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Planning

Air Quality Sensors

West Midlands Combined Authority

F01: Prior information notice

Prior information only

Notice identifier: 2023/S 000-036529

Procurement identifier (OCID): ocids-h6vhtk-0424ee

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Section I: Contracting authority

I.1) Name and addresses

West Midlands Combined Authority

16 Summer Lane

Birmingham

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Contact

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Country

United Kingdom

Region code

UK - United Kingdom

Internet address(es)

Main address

<https://www.wmca.org.uk/>

I.3) Communication

Additional information can be obtained from the above-mentioned address

I.4) Type of the contracting authority

Regional or local authority

I.5) Main activity

Environment

Section II: Object

II.1) Scope of the procurement

II.1.1) Title

Air Quality Sensors

II.1.2) Main CPV code

- 90711500 - Environmental monitoring other than for construction

II.1.3) Type of contract

Services

II.1.4) Short description

Air pollution is a key challenge across the West Midlands, with the main pollutants of

concern being NO₂ and particulate matter (PM_{2.5} and PM₁₀). To date, the focus on addressing air quality in the West Midlands (by both the West Midlands Combined Authority (WMCA) and the 7 constituent local authorities (<https://www.wmca.org.uk/who-we-are/>)) has been in lowering NO₂ emissions; the predominant source of this is from road transport. The Environment Act (2021), which sets out the government's framework for environmental legislation post-Brexit, has set new targets on addressing PM_{2.5} concentrations. These targets are for the annual mean PM_{2.5} levels to be of 10 µg/m³ or below by 2040, and for a population exposure reduction target of 35 % by 2040. Based on 2021 modelled baseline data by the University of Birmingham (UoB), 72 of the 192 wards within the WMCA would be in exceedance of this future target, which impacts 1.2 million people. Additionally, the least advantaged areas (highest IMD score) tend to have the worst air quality. Therefore, whilst tackling NO₂ still remains a priority, there is a need to focus on tackling exposure to particulate matter pollution.

In March 2023, the WMCA was successful in securing a DEFRA grant to support collaborative work by the WMCA and local authorities on improving air quality across the region and build on partnership working with the UoB. The purpose of the grant is to improve the knowledge of the people who live and work in the West Midlands about air quality, and outline steps individuals can take to reduce their exposure to air pollution. To do this funding will be used to deliver a behaviour change programme and also, for the purpose of this procurement, to deliver the following, tailored to the needs of the 7 local authorities.

Installation of a low cost sensor network across the 7 constituent local authorities within the WMCA. This will focus on areas where there is modelled to be high population exposure to PM_{2.5}. The sensors will have clear signage to ensure the public are aware of their purpose, and where further information can be found. These monitors will bring reliable consistent data, currently lacking, across the WMCA.

Create a public facing regional air quality platform. The sensor data will feed into a centralised dashboard for the public to see near real time air quality data, and other relevant air quality datasets. Datasets could include, but not limited to, local air quality modelling data, low pollution walking routes, traffic count data etc. The platform will be integrated into a wider website which will also be a hub of educational and campaign resources in relation to air pollution.

The WMCA requires an air quality sensor supplier to deliver the following:

Supply, install and maintain a network of low cost air quality sensors; and

Develop and maintain a data transmission system which enables data to be transmitted from the sensors to the WMCA data warehouse. A system will then upload data onto the WMCA air quality data platform. Both the data warehouse and data platform upload will be the responsibility of the WMCA but it is expected the supplier will work with WMCA to ensure the process from the sensor to the dashboard is compatible.

It is envisaged that the term of the contract will be for a duration of 5 years.

It should also be noted that this tender process is for the initial installation and deployment of a sensor network. It is expected that further funding will be sought in the future to further develop and expand the network with the potential for local stakeholders to also build sensors into the network.

II.1.5) Estimated total value

Value excluding VAT: £550,000

II.1.6) Information about lots

This contract is divided into lots: No

II.2) Description

II.2.2) Additional CPV code(s)

- 35125100 - Sensors

II.2.3) Place of performance

NUTS codes

- UK - United Kingdom

II.2.4) Description of the procurement

The WMCA requires an air quality sensor supplier to deliver the following:

Sensors - Minimum of 60 sensors to ensure spatial coverage across the 7 constituent local authorities. At a minimum, sensors must monitor PM2.5 at MCERT compliance standard, and it is preferable sensors can be reliably powered without the use of mains power. Sensors must also have the ability to directly transmit data to a remote server in real-time by 4G.

Installation - Install the sensors and relevant power supply i.e., solar panels, at locations

identified by the WMCA. This includes providing all relevant installation equipment e.g., cherry picker, monitor ties etc., and acquiring permissions to install the sensors and any traffic management permits which may be required. Decommissioning of the sensors at the end of the 5 year period will also be required if further funding hasn't been sought to keep the network running.

Maintenance – Undertake all relevant maintenance requirements are per manufacturer guidance and in accordance with MCERT performance standards, as well as provide a remote sensor performance monitoring and alert system.

Sensor Calibration and Data QA/QC Requirements - Sensors must be compliant with the MCERTS performance standard for PM2.5 indicative ambient particulate monitors. The sensor supplier will be required to develop and share with the WMCA and University of Birmingham a QA/QC protocol which will ensure performance standards are met. Further to this, all sensors are required to have a minimum of 85% annual data capture (excluding periods of colocation).

Data Transmission and Data Platform Requirements - The sensor supplier will be responsible for setting up a data verification system and data transmission process which is compatible with WMCA data store and data platform, enabling data to move seamlessly from the sensors to the data store, and onto the data platform. This will need to be maintained for a minimum period of 5 years.

Monitoring and Evaluation - A monitoring and evaluation framework will need to be developed for this project to ensure consistency of analysis, including monthly data analysis reports.

II.2.14) Additional information

Type of Procedure : Restricted

Time Limit for expressions of interest : 30 days

Technical and professional ability

Sensors must be MCERT Complaint for PM2.5

II.3) Estimated date of publication of contract notice

15 January 2024

Section IV. Procedure

IV.1) Description

IV.1.8) Information about the Government Procurement Agreement (GPA)

The procurement is covered by the Government Procurement Agreement: Yes

Section VI. Complementary information

VI.3) Additional information

It is anticipated that once the sensor network has been established, we will be able to expand it as additional funding is sought.

A supplier engagement event will be held on 10th January at 13:00 – 14:00 where an overview of what we intend to procure will be provided as well as full overview of the procurement process. Please contact Victoria.Taylor@wmca.org.uk if you wish to attend.