materially affect the results, including how uncertainty ranges and central estimates should be interpreted.

Scope of work

The consultant/service provider will work with Clean Air Fund to agree the final analytical scope during inception. The scope is expected to include the following components:

1. Evidence review and data sources

The aim for the evidence review is to accumulate 15-25 global and regional targets for different sectoral and sub-sectoral mitigation strategies through a literature review. Below is the list of a few mitigation strategies which have been known to reduce black carbon. We have added a few mitigation targets in the table below. The consultants/service provider will do an in-depth review of literature and add more such mitigation targets provided by organizations of repute.

By target, we mean a clearly defined mitigation goal or implementation pathway for a black-carbon-emitting source, including the sector/sub-sector, intervention, geographic scope where relevant, baseline assumptions, and target year. It should be specific enough for the consultant/service provider to model emissions under a baseline and mitigation scenario, then estimate climate and air quality impacts. For example, from the table below: “Zero Routine Flaring by 2030” in the industry sector is a target because it defines a specific intervention and timeframe that can be translated into reduced black carbon and co-pollutant emissions.

These targets can be both regional and global. The consultant/service provider may refine the following list during an inception meeting, by including clarifying geographic scope, baseline assumptions, implementation pathways, and whether individual solutions should be assessed separately or as packages etc.

Sector	Sub-sector mitigation strategies/policy levers/targets
Residential	• Use of cleaner fuels for cooking and residential heating; improved cookstoves • Replace wood burning in fireplaces and stoves
Transport	• Implement stringent emission standards for new engines and fuels. Net-zero target with vehicle electrification and increased use of public transport; phase out older, high-emitting diesel vehicles. (Vision 2050, ICCT) • Use cleaner shipping fuels, particularly in Arctic regions; (IMO) • Emission reduction from Aviation by ICAO (Aviation Vision 2050, ICCT)
Industry	• Zero Routine Flaring by 2030 (World Bank Group) • Update traditional Bricklin technologies to energy-efficient Zig-Zag and vertical shaft technologies • Update coking with a new and improved methodology • Restriction on new coal TPP and phasing out installed coal-based TPP with renewable energy power plants; restriction on coal-fed boilers
Open burning	• Ban on open burning of <i>agricultural crop residue</i>; Ex-situ crop management

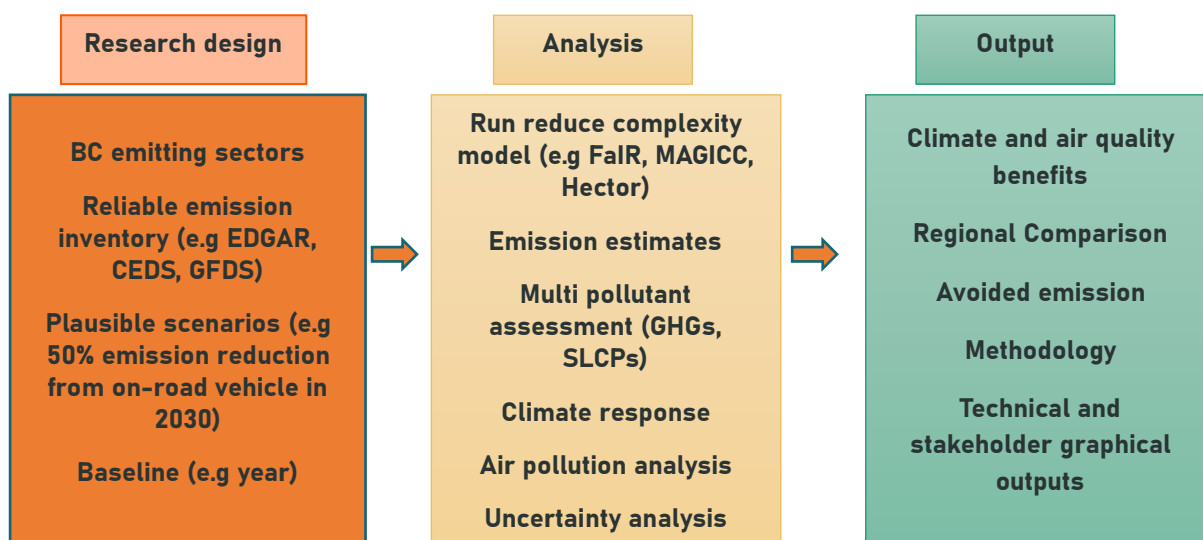
	Ban on any <i>waste burning</i> in the open air, including assessment of relevant enabling conditions and implementation assumptions.
Forest Fire/wildfire	Integrated fire management (IFM) and community-based fire management (CBFM) approaches (Global Fire Management Hub, FAO, 2024)

2. Expected climate and air quality impact estimation

For each of the targets, the analysis should provide outputs of:

- The emission of black carbon and co-pollutants for counterfactual or baseline scenario, mitigation pathways. Key co-emitted pollutants (CO, NO_x, SO₂, NMVOCs, OC and PM) and greenhouse gases (CO₂, CH₄, N₂O, SF₆, NF₃, HFCs, PFC) affected by the intervention.
- Direct and if possible, indirect climate effects associated with black carbon and expected changes in climate response in near term and long term. We would also encourage to conduct associated air pollution impact if possible.
- The consultant/service provider should propose a robust and proportionate methodology for estimating multi-pollutant climate impacts using reduced complexity models (RCM). RCMs (MAGICC, FaIR, Hector, etc) are computationally efficient models that simplify the representation of complex physical and chemical processes while accurately estimating pollutant concentrations and climate impacts across a range of mitigation pathways. Proposals should explain the preferred approach, its advantages, limitations, data requirements, and uncertainties.

A brief analytical framework is presented below -



3. Expected deliverable

The service provider should be able to deliver:

1. An inception note, covering brief methodology, selected targets, and potential outputs

2. A spreadsheet with list of sub-sectoral targets (at least 20-25), associated long-term and short-term climate impact, baseline and mitigation scenario emission including impact on air pollution
3. Well designed presentation-ready slidedeck with executive summary, high-quality presentation-ready figures and graphics, and clear visualisations and explanation
4. A detailed document on methodology, results and interpretation
5. Training for CAF members on the modelling.

Applicants may find it useful to structure the analysis around a framework similar to the indicative table below. This is illustrative only: Clean Air Fund is open to alternative analytical structures, outputs and formats where applicants can explain why these would better answer the research questions and support decision-making.

Analytical dimension	Indicative output or question to address
Sector, target, and solution definition	The consultant/service provider should develop a complete table for each selected sector, similar to the illustrative table above, identifying the sector, sub-sector, mitigation target/intervention, policy pathway, geographic scope, baseline assumptions, mitigation scenario and target year.
Short and long term climate effect	What is the net climate implication once black carbon reductions and co-emissions (e.g GHGs and SLCPs) are considered together? Which climate metrics (GWP, RF, ERF) should be used for reporting and why? Where applicable, could the intervention influence snow and ice albedo glacier melting, aerosol–cloud interactions and precipitation patterns?
Co-benefits of emission reduction	What are the estimated air pollution benefits of black carbon mitigation in terms of avoided PM2.5 reduction etc.
Emission inventory and activity data	Which emission inventory is used as an initial input for scenario analysis, and its associated activity data, emission factors, and data sources?
Uncertainty and ranges	What central estimates, ranges, confidence levels, sensitivities or scenarios should be reported, and what drives uncertainty?

Consultant/service provider profile and requirements

Clean Air Fund welcomes proposals from individual consultants, service provider organisations, academic institutions, research centres or consortia. Applicants should demonstrate:

- Strong technical expertise in climate science, short-lived climate pollutants, air pollution, emissions modelling, mitigation analysis or related fields.
- Familiarity with relevant emissions inventories, climate metrics, mitigation assessment methods and uncertainty analysis.

- Experience applying reduced-complexity climate models (e.g., FaIR or MAGICC or Hector etc.) for climate responses. If consultant/service provider is willing to suggest any alternative methodology and matrix, we would also consider them as well.
- Experience translating technical findings into clear, decision-useful outputs for internal strategy, funder engagement and non-specialist partner audiences.
- Proposal requirements

Proposals should be no longer than 4 pages (excluding CVs) and should include the following information:

- **Understanding of the assignment:** Interpretation of the objectives, key analytical challenges and how the work would support Clean Air Fund's strategic needs.
- **Proposed methodology:** Analytical approach, modelling options, climate metrics, treatment of multi-pollutant effects and co-emissions, time horizons, local and regional climate effects, data sources, assumptions, uncertainty analysis, use of quantitative and qualitative methods, and proposed outputs.
- **Workplan and timeline:** Key tasks, milestones, review points and proposed level of effort by team member.
- **Team and experience:** Roles, biographies, relevant previous work and examples of comparable assignments.
- **Budget:** Itemised budget including fees, expenses, taxes and any assumptions. Applicants should state whether costs are inclusive or exclusive of VAT or other applicable taxes.

Applicants may include annexes with CVs, publication lists, short examples of previous work or technical notes. Clean Air Fund may request additional information during the assessment process.

Indicative timeline

Stage	Indicative date
RFP issued	Sep 3
Deadline for clarification questions	Sep 10
Responses to clarification questions shared	Sep 12
Proposal submission deadline	Sep 17
Interviews or clarification calls, if required	Sep 22
Selection and contracting	Oct 15
Project inception meeting	Oct 20

Draft findings submitted	Dec 1
Final deliverables submitted	Dec 20

The final timeline will be agreed with the selected consultant/service provider. Applicants should propose a realistic schedule and identify any dependencies that could affect delivery.

Submission process

Proposals should be submitted by email to aroy@cleanairfund.org by EOD Sep 17, 2026. Please use the subject line: "Proposal: Climate impacts of black carbon sectoral solutions".

Clarification questions should be submitted to aroy@cleanairfund.org by Sep 10. Clean Air Fund may share anonymised responses to clarification questions with all interested applicants to ensure a fair process.