

Maldives : Greater Male Waste-to-Energy Project

1. Project Information

Project ID:	P000278	Instrument ID:	L0278A
Member:	Maldives	Region:	Southern Asia
Sector:	Urban	Sub-sector:	Integrated waste management
Instrument type:	<input checked="" type="checkbox"/> Loan:40.00 US Dollar million <input type="checkbox"/> Guarantee	Co-financier(s):	Asian Development Bank
ES category:	A	Borrowing Entity:	Ministry of Finance and Treasury, Maldives
Implementing Entity:	Ministry of Environment, Maldives		
Project Team Leader:	Toshiaki Keicho (Responsible DG: Rajat Misra; Responsible Department: INF1)		
Project Team Members:	Zhixi Zhu, OSD - Environment & Social Development Specialist; Liu Yang, Project Counsel; Bernardita Saez, Alternate Counsel; Shonell Robinson, OSD - Financial Management Specialist; Jurminla Jurminla, OSD - Procurement Specialist; Ankur Agrawal, Back-up PTL; Jinghui Li, Project admin		
Completed Site Visits by AIIB:	Dec, 2021 .Lead Co-financier (ADB) had physical review mission from Dec 5-Dec 14. AIIB joined partly virtually. Mar, 2021 .Virtual Inception Mission was held instead of site visit due to the Covid-19 pandemic. Discussions were held with the officials of Ministry of Finance, Ministry of Environment, Waste Management company (WAMCO) etc. May, 2022 ADB team (lead co-financier), conducted the site visit during the mission from May 8 - May 19, 2022. AIIB team attended some mission meetings virtually. Nov, 2022 AIIB joined the physical implementation support mission led by ADB including the field visit to the WTE site to review the implementation progress.		
Planned Site Visits by AIIB:	May, 2023 Field visit to the WTE plant site is planned in May, 2023 to review the implementation progress.		
Current Red Flags Assigned:	0		
Current Monitoring Regime:	Regular Monitoring		
Previous Red Flags Assigned:	0		
Previous Red Flags Assigned Date:	2022/06		

2. Project Summary and Objectives

The main objective of the project is to establish a regional solid waste treatment system in the Greater Malé capital region. The project is designed to reduce disaster risk and improve climate change resilience while creating a cleaner environment and reducing greenhouse gas emissions. The project has two components: Component 1 - Establishment of climate resilient regional waste management facilities, including construction of a 500-ton per day (tpd) Waste-to-Energy (WTE) plant with flue gas treatment, emissions monitoring, a bottom ash processing plant,

and an ash disposal landfill with leachate treatment ponds and Component 2 - Institutional capacity building in sustainable waste management, environmental monitoring and public awareness. AIIB is financing only Component 1.

The project will be implemented during the period October 2020 to September 30, 2026.

The Project cost is USD151.13 million which would be financed through AIIB loan of USD40.00 million, ADB loan of USD38.21 million, ADB grant of USD35.18 million, Japan Fund for the Joint Crediting Mechanism (JFJCM) grant of USD10.00 million and counterpart funds (Government of Maldives) of USD27.74 million.

3. Key Dates

Approval:	Sep. 10, 2020	Signing:	Sep. 29, 2020
Effective:	Dec. 11, 2020	Restructured (if any):	
Orig. Closing:	Mar. 31, 2027	Rev. Closing (if any):	

4. Disbursement Summary (USD million)

Contract Awarded:		Cancellation (if any):	0.00
Disbursed:	4.05	Most recent disbursement (amount/date):	4.05/Mar. 08, 2022
Undisbursed:	35.95	Disbursement Ratio (%) ¹ :	10.12

5. Project Implementation Update

A Design Build Operate (DBO) contract for the construction and operation of the Waste-to-energy (WTE) plant was executed on October 10, 2021 and the site was handed over to the contractor in March 2022. Post initial delays in conducting geotechnical surveys, site activities have started in July 2022. The conceptual designs for the WTE plant have been approved conditionally in October 2022. Construction of fences surrounding the construction site has been completed, and workers' quarters are currently being built. The physical construction of the WTE plant is expected to commence in Q2FY2023.

Full utilization of the surplus power from the WTE plant will be dependent on the cable connection to the national power grid connecting Male and Thilafushi. The bridge connecting Male and Thilafushi with the provision for installation of power cable is now under construction and is expected to be completed by May 2024 in time for the commissioning of the WTE plant scheduled for December 2025. However, the government agencies are yet to initiate the process for the installation of the power cable, and this needs to be followed up as it is very important for the financial sustainability of the project.

¹ Disbursement Ratio is defined as the volume (e.g. the dollar amount) of total disbursed amount as a percentage of the net committed volume.

Components	Physical Progress	Environmental & Social Compliance	Procurement
Component 1: Establishment of disaster and climate resilient regional waste management facility	Site activities such as construction of the boundary fences, workers accommodation etc. have started in July 2022. The conceptual designs for the WTE plant have been approved conditionally in October 2022 and the physical construction of the WTE plant is expected to commence in Q2FY2023.	The DBO contractor has updated the Contractor's Environmental Management Plan (CEMP) which is to be approved by the PMU and Project Management Design and Construction Supervision Consultant in due course. The current Environment Impact Assessment (EIA) report needs to be updated by the DBO contractor based on detailed designs and no construction can start before the EIA is updated and published.	The only procurement package under the Bank financing was the DBO contract for the WTE plant and the same has already been awarded in the year 2021; the contractor is on board and the work is in progress.

Financial Management:

The project's disbursement ratio is about 10%, that comes from the advance payment made to the DBO Contractor of the WTE plant in March 2022. The first Audited Project Financial Statements (APFS) is due by June 30, 2023, covering the period from project effectiveness on December 11, 2020, up to December 31, 2022.

6. Status of the Grievance Redress Mechanism (GRM)

The Project GRM has three tiers – an individual or an interest group can contact DBO Contractor (1st tier), PMU/MOE (2nd tier), and Judiciary (3rd tier). As the DBO Contractor is yet to set-up the full GRM, only PMU (2nd tier) has been set up and able to receive grievances.

No complaints have been received.

7. Results Monitoring

Results monitoring shall be done in due course.

Project Objective Indicators #1

Solid waste treated with residuals safely disposed or recycled (%)

Year	Target	Actual	Comments, if any
Mar. 31, 2025	50	-	
Mar. 31, 2026	70	-	
Apr. 01, 2027	80	-	

Project Objective Indicators #2

Reduction in estimated annual GHG emissions (tons)

Year	Target	Actual	Comments, if any

Mar. 31, 2025	20,000	-	
Mar. 31, 2026	20,000	-	
Apr. 01, 2027	20,000	-	

Project Objective Indicators #3

Installed capacity of WTE plant (50% is renewable energy).

Year	Target	Actual	Comments, if any
Mar. 31, 2025	8 (4)	-	
Mar. 31, 2026	8 (4)	-	
Apr. 01, 2027	8 (4)	-	

Intermediate Result Indicators #1

Electricity generated from WTE (50% is renewable energy)

Year	Target	Actual	Comments, if any
Mar. 31, 2025	16,000 (8,000)	-	
Mar. 31, 2026	32,000 (16,000)	-	
Apr. 01, 2027	32,000 (16,000)	-	

Intermediate Result Indicators #2

500 tpd WTE plant (with extended O&M contract) is constructed and operational.

Year	Target	Actual	Comments, if any
Mar. 31, 2024	Constructed	-	
Mar. 31, 2025	Operational	-	
Mar. 31, 2026	Operational	-	
Apr. 01, 2027	Operational	-	

Intermediate Result Indicators #3

Landfill for safe disposal of WTE air pollution control residues and nonmarketable bottom ashes is constructed and operational.

Year	Target	Actual	Comments, if any
Mar. 31, 2024	Constructed	-	
Mar. 31, 2025	Operational	-	
Mar. 31, 2026	Operational	-	
Apr. 01, 2027	Operational	-	

Intermediate Result Indicators #4

Adoption of disaster and climate resilience measures in the design and construction phases of WTE

Year	Target	Actual	Comments, if any
Mar. 31, 2023	Adopted	-	
Mar. 31, 2024	Adopted	-	
Mar. 31, 2025	Adopted	-	
Mar. 31, 2026	Adopted	-	
Apr. 01, 2027	Adopted	-	

Remarks:
