



Ministry of Environment and Energy

Male', Republic of Maldives.

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Advertisement Reference: (IUL)438-ENV/438/2017/128

TERMS OF REFERENCE

Recruitment of a Technical consultant for research and analysis of low GWP alternatives and retrofit of equipment

Background

Maldives is a Party to the Montreal Protocol on Substances that Deplete the Ozone Layer and has acceded to the Vienna Convention and Montreal Protocol in May 1998. As a party to the Vienna Convention and Montreal Protocol on Substances that Deplete the Ozone Layer, Maldives has phased out several ozone depleting substances including the early phase-out of CFCs in 2008. To comply with its obligations under the Montreal Protocol, Maldives is currently implementing the phase-out of HCFCs by 2020.

At the 60th Meeting of the Executive Committee, the HCFC Phase-out Management Plan (HPMP) of Maldives was approved, for an accelerated phase-out, 10 years earlier than the dates set in the accelerated phase-out schedule agreed in the 19th Meeting of the Parties (Decision XIX/6).

HCFC is the most commonly used refrigerant in the Maldives. In early 2006, HCFC accounted for over 85% of the total refrigerant consumption in refrigeration and air-conditioning sector in the Maldives. The consumption of HCFC-22 in the year 2013 was about 60.3 MT. Of this total consumption, fisheries sector applications consume about 15-20% of the total consumption.

Fisheries sector is an important sector for Maldives economy. The fish catch of Maldives is stored and processed and exported to different countries across the globe. HCFC-22 is consumed in fisheries sector in a range of applications and predominantly in fishing vessels, processing and storage applications.

The fisheries enterprises have various types of facilities - namely, shore-based facilities, factories/processing units, cold storages, and off-shore platforms such as collecting vessels and mother vessels. Cold storages in the various facilities owned by the enterprises use HCFCs, HFCs, ammonia and other refrigerants. However, vessels used by these companies

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refrigerants as well as replacement options; test the performance of substitutes including optimization of drop-in or replacement systems; and demonstrate the use of the selected substitutes. The project proposes to convert the HCFC-22-based refrigeration equipment in three fishing vessels to low-GWP technologies, assess its performance, and evaluate the suitability of the selected technology. Based on the evaluation, suitable technologies will be disseminated to the fishing industry during HCFC phase-out. The project will eliminate the use of 0.6 mt of HCFC-22 in fishing vessels.

In this regard, the Ministry of Environment and Energy is seeking a qualified individual (national) to undertake research and analysis on alternative technologies to HCFC-22 in the existing refrigeration equipment using HCFC-22 in fishing industry and demonstrate low-GWP HCFC free alternatives for use by fishing industry in Maldives.

Objective

The main objective of this is to demonstrate low-GWP HCFC free alternatives for use by fishing industry in Maldives.

Scope of services

1. Prepare a work schedule for the duration of the consultancy, providing details of the works to be undertaken including the training schedule and the monitoring visits and finalize the work schedule with Ozone Unit.
2. Detail research and analysis of existing options available designing project interventions for testing performance of substitutes that are drop-ins or “near” to drop-ins involving soft optimization as well as replacement options
3. Research and analysis should include technology options used in both sea-borne refrigeration equipment and in land storage and processing applications;
4. Prepare bid documents for the procurement of selected technology items including the technical specifications;
5. Design (retrofit) of equipment for feasible HCFC free alternatives after agreement of such alternatives in consultation with MEE and UNDP as well as with identified national stakeholders
6. Test the performance of substitutes including optimization of drop-in or “near” to drop-ins or replacement systems; assess its performance, and evaluate the suitability of the selected technology;
7. Carryout information sessions to the stakeholders to demonstrate the findings;





Financial Proposal

The consultant is expected to include in his/her proposal a lump sum fee in MVR for carrying out the tasks.

Schedule for the assignment

The consultant is expected to complete the tasks within 10 months

Institutional Arrangement

The Consultant will report directly to Ozone Unit at MEE.

Once a week a meeting will be scheduled at MEE with Ozone Unit and UNDP and other required institutions to provide updates, targets for the week, share and gather information and discuss way forward.

Local travel will be arranged by MEE. A field visit report will have to be submitted to the Ozone Unit, MEE no later than 3 days after every field visit.

Selection Criteria

Selection will be based on academic qualification and experience. The consultant will be selected based on the following criteria:

	Points
(A) Company Profile:	[20]
No. of similar projects/assignments	[20]
Total A =	[]

(B) Project Team	[40]
Team Leader	[20]
RAC Specialist	[20]
Total B	[]

(C) Financial Proposal	[40]
Financial proposal	[40]
Total C	[]





Application and Submission

Interested proponents may submit their proposals in a sealed envelope indicating the following:

- Summary of similar assignments performed in the past
- Curriculum Vitae of the consultant
- Attested copies of the academic certificates
- Financial proposal (fees for the assignment)

Proposals must be delivered in sealed envelopes to the address below on 05th July 2017 at 1130 hours local time. Electronic bidding will not be permitted. Late bids will be rejected. Bids will be opened in the presence of the bidders' representatives at the address below on 05th July 2017 at 1130 hours.

Procurement Section

Ministry of Environment and Energy

Contact number: 3018341

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