UNITED NATIONS ENVIRONMENT PROGRAMME (UNEP)

Implementing Partner: Environmental Compliance Institute (ECI)

Project Title: "Supporting Countries to monitor and improve urban air quality"

REQUEST FOR PROPOSALS

For

Consultancy Services to Develop Kampala City Clean Air Action Plan (CAAP).

Reference Number: ECI/KCAAP/2021

Date of issue: 14th April 2021

TERMS OF REFERENCE FOR CONSULTANCY TO DEVELOP KAMPALA CITY CLEAN AIR ACTION PLAN

1. INTRODUCTION

Air pollution in Kampala is deteriorating at a high rate causing serious threat to the health of the population across the City. Children, older people and those with pre-existing heart and lung conditions are amongst the most vulnerable to the effects of air pollution, many of whom are exposed daily to poor air quality in Kampala during their daily commute to work and school.

Air pollution is a silent killer and as such many people are not aware of the threat it poses. In 2016 the World Health Organization (WHO) estimated 13,416 deaths in Uganda due to outdoor air pollution.[1]Studies by Ugandan scientists suggest about 13.8 percent of children between the ages of 8 and 14 living in Kampala have bronchial asthma.[2]

In 2016, Kampala Capital City Authority (KCCA) launched the Kampala Climate Change Action Strategy to support low carbon and climate resilient development of Kampala City. KCCA started the efforts to implement the strategy through the Kampala Climate Change Project and among the five components is, Component 1: Data and Quality management system for air quality, energy and greenhouse gases. Under this, project focus was to develop an air quality management system to enable air quality management for Kampala City.

In 2018-2019, KCCA undertook a Preliminary Air Quality Baseline Assessment[3] and this study revealed the main pollutants and pollution sources in Kampala as follows;

a) Particle pollution (particulate matter/PM)

PM is a mix of solid and liquid droplets floating in air. These particles are in different sizes, particles 10 micrometers and less are so tiny and not visible by our eyes. A 10 micrometer particle is smaller than on strand of human hair hence they penetrate our lungs easily causing serious health problems. In Kampala the main sources of particulate pollution include dust, vehicles, waste burning, industries, and construction sites among others.

b) Nitrogen dioxide pollution

Nitrogen dioxide pollution is a gas that contributes to air pollution that is harmful to human health. In Kampala Nitrogen dioxide mainly comes from combustion of fuels mainly from vehicles and industries.

The preliminary baseline assessment established potential monitoring locations and identified NO_2, PM and O_3 as major pollutants of concern. However, it also stated that SO_2 may be of interest in future.

Following through was the development of Kampala Air Quality Governance Framework[4] which adopted the continual improvement model that will aid the implementation, maintaining and supporting the Kampala ambient air quality program and feed into the ultimate goal of ensuring clean air for Kampala city through identifying, preventing and minimizing pollution effects.

[1] WHO Global Health Observatory data repository
[2] (Bitimwine, H. 2011).
[3] Kampala Preliminary Air Quality Baseline Assessment, 2019
[4] Kampala Air Quality Governance Framework, 2019

Further KCCA went ahead to set-up an Air Quality Monitoring System which is a network consisting of 25 Clarity air quality monitors of which 24 are installed. The monitors are measuring the following parameters:

- Pollutants of $PM_{2.5}$ and PM_{10} in micrograms;
- Nitrogen dioxide
- Weather parameters such as relative humidity and temperature
- Data transmission; using GSM, data transfer using telecom network

The monitors are provided with access to a web based data visualization platform by Clarity, the platform enables automated analysis of data from the monitors. Data from the monitors will be used to identify sources of air pollution and design policies and strategies to achieve clean air in Kampala.

Reports developed as part of the project planning include:

- A System's Approach to Air pollution - East Africa (ASAP-East Africa) Project that undertook research on "Understanding Household Fuel Transitions: The Case of Namuwongo (Kampala).[5] The report will help to guide actions on clean energy for cooking.

- Development of Quality Management System which has two sections

    i. the development of the Quality management system[6] for energy, water and greenhouse gases. The system was meant to guide the reporting and calculation of energy, water and greenhouse gases to support planning initiatives for climate change mitigation. The outputs of this work included the following;

        - Quality management system manual which is to guide use of the system
        - Data collection tools
        - Greenhouse gases estimation tools

    ii. the Development of Kampala Greenhouse gases inventory 2015 to 2017 period. This activity involved collection of data and estimation of energy trends and greenhouse emissions for KCCA assets and buildings; and Kampala territory area. The sectors in the report include stationary energy, transport, and waste management.

- Together with AirQo KCCA began developing a data visualization platform that would enable KCCA to clean and visualize air quality data from the 24 air quality monitors. AirQo continues to refine the platform to give it more capabilities for data analysis to ease analysis and preparation of reports.

[5] Okello, G. Mugisha, F. Namaganda, I. and Avis, W. (2019). Understanding Household Fuel Transitions: The Case of Namuwongo, Kampala. ASAP-East Africa Report. Birmingham, UK: University of Birmingham.

[6] Integrated Quality Management System dedicated to of GHG Inventory with information on Energy Management, Water Management and Air Quality in Kampala Capital City Authority, 2019

2. PROJECT BACKGROUND

United Environment Programme (UNEP) is implementing a project titled "**Supporting Countries to Monitor and Improve Urban Air Quality".**

Project's primary objectives and expected results: The overall objective of the project is to support the implementation of the United Nations Environment Assembly (UNEA) Air Quality Resolutions, as adopted in its first and third session (Resolutions 1/7 and 3/8), by supporting countries in Africa and Latin America in monitoring and improving their urban air quality. The outcome of the project will include the improvement of urban air quality in project countries and cities, increased air quality monitoring in targeted countries, and the development of tools and best practices that the UNEP will disseminate to other interested countries and cities so they can replicate these efforts.

Component 1: Monitoring **-** The aim of this component is to provide technical support to target cites to set up affordable air quality monitoring networks. The general approach in each city will be to deploy between 5 to 10 sensors to monitor at least PM_{10} and $PM_{2.5}$. Uganda has expressed a need for UNEP to assist in acquiring air quality monitoring data to establish a baseline for its air pollution, determining major sources of the emissions, and establishing a basis for planning further monitoring and enforcement of air quality standards. In July/August 2019, UNEP and the Kampala Capital City Authority (KCCA) started a sensor colocation study near the US Embassy reference station with a view to helping Kampala in deciding on suitable approaches for sensor calibration and data validation. This component is complimentary to the ongoing air quality monitoring by KCCA.

Component 2: Strategy and Action Plans **-** Based on the monitoring data available in each city, UNEP will work with regional and national partners to identify sources of air pollution, and in doing so build capacity for developing a source apportionment. Support for Kampala focuses on sectoral targets and interventions to reduce air pollution. A capacity building workshop for Clean Air Action Planning for KCCA and stakeholders forming the Pollution Task Force was held from 17 – 18 December 2019 which resulted in an agreed outline of the proposed Kampala City Clean Air Action Plan and a work plan to guide its delivery.

Component 3: Tool Development **-** UNEP, with partners, will develop a set of tools and methodologies to support cities with the implementation of components 1 and 2. The first tool will provide information on how to set up affordable air quality monitoring networks using affordable sensors as well as information on how to calibrate and maintain these networks. A second tool will support countries in conducting data analysis on specific applications. A third tool will support cities in developing city-wide air quality improvement strategies.

Component 4: Dissemination **-** Near the end of the project, a regional meeting will be organized in Africa to showcase the city projects in Addis Ababa and Kampala so that other interested

cities will have an opportunity to hear about progress made, opportunities for affordable air quality monitoring, the development of strategies and action plans, and the tools and methodologies developed from this work.

For Kampala City, UNEP is collaborating with the Environmental Compliance Institute (ECI) as its technical partner and Kampala Capital City Authority (KCCA) as the lead project partner in order to deliver the project objectives.

3. ASSIGNMENT AND TASKS

This assignment relates to the project Component 2 described above and is intended to support KCCA in developing a Clean Air Action Plan for Kampala City. A consultant would be requested to provide technical support to KCCA in developing the Clean Air Action Plan for Kampala City. In this regard, and under the overall guidance of UNEP and the daily supervision by KCCA and ECI, the consultant will undertake the following tasks in consultation with KCCA, Pollution Task Force, UNEP, ECI and other relevant stakeholders:

(a) Collect comprehensive historical and current data on ambient air pollution in Kampala City, analyze the data, review available literature and all other relevant resources including legislation build scenarios and develop a synthesis of sources and trends of air pollution in Kampala City to provide the basis for the proposed Kampala City Clean Air Action Plan.

(b) Develop the draft Kampala City Clean Air Action Plan based on the synthesis in (a) above in accordance with (but not limited) to the outline of the action plan agreed by stakeholders at the capacity building workshop on 17- 18 December 2019 (see Annex).

(c) Present the draft Kampala City Clean Air Action Plan to stakeholders' workshops and facilitate stakeholders' review workshops, and final validation workshop during the duration of the contract.

(d) Consolidate and address stakeholders' comments and develop the final Kampala City Clean Air Action Plan.

4. DURATION

The period of the consultancy is **4** months:

Start date: **Upon contract counter-signature.**
End date: **31st August 2021.**

5. REMUNERATION

The total cost for the contract is **US$ 12,900.00** payable in four (4) installments: US$2,900.00 upon signing of the contract and submission of an Inception Report; US$ 3,500.00 upon submission of detailed synthesis of air pollution sources and trends in Kampala city; US$ 3,000.00 upon submission of report of stakeholder workshops with consolidated comments; and US$ 3,500 upon submission of final Kampala City Clean Air Action Plan accompanied by a separate report of how the stakeholder's comments have been addressed.

6. OUTPUTS

No.	Deliverable	Due Date
1.	Inception Report with detailed methodology, stakeholder mapping, work plan and COVID-19 safety strategy for delivery of the assignment.	7th May 2021
2.	Detailed synthesis of air pollution sources and trends in Kampala city.	15th May 2021
2.	Draft Kampala City Clean Air Action Plan for stakeholder input.	30th May 2021
3.	Report of stakeholder workshops with consolidated comments.	15th June 2021
4.	Final Kampala City Clean Air Action Plan accompanied by a separate report of how the stakeholder's comments in No. 3 above have been addressed in the Final Kampala City Clean Air Action Plan.	30th July 2021

7. COMPETENCIES REQUIRED

To be considered for this assignment individuals must possess the following minimum qualifications:

(a) Academic Qualifications: Advanced university degree (Master's degree or equivalent) in environmental studies, engineering or related field. Additional expertise in relation to Air Quality is an advantage.

(b) Experience: Proven knowledge and expertise of not less than 10 years in air quality monitoring, risk assessment, policy development and/or action planning in Uganda.

(c) Language & reporting: Fluency in oral and written English is required with proven report writing and presentation skills. All deliverables will be presented in English.

8. APPLICATION PROCESS

Qualified candidates are requested to submit their application by email to the Executive Director, Environmental Compliance Institute (ECI) on the address **eci@eci-africa.org** with copy to **gerryopondo@eci-africa.org** as 3 attachments containing:

(a) The application letter.

(b) Curriculum Vitae with emphasis on previous experience in projects of similar nature.

(c) Capability statement with brief description of the applicant's interpretation of the assignment.

Deadline for application: **Friday 23rd April 2021 1700HRS East Africa Time**

ECI will carry out an evaluation of all the applications received and notify the successful candidate by **30th April 2021.** Candidates who do not receive communication by this date should consider their application unsuccessful.

ANNEX 1 – OUTLINE OF KAMPALA CITY CLEAN AIR ACTION PLAN

1) **Background Information/Situational analysis**

- *legal & political context (including* alignment with existing policy, legal and *legislative frameworks of Uganda) Geographical information: climate, topography, land-use distribution etc. (GIS and Satellite maps should be used to provide visuals that can be understood with ease by various stakeholders).*
- *indicators of economic growth, energy use and population growth, density, settlement patterns and their projections in future years*
- *Sector situations – industrialization, transport, energy, waste management, agriculture, etc. the status and trends of air quality (Present status and trend of Kampala Air Quality over time. The consultant is expected to refer to the Kampala Preliminary Air Quality Baseline Assessment, 2019. In addition, should review and analyze air quality data from KCCA air quality monitoring network and other partners like AirQo, US Embassy to understand the baseline levels of air pollution in the City).*
- *baseline emissions inventory (EI) for targeted pollutants; and projected levels of emissions (including prediction of future air pollution trends and impacts in a BAU scenario)*
- *source apportionment (SA) information (if available)*
- *impacts on public health and the environment (expected to show case studies as evidence of the impacts). Required to include information on key pollutants, sources, may also quantify the pollutants and population exposure).*
- *information on key pollutants and sources of pollutant emissions (including sector trends) – leverage on existing/on-going studies*

2) **Moving to the desired state**

- *Vision*
- *Mission*
- *Goal*
- *Objectives*

3) **Implementation Plan**

(The consultant will be required to develop an Implementation Plan. This should be in line with existing development plans and what was proposed by the various stakeholders. The following are expected to be presented in this assignment).

- *Sector strategies and actions: (All actions should be aiming at mitigation of air pollution and reducing to acceptable levels and ensuring clean air for Kampala. In addition, consultant should present whether the actions will be implemented in segment according to a specific pollution problem and whether it will be at division level or at City wide among others).*
- *Actors*
- *Timelines (short-term, medium term & long term)*
- *Resources needed/Budget (these figures must be broken down and should be realistic and justifiable for each action)*
- *Resource options/sources*
- *Linkage with existing strategies & development plans (including National Development Plan[7], KCCA Strategic Plan[8] and KCCA DPHE Strategic Plan[9], as well as other environment management principles such as the World Health Organization (WHO) Guidelines[10], World Bank Environmental, Health, and Safety Guidelines General EHS Guidelines[11], etc.)*

4) Monitoring, Reporting and Evaluation Plan

[7] National Development Plan III
Kampala City Strategic Plan 2020/21-2024/25
Directorate
[8] Kampala City Strategic Plan 2020/21-2024/25
[9] Directorate of Public Health and Environment Strategic Plan 2020-21 to 2024-25
[10] World Health Organisation, Air Quality Guidelines Global Update, (2005).
[11] World Bank EHS General
Guidelines:https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/ehs-guidelines