



## Development of Pumped Storage Hydropower in Java Bali System Project (P172256)

EAST ASIA AND PACIFIC | Indonesia | Energy & Extractives Global Practice |  
IBRD/IDA | Investment Project Financing | FY 2022 | Seq No: 2 | ARCHIVED on 04-Aug-2022 | ISR52415 |

Implementing Agencies: PT Perusahaan Listrik Negara (PLN), Republic of Indonesia

**Key Dates****Key Project Dates**

Bank Approval Date: 10-Sep-2021

Effectiveness Date: 17-Mar-2022

Planned Mid Term Review Date: 31-Mar-2024

Actual Mid-Term Review Date:

Original Closing Date: 15-Sep-2027

Revised Closing Date: 15-Sep-2027

**Project Development Objectives**

Project Development Objective (from Project Appraisal Document)

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

Has the Project Development Objective been changed since Board Approval of the Project Objective?

No

**Components Table**

Name

Development of the UCPS Plant:(Cost \$673.00 M)

Environmental and Social Impact Management for the UCPS Plant:(Cost \$40.00 M)

Provision of Technical Assistance and Capacity Building Activities:(Cost \$42.00 M)

**Overall Ratings**

Name	Previous Rating	Current Rating
Progress towards achievement of PDO	<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Satisfactory
Overall Implementation Progress (IP)	<input type="checkbox"/> Satisfactory	<input type="checkbox"/> Satisfactory
Overall Risk Rating	<input type="checkbox"/> High	<input type="checkbox"/> High

**Implementation Status and Key Decisions**

The project was approved by the World Bank Board on September 10th, 2021. Loan and Project Agreements have been signed and Project Effectiveness was achieved in March 2022. The project is progressing well towards the commencement of construction works on site.



**Risks**

**Systematic Operations Risk-rating Tool**

Risk Category	Rating at Approval	Previous Rating	Current Rating
Political and Governance	☐ Moderate	☐ Moderate	☐ Moderate
Macroeconomic	☐ Substantial	☐ Substantial	☐ Substantial
Sector Strategies and Policies	☐ Substantial	☐ Substantial	☐ Substantial
Technical Design of Project or Program	☐ Moderate	☐ Moderate	☐ Moderate
Institutional Capacity for Implementation and Sustainability	☐ Substantial	☐ Substantial	☐ Substantial
Fiduciary	☐ Substantial	☐ Substantial	☐ Substantial
Environment and Social	☐ High	☐ High	☐ High
Stakeholders	☐ Moderate	☐ Moderate	☐ Moderate
Other	--	--	--
Overall	☐ High	☐ High	☐ High

**Results**

**PDO Indicators by Objectives / Outcomes**

Improve system flexibility by adding peaking and storage capacity for VRE integration on Java-Bali				
▶ Peaking capacity added to the Java-Bali grid from the UCPS (Megawatt, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	0.00	1,040.00
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	Capacity addition as verified by the commissioning date and formally reported by PLN Pusat			
▶ Power storage capacity added to the Java-Bali grid from the UCPS (GWh) (Gigawatt-hour (GWh), Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	0.00	1,478.70
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	Annual storage volume based on an assumed daily peak generation of 4,500-6,700 MWh, and 90% percent reservoir to allow for 10% non-filling/down time.			
▶ (iii) reduction of the GHG emission enabled by the UCPS by 2040 (MtCO2e) (Number, Custom)				



	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	0.00	7.30
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	GHG emission reduction based on estimated 40GW additional VRE (solar) deployment in the Java-Bali system and curtailment avoided thanks to UCPS			

Strengthen PLN's capacity in hydropower development				
► Completion of the Java-Bali System Master Plan (Text, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	Java-Bali System Master Plan not yet prepared	Java-Bali System Master Plan not yet prepared	Java-Bali System Master Plan not yet prepared	Java-Bali System Master Plan completed
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	Java-Bali System Master Plan aimed to guide future planning and investments has been approved by PLN and WB			
► Satisfactory implementation of the Environmental and Social Management Plan (ESMP) for the UCPS (Text, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	ESMP not yet implemented	ESMP not yet implemented	ESMP not yet implemented	Satisfactory implementation of ESMP
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	Implementation of ESMP in line with WB ESF			
► Preparation of Operation and Maintenance Plan (OMP) for the UCPS (Text, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	OMP not yet prepared	OMP not yet prepared	OMP not yet prepared	OMP has been prepared
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	An OMP for a pumped storage project up to international standard to be prepared six months before commissioning			
► Satisfactory implementation of the Operation and Maintenance Plan (OMP) (Text, Custom)				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	OMP not yet in place	OMP not yet in place	OMP not yet in place	OMP has been satisfactorily implemented
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	Staffing, resource, and organizational procedure in place to implement the OMP			



**Intermediate Results Indicators by Components**

Development of the Upper Cisokan Pumped Storage Hydropower Plant in the Java Bali System				
<b>► Construction of UCPS civil works (Percentage, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	0.00	100.00
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	Work progress on construction of the dam as reported by the contractor/supervision engineer			
<b>► Supply, erection and commissioning of equipment (Percentage, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	0.00	100.00
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	Work progress of works reported by the equipment suppliers/supervision engineer			
<b>► Construction of the transmission line (Percentage, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	0.00	100.00
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	Work progress on construction of the transmission line as reported by the contractor/supervision engineer			
<b>► Preparation of Emergency Preparedness Plan (EPP) (Text, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	An EPP up to international standard one year before commissioning	EPP has not yet been prepared	EPP has not yet been prepared	EPP has been prepared
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	An EPP up to international standard one year before commissioning			
<b>► Preparation of an Reservoir Impoundment Plan (RIP) (Text, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target



Value	RIP has not yet been prepared	RIP has not yet been prepared	RIP has not yet been prepared	RIP has been prepared
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	An Impoundment Plan up to international standard two years before first impoundment			
<b>► Trial run results of the UCPS meeting PLN's performance targets (Text, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	Trial run results not yet started	Trial run results not yet started	Trial run results not yet started	Trial run results of the UCPS completed and meeting PLN's performance targets
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	Trial run results verified by the supervision engineer			
<b>► Labor-related grievances registered under the Project grievance redress mechanism (Percentage, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	0.00	100.00
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	The indicator will count grievances registered in GRM. PLN will customize the existing GRM and activate it before the commencement of work.			
<b>► Labor-related grievances registered under the Project grievance redress mechanism and addressed/resolved within the stipulated service standards for response time (Percentage, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	0.00	100.00
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	The indicator will count grievances registered and addressed in GRM. PLN will customize the existing GRM and activate it before the commencement of work.			

Environmental and Social Impact Management

**► Project-related grievances registered under the Project grievance redress mechanism and addressed (Percentage, Custom)**

	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	0.00	0.00	0.00	100.00
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	The indicator will count grievances registered and addressed in GRM. PLN will customize the existing GRM and activate it before the commencement of work.			



Technical Assistance and Capacity Building				
<b>► Matenggeng Detailed Design and Tender Documents have been completed (Yes/No, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No	No	No	Yes
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	Design and tender documents prepared by consultants and approved by PRP, PLN and WB			
<b>► Matenggeng ESIA and LARAP have been completed (Yes/No, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No	No	No	Yes
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	E&S documents prepared by consultants and approved by PRP/ESP, PLN and WB			
<b>► Poko Detailed Design and Tender Documents have been completed (Yes/No, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	No	No	No	Yes
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	Design and tender documents prepared by consultants and approved by PRP, PLN and WB			
<b>► Women in technical roles in PLN Cisokan (Percentage, Custom)</b>				
	Baseline	Actual (Previous)	Actual (Current)	End Target
Value	5.00	5.00	5.00	20.00
Date	28-Jun-2021	14-Dec-2021	18-Jul-2022	30-Sep-2027
Comments:	Currently, 10 in 17 PLN Cisokan staff are female, but only one is in a technical role. This seeks to encourage more female technical staff being assigned to PLN Cisokan (up to 4).			

**Performance-Based Conditions**

**Data on Financial Performance**

**Disbursements (by loan)**

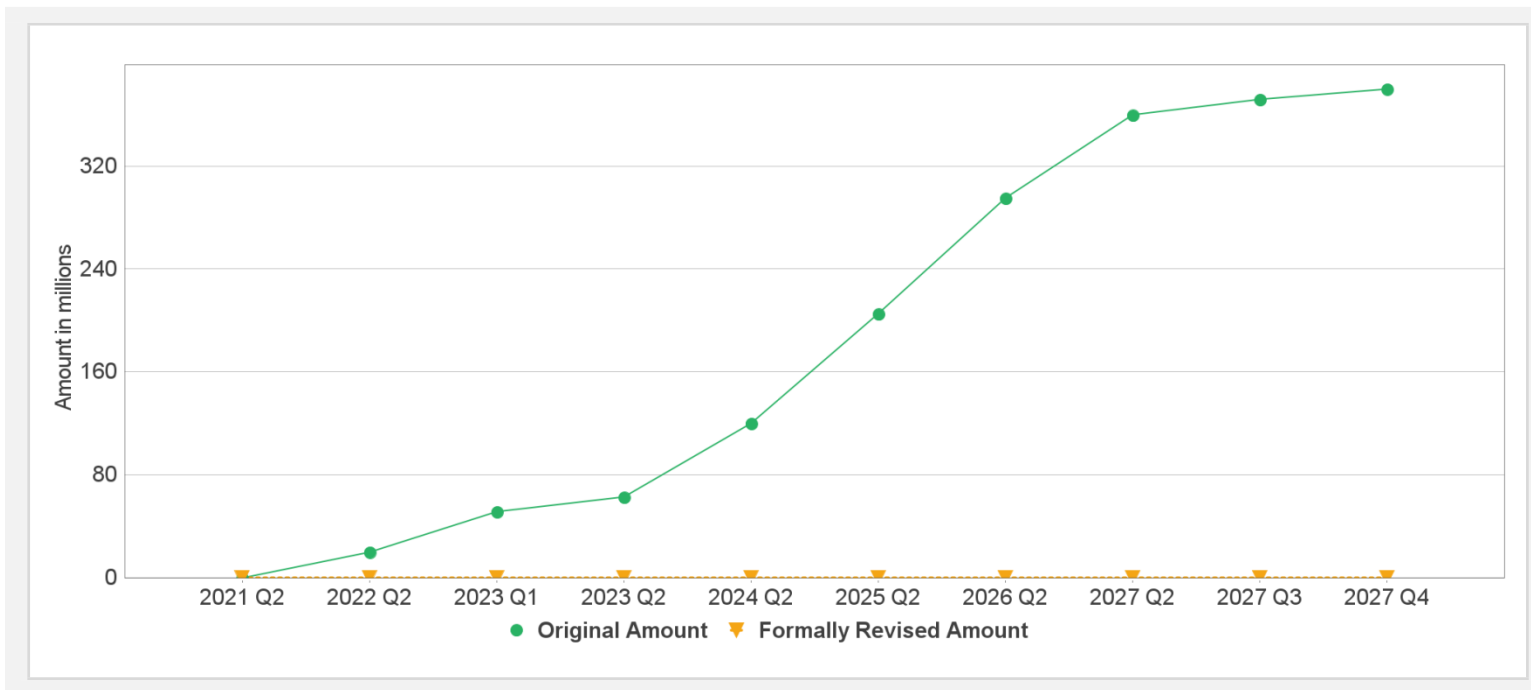


Project	Loan/Credit/TF	Status	Currency	Original	Revised	Cancelled	Disbursed	Undisbursed	% Disbursed
P172256	IBRD-92780	Effective	USD	380.00	380.00	0.00	0.00	380.00	0%

**Key Dates (by loan)**

Project	Loan/Credit/TF	Status	Approval Date	Signing Date	Effectiveness Date	Orig. Closing Date	Rev. Closing Date
P172256	IBRD-92780	Effective	10-Sep-2021	17-Dec-2021	17-Mar-2022	15-Sep-2027	15-Sep-2027

**Cumulative Disbursements**



**Restructuring History**

There has been no restructuring to date.

**Related Project(s)**

There are no related projects.