Maldives : Maldives Solar Power Development and Energy Storage Solution

1. Project Information

Project ID:	P000377	Instrument ID:	L0377A
Member:	Maldives	Region:	Southern Asia
Sector:	Energy	Sub-sector:	Renewable energy generation-solar
Instrument type:	☒Loan:20.00 USD million ☐Guarantee	Co-financier(s):	International Development Association, World Bank Group
ES category:	B	Borrower:	Republic of Maldives
Implementing Entity:	Ministry of Environment, Maldives		
Project Team Leader:	Amit Kumar		
Project Team Members:	Gerardo Pio Parco, OSD - Environment & Social Development Specialist; Bernardita Saez, Project Counsel; Aditi Khosla, Alternate Counsel; Rui Xiang, OSD - Financial Management Specialist; Yangzom Yangzom, OSD - Procurement Specialist;		
Completed Site Visits by AIIB:			
Planned Site Visits by AIIB:	Apr, 2022 Tentatively planned for Q2 2022		
Current Red Flags Assigned:	0		
Current Monitoring Regime:	Regular Monitoring		
Previous Red Flags Assigned:	0		
Previous Red Flags Assigned Date:	2021 Q2		

2. Project Summary and Objectives

Project Summary: The project involves the development of a 36-megawatt (MW) solar power project and 50 megawatt hours (MWh) of battery energy storage solutions across various selected islands in the Maldives. The project also involves grid modernization to integrate variable renewable energy with the grid, which will be financed under the AIIB loan.

The project comprises the following components:

Component 1. Solar Photovoltaic (PV) Risk Mitigation
Component 2. Battery Energy Storage System (BESS)
Component 3. Grid Modernization for Variable Renewable Energy (VRE) Integration
Component 4. Technical Assistance

Project Objective: To increase generation capacity from renewable energy sources and to facilitate the integration of renewable energy into the grid infrastructure of Maldives

3. Key Dates

Approval:	Feb. 25, 2021	Signing:	Mar. 17, 2021
Effective:	Jun. 16, 2021	Restructured (if any):	
Orig. Closing:	Oct. 31, 2025	Rev. Closing (if any):	

4. Disbursement Summary (USD million)

Contract Awarded:		Cancellation (if any):	0.00
Disbursed:	0.00	Most recent disbursement (amount/date):	0.00/Jun. 30, 2022
Undisbursed:	20.00	Disbursement Ratio (%)[1]:	0.00

5. Project Implementation Update

No contracts awarded until now.

Components	Physical Progress	Environmental & Social Compliance	Procurement	Financial Management
Component 1. Solar Photovoltaic (PV) Risk Mitigation	Bids for 10MW floating PV are underway and expected to be finalized in Q1 2022. Additionally, bidding document preparation is in progress for 11-14 MW solar PV projects.	In compliance	- 10 MW Floating PV (FPV) PQ evaluation process was completed during May 2021. - WB hired FPV consultant is working on detailed site assessments since July 2021. The wave and current assessment devices were installed at the floating PV site of Hulhumeedhoo during August 2021 and the first data was downloaded successfully during January 2022. The first measurement campaign report is expected to be submitted in Feb 2022. The technical requirement for FPV bid is expected to be submitted by	The Project Management Unit (PMU) under the Ministry of Environment, Climate Change, and Technology for the ASPIRE project (previous World Bank project) shall continue to function as the PMU for the project. The planning, budgeting, funds flow, accounting, reporting, internal controls, and audit arrangements shall be aligned with the government's system. The PMU prepared the annual work plan and budget for the year 2021-2022 and was shared with WB during August 2022. The PMU is staffed with a 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.

			Feb/March 2022. - In addition, MECCT hired a Consultant to fill the gaps in FPV Consultant contract during November 2021 to carry out existing environment surveys at the floating PV site locations and this consultancy has been concluded with the data successfully collected. - 11-14 MW PV sub-project (L. Atoll, Lh. Naifaru, GA. Villingili & Sh. Funadhoo) PQ applications were opened during September 2021 and the evaluation report has been submitted to National Tender Board for their approval during December 2021. The process is expected to be complete during January 2022. - MECCT hired GSES to conduct Helioscope assessments for the solar PV installation sites of 11-14MW during November 2021 and the reports have been submitted during December 2021. The bidding document preparation is ongoing.	director, procurement management specialist, environment and social safeguards specialist, communications specialist, monitoring and evaluation specialist, sustainable energy specialist, and senior energy specialist.
Component 2. Battery Energy Storage System (BESS)	Technical requirements for the 40MWh	in compliance	- 40 MW/40 MWh BESS PQ was published during	

	battery storage have been completed. The bid results are expected to be finalized in Q1 2022.		June 2021. - The Environmental and Social Code of Practice for Battery Energy Storage System was prepared and approved by WB and AIIB during September 2021. - The environmental screening requirement of WB and EPA of all sites for this component has been completed. - The evaluation of PQ applicants has been completed during December 2021 and is pending approval from National Tender Board. - The Techno-economic assessment report was submitted by Entura in November 2021. The technical requirements of the BESS bidding document have been completed and the final document is to be sent to WB for clearance by January 2022.	
Component 3. Grid Modernization for Variable Renewable Energy (VRE) Integration	The bidding document for the grid modernization component is expected to be finalized by March 2022.	in compliance	- The technical requirements of the bidding document have been finalized and the final document review process is ongoing. It is expected to be sent for clearance	

			by January 2022. - The environmental and Social Code of Practice for this component was shared with WB and AIIB during November 2021 and has been approved by WB. - The environmental screening requirement of WB and EPA of all sites for this component has been completed. - The environmental screening requirement of WB and EPA of all sites for this component has been completed.	
Component 4. Technical Assistance	The owner's engineer is finalized and onboarded to support the preparation of components 2 and 3.	in compliance	- MECCT has hired the owner's engineer to support BESS and grid modernization component. - MECCT has initiated the process of hiring a Financial Management Officer and the process is expected to be completed during January 2022. - PMU was re-structured and all the consultants have been transferred from ASPIRE to ARISE.	

6. Status of the Grievance Redress Mechanism (GRM)

The GRM for the project has been formulated and included in the project safeguards documents including Stakeholder Engagement Plan (SEP), Environmental and Social Management Framework (ESMF), and Environmental

and Social Commitment Plan (ESCP). As per project safeguards documents, prior to implementation of any physical activities, GRM details will be displayed on the project sites, moreover, this information will be made available physically and through the website of the Ministry and the council.

7. Results Monitoring

It is too early for actual results with no physical progress. The development objective of the Project is to increase generation capacity from renewable energy sources and to facilitate the integration of renewable energy into the grid infrastructure of Maldives.

Project Objective Indicators #1

I. Renewable energy generation capacity constructed or rehabilitated under the project (MW).

Year	Target	Actual	Comments, if any
Dec. 31, 2025	36	0	Awarding of solar PV projects under bidding process

Project Objective Indicators #2

Private capital mobilized (USD Million)

Year	Target	Actual	Comments, if any
Dec. 31, 2025	45	0	Awarding of solar PV projects under bidding process

Project Objective Indicators #3

Electrical transmission and distribution lines constructed (medium- and low-voltage) and/or rehabilitated (in km)

Year	Target	Actual	Comments, if any
Dec. 31, 2025	100	0	Implementation of grid up-gradation is expected to start later in 1Q 2022.

Project Objective Indicators #4

Annual greenhouse gas (GHG) emission reduction (metric tons of CO2)

Year	Target	Actual	Comments, if any
Dec. 31, 2025	33500	0	No physical progress

Project Objective Indicators #5

Installed capacity of BESS (MWh)

Year	Target	Actual	Comments, if any
Dec. 31, 2025	50	0	under bidding process

Intermediate Result Indicators #1

1. Number of new renewable energy jobs created for women

Year	Target	Actual	Comments, if any
Dec. 31, 2025	12	0	Jobs creation shall happen closer to project commissioning in 2023

Intermediate Result Indicators #2

2. Number of women entering project-funded renewable energy job training

Year	Target	Actual	Comments, if any
Dec. 31, 2025	22	0	Jobs creation shall happen closer to project commissioning in 2023

Remarks:

The Project components are at different stages of preparation and bid tendering. Progress on the procurement part for each component is updated above in section 7 to reflect the current status.