



މިނިސްޓްރީ އޮފް ޕްރޮޓެކްޝަން އަންދު ޕްރޮމޯޝަން ޕްލާނިންގ ޕްރޮޖެކްޓް

Date: 08 March 2018

No: (IUL)438-ENV/438/2018/85

TERMS OF REFERENCE FOR AIR QUALITY MANAGEMENT
EXPERT

1. BACKGROUND

Rapid urbanization and increased economic growth have significantly contributed to the deterioration of the air quality in Maldives, particularly in Male' city. The capital city Male' has an area of roughly 6 square kilometers with a population of 133,412 in the last census (2014). It is one of the islands with the highest population density in the world. It is completely built up with commercial and residential buildings that are on average 8-10 storeys. There are no public transport services in the island, but a relatively reliable taxi service is available. The main mode of transport is by gasoline scooters, which accounts for about 80% of all trips in the island. The main roads are narrow with two lanes bi-directional traffic while narrower feeder roads are usually one way. Cars, scooters and other vehicles are parked on the curb contributing to more congestion.

The total registered motorized vehicles in Maldives have increased more than 295%, from 22,303 vehicles in 2007 to 65,932 in 2014. The total number of sea vessels registered has increased from 7,016 in 2005 to 11,913 in 2014 by approximately 70%. In Male' City similar to urbanized cities, emissions from motor vehicles are a significant source of air pollution. The problem of vehicular emission is compounded by the fact that the pollutants are emitted at ground level which is in close proximity to the breathing zones of people.

To combat the growing air pollution in the country, the Ministry of Environment and Energy (MEE) adopted first Vehicular Emission Standard in 2013. It was formulated based on standards developed in South Asia region. The government Authority responsible for enforcing the standard faced difficulty in executing the standard as most of the vehicles did not comply with the standard primarily due to the high Sulphur content of the fuel.

In order to reduce the risks of air emissions on human health and the environment, and address the challenges that the Government of the Maldives faces in improving the air quality, reducing vehicle emissions is an important intervention to improve air quality, especially in urban areas. Policies and standards that require the use of cleaner fuels and advanced vehicle emissions standards can reduce vehicle emissions by at least 90 %.





The consultant is expected to undertake a revision of vehicle emission standard and train staff involved in air quality management for the use and calibration of vehicle emission testing equipment.

In this regard, MEE is seeking to recruit an Air Quality Management Expert with experience in developing vehicle emission standard to assist the Maldives to revise the existing vehicle emission standard.

2. DUTIES AND RESPONSIBILITIES

In close collaboration with the Environmental Protection Agency, Environment Department of MEE, and relevant stakeholders as necessary provision of technical support for the tasks listed below;

1. Working in close consultation with EPA to gather data from Transport Authority of types and number of motorized vehicles in operation in greater Male' Region
2. Conduct Preliminary meetings with relevant stakeholders and agencies to understand the challenges in enforcing existing vehicle emission standard
3. Collect and interpret ambient air data for key pollutants to establish a baseline for ambient air quality
4. Review existing vehicle emission standard
5. Identify a suitable approach to determine overall emission from vehicles and collect emission data from an appropriate sample size
6. Identify an appropriate method/approach to regulate vehicular emissions
7. Recommend suitable equipment for vehicle emission testing and train government enforcing officers for the use and calibration of the equipment
8. Obtain fuel quality data from the fuel importers/ suppliers and give recommendations
9. Propose an enforcing mechanism for the vehicle emissions standard
10. Develop regulatory measures for improving regulation which will enhance, control and enforcement of vehicle emission standard and propose recommended legislation
11. Provide technical support to the development of a revised vehicle emission standard





3. EXPECTED OUTPUTS /DELIVERABLES

The consultant will be responsible for the timely submission of the following deliverables;

Deliverable	Expected Time	Expected Deadline
Detailed Work plan for the assignment	2 days (6%)	26 March 2018
1- Detailed report of the types and number of motorized vehicles in greater Male 'region	3 days (20%)	02 April 2018
2- report to: (a) Identify gaps, challenges and limitations of the existing vehicle emission standard, (b) Propose a suitable approach to determine overall emission from vehicles and collect emission data from an appropriate sample size ; (c) Identify an appropriate method/approach to regulate vehicular emissions (d) Recommend suitable equipment for vehicle emission testing and train government enforcing officers for the use and calibration of the equipment (e) Gather fuel quality data from fuel suppliers/importers (f) Propose an enforcing mechanism for the vehicle emissions standard and against smoky vehicles	15 days (47%)	18 April 2018.





(g) Regulatory measures for improving regulation ,that will enhance, control and enforcement of vehicle emission standard and propose recommended legislation		
3- Revised Vehicle Emission standard, Addressing key pollutants	20 days (27%)	10 May 2018

To achieve the deliverables, the consultant must liaise closely with EPA and MEE. The revised vehicle emission standard should be finalized latest by 10 May 2018.

4. INSTITUTIONAL ARRANGEMENT

Ministry of Environment and Energy (MEE) and Environmental Protection Agency (EPA) will coordinate closely with the consultant during the consultancy duration. MEE and EPA will assign a project specific counterpart to liaise with the consultant. This counterpart will also join some field visits and review progress from time to time. MEE and EPA will ensure that access to data and reports to the consultant is made available in a timely manner. MEE and EPA will facilitate meetings with various Ministries and government agencies, including Councils to enable productive field visits if necessary, workshops and consultations. Office space and facilities including internet, meeting room will also be provided. Any other tasks that are not included in the deliverable, but during the consultation period later deemed important to ensure the quality of the deliverables, could be proposed by the consultant and shall be agreed jointly.

5. EVALUATION CRITERIA

The number of points to be given under given each of the evaluation criteria is given below:

- Qualification (50)
- Specific experience related to the assignment (40)
- Experience in working in Small island developing state (10)

The minimum technical score required to pass: (70)

Individuals achieving the highest combined weighted technical and financial score shall be selected as the successful consultant.

$S_f = 100 \times F_m/F$, in which





Sf denotes the financial score of the proposal under consideration;

Fm is the price of the lowest price proposal;

F denotes the price of the proposal under consideration.

Proposals will be ranked according to their combined technical (St) and financial (Sf) scores using the weights

T% = the weight given to the Technical Proposal (70%)

P% = the weight given to the Financial Proposal; (30%)

$$S = St \times T\% + Sf \times P\%,$$

Where S denotes the total combined weighted technical and financial scores

6. FINANCIAL PROPOSAL

The Consultant is required to submit a simple tentative work plan and proposed fee for the assignment. All travel expenses associated with the assignment (tickets, accommodation DSA) should be included in the financial offer (which needs to include (a) consultancy fees and (b) estimated travel costs).

7. DURATION OF THE WORK

The Consultant will perform his/her assignment with the following timeline:

- The duration of the consultancy is 40 working days to complete the assignment
- The expected commencement date of the consultancy is 29 March 2018
- Delay in submitting deliverables will impact on the completion of work and release of payment.

8. QUALIFICATIONS AND EXPERTISE

- Master's Degree in Atmospheric Science Environmental Management/Environmental Engineering Master's or other related field
- A minimum of 6 years professional experience in the area of air quality issues





- Previous experience in developing vehicle emission /ambient air quality standards is highly desirable
- Extensive knowledge of the international benchmarks in emission inventory formulation and air pollution control and management
- Understanding of and practical exposure to the institutional framework governing air quality management in developing countries and Small Island Developing States would be an advantage

