

Section II: Schedule of Requirements

eSourcing reference: RFP/2017/2592

FIELD STUDY ON THE RELATIONSHIP BETWEEN COOKSTOVE EMISSIONS AND PERSONAL EXPOSURE DURING TYPICAL USAGE IN HOMES

Background

UNOPS mission is to serve people in need by expanding the ability of the United Nations, governments and other partners to manage projects, infrastructure and procurement in a sustainable and efficient manner. Within these three core areas of expertise, UNOPS provides its partners with advisory, implementation and transactional services, with projects ranging from building schools and hospitals, to procuring goods and services and training local personnel. UNOPS works closely with governments and communities to ensure increased economic, social and environmental sustainability for the projects we support, with a focus on developing national capacity.

We employ more than 7,000 personnel and on behalf of our partners create thousands more work opportunities in local communities. Through our headquarters in Copenhagen, Denmark and a network of offices, we oversee activities in more than 80 countries.

The Climate and Clean Air Coalition to Reduce Short Lived Climate Pollutants (CCAC), is the first global effort to treat short-lived climate pollutants as an urgent and collective challenge. Launched in February 2012, the Coalition is encouraging rapid reductions in black carbon (or soot), methane and many hydrofluorocarbons to protect human health and the environment now, and to slow the rate of climate change within the first half of this century.

The CCAC is a partnership of governments, intergovernmental organizations, and representatives of the private sector, the environmental community, and other members of civil society, that are committed to accelerating and incentivizing action to address key short-lived climate pollutants (SLCPs). The Coalition has a membership of 116 Partners as of November 2017 and 11 approved initiatives for rapid implementation. UN Environment is a Partner in the Coalition. UN Environment also hosts the Secretariat and the Trust Fund of the Coalition in its Economy Division in Paris.

CCAC supports its partner, the Global Alliance for Clean Cookstoves (the Alliance) in its activities. The Alliance is a public-private partnership with a mission to save lives, improve livelihoods, empower women, and protect the environment by creating a thriving global market for cleaner, more efficient cookstoves and fuels, with a goal of enabling 100 million households to adopt clean and efficient cooking technologies by 2020.

The Global Alliance for Clean Cookstoves (the Alliance) is a public-private partnership with a mission to save lives, improve livelihoods, empower women, and protect the environment by creating a thriving global market for cleaner, more efficient cookstoves and fuels, with a goal of enabling 100 million households to adopt clean and efficient cooking technologies by 2020.

Approximately 3 billion people around the world use open fires or traditional stoves with solid fuels, such as wood, charcoal, dung, crop residues, and coal, for cooking and heating their homes. Open fires and traditional stoves emit pollutants that contribute to household air pollution (HAP). Exposure to HAP is a risk factor for a range of serious chronic and acute health effects, including pneumonia, lung cancer, chronic obstructive pulmonary disease, and heart disease. The Institute for Health Metrics and evaluation estimates that 2.6 million deaths per year can be attributed to HAP.¹

¹ IHME website: <http://www.healthdata.org/>

It is clear that there are high levels of pollutant emissions from traditional cooking practices, and that exposure to household air pollution is an important risk factor for health; however, the relationship between cookstove emissions and personal exposure is not well characterized.

Lower emission cooking technologies and fuels are available, and the Alliance seeks to further elucidate the relationship between emissions and exposure for the highest performing stove and fuel types, and how that relationship is impacted by the adoption, user behaviors, kitchen size and ventilation, and other relevant factors. Specifically, the Alliance seeks to better define the relationship between cookstove emissions of and personal exposure to fine particulate matter (PM_{2.5}) for the lowest emission solid biomass stoves and fuels currently available on the market that have the potential to significantly displace traditional cooking technologies.

These efforts will help better estimate the health benefits of scaling up cleaner, low PM_{2.5} emission cooking. The data and models provided will be used to support policy decisions, strengthen standards, and may provide model-based methods to estimate changes in risk due to reduced emissions, decreasing the need for costly personal exposure monitoring.

Scope of Work

- The Alliance is seeking qualified experts to conduct a field study to measure emissions of solid biomass cookstoves and corresponding personal exposure to PM_{2.5} during typical usage in homes. Liquid- or gas-fuelled stoves will be considered if sufficient additional justification for selecting these technologies is provided.
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- Study regions and intervention stoves and fuels should be selected carefully, with justification provided in the application. Considerations include:
 - A summary on intervention cooking practices with solid biomass stoves and fuels that achieve at least sub-tier 3 for thermal efficiency, indoor PM_{2.5} emissions, and overall PM_{2.5} emissions per the ISO IWA Guidelines for Evaluating Cookstove Performance framework and on baseline cooking practices in the study region should be provided in the application.
 - Information on the availability and distribution of intervention cookstoves and fuels in the proposed study region
 - Evidence that the selected intervention cookstoves/fuels have the potential to meet the majority of household cooking needs
 - Preference will be given to studies that measure emissions of multiple intervention cookstove/fuel combinations
 - Priority study regions include Southeast Asia, East Asia, Sub-Saharan Africa, and Haiti. Study region considerations include:
 - Preference will be given to study regions with less available data on cookstove emissions and related personal exposures.
 - If selected study region has high ambient concentrations, applicants must clearly describe how cookstove-related emissions will be clearly and separately measured from the background.
 - Applications should clearly describe data collection and planned analysis. Specific considerations include:
 - Usage data of both traditional stoves and intervention stoves within households:
 - Usage data should be provided over an extended period of time to more clearly describe the extent to which the intervention is displacing traditional cooking.
 - If multiple stoves and/or fuels are being used in the households (stacking), the types of stoves and fuels being used should be noted. Usage data for these stoves should be collected.
 - Stove emissions should be characterized during uncontrolled cooking conditions in homes. Semi-controlled cooking conditions may also be considered if reasonable justification is given.
 - Other major sources of emissions in households, such as lighting or heating, should be noted. Usage data for these sources should be collected as well.
 - Studies should provide personal exposure data for the primary cook:
 - Both gravimetric and real-time measurements of exposure should be collected.
 - Time-period of exposure should be specified and justified.

- Stove usage during exposure monitoring periods should be verified with interviews.
- External impacts on emissions or exposure should be provided; this includes but is not limited to other sources of emissions, kitchen size and ventilation, fuel type and conditions, lighting techniques, kitchen concentration, stove usage, and season.
- Preference will be given to studies that measure other pollutants in addition to PM2.5.
- Additional considerations:
- Preference will be given to studies leveraging ongoing fieldwork. If ongoing fieldwork is being leveraged, describe the fieldwork and the leverage that this study would provide.
- For the selected applicant, IRB approval or waivers should be sought and granted by both the home institution of the primary researcher, as well as relevant local review body at the field location.
- Applicants must have demonstrated experience both in measuring cookstove emissions in the field under typical usage in homes and in measuring personal exposure to PM2.5 in the field.

Deliverables

It is expected that the following activities will be executed over an 18-month period:

- Develop a detailed project and study plan
- Conduct the proposed field study
- Quarterly progress update meetings or phone calls with the Alliance
- A written interim progress report should be submitted at 9 months, including:
 - Research progress, milestones achieved, and/or changes to research plan
 - Available data and any preliminary analysis conducted to date
 - Funds spent to date
 - Upcoming activities and next steps, including any anticipated changes to proposed timeline (note: changes to timeline subject to approval by the Alliance)
- Share study data in an agreed upon format
 - Work in collaboration with Alliance staff to provide data in a manner than can be shared widely via the Clean Cooking Catalog (<http://catalog.cleancookstoves.org>)
 - Share data with policymakers and organizations developing emissions-to-exposure models, including the World Health Organization (WHO)
- Write a non-technical executive summary (word document) articulating the main findings and key messages of the study for publication on the Alliance website (<http://cleancookstoves.org>). The summary should include:
 - Executive Summary – a non-technical overview of the project, which can stand alone from the full report and be disseminated widely among Alliance donors and partners
 - Table of contents & list of acronyms
 - Acknowledgements, including a description of RFA and sources of non-Alliance support
 - Background & Rationale
 - Specific Objectives
 - Methods
 - Target Population
 - Sample Size
 - Inclusion/Exclusion Criteria
 - Recruitment & Consent
 - Data collection (protocol, description of instruments)
 - Data management
 - Analysis
 - Results
 - Key findings
 - Pending analyses, if applicable
 - Discussion
 - Strengths and limitations of study design
 - Unexpected challenges & solutions
 - Justification of modifications to original proposal
 - Implications and broader significance
 - Unanswered and/or emerging research questions
 - Opportunities for future research

- Next Steps
 - List of study presentations and publications, including those completed and those anticipated
 - List of complementary research activities
- References
- Appendices – including details on ethics/IRB approval, data collection instruments, standard operating procedures, copies of accepted manuscripts, and any other supporting materials
- Present the main findings of the study at an Alliance-organized webinar and/or a technical conference or event.
- Write and submit a peer-reviewed journal article

Budget

Note: Indirect costs estimates cannot exceed 13%. Indirect costs are overhead or administrative costs that are not specific to this project.

Proposal Instructions

Please submit a technical proposal describing the following:

- Qualifications, experience, capacity and expertise of the applicants, including:
 - Offeror organization, organizational structure, and capacity, as well as relevant previous experience (if applying as a consortium, provide this information for all organizations, as well as the role of each organization in the proposed work)
 - Demonstrated experience measuring cookstove emissions in the field under typical usage in homes
 - Demonstrated experience measuring personal exposure to PM_{2.5} in the field
 - Team members with biographical summaries including relevant previous experience and qualifications
 - Team structure and responsibilities
- Proposed approach, methodology, and analysis plan, including:
 - Description and justification of proposed field study
 - Project location
 - Stove and fuel technologies (including number of samples each), detailed sample collection and analysis plan
 - Note: sample size is not specified; the bidder should specify a sample size and sampling methodology with justification that demonstrates how they will accurately characterize variability in real-world settings, and one that is justified by the budget.
 - Other relevant information. This could include but is not limited to: available emissions or exposure data either in the target region or with the proposed stoves and fuels, the prevalence of selected stoves and fuels in the target region, the likelihood of these technologies to scale, and if the proposed study leverages ongoing work.
- Proposed timeline and approach for completing the work. The timeline should include dates for activities and specific deliverables.
- A thorough list of risks and mitigation strategies

Applicants can participate in a consortium (either as a lead partner or team member), but applicants cannot participate in more than one proposal (in any role).

Note: Budgetary information should NOT be included in the technical proposal. Proposals that include any information on the proposed budget (total costs or breakdowns) in the technical proposal will be considered non-compliant. Detailed budgetary information should be included in a separate financial proposal (as specified in article 23).