

Indonesia : Development of Pumped Storage Hydropower in Java Bali System

1. Project Information

Project ID:	P000512	Instrument ID:	L0512A
Member:	Indonesia	Region:	South-Eastern Asia
Sector:	Energy	Sub-sector:	Energy storage
Instrument type:	<input checked="" type="checkbox"/> Loan:230.00 US Dollar million <input type="checkbox"/> Guarantee	Lead Co-financier (s):	World Bank
ES category:	A	Borrowing Entity:	Ministry of Finance, Indonesia
Implementing Entity:	PT Perusahaan Listrik Negara (Persero)		
Project Team Leader:	Ziwei Liao		
Responsible DG:	Rajat Misra		
Responsible Department:	INF1		
Project Team Members:	Donggun Kim, Team Member; Odil Akbarov, OSD - Social Development Specialist; Guoping Yu, OSD - Procurement Specialist; Yi Geng, OSD - Financial Management Specialist; Gerardo Pio Parco, OSD - Environment Specialist; Jiaqi Su, Economist; James Lok, Team Member; Liu Yang, Project Counsel; Donggun Kim, Back-up PTL; Kunyuan Hu, Project admin		
Completed Site Visits by AIIB:	Dec, 2022 5th to 14th (Virtual Implementation Support Mission)		
Planned Site Visits by AIIB:			
Current Red Flags Assigned:	0		
Current Monitoring Regime:	Regular Monitoring		
Previous Red Flags Assigned:			
Previous Red Flags Assigned Date:			

2. Project Summary and Objectives

The objective is to support Indonesia's energy transition and decarbonization goal by 1) developing the first large-scale pumped storage hydropower to improve power generation peaking and storage capacity of the Java-Bali grid and 2) strengthening PLN's capacity for hydropower development and management.

The Project will support PLN's development of the Upper Cisokan Pumped Storage (UCPS) Hydropower Plant, including its environmental and social risk and impact management, implementation, and monitoring, as well as capacity building for PLN in hydropower project preparation and management.

There are three components of the Project.

Component 1: Development of the UCPS Plant, which covers the preparation, construction, and commissioning of a 1,040 MW pumped storage hydropower plant located in about approximately 150 km southeast of capital city Jakarta at the upstream of the Cisokan River Basin in West Java Province. Sub-components of Component 1 are; (i) Sub-component 1.1: Preparation, Construction, and Commissioning of the UCPS Plant., and (ii) Sub-component 1.2: Project Supervision and Support to the Project Implementation Unit.

Component 2: ES Impact Management for the UCPS Plant, which includes the implementation of the various ES plans, and development and implementation of additional plans to mitigate the adverse ES impacts of the UCPS plant.

Component 3: Technical Assistance and Capacity Building, which supports the preparation of the Matenggeng Pumped Storage (MPS) Plant, Pokko Hydropower Project (Pokko HPP), and the Java-Bali System Master Plan.

AIIB will only co-finance the Sub-component 1.1 of the Project. The Component 2 will be largely financed by PLN as most of the ES plans have already been implemented. The WB will solely finance Component 3, which includes capacity building to support PLN in hydropower project preparation and management.

3. Key Dates

Approval:	Apr. 13, 2022	Signing:	Jun. 23, 2022
Effective:	Nov. 22, 2022	Restructured (if any):	
Orig. Closing:	Jun. 30, 2028	Rev. Closing (if any):	

4. Disbursement Summary (USD million)

Contract Awarded:		Cancellation (if any):	0.00
Disbursed:	0.00	Most recent disbursement (amount/date):	
Undisbursed:	230.00	Disbursement Ratio (%) ¹ :	0.00

5. Project Implementation Update

The loan effectiveness was made on November 22, 2022. Since then, PLN has continued its efforts on the early project implementation and achieved major progress including the signing of the contract amendment agreement for civil works, which is the crucial milestone of the Project. However, the construction work on site has not commenced yet as the conditions have not been fully met. During the virtual implementation support mission in December, several actions were called for the Borrower and PLN's attention to satisfy for the timely commencement of construction works. The conditions include, inter alia, financing of Contractor's ESMP (C-ESMP), repair work of access road, appointment of remaining six Project Review Panel (PRP) and one Environmental and Social Panel members, and the clearance of Project Implementation Manual (PIM).

Packages of Sub-component 1.1:

- Package 1 (Dam and Civil Works): As mentioned above, the construction work on site has not commenced yet.
- Package 2 (Electromechanical Equipment): The contract with the bidder Andritz is under negotiation. The

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.

bid validity and bid security was extended until June 6 2023, and June 4, 2023, respectively.

- Package 3 (500 kV Transmission Line): Draft bidding document was finalized by PLN head office. (Note that AIIB will not finance Package 3).
- Package 4 (Hydraulic Metal Works): The commencement date is expected to be May 2023 after the negotiation with the contractor CGGC.

On the technical design and engineering side, PLN-E has been assigned by PLN to act as PLN's Engineer and Project Manager, using PLN's own funds. PLN-E contracted Nippon Koei & Newjec (NK/NJ) as a consultant for civil works design update as well as for supervision of the construction works. For the next step, PLN will finalize the Seismic Hazard Assessment and prepare final report on Hydraulic Model Test. Both reports will be subject to the PRP review and confirmation in February 2023, and review of the model will also be organized with the PRP.

Progress has been made in the preparation of the Biodiversity Management Plan (BMP) and Forest Partnership Framework (FPF). A new MOU between PLN and the Perhutani (state-owned company for forest management) is under development: the generic MOU was signed in June 2022 and formed the basis for collaboration between the two parties on the UCPS project; while the second MOU which provides details on the implementation of BMP and FPF is expected to be signed in February 2023. The Supervision Engineer has reviewed and updated the Quality Management System Construction Management (QMSCM) manual, according to the Construction Supervision and Quality Assurance Plan under World Bank ESS4 on Community Health and Safety. The WB team reviewed the document and shared the comments with PLN in December 2022.

An Independent Environmental and Social Management (IESM) consultant will be recruited to supervise and monitor the implementation of ES plans and GRM by conducting compliance checks with the ESF of the World Bank and Safeguards documents of the Project. During the last mission, PLN was reminded about the ES actions to be done promptly, including completion of revised Environmental and Social Management System and completion of Land Acquisition and Resettlement Plan (LARP) Action Plan.

Components	Physical Progress	Environmental & Social Compliance	Procurement
\$230.00 Component 1.1 Preparation, Construction, and Commissioning of the UCPS Plant.	Conditions for commencement of construction work to be met	Construction has not started. Contractors ESMP is in the critical path for works to start. Update and revision is in progress. The access road to the upper dam site needs repair due to numerous land slips. A CESMP on road rehabilitation has been cleared for implementation by the contractor.	No issues
\$0.00 The component includes implementation of the various ES plans and development of additional plans to mitigate the adverse ES impacts of the UCPS plant.	Not part of AIIB Financing.	The mission was informed of the status of the assignment of PRP and ESP members. The signing of the contract for six PRP members has been completed, while remaining six PRP members are waiting for the contract signing. Five out of six ESP members were contracted, while remaining one for Local Biodiversity Expert is under the procurement stage. An Independent Environmental and Social Management (IESM) consultant will be recruited to supervise/monitor the	No issues.

		<p>implementation of E&S plans.</p> <p>Biodiversity Management Plan (BMP) and Forest Partnership Framework (FPF) implementation: The MOU between the PLN and the Perhutani is in advanced stage of finalization. In early 2023 PLN proposes to start discussions with Lembaga Masyarakat Desa Hutan (LMDH) as a representative leaders of local communities to introduce the BMP and FPF and develop a 'BMP Facilitation Team' with Perhutani and LMDH to coordinate the implementation of BMP and FPF activities.</p>	
<p>\$0.00</p> <p>The component support the preparation of the Matenggeng Pumped Storage (MPS), Poko Hydropower Project (Poko HPP) and the Java-Bali System Master Plan.</p>			

Financial Management:

The 2021 PLN entity's audit report was published on its website in May 2022 with a clean opinion. There is no disbursement yet under the Project.

6. Status of the Grievance Redress Mechanism (GRM)

PLN has finalized the GRM and is currently fully operational. Since August 2022, GRM consultants have been actively working in the field to socialize the GRM to the surrounding communities and relevant stakeholders. To date, several grievances have been recorded and processed in accordance with the mechanism. Starting January 2023, PLN will share and discuss monthly grievance record with the WB team in addition to the six-monthly report.

7. Results Monitoring (please refer to the full RMF, which can be found on the last page of this PIMR)

The disbursement for year 2022 was delayed. The conditions for the commencement of civil work are yet to be met.

Remarks:

Project Objective Indicators	Indicator level	Unit of Measure	Cumulative Target Values																		Frequency	Responsibility	Comments	
			Baseline		2021		2022		2023		2024		2025		2026		2027		End Target					
			Year	Value	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Year	Target				Actual
Addition of peaking generation capacity in the Java-Bali System	Project	MW	2021	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,040	Semiannual	UCPS PIU	
Addition of power storage capacity to the Java-Bali grid from the UCPS	Project	GWh	2021	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,478.70	Semiannual	UCPS PIU	
Reduction of the greenhouse gas emission enabled by the UCPS by 2040	Project	MtCO2e	2021	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.3	Semiannual	UCPS PIU	
Satisfactory implementation of the ESMP for the UCPS	Project	-	2021	n/a	n/a	n/a	Satisfactory	n/a	Satisfactory		Satisfactory		Satisfactory		Satisfactory		Satisfactory				Satisfactorily implemented	Semiannual	UCPS PIU	
Preparation of Operation and Maintenance Plan (OMP) for the UCPS	Project	-	2021	not yet prepared	not yet prepared	not yet prepared	not yet prepared	not yet prepared	not yet prepared		not yet prepared		not yet prepared		Prepared		Prepared				Prepared	Semiannual	UCPS PIU	
Satisfactory implementation of the OMP	Project	-	2021	n/a	n/a	n/a	n/a	n/a	n/a		n/a		n/a		n/a		Satisfactory				Satisfactorily implemented	Semiannual	UCPS PIU	

Project Intermediate Indicators	Indicator level	Unit of Measure	Cumulative Target Values																		Frequency	Responsibility	Comments	
			Baseline		2021		2022		2023		2024		2025		2026		2027		End Target					
			Year	Value	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Year	Target				Actual
Construction of UCPS civil works	Project	%	2021	0	0	0	10	0	25		60		90		100		100				100	Semiannual	UCPS PIU	

Supply, erection, and commissioning of equipment	Project	%	2021	0	0	0	10	0	30	70	90	100	100	100	Semiannual	UCPS PIU
Construction of transmission line	Project	%	2021	0	0	0	0	0	0	30	60	100	100	100	Semiannual	UCPS PIU
Preparation of Emergency Preparedness Plan (EPP)	Project	-	2021	Not yet prepared	Not yet prepared	Not yet prepared	Not yet prepared	Not yet prepared	Not yet prepared	Not yet prepared	Not yet prepared	Not yet prepared	Prepared	Prepared	Semiannual	UCPS PIU
Preparation of an Reservoir Impoundment Plan (RIP)	Project	-	2021	Not yet prepared	Not yet prepared	Not yet prepared	Prepared	Not yet prepared	Prepared	Prepared	Prepared	Prepared	Prepared	Prepared	Semiannual	UCPS PIU
Trial run results of the UCPS meeting PLN's performance targets	Project	-	2021	Not yet prepared	Not yet prepared		Not yet prepared		Not yet prepared	Not yet prepared	Not yet prepared	Completed and met PLN's performance target	Completed and met PLN's performance target	Completed and met PLN's performance target	Semiannual	UCPS PIU
Labor-related grievances registered under the Project GRM	Project	%	2021	0	0		100		100	100	100	100	100	100	Semiannual	UCPS PIU
Labor-related grievances registered under the Project GRM and addressed/resolved within the stipulated service standards for response time	Project	%	2021	0	0		0		80	80	80	100	100	100	Semiannual	UCPS PIU
Project-related grievances registered under the Project GRM and addressed	Project	%	2021	0	0		0		90	90	90	100	100	100	Semiannual	UCPS PIU