



## Ministry of Environment

Male', Republic of Maldives.

ދިވެހިސަރުކާރުގެ ގެޒެޓް  
ދާއިރާ: ބިޔާފުޅު

ދިވެހިސަރުކާރުގެ ގެޒެޓް - ބިޔާފުޅު ދާއިރާ

Advertisement Reference: (IUL)438-ENV/438/2019/256

### Terms of reference

#### **Retrofitting Fishing Vessels**

#### **1. Background**

Maldives is a small island country and consumes HCFC-22 in refrigeration and air-conditioning applications. As per survey report of HPMP, about 76 MT of HCFC-22 was consumed in Maldives in the year 2008. The consumption of HCFC-22 in the year 2013 is 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. This sector is the second largest contributor to Maldives' economy and employs a very significant population of Maldives. 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. Many of these equipment still have an economic life, though old and need continued use of HCFCs for their operations. Given that fishing vessels operate in sea and many times under rough sea / weather conditions, it is difficult to control leakage and adopt servicing practices as in other equipment like refrigeration equipment using HCFCs in land.

In the recent TEAP report, it has been highlighted that availability of HCFC free low-GWP alternative technologies that can substitute HCFCs are available in refrigeration applications. While specific details on retrofit options directly used in fishing sector is not given, it is noted that some of the low-GWP blends that are substitutes HCFC-22 in refrigeration and air-conditioning can be adopted as retrofit options. Depending upon the type of use, the specific option for existing fishing vessels would need to be chosen and adopted.

This demonstration project is expected to have a significant impact on (a) HCFC phase-out in the country with low-GWP alternatives and (b) pave way for the adoption of low GWP alternatives in countries with large fishing industry.





## 2. Objective

The main objective of this is to demonstrate low-GWP alternatives for use by fishing industry in Maldives. Aim of this is to find out the feasibility of low GWP options in fisheries vessels, process and steps required in retrofitting such vessels.

## 3. Deliverables

As part of this assignment, the successful companies/firms should collect relevant data, record all the procedures and follow the steps required to retrofit the vessel.

## 4. Eligibility

In order to be eligible interested companies/firms must provide the following:

- Company Profile (1 -2 paragraph describing the company – this should provide detailed information about the Refrigeration and Air-conditioning equipment the use of refrigerant in each equipment. The information should also include number of vessels and refrigerant use in each).
- Proposed vessel for retrofit. This part should include the following information:
  - Quantity of refrigerant used for the proposed vessel
  - Age of the vessel
  - Total price for retrofitting
  - Duration of the retrofitting

\*Alternative refrigerant should be selected in consultation of the Ministry.

## 5. Schedule for the assignment

The company/firm is expected to complete the task before 15 October 2019.

## 6. Selection Criteria

The company/firm will be selected based on the following criteria:

Criterion	Weightage
Age of the Vessel	25%
Duration of the retrofitting	45%
Price for retrofitting	30%

