

GREATER MALÉ WASTE-TO-ENERGY (WTE) PROJECT
Quarterly Environmental Monitoring Report
January – March 2021

I. INTRODUCTION

A. OVERALL PROJECT DESCRIPTION AND OBJECTIVES

1. The project will establish a sustainable regional solid waste treatment system in the Greater Malé capital region by (i) developing treatment (proven waste-to-energy [WTE] technology), recycling and disposal infrastructure; (ii) strengthening institutional capacities for sustainable solid waste services delivery and environmental monitoring; and (iii) improving public awareness on WTE and reduce-reuse-recycle (3R). The project will be designed to reduce disaster risk and improve climate change resilience while creating a cleaner environment and reducing greenhouse gas emissions.

2. The Greater Malé capital region and its outer islands (project area) suffer from severe environmental pollution and deteriorating livability because of inadequate collection and haphazard disposal of solid waste. The project area covers 35 inhabited islands in the North Ari Atoll (Alifu Alifu Atoll), South Atoll (Alifu Dhaalu Atoll), Malé' Atoll (Kaafu Atoll) and Vaavu Atoll, including the capital city of Malé, with a total population of 216,000 (51% of Maldives). Lack of a sustainable system to manage the 774 tons per day (tpd) of solid waste generated in the project area results in waste spillage into the ocean, and open dumping and burning of garbage at the 30-year old 10-hectare dumpsite on Thilafushi Island which has no pollution control measures creating a public health and an environmental hazard. Plumes of smoke visible from the capital Malé, the international airport and nearby resorts compromise air quality and pose nuisance to residents and tourists, while leachate and plastics contaminate the surrounding marine environment. This poses a critical threat to tourism and fisheries, both of which rely heavily on the country's pristine environment and are cornerstones to Maldives' economy.

3. The project will have two outputs, Output 1: Disaster- and climate-resilient regional waste management facility developed. This will include (i) a 500 tons per day (tpd) WTE plant with 15-year O&M contract, including two treatment lines of 250 tpd each, energy recovery and air pollution control (APC) system; and (ii) a landfill for safe disposal of APC residues and non-marketable bottom ashes. The facility is expected to generate 8MWh of electricity and will be designed to accommodate a third 250 tpd treatment line, required to respond to further demand increase. All facilities will adopt disaster- and climate-resilient features such as raised floor elevations, flood proof mechanical and electrical equipment and landfill cells, and enhanced drainage systems.

4. Output 2: Institutional capacity in sustainable SWM services delivery (WTE) and environmental monitoring strengthened, and public awareness on WTE and 3R improved. This will include (i) capacity building support in monitoring sustainable WTE operations, including MOE and EPA institutional capacity strengthening and training to monitor WTE O&M and environmental standards; (ii) public awareness on WTE and 3R in Greater Malé improved; and (iii) project management and supervision consultant support provided.

5. **Environmental category as per ADB Safeguard Policy Statement, 2009.** The project is classified as environmental category A per ADB SPS due to construction and operation of a large WTE facility which may have potential significant adverse impacts.

6. **Environmental category per national laws and regulations.** This project is classified as a Schedule D project as per the EIA Regulation of Maldives. Approval / Decision Statement has been received from EPA for this project.

B. PROJECT SAFEGUARDS TEAM

Name	Designation/ Office	Email Address	Contact Number	Roles
1. PMU				
Mohamed Asif	Social and Environmental Safeguard Specialist	Mohamed.asif@environment.gov.mv	3019233	Safeguards Officer of the PMU will ensure project's compliance with environmental safeguards requirements per ADB SPS and government laws, rules and regulations
2. Consultants				
PMDCSC <i>(Consultant recruitment is in progress for the PMDCS Consultant.)</i>	Environmental Safeguard Expert (International)			Environmental Expert will be responsible for management and supervision of environmental safeguard requirements in line with the Contract, EIA including ADB SPS (2009) and the Government of Maldives. Among the responsibilities will be the preparation and implementation of environmental safeguard action plan, review of the (updated) EIA report, monitor the implementation of the CEMP.
PMDCSC <i>(Consultant recruitment is in progress for the PMDCS Consultant.)</i>	Environmental Safeguard Expert (National)			The national Environmental Safeguard Expert will support the PMU and the international Environmental Safeguard Expert in the overall management and implementation of environmental safeguard policies of ADB and the Government of Maldives.

C. OVERALL PROJECT PROGRESS AND STATUS

Components/ List of Works	Contract Status (specify if under bidding or contract awarded)	Status of Implementation (Preliminary Design/Detailed Design/On-going Construction/Completed/O&M)	If On-going Construction	
			%Physical Progress ¹	Expected Completion Date
Goods and Works				
Package 1: Waste to Energy (WTE) plant and balance of plant with 15 years O&M.	Contract not awarded yet – evaluation stage.	N/A	N/A	N/A
Consulting Services				
Package 2: Project management and supervision	Contract not awarded yet – evaluation stage	N/A	N/A	N/A

¹ If on-going construction, include %physical progress and expected date of completion

Package 3: Community Awareness consultant	Contract not awarded yet	N/A	N/A	N/A
Package 4: Individual Environmental Monitor	Contract not awarded yet – ToR finalisation	N/A	N/A	N/A
Package 5: Joint Crediting Mechanism Auditor	Contract not awarded yet	N/A	N/A	N/A

D. STATUS OF IEE PER SUBPROJECT/PACKAGE

7. EIA prepared based on preliminary design and cleared by ADB with condition that updated/Final EIA based on detailed design will be submitted.
8. Works will not be allowed until SEMP/CEMP is approved by project implementation unit or project management unit.

Package-wise Implementation Status

Package Number	Final IEE based on Detailed Design				Site-specific EMP (or Construction EMP) approved by Project Director? (Yes/No)	Remarks
	Not yet due <i>(detailed design not yet completed)</i>	Submitted to ADB <i>(provide date of submission)</i>	Disclosed on project website <i>(provide link)</i>	Final IEE provided to Contractor/s <i>(Yes/No)</i>		
Package 1: Waste to Energy plant and balance of plant with 15 years O&M.	Detailed design not yet completed	-	-	-	-	EIA prepared and approved by EPA and ADB. EIA included as part of the bidding documents.
Package 2: Project management and supervision	N/A	N/A	N/A	N/A	N/A	
Package 3: Community Awareness consultant	N/A	N/A	N/A	N/A	N/A	
Package 4: Individual Environmental Monitor	N/A	N/A	N/A	N/A	N/A	
Package 5: Joint Crediting Mechanism Auditor	N/A	N/A	N/A	N/A	N/A	

II. COMPLIANCE STATUS WITH NATIONAL/STATE/LOCAL STATUTORY ENVIRONMENTAL REQUIREMENTS²

Statutory Environmental Requirements ³	Status of Compliance ⁴	Validity if obtained	Action Required	Specific Conditions that will require environmental monitoring as per Environment Clearance, Consent/Permit to Establish ⁵
Environmental Impact Assessment	Completed and approved by EPA	31 st December 2021	N/A	As per the approved EIA

III. COMPLIANCE STATUS WITH ENVIRONMENTAL LOAN COVENANTS

No. (List schedule and paragraph number of Loan Agreement)	Covenant	Status of Compliance	Action Required
Schedule 4-4 Environment	The Borrower, through the Project Executing Agency and the Implementing Agency, shall ensure that me preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities comply with (a) all applicable laws and regulations of the Borrower relating to environment, health and safety (b) the Environmental Safeguards; and (c) all measures and requirements set forth in the EIA, the EMP, and any corrective or preventative actions set forth in a safeguards Monitoring Report.	Being complied. PMU (Project Management Unit) is continuously ensuring that all sub projects are in compliance with all laws and regulations and the Safeguards specialist of the PMU ensures that all measures and requirements set forth in the EIA and EMP are complied	
Schedule 4-6 Human and Financial Resources to Implement Safeguards Requirements	The borrower shall make available necessary budgetary and human resources to fully implement the EMPs	Being complied. The MOFT has approved the post of Safeguards Specialist for the PMU so that all necessary safeguards issues are complied.	

² All statutory clearance/s, no-objection certificates, permit/s, etc. should be obtained prior to award of contract/s. Attach as appendix all clearance obtained during the reporting period. If already reported, specify in the "remarks" column.

³ Specify (environmental clearance? Permit/consent to establish? Etc.)

⁴ Specify if obtained, submitted and awaiting approval, application not yet submitted

⁵ Example: Environmental Clearance requires ambient air quality monitoring, etc.

<p>Schedule 4 – 7 Safeguards-Related Provisions in Bidding Documents and Works Contracts</p>	<p>A- comply with the measures relevant to the contractor set forth in the EIA and the EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report; B- make available a budget for all such environmental measures; and C- provide the Recipient with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the EIA and the EMP.</p>	<p>All bidding documents related to the project will have the EIA/EMP included and compliance will be ensured by the safeguards specialist.</p>	
<p>9. Schedule 4 – 8 Safeguards Monitoring and Reporting</p>	<p>A-submit quarterly Safeguards monitoring Reports to ADB during construction of the project facilities and semi- annual Safeguards Monitoring Reports thereafter, and disclose relevant information from such reports to affected persons promptly upon submission: B- if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the EIA and the EMP, promptly inform ADB of this occurrence of each risks or impacts, with detailed description of the event and proposed corrective action plan; C- no later than 3 months after the Effective Date, engage qualified and experienced external experts or qualified NGOs under a selection process and terms of reference acceptable to ADB, to verify information produced through the project monitoring process and facilitate the carrying out of any verification activities by such external experts; and D- report any actual or potential breach of compliance with the measures and requirements set forth in the EMP promptly after becoming aware of the breach</p>	<p>Will be complied. Monitoring reports will be submitted to ADB accordingly. Any breach or potential breach will be reported.</p>	

IV. COMPLIANCE STATUS WITH THE ENVIRONMENTAL MANAGEMENT PLAN

10. Contractor's EMP (CEMP) is required to be submitted by the DBO contractor. Currently contract is yet to be signed, still in the evaluation stage.

11. The name/s and contact details of contractor's EHS Manager and trained engineers on EHS, EMP and CEMP implementation will be provided after DBO contract signing.

Overall Compliance with SEMP/CEMP

Package No.	Status of SEMP/CEMP Implementation (Excellent/ Satisfactory/ Partially Satisfactory/ Below Satisfactory)	Action Proposed and Additional Measures Required

12. Project is not yet awarded. Site observations and records will be provided during the site preparation and construction.

13. Trainings on environmental safeguards, core labor standards, and OSH will be provided in the next applicable reporting period.

Trainings, Workshops and Seminars Conducted

Date	Topic	Conducted by	No. of Participants (Total)	No. of Participants (Female)	Remarks
None					

14. Project is not yet awarded to the DBO Contractor. Monitoring results as per the parameters outlined in the approved EMP (or site-specific EMP/construction EMP when applicable) will be provided in the next applicable reporting period.

Summary of Environmental Monitoring Activities (Not applicable for the Reporting Period)⁶

Impacts (List from SEMP/CEMP)	Mitigation Measures (List from SEMP/CEMP)	Parameters Monitored (As a minimum those identified in the EIA Report should be monitored)	Method of Monitoring	Location of Monitoring	Date of Monitoring Conducted	Name of Person Who Conducted the Monitoring
Construction Phase						
Pre-Construction Phase						

⁶ Attach Laboratory Results and Sampling Map/Locations

Operational Phase						

V. MONITORING OF ENVIRONMENTAL IMPACTS ON PROJECT SURROUNDINGS (AMBIENT AIR, WATER QUALITY AND NOISE LEVELS) – Not Applicable for this reporting period

Confirm records of pre-work condition of roads, agricultural land or other infrastructure prior to starting to transport materials and construction.

Package No.	Status of Pre-Work Conditions (Recorded / Not Recorded)	Baseline Environmental Conditions (air, water, noise) Documented (Yes / No)	Action Proposed and Additional Measures Required

Provide information on monitoring activities conducted during reporting period. If not conducted, provide justification. Compare results with baseline and internationally recognized standards.⁷

Air Quality Monitoring Results

Site No.	Date of Testing	Site Location (Provide GPS Coordinates) ⁸	Parameters (as required by statutory clearances or as mentioned in the IEE)			Remarks
			PM10 µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	

Water Quality Monitoring Results

Site No.	Date of Sampling	Site Location	Parameters (as required by statutory clearances or as mentioned in the IEE)					Remarks
			pH	Conductivity µS/cm	BOD mg/L	TSS mg/L	TN mg/L	

Noise Quality Monitoring Results

Site No.	Date of Testing	Site Location	LA _{eq} (dBA) (as required by statutory clearances or as mentioned in the IEE)		Remarks
			Day Time	Night Time	

⁷ ADB Safeguard Policy Statement (SPS) Appendix 1, para 33: During the design, construction, and operation of the project the borrower/client will apply pollution prevention and control technologies and practices consistent with international good practice, as reflected in internationally recognized standards such as the World Bank Group's Environment, Health and Safety Guidelines. These standards contain performance levels and measures that are normally acceptable and applicable to projects. When host country regulations differ from these levels and measures, the borrower/client will achieve whichever is more stringent. If less stringent levels or measures are appropriate in view of specific project circumstances, the borrower/client will provide full and detailed justification for any proposed alternatives that are consistent with the requirements presented in the SPS.

⁸ If GPS coordinate is not available, provide landmark(s) and/or chainage.

VI. INFORMATION DISCLOSURE AND CONSULTATIONS

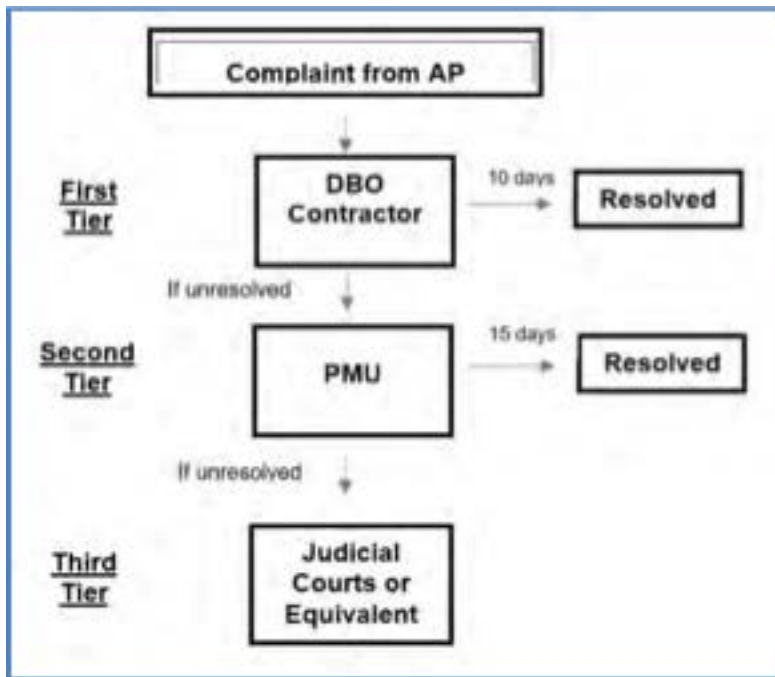
Confirm PMU/PIU/contractors provide project-related information to stakeholders, communities and/or affected people before and during construction works.⁹

Provide information on consultations conducted during reporting period such dates, topics discussed, type of consultation, issues/concerns raised, safeguards team member present. Attach minutes of meetings (ensure English translation is provided), attendance sheet, and photos.

Date of Consultation	Location	Number of Participants (specify total, male and female)	Issues/Concerns Raised	Response to issues/concerns
N/A	N/A	N/A	N/A	N/A

VII. GRIEVANCE REDRESS MECHANISM

15. GRM for phase 2 WtE project was drafted and sent to ADB for comments. When approved, will be published and notification of GRM will be included in the appendix.



⁹ Check EMP requirement on information disclosure. At a minimum, PIU thru the contractor should notify communities/affected persons/sensitive receptors 7 days and again 1 day before start of works.

- **Complaints received during the reporting period**

16. No complaints were received during the reporting period.

VIII. SUMMARY OF KEY ISSUES/CONCERNS IDENTIFIED DURING THE REPORTING PERIOD AND REMEDIAL ACTIONS

17. No issues/concerns were identified during the reporting period.

IX. STATUS OF CORRECTIVE ACTIONS FROM PREVIOUS QEMR(S)

Provide information on corrective actions to be implemented as reported in the previous QEMR(s). Include status of implementation of feedbacks/comments/suggestions as provided by ADB, if any.

Corrective Action Plan Status

Issues/Concerns	Corrective Action	Status	Remarks
N/A	N/A	N/A	N/A

X. APPENDIXES

- Appendix 1 - Sample of environmental site inspection report to be prepared by consultants and/or contractors (N/A)
- Appendix 2 - Copies of environmental clearances and permits
- Summary of consultations (N/A)
- Photos (N/A)
- Others (N/A)

Appendix 1: SAMPLE ENVIRONMENTAL SITE INSPECTION REPORT

Project Name
Contract Number

NAME: _____ DATE: _____
TITLE: _____
LOCATION: _____

WEATHER CONDITION:

INITIAL SITE CONDITION: _____

CONCLUDING SITE CONDITION:

Satisfactory _____ Unsatisfactory _____ Incident _____ Resolved _____ Unresolved _____

INCIDENT:
Nature of incident:

Intervention Steps:

Incident Issues

Resolution

Project Activity Stage	Survey	
	Design	
	Implementation	
	Pre-Commissioning	
	Guarantee Period	

Inspection

Emissions	Waste Minimization			
Air Quality	Reuse and Recycling			
Noise pollution	Dust and Litter Control			
Hazardous Substances	Trees and Vegetation			
Site Restored to Original Condition	Yes		No	

Signature

Sign off

Name
Position

Name
Position

Appendix 2: Environmental clearances and permits



2. The decision has been made by the Ministry on the following conditions:

2. في زيارته في السجل في مشروع في وزارة البيئة، التخطيط والتنمية الاقتصادية على الشروط التالية:

i. In the event the project activity has not commenced within one (1) year from the date of issue, or if the duration of this Environmental Decision Statement has not been extended, this Environmental Decision Statement shall be considered null and void. In order to extend the duration of this Environmental Decision Statement, the Proponent shall write to the Minister for an extension according to clause 14 of the Environmental Impact Assessment Regulation 2012.

i. في حالة عدم بدء نشاط المشروع في غضون سنة واحدة (1) من تاريخ إصدار القرار، أو إذا لم يتم تمديد مدة هذا القرار البيئي، فإن هذا القرار البيئي يعتبر باطلاً وبغير أثر. ولتمديد مدة هذا القرار البيئي، يجب على المتقدم كتابة رسالة إلى الوزير للتمديد وفقاً للفقرة 14 من لائحة تقييم الأثر البيئي لعام 2012.

ii. In the event the project activities have been delayed for more than one (1) year due to unforeseen circumstances, the Ministry shall have the discretion to extend the duration of the Environmental Decision Statement, or to terminate it. In such circumstances the proponent shall write to the Minister for an extension clearly

ii. 1 في حالة تأخر أنشطة المشروع لأكثر من سنة واحدة (1) بسبب ظروف غير متوقعة، فإن الوزارة لديها سلطة تقديرية لتمديد مدة هذا القرار البيئي، أو إنهائه. في مثل هذه الظروف، يجب على المتقدم كتابة رسالة واضحة إلى الوزير للتمديد بوضوح




لا يجوز توزيع هذه الوثيقة أو استخدامها في أي شكل من أشكالها دون إذن مسبق من وزارة البيئة، التخطيط والتنمية الاقتصادية



x. Once the project activities have started, the Proponent must inform the Environmental Protection Agency, the date of commencement of project activities.

x. د سہولت د شروع کرنے کے بعد، متعلقہ شخص کو ماحولیاتی تحفظ ایجنسی کو مطلع کرنا چاہئے کہ منصوبہ کی سرکاری سرگرمیوں کا آغاز کیا گیا ہے۔

Date of Issue: 21 st January 2020	تقریباً: 21 جنوری 2020
Date of expiry: 21 st January 2021	دوام: 21 جنوری 2021
Name: Mr. Ibrahim Naeem	نام: ابراہیم نعیم
Designation: Director General	دستی: جنرل ڈائریکٹر
Signature:	





ނަންބަރު: 203-ECA/438/2020/85

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Translation of the Decision Statement/EIA Approval Extension Letter for the Thilafushi Regional Waste Management Center EIA

From: Environmental Protection Agency

15th December 2020

H.E. Dr. Hussain Rasheed Hassan,

Minister of Environment,

Dear Minister,

Reg: Extension of Decision Statement for K. Thilafushi Regional Waste Management Center EIA

With Reference to your letter number 438-WMPC/203/2020/76, as requested, we hereby approve the extension of the Decision Statement/EIA Approval for the Thilafushi Regional Waste Management Center EIA till 31st December 2021”.

Yours Sincerely,

(Signed and stamped)

Ibrahim Naeem,
Director General,
Environmental Protection Agency

To: Ministry of Environment

Male', Maldives