

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



**Ministry of Fisheries and Ocean Resources  
Maldives**

**TRANSFORMING FISHERIES SECTOR MANAGEMENT IN  
SOUTH-WEST INDIAN OCEAN REGION AND MALDIVES  
PROJECT (TransFORM, SWIOFish5) - P179242**

**Terms of Reference – Energy Auditor**

**INDIVIDUAL CONSULTANT**

Reference number: MV-MOFMRA-420488-CS-INDV

**1. BACKGROUND**

The Government of the Republic of Maldives through the Ministry of Fisheries and Ocean Resources is implementing Maldives –Transforming Fisheries Sector Management in South-West Indian Ocean Region and Maldives Project financed by the World Bank. The project will be managed by the Project Management Unit (PMU) set up within the Ministry of Fisheries, and Ocean Resources. The project will be implemented in accordance with the Project Implementation Plan (PIP), Project’s Procurement Manual, and the Project’s Financial Management Manual all of which are consistent with the World Bank’s guidelines and procedures on procurement and financial management.

The aim of the Project to strengthen regional, evidence-based fisheries management in the South-West Indian Ocean Region and to improve competitiveness in the fisheries sector in the Maldives. The project comprises of the following components.

**COMPONENT 1: Enhance Evidence-based Management Advice to the Fisheries Sector in the South-West Indian Ocean Region (*implemented by the IOC*)**

1.1. Promoting the Development and Coordination of Relevant Innovative Regional Research with a Focus on Capacity Development Programs and Initiatives

1.2. Coordinating and Consolidating Regional Cooperation for Evidence-based Advice on Management of Fisheries and Other Uses of Marine and Coastal Ecosystems

### 1.3. Linking and Coordinating the Fisheries Initiatives and Programs in the Region

## **COMPONENT 2: Supporting Maldives as the Catalyst for Strengthened Regional Capacity for Fisheries Governance and Management**

2.1. Improved and Innovative Implementation, Enforcement and Monitoring of Fisheries Management Plans and Sharing Results with SWIO Countries

2.2. Augmented Comprehensive Quarantine, Disease Surveillance and Management and Experience Sharing with SWIO Countries

2.3. Skills and Capacity Building for Supporting Enterprise Development in Fisheries Sector

3.4. Augmentation of Project Management Capacity of MoFMRA including Building Capacities for Enhanced Regional Cooperation

## **COMPONENT 3: Enhanced Competitiveness and Private Sector Participation for Improving Business Climate for Fisheries in Maldives and the South-West Indian Ocean Region**

3.1. Decarbonization of the Fisheries Sector

3.2. Diversification/Expansion of Fisheries Sector through Facilitating Small and Medium Enterprise Businesses

### **Objective and Purpose of the assignment**

The Ministry of Fisheries and Ocean Resources of the Maldives is seeking the services of a qualified consultant to conduct an energy audit within the fish processing sector under Component 3 of the Project.

Maintaining cold chain is essential for fish processing facilities and cold stores consume considerable amounts of fuel in the process. The bulk of the cost of operation for processing facilities and cold chain is related to fuel expenses while also contributing to global warming through GHGs. Processors and exporters have shown an interest towards transitioning into renewable energy in order to reduce the cost of operation, become more competitive in the international seafood market and to further add value to Maldivian fisheries products while also reducing the overall impact of their facilities on the globe.

The objective of this audit is to assess and analyze energy consumption and efficiency within the fish processing sector and to identify opportunities to reduce energy expenses and carbon footprint in order to facilitate the transition to renewable energy sources. This initiative is aimed at improving the sustainability and competitiveness of Maldivian fish processing facilities in the international seafood market.

The Energy Auditor is expected to provide recommendations for energy conservation and improvements in energy efficiency, with a focus on minimizing fuel costs and reducing the carbon footprint.

## **1. Scope of project**

### **Project Overview**

The scope of this project is to conduct comprehensive detailed energy audits of the following facilities:

#### **1. Felivaru**

Located at Lh. Felivaru, Felivaru Fisheries Complex is the main cannery in the country. Originally opened in 1977, then as a joint venture between the Government of Maldives, and a Japanese company. The FFC cannery has the capacity to process 50MT, along with other key infrastructure including 15MT pouch production plant, cold storage of 750MT and a freezing capacity of 30MT a day. At the moment, the cannery operates at 40MT per day at maximum.

#### **2. Maandhoo**

Located in Laamu Atoll, the Maandhoo Fisheries Complex is a private-owned tuna processing factory capable of processing up to 80 MT of raw material each day. The complex also consists of 15 MT chilled and super frozen tuna loin plant, a 10 MT traditional smoked and dried tuna processing facility and a 50 MT fish meal plant. It is the largest of its kind in the country.

The assignment is expected to be completed within a period of **5 months**.

The energy audits shall cover key locations within the facilities, including but not limited to:

- Cold storage areas
- All sections of the manufacturing plant
- Quality control laboratories
- Warehousing facilities
- Office buildings

### **KEY TASKS**

1. Develop an energy profile of the premises: Conducting a thorough review of the facility's energy bills to establish a baseline for energy consumption and performing on-site inspections to assess the current energy usage and efficiency of equipment and systems.
2. Conduct a broader energy characterization of the facilities, including identification of areas with the highest energy consumption; identifying areas where energy is wasted, such as through outdated equipment, poor insulation, or inefficient practices.
3. Provide a breakdown of key energy-intensive equipment, processes, and building structures
4. Detailed breakdown of energy costs

5. Recommendations of opportunities to facilitate improved efficiencies, such as renovations, retrofitting, equipment upgrades, or changes to operational procedures
6. Evaluating the potential for integrating renewable energy sources, like solar or wind power, into the facility's energy mix.
7. Assessment of overall financial savings from potential interventions and overall net annual savings from proposed transitions.
8. Developing an energy management plan that outlines strategies for ongoing monitoring and continuous improvement in energy performance.
9. Preparing a detailed audit report that summarizes findings, recommendations, and an action plan for energy efficiency improvements.

The energy audits should be conducted in accordance with industry best practices and relevant standards, ensuring a comprehensive and thorough assessment of the facilities' energy performance.

## 2. DELIVERABLES

Deliverable	Details	Due date
Inception Report	Approach, methodology and detailed work plan Preliminary data collection and findings Constraints, risks and mitigation measures Detailed timeline with milestones	2 weeks from signing contract
Interim Report	Detailed data collection from site surveys Initial analysis and quantification of savings potential Prioritization of energy efficiency measures	3 months from the submission of inception report
Draft Report	Detailed breakdown of energy use by function Cost-benefit analysis of proposed measures Financial models and calculations Target setting and recommendations	2 weeks from the review of interim report
Final Report	Consolidated findings and recommendations Implementation plan or roadmap	2 weeks from the review of draft report

## 3. QUALIFICATION CRITERIA

- Bachelor or Master degree in environmental engineering, energy management or relevant fields
- Demonstrated experience of minimum 5 years working on energy or in a related field
- Excellent interpersonal skills and demonstrated ability to communicate with stakeholders.
- Experience in similar consultancy assignments or energy audits will be an added advantage.

## 4. REPORTING

The consultant is expected to work closely with the project management unit and the fisheries management department of the Ministry. The consultant will report directly to the Project Manager.

The consultant shall update progress to the project team on a fortnight basis.

## 5. PROJECT DURATION

The contract duration will be 5 months **from** the commencement of the assignment.

## 6. PAYMENT

Payment would be made in accordance with the schedule specified below:

Payment Report	
D1 - Inception Report	10% of the total contract price
D2 - Preliminary Findings	20% of the total contract price
D3 - Audit Results & Recommendations	30% of the total contract price
D4 - Draft Report	30% of the total contract price
D5 - Final Report	10% of the total contract price

## 7. SELECTION CRITERIA

The consultants will be selected based on the following criteria.

DETAILS	MAXIMUM POINTS
1. Technical Proposal	[50]
a) Proposal <ul style="list-style-type: none"><li>• Methodology [30]</li><li>• Data collecting [10]</li><li>• Analyzing method [10]</li></ul>	
2. Qualifications and experience of the Consultant	[25]
a) Qualification and skills <ul style="list-style-type: none"><li>• Master's degree in a relevant discipline [15]</li><li>• Bachelor's degree in a relevant discipline [10]</li></ul>	
b) Experience Demonstrated experience in conducting similar consultancy or energy audits, with a successful track record of completing at least 5 similar projects [25]	[25]

## **8. APPLICATIONS**

Interested consultants may submit the expressions of interest indicating the following.

- (a) Expression of Interest along with a technical proposal- must include proposed methodology, data collecting and analyzing methods
- (b) Detailed CV and attested copies of the qualifications.
- (c) A detailed list of similar assignments with attested letters from past clients that had conducted similar assignments with consultant in the past 5 years

## **9. ADDITIONAL INFORMATION**

- Documents and data provided by the government for the purpose of this assessment which is not of public nature shall be considered confidential and should not be disclosed to any other party.
- All outputs and materials produced as part of this ToR shall be handed over to Project Office at the end of the contract and will become the sole property of MFOR
- Obtaining any necessary visa and documents are the responsibility of the consultant. MFOR will only provide a visa facilitation letter if necessary.