



**PT PLN (Persero)**

## **4<sup>th</sup> Quarterly Report**

**(January – Desember 2023)**

Sustainable Energy Access in Eastern  
Indonesia - Electricity Grid Development  
Program Phase 2

Result Based Lending (RBL) – ADB

31 January 2024

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## Abbreviations

ADB	=	Asian Development Bank
PLN	=	Perusahaan Listrik Negara (State Electricity Company)
WKB	=	Wilayah Kalimantan Barat (West Kalimantan Region)
WKSKT	=	Wilayah Kalimantan Selatan dan Kalimantan Tengah (South and Central Kalimantan Region)
WKTKU	=	Wilayah Kalimantan Timur dan Kalimantan Utara (East and North Kalimantan Region)
WMMU	=	Wilayah Maluku dan Maluku Utara (Maluku and North Maluku Region)
WP2B	=	Wilayah Papua dan Papua Barat (Papua and West Papua Region)
DIV KPJ	=	Divisi Pusat Kebijakan (Policy Center Division)
DIV MEB	=	Divisi Aneka Energi Baru Terbarukan (Various Renewable Energy Division)
AP2T	=	Aplikasi Pelayanan Pelanggan Terpusat (Centralized Customer Service Application)
APKT	=	Aplikasi Pengaduan dan Keluhan Terpadu (Integrated Complaints Management Application)
ckm	=	Circuit kilometre
COD	=	Commercial Operation Date
DLI	=	Disbursement-Linked Indicator
ERP	=	Enterprise Resource Planning
FPR	=	Financing for Prior Results
GIS	=	Geographic Information System
GWh	=	Gigawatt-hour
IVA	=	Independent Verification Agent
KPI	=	Key Performance Indicator

kV	=	Kilovolt
MVA	=	Megavolt-ampere
PAP	=	Program Action Plan
PID	=	Project Implementation Document (ADB)
PLN	=	Perusahaan Listrik Negara (State-Owned Electricity Company)
PMU	=	Program Management Unit
PPA	=	Power Purchase Agreement
RBL	=	Results Based Lending (ADB)
RUPTL	=	Rencana Usaha Penyediaan Tenaga Listrik (Electricity Power Supply Business Plan)
SAIDI	=	System Average Interruption Duration Index
SAIFI	=	System Average Interruption Frequency Index
SILM	=	Sistem Informasi Laporan Manajemen (Management Reporting Information System)
KMP	=	Kalimantan, Maluku and Papua
SPKK	=	Satuan Pemantau Kinerja Korporat (PLN internal performance management unit)

# 1. INTRODUCTION

## 1.1. Background

On December 8th, 2020, PT PLN (Persero) signed the loan agreements with ADB, worth US\$600 million (period 2020-2025). The ADB loans will support Sustainable Energy Access in Eastern Indonesia - Electricity Grid Development Program Phase 2.

The program is dedicated to the nine provinces across Kalimantan, Maluku, and Papua (KMP) in Eastern Indonesia namely West Kalimantan, South Kalimantan, Central Kalimantan, East Kalimantan, North Kalimantan, Maluku, North Maluku, Papua, and West Papua.

The goal of the program is to support the development of electricity distribution networks to connect business and households and to enhance the quality of life in Eastern Indonesia by the sustainable use electricity as a key driver of increased economic activity. This will contribute to the overall objective of a sustainable economic and social development in the Eastern regions of Indonesia.

This program follows a Results-Based Lending (RBL) structure, in which funds are disbursed in stages and only disbursed to PLN when the mutually agreed Disbursement-Linked Indicators (DLI) are met (if disbursement is adjusted to the achievement of part or all the DLI targets). DLI is results-oriented rather than process-oriented, allowing PLN the flexibility to use its own processes and systems to manage funds and achieve program outcomes.

In addition to the DLIs, PLN has agreed to implement a series of actions set out in Program Action Plans (PAPs), which are also included as loan covenants in the ADB loan agreements.

## 1.2. Program Scope of Work

The scope of work for the ADB can be detailed as follows:

<b>ADB RBL</b>
<p><b>Output 1: Power Distribution Network strengthened and expanded.</b></p> <p>The Program shall be tracked by the installed length of medium-voltage distribution lines (DLI 4).</p>
<p><b>Output 2: Renewable energy use increased.</b></p> <p>Electricity provided to communities in the target areas will be from a mix of power sources, including small diesel generators, which is the most common for remote grids. Output 2, supported by the ACEF grant, explicitly focuses on increasing power generation from solar photovoltaic (PV), mini- and micro-hydro, and small biogas power plants (DLI 5).</p>
<p><b>Output 3: Institutional capacity strengthened and social monitoring enhanced.</b></p> <p>Output 3 focuses on improving asset and waste management (DLI 6) and on enhancing social and gender aspects through PLN workshop on safe and productive energy use, with at least 30 % female participation (DLI 7). Electronic procurement and contract payment system will be integrated and rolled out to improve reporting and monitoring (DLI 8).</p>

## 1.3. Scope of this Quarterly Report

This Quarterly Report is intended to provide periodic progress updates to ADB regarding (i) the achievements of overall program results; (ii) status of the DLIs and DLI verification protocols; (iii) the status of covenants in the loan and grant agreements; and (iv) the outcomes of the PAP implementation program.

This Quarterly Report covers reporting periods from **October 1<sup>st</sup>, 2023 until December 31<sup>h</sup>, 2023.**

## 2. PROGRAM STRUCTURE, MANAGEMENT AND IMPLEMENTATION

### 2.1. ADB Results Based Lending Program

The ADB Results Based Lending (RBL) program focuses on sustainable energy access in Eastern Indonesia – Electricity Grid Development Program.

These are the key milestones of ADB L4009-INO :

- a. ADB Approval : Nov 24<sup>th</sup>, 2020
- b. Loan Signing : Dec 8<sup>th</sup>, 2020
- c. Guarantee Signing : Dec 16<sup>th</sup>, 2020
- d. Loan Effectiveness : Jan 14<sup>th</sup>, 2021
- e. Implementation Period : Jan 2020 – Dec 2025 (5 years)
- f. Program Completion : Dec 31<sup>st</sup>, 2025
- g. Loan closing : Jun 30<sup>th</sup>, 2026

An allocation and withdrawal of Loan Proceeds and the breakdown of the ADB RBL disbursement allocations for Kalimantan, Maluku, and Papua (KMP) according disbursement schedule for 2020-2025 on Aide Memoire Loan Inception Mission February 2021 is shown below in Table 1.

**Table 1: Disbursement Schedule on \$ million (Source: ADB)**

Disbursement-Linked Indicator (DLI)	Total ADB Financing Allocation	Share of Loan (%)	Prior Results	2020	2021	2022	2023	2024	2025
DLI 1	150	25,0		30	30	30	30	30	-
DLI 2	75	12,5	30	9	9	9	9	9	-
JFPR Grant	3	-	0,6	1,0	1,0	0,4	-	-	-
DLI 3	90	15,0		18	18	18	18	18	-
DLI 4	120	20,0		24	24	24	24	24	-
DLI 5	50	8,3		5	9	9	9	9	9
ACEF Grant	3	-		1,0	1,0	1,0	-	-	-
DLI 6	65	10,8		11	11	11	11	11	10
DLI 7	30	5,0		6	6	6	6	6	-
DLI 8	20	3,3	4	-	4	4	4	4	-
<b>TOTAL (Loan only)</b>	<b>600</b>	<b>100</b>	<b>34</b>	<b>103</b>	<b>111</b>	<b>111</b>	<b>111</b>	<b>111</b>	<b>19</b>
<b>TOTAL (Grant)</b>	<b>6</b>	<b>-</b>	<b>0,6</b>	<b>2,0</b>	<b>2,0</b>	<b>1,4</b>	<b>-</b>	<b>-</b>	<b>-</b>



The monitoring target values for each of the results indicators over the loan period (2020 to 2025) are shown in Table 2. These indicators will be monitored through the Program Action Plan (PAP).

**Table 2: ADB RBL Disbursement Allocations (Source: ADB)**

No	Metric	Definition of Indicators	Units	Disbursement Allocated (\$ million)
<b>Outcome</b>				
1	Increase number of total PLN KMP customers	Minimum target of increased customer is 6,77	Million customers	150
2	Increase number poor households provided with PLN electricity	Minimum target of increased customer 112.428 include 10% female-headed households	poor household	75
	<i>JFPR Grant</i>	<i>All poor households</i>		3
3	Feeder line permanent interruptions in the distribution system.	Maximum annual rate increased allowed for feeder line is 14,37	Interruption per 100 ckm	90
<b>Outputs</b>				
4	Increased number of Installed lengths of MV distribution lines	Minimum rate of cumulative installed length of MV lines is 63.692	ckm	120
5	Additional Power generation from Renewable Energy	Minimum rate of additional MWh annually is 40.000 MWh and further 48.000 MWh by 2025	MWh	50
	<i>ACEF Grant)</i>	<i>additional MWh annually is 40.000 MWh by 2025</i>	<i>MWh</i>	3
6	Improvement Asset and waste management improved, with (i) 90% of used PLN-owned equipment in Kalimantan, Maluku and Papua included in the disposal inventory as of end-2019 safely disposed by 2025, and (ii) 25 additional warehouses holding environmental permits by 2024	Used PLN equipment is safely disposed at least 90% from the 2019	%	65
7	Consumer education workshops on safe and productive energy use	PLN holds workshop each of the 5 UIWs and 29 UP3 with minimum 30% female participation (1,0 point) or 50% female participation (1,25 points), total 121 points by 2024	point	30
8	Integrating E-Procurement and SAP systems	Both of systems integrated and rolled out, and at least 80% of contracts in financial value by 2024		20
<b>TOTAL (Loan only)</b>				<b>600</b>
<b>TOTAL (Grant)</b>				<b>6</b>

PLN will implement and also supervise, monitor, and report the progress in this ADB RBL program that has eight disbursement-linked indicators (DLIs), three non-disbursement linked indicators (non-DLIs), Loan and Grant Compliance, and Program Action Plan (PAP).

## 2.2. PLN Program Management and Implementation

PLN formed a Project Management Unit (PMU) and Project Implementing Unit (PIU) specifically for the ADB RBL programs in PLN Kalimantan, Maluku, and Papua. The PMU consists of internal PLN staff drawn from various divisions within PLN Head Office (e.g. DIV KEU, DIV RSD, DIV ODM, DIV ODS, DIV RSK, DIV TEK, DIV MRP, etc). The organisational structure of the PMU and PIU is shown in Figure 1 below. This is the new of PMU and PIU that changes due to reorganisation and effective since 22 December 2023.

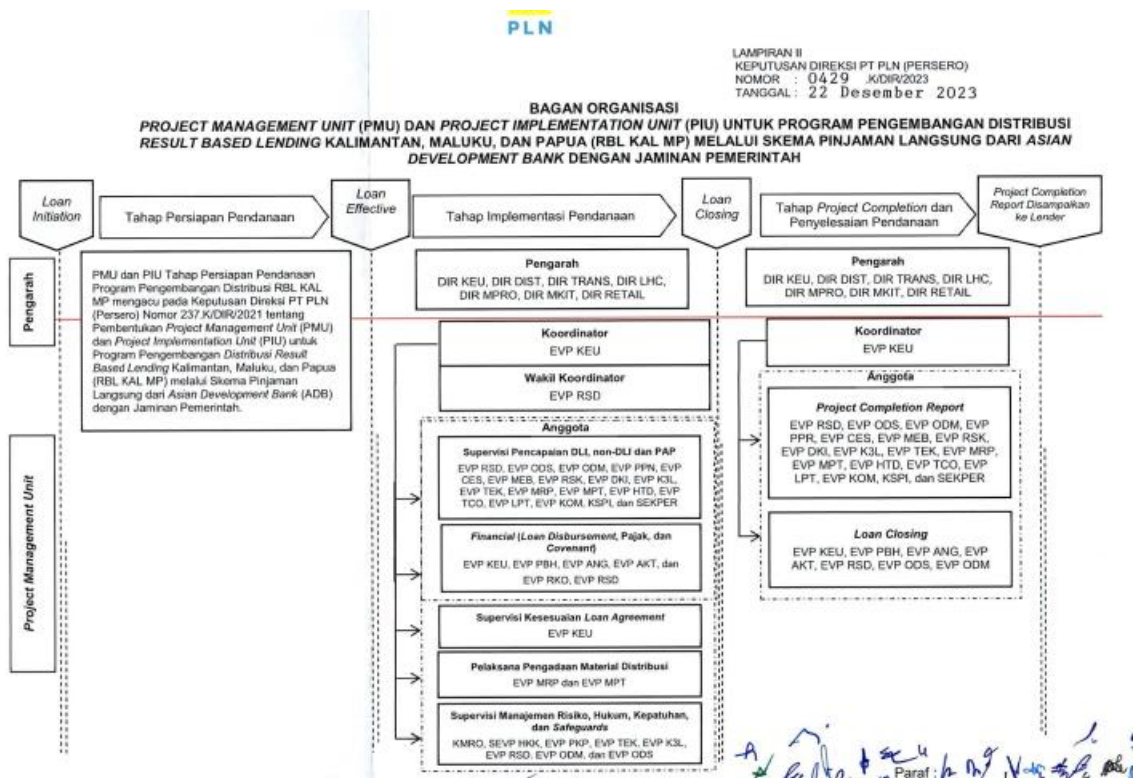


Figure 1: PMU/PIU Organisational Structure (Source : PLN)

### 3. ADB RBL PROGRAM IMPLEMENTATION STATUS

#### 3.1. Summary of DLI Achievements as of Reporting Period

Table 3 shows a summary of DLI Achievements for the third quarter of 2023 from the evaluation results of PLN.

**Table 3: Summary of DLI Achievements RBL-ADB**

DLI No.	Target	PLN Reviewed (as of 31 December 2023)	Achieved/ Not Achieved
1	6,58 Million customers (2023)	6,93 million (data TUL 309 dan AP2T)	Achieved
2	2.1 92.866 poor households (2023)	128.512 poor households (Data from AP2T – DTKS Information)	Achieved
	2.2 9.287 poor female-households (2023)	32.429 poor households (Data from AP2T)	Achieved
3	14,97/100 ckm permanent interruptions (2023)	3,48 / 100 ckm	Achieved
4	61.229 ckm MV lines for KMP (2023)	61.022	Haven't Achieved
5	5.1. Additional 25,600 MWh generated from solar PV, mini/micro hydro and small biogas plants 5.2. Another 24,000 MWh generated from solar PV, mini/micro hydro, and small biogas plants	Total Energy until December 2023 : 16.008 MWh (without exclusion and include baseline) 12,417.29 MWh (exclude cat. A and baseline)	Haven't Achieved
6	(i) 65% of inventory of used equipment for disposal as of end-2019 approved by MSOE (ii) 40% of 2019 inventory safely disposed (iii) 20 (cumulative) additional warehouses have secured the environment permit from DLH	(i). 98,84% of inventory of used equipment for disposal as of end-2019 approved by MSOE (ii). 76,14% of 2019 inventory safely disposed. (iii). 22 (cumulative) additional warehouses have secured the environment permit from DLH	Achieved

7	<p>Consumer education workshops held at each of 29 UP3 with minimum 30% female participation among consumers.</p> <p>Cumulative points required. For disbursement: 92</p>	29 UP3 with 102,2 point with 46% of female participans	Achieved
8	At least 70% of contracts in financial value executed by UIW (including units under them) recorded in E-Proc+SAP integrated system (2023)	71,35%	Achieved
Non-DLI 1	<p>Improved time use reported by women and men as a result of electricity access, measured in:</p> <ul style="list-style-type: none"> <li>• Hours/week on household work and care activities (women/men)</li> <li>• hours/week on productive activities (women/men)</li> <li>• hours/week on social/community activities (women/men)</li> </ul>		
Non-DLI 2	<p>At least one pilot community-based training on solar PV maintenance delivered with minimum 30% female participation</p> <p>Training module developed for future scale up of community trainings by PLN (2020-2022)</p>	0 Pilot community training Training materials from the basic maintenance of PLTS have been prepared by PLN Pusklat and is expected to be conducted in 2025	2020-2022
Non-DLI 3	<p>Capacity for social monitoring: Annual report on social impact of electrification with data disaggregated by sex published by end of 2022 and end of 2023</p>	<p>Sustainability Report which contains material on the social impacts of ADB's 2021 electrification program published in June 30, 2022 (2021 report)</p> <p>Meanwhile for PLN Annual sustainability report (2022 report) will upload in PLN website. DIVKEU have send Nota Dinas to DIVKOM for processing upload sustainability report.</p>	Start from 2022 - 2025

### 3.2. Eligibility for Disbursement of Performance 2022 and Interim 2023 (Million USD)

Based on the results of the achievement of DLI performance until Mission Interim 2023, the total disbursement for loans is 325,80 million USD or 54,3%. While PLN total achievement is \$407.37 and DLI performance interim 2023, the total disbursement eligibility for loans is 81,57 million USD that has not been withdrawn with the following details:

**Table 4: Loan Disbursement Eligibility Performance Summary (Source: ADB)**

*In USD million*

DLI	Total Allocation	RBL01	RBL02	RBL03	RBL04	RBL05	RBL06	RBL07	Total Disbursement after 2023 Interim Mission	Saldo Loan
		17-Nov-21	16-Nov-21	10-Dec-21	21-Apr-22	8-Dec-22	15-Sep-23	14-Nov-23		
		2020 Annual	Advance Financing	2021 Interim Mission	2021 Annual - Liquidation of Advance Financing	2022 Interim Mission	2022 Annual (1st tranche)	2022 Annual (2nd tranche)		
1	150	28.33		21.65	24.55	16.96	15.66	9.84	116.99	33.01
2	75			54.42	3.03	1.62		2.47	61.54	13.46
3	90	18.00			17.42	0.58		18.00	54.00	36.00
4	120	24.89		7.93		12.90		4.69	50.41	69.59
5	50					0.00			0.00	50.00
6	65			8.80		15.77			24.57	40.43
7	30			3.00		7.29			10.29	19.71
8	20	4.00				4.00			8.00	12.00
Adv			104.78		-45.00	-59.12	-0.66		0.00	0.00
<b>TOTAL</b>	<b>600</b>	<b>75.22</b>	<b>104.78</b>	<b>95.80</b>	<b>0.00</b>	<b>0.00</b>	<b>15.00</b>	<b>35.00</b>	<b>325.80</b>	<b>274.20</b>

**Table 5: Grant JFPR Disbursement Eligibility Performance Summary (Source: ADB)**

*In USD million*

DLI	Total ADB Financing Allocation	RBL01	RBL02	Total Disburse as of October 2023	Eligible 2021 Annual Disbursement	
		15-Nov-21	28-Apr-22			
		Advance	2021 Annual Liquidation of AF			
2.1	3,00	0,00	0,75	0,75	2,25	
Advance		0,75	-0,75	0,00	0,00	
<b>TOTAL</b>	<b>3,00</b>	<b>0,75</b>	<b>0,00</b>	<b>0,75</b>	<b>2,25</b>	

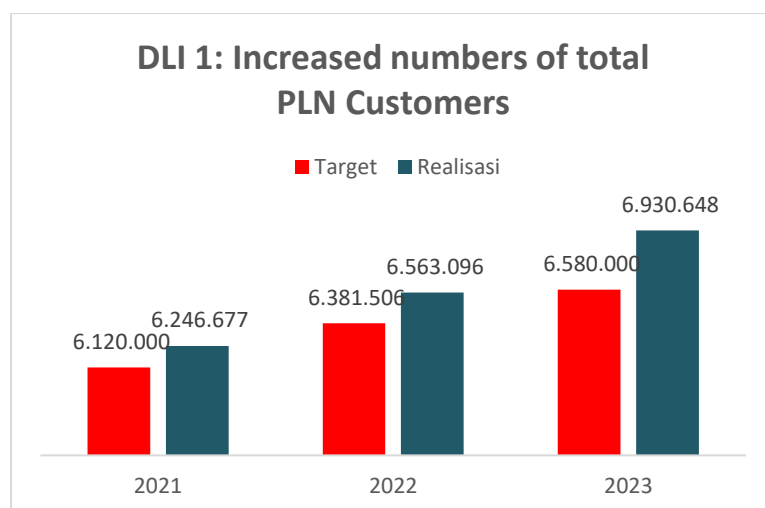
### 3.3. Disbursement Linked Indicators (DLIs)

#### 3.3.1. RBL DLI 1: Increased numbers of total PLN Customers

As at December 2023 PLN has a total number approximately 6,93 M customers in Kalimantan, Maluku and Papua, which of the ADB RBL target of 6,58 M for 2023. Data for this indicator are extracted from the SILM system, which has an integrated link to PLN's customer database (AP2T).

**Table 6: Total KMP Customer in Q4 2023**

NO	UNIT	ACTUAL Q4 2023
1	WKB	1.520.034
2	WKSKT	2.290.480
3	WKTKU	1.490.569
4	WMMU	792.663
5	WP2B	836.902
	<b>KALIMANTAN</b>	<b>5.301.083</b>
	<b>MALUKU DAN PAPUA</b>	<b>1.629.565</b>
	<b>KMP</b>	<b>6.930.648</b>



**Figure 2: Number of Total PLN KMP Customers in Q4 2023**

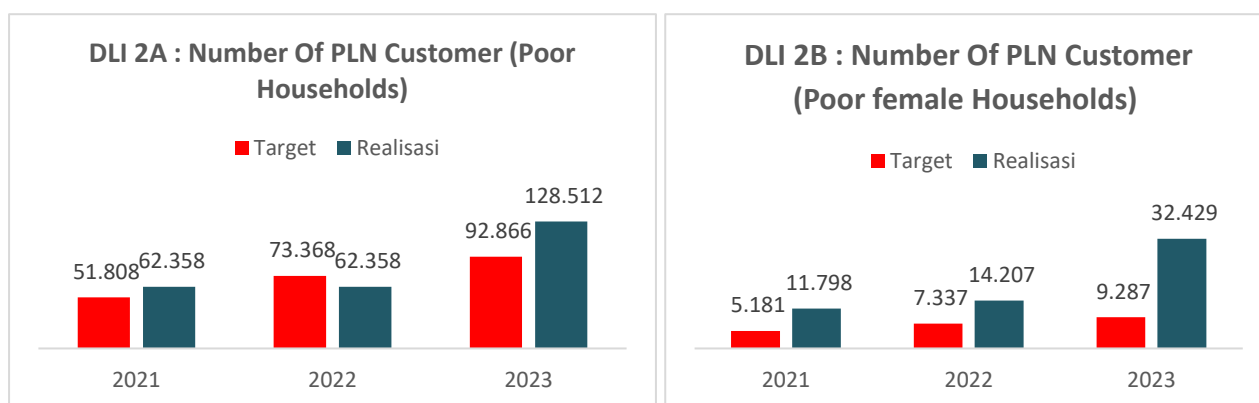
3.3.2. RBL DLI 2: Increased number poor household

Data for ADB RBL DLI 2 data is taken from the AP2T system on all Matching DTKS info and is calculated from 2019 up to December 2023 manually due to screening for duplicate data that appears. The calculation mechanism has been approved by IVA and ADB on the 2021 interim mission review so that for the realization of 2019 to December 2023 there are 128.512 poor household and 32.429 of them are female household. Based on the compilation of data downloaded from AP2T-Info DTKS 2019 up to December are as follows:

**Table 6: DTKS information data on AP2T-Info DTKS in 2019 up to December 2023**

NO	UNIT	ACTUAL Q4 2023
1	WKBB	49.138
2	WKSKT	42.260
3	WKTKU	14.827
4	WMMU	13.231
5	WP2B	9.056
	<b>KALIMANTAN</b>	<b>106.225</b>
	<b>MALUKU DAN PAPUA</b>	<b>22.287</b>
	<b>KMP</b>	<b>128.512</b>

NO	UNIT	ACTUAL Q4 2023
1	WKBB	11.424
2	WKSKT	12.249
3	WKTKU	3.577
4	WMMU	2.851
5	WP2B	2.328
	<b>KALIMANTAN</b>	<b>27.250</b>
	<b>MALUKU DAN PAPUA</b>	<b>5.179</b>
	<b>KMP</b>	<b>32.429</b>



**Figure 3: Additional Poor Households customer in Q4 2023**

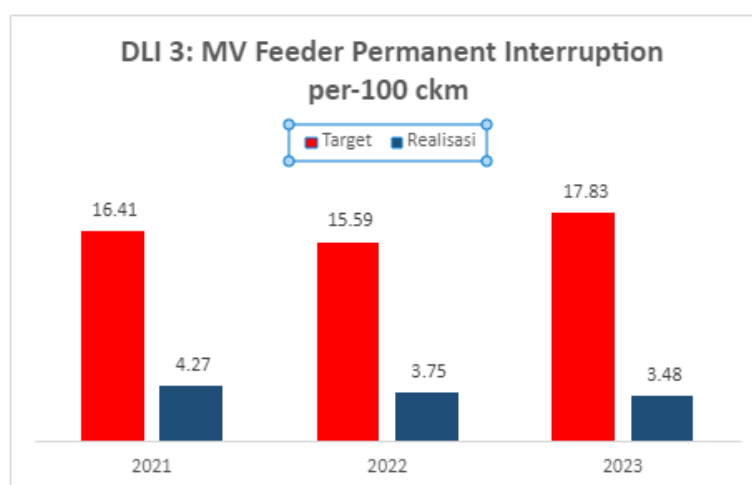
### 3.3.3. RBL DLI 3: MV Feeder Permanent Interruptions

The number of permanent JTM disturbances reported in the KMP during the period 2023 is 3,48 interruptions > 5 minutes per 100 ckm, where from the ADB RBL target of 14,97 disturbances per 100 ckm for 2023. Data for this DLI is extracted from SILM, though the source data is filled from Distribution Control Center from each of the PLN Wilayahs. The general disturbance reduction program for KMP is carried out both technically and non-technically. Technically, it takes the form of pruning and cutting trees with relevant stakeholders, installing animal barriers, walk down care for assets (CFA), etc. while for non-technical, namely synchronization of maintenance outage schedules, development of monitoring applications and execution of troubleshooting, etc.



**Table 7: MV Feeder Permanent Interruption in Q4 2023**

NO	UNIT	ACTUAL Q4 2023
1	WKBB	3,84
2	WKSKT	2,02
3	WKTKU	2,18
4	WMMU	6,00
5	WP2B	5,39

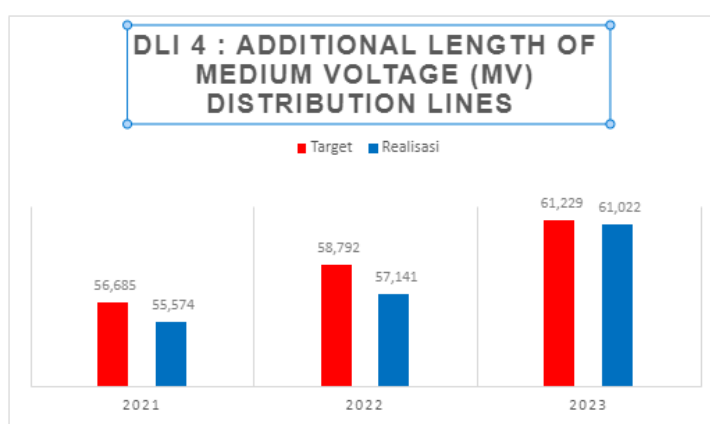


**Figure 4: Permanent Interruption in Q3 2023**

3.3.4. RBL DLI 4: Additional length of medium voltage (MV) distribution lines  
 As of Q4 2023, The total length of installed medium voltage distribution network (MV) assets during 2021 after deducting 43,91 ckm (from confirmation of the JTM UIW 2021 realization screening form) is 57.112 ckm because there were several realizations of work that go to KBA/IP areas, which from ADB RBL 2023 full years target of 61.229 ckm. The achievement of the Q4 2023 is 61.022 ckm.  
 Data for this DLI is extracted from SILM, though the source data is filled in manually with input from each of the PLN Wilayahhs.

**Table 8: Additional length of medium voltage distribution lines in Q4 2023**

NO	UNIT	ACTUAL Q4 2023
1	WKBB	14.888
2	WKSKT	18.482
3	WKTKU	11.404
4	WMMU	8.398
5	WP2B	7.850
	<b>KALIMANTAN</b>	<b>44.774</b>
	<b>MALUKU DAN PAPUA</b>	<b>16.248</b>
	<b>KMP</b>	<b>61.022</b>



**Figure 5: Number of Total Distribution MV Lines in Q3 2023**

**3.3.5. RBL DLI 5: Green Energy Promotion**

Green energy promotion targets in 2020 (i) are List of EBTKE assets to be transferred to PLN which have been completed by PLN and 2020 (ii) KSO model or other legal instruments with PEMDA approved by PLN Director. PLN sent a letter to ESDM dated October 26, 2021 regarding the Submission of Follow-up for PLT EBT for Asset Transfer Through PMPP PT PLN (Persero).

After going through a long process in 2021 – 2022, the document KSO model was not realized because then a reorganization took place at PLN from the Regional Directorate to the Generation Management Directorate. In March 2023 the Director of Finance conveyed to the Director of Generation Management to prepare KSO Procedure Standards that apply throughout Indonesia as a form of achieving the DLI 5 target.

Completion of the KSO Document was then carried out by the Generation Management Directorate and discussions were held with the parties involved regarding the preparation of this KSO Model, with DIV RSK, DIV OKI and DIV DKI. The KSO model draft has been approved by Generation Management Director in March 17, 2023. Furthermore, this document has been submitted to the distribution units in the Kalimantan, Maluku dan Papua Region on November 10, 2023.

The green energy promotion target in 2023 is that the annual production from the 2018 baseline is 3.309 MWh and the 2023 target is 25.600 MWh, and the additional 2023 target is 24.000 MWh. Total realization of RE production for the classification of types and capacities of PLTS <10 MW, MHP <1 MW, and PLTBio <100 kW (total kit capacity) in Q4 2023 is 16.008 MWh. As information, the achievement of additional RE energy production in Q4 2023 is 12.699 MWh from the RE energy production in 2018 (baseline), so it has not been able to enter the achievement of the 2023 target. However, the additional target in 2021 of 9.600 MWh can be achieved because PLN has achieved 16.008 MWh in Dec 2023.

**Table 9: RE Production in Q4 2023 (SILM)**

UIW	EBT Type	Ownership	Total	Total Installed Capacity (kW)	Total Energy Production in Jan-Des 2023 (kWh)
			Unit		
MKIT / PLN NP (ex-UIKL KAL)	PV	PLN-Owned	1	340	104.142,75
	PV	Rent	3	450	-
UID KALBAR	Hydro	PLN-Owned	4	525	351.842,88
	Hydro	Excess Power	2	1.120	11.779.484,00
	PV	PLN-Owned	3	180	39.278,06
UID KALTIMRA	Hydro	Rent	3	0	-
	PV	PLN-Owned	1	90	129.627,49
	PV	Rent	3	300	-
UIW MMU	PV	PLN-Owned	13	2.410	130,00
UIW P2B	Hydro	PLN-Owned	5	735	1.212.307,03
	Hydro	Rent	1	160	238.139,00
	PV	PLN-Owned	135	8.301	2.110.981,06
	PV	Rent	2	200	42.928,15
<b>Grand Total</b>			<b>176</b>	<b>14.811</b>	<b>16.008.860,42</b>

**Table 10: The additional RE Production in Q4 2023**

Year	DLI Target 1 (MWh)	DLI Target 2 (MWh)	Verified Result
Baseline 2018	-	-	-
2020	-	-	-
2021	9.600	13.600	-859,45
2022	16.800	28.800	-533,04
2023	25.600	49.600	12.699,76
2024	35.200	75.200	-
2025	40.000	88.000	-

In 2022, Kalimantan plans to revitalize Solar PV assets that are not operating and derating at UID Kalbar and UID Kaltimra. The West Kalimantan UID is planned in three locations, namely in Siding, Temajuk, and Limbung Island, while the Kaltimra UID is in Derawan Solar PV. Derawan Solar PV (Kaltimra) currently decreases capacity to 90 kWp from previous 170 kWp at the beginning of the operation. With this revitalization and additional capacity, it is hoped that the unit can operate better.

Based on the history of operations, the annual energy production of Derawan Solar PV with 170 kWp capacity is 38.17 - 55,73 MWh/year. Currently, Derawan Solar PV has completed its revitalization with a capacity of up to 120 kWp, so it can increase production up to 130 MWh per year.

Meanwhile, the Temajuk Solar PV, Limbung Island Solar PV, and Siding Solar PV are currently not operating. In this asset revitalization, the 3 Solar PV will be repaired, and additional capacity will be carried out (Limbung Island PLTS and Temajuk PLTS). Based on data from West Kalimantan operations, the estimated monthly energy production for Temajuk Solar PV is 601,02 MWh/year, Limbung Island Solar PV is 414,72 MWh/year, and Siding Solar PV is 64,80 MWh/year. Currently, **Temajuk Solar PV and Siding Solar PV have been completed in October 2023**, so that it can increase RE Energy production to 150 MWh per year in Temajuk, but for Siding there are still improvements, but it has produced 1.7 MWh until Q4 2023.

**Table 10: PLTS Asset Revitalization Plan**

Unit	PLTS	IC (kWp)	Estimated (Actual) Production MWh/Year	Description
UID KALTIMRA	PLTS Derawan #3	370 (120)	286,6 (130)	Finish 120 kWp
UID KALBAR	PLTS Temajuk	371 (80)	601,0 (150)	Finish
	PLTS Siding	40	64,8	Finish
	PLTS Limbung	256	-	Canceled
<b>Total</b>			<b>344,8</b>	

### 3.3.6. RBL DLI 6: Asset and Waste Management

The management of asset write-offs follows the procedures of the Director's Decree No. 015.E / 870 / DIR / 1998 concerning Withdrawal of Operational Assets into Non-Operational Assets, Director Decree No. 1233 / DIR / 2011 concerning Procedures for Elimination and Transfer. Fixed Assets of PT PLN (Persero), Statement of Decree of the Minister of State-Owned Enterprises regarding Amendments to the Articles of Association of PL PLN (Persero), and Letter of the Director of Finance and Risk Management of PT PLN (Persero) No. 48091/LOG.0103/C01070000/2021 dated September 13, 2021 regarding Notification of Amendment to the Articles of Association regarding the Authorization of AT/ATTB Write-Off Approval and Changes in AT/ATTB Write-off Business Process Flows at the Head Office. B3 Waste Category Used Equipment (ATTB) that has been removed from operating assets will be managed as B3 Waste. PLN DIV K3L has prepared a Draft Decree of the Director of Hazardous Waste Management which has been submitted to the Legal Department for review. Due to the pandemic, it is difficult for SPI to physically check ATTB at UIW.

The target of Asset and Waste Management in 2023 is 65% of inventory of used equipment for disposal as of end-2019 approved by MSOE or relevant PLN authority and 40% of 2019 inventory safely disposed. Meanwhile, the

target for ownership of environmental documents at the used equipment warehouse in 2023 is 20 environmental documents SPPL, UKL/UPL, or DPLH. Especially for SPPL environmental documents, it is necessary to fill out a waste warehouse inspection form either by Zite application or manually.

The UIW proposal at KMP that has been used as a target that has been submitted to the Central PLN is Rp. 13,5 billion.

**Table 12: 2023 Inventory of Used Equipment For Disposal**

No.	UIW	Type of Disposal Material	Value (IDR)	Realisasi (IDR)	Progress Status September 2023
1	UIW KALSELTENG	Distribution network (transformers, metals, etc)	876.858.608	358.446.747	Safely disposed on August 29th, 2022.
2	UIW KALBAR	kWh Meter	2.673.423.570	2.673.423.570	Safely disposed on August 14th, 2023.
		Distribution Substation	3.761.626.382	2.655.055.364	
3	UIW KALTIMRA	kWh Meter	4.637.717.867	4.637.717.867	Safely disposed on August 15th, 2022.
4	UIW MMU	Distribution network (transformers, metals, etc)	157.772.719		- GRC Process
5	UIW P2B	Distribution	1.452.319.280		- Approved by BOC
<b>Total</b>			<b>13.559.718.426</b>	<b>10.324.643.548</b>	
<b>Percentage approved by BOC</b>			<b>76,1%</b>		

Until the Q4 of 2023, the proposal for the elimination of ATTB from UIW has been submitted to the Head Office (DIV AKT) with a total proposed value of Rp. 13.5 billion (Distribution only) in 2021 the process is as shown in Table 10 above. The first DLI 6 target for material disposal is 65% of inventory used the equipment for disposal by the end-2019 approved by MSOE or relevant PLN authority and the second is 40% of the 2019 inventory safely disposed. Based on information from the DIV AKT status up to Q4 2023, UIW Kalselteng and UIW Kaltimra are safely disposed in August 2022 while UID Kalbar are safely disposed in August 2023. For UIW P2B have been approved by the Board of Commissioners however UIW P2B still waiting for PT. EMI (Energy Management Indonesia) to take the materials.

DLI target 6 (ii) 25 used material warehouses submit environmental documents and get approval from DLH by 2024. In 2020, 2 used material warehouses have submitted environmental documents (2 SPPL) and were approved by relevant Regulatory Agency but for activities that equipped with SPPL environmental documents not yet equipped with a warehouse checklist. In 2021 PLN will intensively coordinate to be able to speed up the process of issuing environmental documents that are confirmed and approved by the relevant Regulatory Agencies for SPPL environmental documents that must be accompanied by a warehouse checklist. Cumulatively, until the Q4 2023, 22 (twenty-two) issuances of environmental documents in used material warehouses have SPPL/DPLH which have been submitted and approved by DLH and have been completed by a warehouse checklist. Table 13 shows warehouse environmental document achievements in UIW.

**Table 13: Warehouse Environmental Permit Achievements in 2023 RBL-ADB**

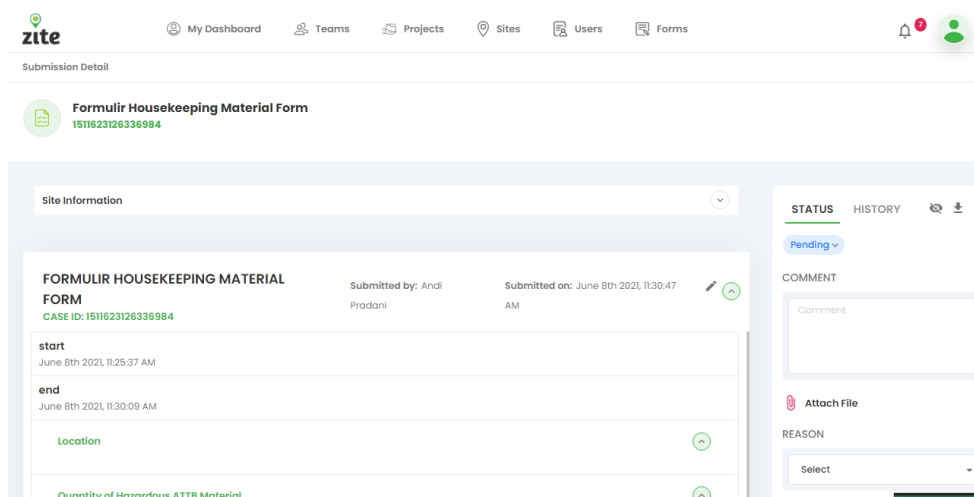
No	UIW dan UP3	Ijin Lingkungan 2019 – TW III 2023			Rencana 2023	
		Jumlah	Tipe Dokumen Lingkungan	Tanggal Terbit	Jumlah	Tipe Dokumen Lingkungan
1	Kantor Induk, G. Kantor Induk					
	UP3 Kuala Kapuas, G. Kuala Kapuas	1	SPPL	07-Aug-22		
	UP3 Palangkaraya, G. Palangkaraya	1	SPPL	07-Aug-22		
	UP3 Barabai, G. ULP Kandangan	1	SPPL	07-Aug-22		
	UP3 Banjarbaru, G. ULP Banjarmasin	1	SPPL	07-Aug-22		
	UP3 Palangkaraya, G. ULP Kuala Kurun	1	SPPL	15-Jul-22		
	UP3 Banjarmasin, G. ULP Ahmad Yani	1	SPPL	04-Sep-23		
	<b>Sub-total Kalselteng</b>	<b>6</b>				
2	UP3 Samarinda, G. ULP Ulu	1	DPLH	06-Apr-21		
	UP3 Kaltara, G. ULP Tarakan	1	SPPL	05-Sep-19		
	UP3 Samarinda, G. ULP Kotabangun	1	DPLH	18-Aug-23		
	UP3 Samarinda, G. ULP Tenggarong	1	DPLH	18-Aug-23		
	<b>Sub-total Kaltim</b>	<b>4</b>				
3	UP3 Pontianak, G. Cemara	1	DPLH	02-Jul-21		
	UP3 Ketapang, G. Sampit	1	DPLH	13-Dec-21		
	UP3 Sanggau, G. Suak Payung	1	DPLH	13-Nov-13		
	UP3 Singkawang, G. Singkawang	1	DPLH	30-May-23		
	<b>Sub-total Kalbar</b>	<b>4</b>			<b>0</b>	
4	UP3 Ambon, G. Lateri	1	SPPL	11-May-20		
	UP3 Ternate, G. Ternate	1	SPPL	17-Nov-21		
	UP3 Tual, G. Tual				1	Belum ada arahan
	UP3 Sofifi, G. Sofifi				1	SPPL
	UP3 Masohi, G. Masohi	1	SPPL	03-Feb-22		
	UP3 Tobelo, G. Tobelo				1	SPPL
	UP3 Saumlaki, G. Saumlaki				1	Belum ada arahan
<b>Sub-total Maluku &amp; Maluku Utara</b>	<b>3</b>			<b>4</b>		
5	UP3 Manokwari, G. Manokwari	1	SPPL	10-Sep-21		
	UP3 Sorong, G. Sorong	1	SPPL	11-Nov-21		
	UP3 Merauke, G. Merauke	1	SPPL	20-Jul-23		
	UP3 Biak, G. Biak				1	Berproses di DIV LPT
	UP3 Jayapura, G. Jayapura	4	SPPL	31-Jan-23		
	UP3 Timika, G. Timika	1	SPPL	06-Dec-23		
	UP3 Nabire, G. Nabire				1	Proses pemenuhan persyaratan OSS
	UP3 Wamena, G. Wamena				1	Dokumen belum lengkap, setelah lengkap akan dikirim ke DIV LPT PLN Pusat
	<b>Sub-total Papua &amp; Papua Barat</b>	<b>5</b>			<b>3</b>	
	<b>Kumulatif Total</b>	<b>22</b>			<b>7</b>	

The total achievement of 22 (twenty-two) warehouses has environmental documents that have been submitted and approved by DLH. From the 2023 target, 22 warehouses have environmental documents.

DIV K3L has developed a used material warehouse checklist from manual to digital based on application and web in collaboration with the Zite Platform. In this application, the parent unit allows submitting the results of the warehouse checklist and sharing warehouse locations. As an evaluation function, the application has designed a multilevel monitoring and approval system according to the authority. Warehouses with SPPL environmental documents must comply with the checklist and will be evaluated twice a year (per semester). However, operational problems were still found in using the application so that the previous manual form was still used until the use of the application was running well.

**Table 14 Housekeeping Checklist for Warehouses of Used Material (Eksisting)**

FORM HOUSEKEEPING MATERIAL ATTB YANG MENGANDUNG LEB												
No.	Jenis ATTB yang Mengandung LEB (Trah, Kapasitor, dll)	Jumlah	Lokasi Penyimpanan			Fasilitas Penyimpanan						
			Nama Gudang	Konvektat	Luas Area (m <sup>2</sup> )	Tidak bercampur dgn material lainnya (ya/tidak)	Pemisahan trafo dan tabung manufaktur <250 dan >250 (ya/tidak)	Pemisahan kapasitor sesuai merk/dagang (ya/tidak)	Balok (Foto)	Memiliki Katup/ penutup tidak terkera hujam (ya/tidak)	Balok (Foto)	Terdapat tahanan oli/minyak tumpah (ya/tidak)



**Figure 6: Warehouse management for App and Web-Based Used Material Warehouses**



### 3.3.7. RBL DLI 7: Consumer Education

The definition of the indicator is holding consumer education workshops on safe and productive energy use which will be carried out by 1 UP3 each UIW in 2023 with a minimum participation of 30% women for each workshop. The development of training materials by PLN Pusdiklat was completed on 27 September 2021 and PLN Pusdiklat conveys that the workshop material will always be updated on the link provided by PLN Pusdiklat because educational material will change dynamically. based on material references from ADB and the training material has been shared with UIW. The implementation of Training of Trainer (ToT) Batch 1 in Kalimantan and Batch 2 in Maluku-Papua have been carried out in August 2021 and followed by the implementation of Batch 3 for Kalimantan and Maluku-Papua to accommodate participants who were unable to attend the previous Batch in October 2021.

The workshop was held in Q4 2021 with the achievements of 5 UIWs at KMP realized 4 UIWs and target 29 UP3s realized 29 UP3s, Based on Regional independent calculation obtained that meet the requirements the achievement is 33 workshops according to the 2023 target of 34 workshops. Workshop with a total of participants in one UIW/UP3 > 50% worth 1,25 points, which is 16 units, and the remaining 17 units are worth 1 point for a total of 37 points. Until the Q4 of 2023, there were 29 workshops that met the requirements with 31,25 points earned. Most of the workshops were held at UIW Kalselteng and then at UIW Kalbar, UIW Kaltimra and UIW MMU. **Cumulative points 102,25 for 2023.**

**Table 15 Implementation of Consumer Education Workshop in Q4 2023**

	Unit	Female	Male	Total	Female participation	Point	Remarks
1	UP3 Pontianak	72	104	176	40,91%	1	
2	UP3 Singkawang	55	48	103	53,40%	1,25	
3	UP3 Sanggau	52	115	167	31,14%	1	
4	UP3 Ketapang	44	72	116	37,93%	1	
5	UP3 Banjarmasin	573	212	785	72,99%	1,25	
6	UP3 Barabai	986	252	1238	79,64%	1,25	
7	UP3 Kotabaru	153	32	185	82,70%	1,25	
8	UP3 Kuala Kapuas	577	262	839	68,77%	1,25	
9	UP3 Palangkaraya	807	353	1160	69,57%	1,25	
10	UP3 Balikpapan	54	104	158	34,18%	1	
11	UP3 Berau	41	91	132	31,06%	1	
12	UP3 Bontang	42	91	133	31,58%	1	
13	UP3 Samarinda	42	87	129	32,56%	1	
14	UP3 Kaltara	80	153	233	34,33%	1	
15	UP3 Ambon	65	92	157	41,40%	1	
16	UP3 Masohi	96	163	259	37,07%	1	
17	UP3 Tual	57	97	154	37,01%	1	
18	UP3 Saumlaki	136	207	343	39,65%	1	
19	UP3 Ternate	108	244	352	30,68%	1	
20	UP3 Sofifi	40	63	103	38,83%	1	
21	UP3 Tobelo	80	116	196	40,82%	1	
22	UP3 Jayapura	111	189	300	37,00%	1	
23	UP3 Merauke	96	67	163	58,90%	1,25	
24	UP3 Biak	82	18	100	82,00%	1,25	Tambahan di Desember 2023
25	UP3 Timika	46	99	145	31,72%	1	
26	UP3 Nabire	42	80	122	34,43%	1	
27	UP3 Wamena	70	131	201	34,83%	1	pelaksanaan 23 Okt 2022, 25 Okt 2022, 14 Des 2023
28	UP3 Sorong	47	90	137	34,31%	1	
29	UP3 Manokwari	92	70	162	56,79%	1,25	
<b>2023 Target</b>		<b>total point in IV 2023</b>				<b>31,25</b>	

In addition, the implementation of the workshop will be combined with the commercial socialization program at UIW and UP3 while still taking into account the conditions for the recognition of the workshop by IVA/ADB and the ongoing pandemic conditions. So that the implementation of the workshop can be done via online.

### 3.3.8. RBL DLI 8: Integrating E-Procurement and SAP Systems

The E-Procurement & SAP system has been integrated in 2019. In March 2021 DIVSTI has held the latest socialization of the E-Procurement feature related to this DLI to procurement officials at UIW. DLI 8 target 2023 is 70% of contracts in financial value executed by UIW and listed on E-Proc. and SAP. DLI 8 achievements will be calculated at the end of the year. However, based on Q4 2023 achievement of 71,35%, a complete improvement and strategy for inputting contract information is needed in the E-Procurement and SAP at UIW. DIV MRP in collaboration with the Regional Division will make instructions for inputting contract procurement data from the beginning to the end of the process in order to increase the percentage of data matching on the E-Proc. and SAP. Based on DIV MRP confirmation for the position of the Q4 2023 for the achievement of contract data integration in KMP is 71,35%.

**Table 17 Eproc + SAP Procurement Contract integration data at KMP in Q4 2023**

Row Labels	Sum of Net Order	SAP+Eproc	%
UIW Kalimantan Barat	698.091.319.130	434.121.808.614	62,19%
UIW Kalselteng	614.730.303.461	494.573.162.122	80,45%
UIW Kaltim & Utara	683.735.021.194	425.274.652.622	62,20%
UIW Maluku&Malut	313.492.953.680	234.099.254.692	74,67%
UIW Papua&Papua Barat	341.929.701.449	304.137.107.469	88,95%
<b>Grand Total</b>	<b>2.651.979.298.914</b>	<b>1.892.205.985.519</b>	<b>71,35%</b>

## 4. Non-Disbursement Linked Indicators

### 4.1. RBL Non-DLI 1: Improved Time Use

The non-DLI target is optimizing the use of time in activities after getting access to electricity for male and female customers. The formation of the Advisory Team has issued a Team Decree with No. 0092.K/DIR/2022 concerning the Formation of the Assistance Team for the Implementation of the Grant Socio-Economic and Gender Impact Evaluation in Maluku Papua on 15 March 2022, namely the recommendation of the mentoring team are as follows:

**Table 18: Proposal Draft of the Socio-economic Assessment Assistance Team**

SUSUNAN KEANGGOTAAN TIM PENDAMPING PELAKSANAAN GRANT SOCIO-ECONOMIC AND GENDER IMPACT EVALUATION DI MALUKU PAPUA		
1.	Ketua	EVP Perencanaan dan Pengendalian Regional Sulawesi, Maluku, Papua dan Nusa Tenggara
2.	Wakil Ketua	
	a.	VP Manajemen Keuangan Regional Sulawesi, Maluku, Papua dan Nusa Tenggara DIV RMP
	b.	VP Pengelolaan Aset Distribusi Regional Sulawesi, Maluku, Papua dan Nusa Tenggara DIV RMD
3.	Anggota	
	a.	VP Pengembangan dan Standarisasi Proses Administrasi Perencanaan dan Enjiniring DIV MRE
	b.	VP CSR DIV KOM
	c.	VP Hubungan Investor, Institusional dan GCG SET PER
	d.	VP Manajemen Keuangan Regional Sumatera Kalimantan DIV RSP
	e.	VP Pengamanan Pendapatan Regional Sulawesi, Maluku, Papua dan Nusa Tenggara DIV RMR
	f.	VP Administrasi Pinjaman dan Hibah Luar Negeri DIV RKO
	g.	Senior Manager Perencanaan UIW MMU
	h.	Senior Manager Perencanaan UIP2B
	i.	Senior Manager Niaga & Pelayanan Pelanggan UIW MMU
	j.	Senior Manager Niaga & Pelayanan Pelanggan UIP2B

ADB has hired international consultants from Milan University, which are Giovanna d'Adda and Jacopo Bonan. PLN and consultants together with ADB have held several discussions related to data needs for assessment activities and PLN has sent the required data, such as:

- a. Electrification roll-out in UIW MMU and UIW P2B from 2022-2025.

b. Timeline of consulting local surveyor

**Table 19: Timeline of consulting local surveyor**

Submission Method Proposal Evaluation Method		One Envelope Technical Evaluation and price negotiation												
NO	ACTIVITIES	PLAN DATE	1st Month				2nd Month				3rd Month			
			W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4
1	Request of Procurement (User to Procurement Division) include Terms of Reference and Budget Estimation		■											
2	Preparation of Tender Document			■	■									
3	Preparation of Owner Estimate			■	■									
4	Invitation Letter for Submission Proposal				■									
5	Pre Bid Conference					■								
6	Minutes of Proposal Documents Submission					■	■							
7	Minutes of Technical and Administration Evaluation						■							
8	Invitation Letter of Clarification and Negotiation Meeting							■						
9	Minutes of Clarification and Negotiation Result								■					
10	Procurement Implementation Report									■				
11	Request for Approval Appointment Letter (EVP Procurement Division to EVP User)										■			
12	Approval Appointment Letter (EVP User to EVP Procurement)											■		
13	Appointment Letter (EVP User to Consultant)												■	
14	Contract Signing between User and Consultant													■

c. Budgeting of Surveyor Consultants (RAB) with a survey plan to 100 HH in MMU and 100 HH in P2B (adjusted to the budget because the survey cost is quite large)

d. TOR Electrification Impact Evaluation consultancy services in Maluku and Papua

e. Supporting materials such as training materials to the public on electricity productive use.

The procurement plan for the national surveyor will be finalized by the MRE Division, the current progress of the RMP Division (PLN) is waiting for recommendations from the ADB regarding recommended universities (for surveyor). After getting recommendations from ADB, RMP Division will send an official letter equipped with TOR and RAB to the MRE division for procurement implementation.

#### 4.2. RBL Non-DLI 2

At least one pilot community-based training on solar PV maintenance delivered with minimum 30% female participation (2020-2022).

0 Pilot community training and training materials from the basic maintenance of PLTS have been prepared by PLN Pusdiklat and is expected to be conducted in 2025 .

### 4.3. RBL Non-DLI 3

Annual report on social impact of electrification published by end of 2022 (2022) Sustainability Report which contains material on the social impacts of ADB's 2021 electrification program published in June 30, 2022 (2021 report)

0 PLN Annual sustainability report (2022 report) but for social impact report, DIVKEU has compiled social impact report 2022 with RBL Annual report 2022 and has sent to DIVKOM for uploading both report on PLN website

## 5. Grant Implementation

### 5.1. Grant JFPR (Japan Fund for Poverty Reduction)

- a. **Target 1.** An additional 16,000 poor households will receive PLN electricity by 2024, with results disaggregated by male/female headed households. Currently, the mechanism for budgeting and recording assets is being pursued at PLN. PLN has no experience in using grants using Regional operating budgets and therefore needs elaborate measures from several division. PLN has held a meeting with related divisions (DIVANG, DIV PBH, DIV AKT, and DIV Regional) where a solution was obtained for the Determination of the Budget Ceiling to be issued by the Regional based on the availability of liquid grants in the PLN escrow account. "FIX". The 1<sup>st</sup> batch proposal for the JFPR Grant Implementation was accepted on December 2023 and based on the proposal, internal discussion regarding the potential absorption of possible JFPR grants, namely In-house wiring and Low Voltage Poles Expansion is currently in place.
- b. **Target 2:**
  - (i) An e-module was developed and two trainer-training sessions on conducting community workshops for the safe and productive use of energy were conducted with participation by at least 58 PLN staff. ADB provided input regarding material from the PLN Pusdiklat on September 27, 2021. The PLN Pusdiklat held a Training on Trainer for PLN employees who had been proposed by UIW into 3 batches. From Batch 1 and Batch 2 (August 2021), and Batch 3 (October 2021), there were a total of 68 participants with a total of 28 female participants. The plan is to complete the shortage of trainers

due to moving and retiring, so every UIW this year will start applying for ToT training again. Currently, those who have conducted the ToT again are UIW Kalselteng, UIW MMU, and UIW P2B at the end of July and early August 2022. In the Instructor Training (ToT) on June 30 at Udiklat Banjarbaru, UIW Kalselteng and all UP3s participated. Meanwhile, the instructor training on 1-3 August 2022 at Udiklat Makassar was attended by UIW with only one staff in charge of holding a workshop in 2021, namely from: UIW MMU office and from 3 UP3 (Masohi, Manokwari and Timika). For UP3 Saumlaki, the proposed participants for the 2022 ToT have not been attended so the trainer for consumer education only has one employee. The total participants who took part in and passed the 2022 ToT for UIW Kalselteng, UIW MMU, and UIW P2B were 73 male employees and 16 female employees.

(ii) Culturally sensitive materials (eg language and literacy, among others) for safe and productive use of energy. Culturally sensitive materials (eg language and literacy, among others) for safe and productive energy use can be developed by each of the 29 UP3 offices for community education workshops. Currently, UIWs who have delivered are UIW West Kalimantan, UIW Kalselteng, UIW Kaltimra, and UIW P2B. The UIW delivered at the end of April 2022. As for the UP3 at UIW MMU that have delivered consumer education materials with the addition of culturally sensitive material on the DLI 7 evidence link, 3 out of 7 UP3s in September 2022. The UP3s are UP3 Tual, UP3 Saumlaki, and UP3 Ternate.

- c. **Target 3.** A baseline socio-economic and gender assessment carried out in 2021 and a follow-up socio-economic and gender impact evaluation with input from an expert working group. PLN and ADB have agreed that ADB will employ a team of international individual consultants in addition to the grant and PLN will employ a national survey company. For the preparation of the focal person working group, a working group was formed from the relevant divisions at PLN Central and UIW in Maluku – Papua. Formation of the Advisory Team has issued a Team Decree with No. 0092.K/DIR/2022 concerning the Establishment of a Assistance Team for the Implementation of the Grant Socio-Economic and Gender Impact Evaluation in Maluku

Papua on 15 March 2022. ADB has hired international consultants from Milan University, which are Giovanna d'Adda and Jacopo Bonan. PLN and consultants together with ADB have held several discussions related to data needs for assessment activities and PLN has sent the required data. The procurement plan for the national surveyor will be finalized by the MRE Division, the current progress of the RMP Division (PLN) is waiting for recommendations from the ADB regarding recommended universities (for surveyor). The local surveyor procurement process is estimated to take 3 months.

## 5.2. Grant ACEF (Asian Clean Energy Fund)

### a. Target 1:

(i) Additional power generation from solar PVs (<10 MW) increased by an additional 4,020 MWh annually by 2024. (2019 baseline 0 MWh).

(ii) 17,500 HHs have access to PLN electricity from improved PLTS by 2024. (2019 baseline 0 HHs).

Achievement of the implementation of the ACEF grant Target 1 was not achieved because there was no PLTS that had been upgraded to remote monitoring and the hybrid system with EMS produced kWh of production.

### b. Target 2:

(i) 10 PLN PLTS upgraded and made operational with remote monitoring by 2024. (2019 baseline 0 PLTS upgraded).

(ii) 10 PLN PLTS upgraded and made operational with hybridization utilizing energy management systems by 2024. (2019 baseline 0 PLTS upgraded).

PLN will upgrade 14 PLTS (3 from UIW Kalbar: Limbung Island, Temajuk, Siding; 2 from UIW Kaltimra: Sebatik, Derawan; 2 from UIW MMU: Tior Island, Daruba, 7 from UIW P2B: off-grid Beo, off-grid Bianci, Arborek, Saonek, Oksibil, Mansinam, Dogiyai) to include remote monitoring and hybridization using energy management system. Construction of one PLTS pilot upgrade in Derawan will be conducted from H1 2024 for COD in December 2024, while another 13 PLTS upgrades will be completed by October 2025. Power generation expected from 14 PLTS upgrades is 3.596 MWh.



- c. **Target 3.** One pilot community training conducted on basic PLTS maintenance where remote monitoring is used with at least 30% women's participation by 2024. (2019 baseline 0 community PLTS maintenance trainings).

Based on the timeline for the procurement of PLTS supporting consultants in Kalimantan and Maluku - Papua, the possible implementation may start in 2023. So that the achievement of the 3 targets in the ACEF grant will be implemented no later than 2025. The current obstacle is budget changes that have not been contracted will be accommodated in the RKAP 2023 for the year 2022 RKAP has been close.

**Table 22: Timeline of Procurement of PV mini-grid Technical Consultants**

**Timeline of ACEF Grant Implementation**

No	Milestone	Plan for 1 Pilot Site	Plan for 9 Remaining Sites
1	Budget approval	Jun-2023	
2	Start of procurement for consultancy services	Oct 2023	
3	End of procurement for consultancy services	February 2024	
4	Start of consultancy services	1 March 2024	
5	Finalized design for PLTS upgrade	30 June 2024	
6	Finalized bidding document for PLTS upgrade	30 June 2024	
7	Start of procurement for construction	July 2024	
8	End of procurement for construction	Dec 2024	
9	Start of construction	Dec 2024	Jul 2025
10	Commercial operation date	July 2025	Dec 2025
11	ToT of community-based on basic PLTS maintenance	Oct 2025	
12	Pilot community-based training on basic PLTS maintenance	Oct – Dec 2025	
13	End of consultancy services	Dec 2025	

## 6. Program Action Plan (PAP) Implementation Programs

PAP Items	Indicator	Responsible Teams	Time Frame	PLN Claim to ADB
1	<p>Plan and finalize the selection of locations and components for the strengthening and expansion of the distribution system, and criteria for sequencing related interventions under the program. For Maluku-Papua, take into consideration the results from the least cost electrification study conducted in 2017-2018, any further geospatial analyses, and ongoing efforts on cold storage chain development</p> <p>(i) Annual plan established for expansion of distribution system and renewable energy development, in consideration of least cost options analyses and ongoing efforts on cold storage chain development</p> <p>(ii) Technical designs prepared for distribution lines expansion and renewable energy installation including cost estimation and bill of quantities</p> <p>(iii) Safety training conducted for PLN staff and contractors prior/during construction.</p> <p>(iv) Completion report/record prepared</p>	DIV RSD	From 2020	<p>item (i) and (ii)</p> <ol style="list-style-type: none"> <li>1. KKP samples available for Distribution work, both marketing, network expansion, and additional RE capacity are available which was approved in the Q4 of 2023                             <ul style="list-style-type: none"> <li>• UIW Kalbar: 46 Distribution programs and no RE program</li> <li>• UIW Kalselteng: 18 Distribution programs, and no RE program</li> <li>• UIW Kaltimra: 4 Distribution programs and no RE Program</li> <li>• UIW MMU: 3 Distribution program and 1RE Program</li> <li>• UIW P2B: 82 Distribution program and no1 RE Program</li> </ul> </li> <li>2. PLN UIW at KMP has proof of SKAI and SKKI which are published until Q4 2023</li> <li>3. PLN has evidence of communication with stakeholders related to electricity needs, ALMA, and cold storage                             <ul style="list-style-type: none"> <li>• UIW Kalbar: 0 documents and no cold storage</li> <li>• UIW Kalselteng: 4 documents of communication with stakeholders and no cold storage</li> <li>• UIW Kaltimra: 0 documents</li> <li>• UIW MMU: 8 documents cold storage of UP3</li> <li>• UIW P2B: 1 document in Biak(cold storage)</li> </ul> </li> <li>4. PLN received the results of the Geospatial Least Cost Study from Castlerock on April 1, 2022 and Divisi RMP has submitted the results of its study by Letter No. 20594/KEU.01.08/C01100100/2022 dated April 6, 2022 to UIW MMU and UIW P2B as well as inviting UIW MMU and UIW P2B to attend the discussion meeting on April 12, 2022. The MoM of the meeting on April 12, 2022 has sent by Div RMP's letter No. 23224/KEU.01.08/C01100100/2022 dated April 20, 2022. The results of the meeting, UIW were asked to fill out the Gspreadsheet to be able to evaluate whether the rollout of electrification in Maluku and Papua region using the Geospatial Analysis data from ADB / Castlerock. From the results of filling the Google Spreadsheet, here are some evaluation results:                             <ol style="list-style-type: none"> <li>a. Some rollouts of electrification in Maluku and Papua is same with the PLN roadmap electrification, its means that the geospatial analysis data from ADB have been included in the roadmap of PLN Maluku and Papua, but some have not been included in the roadmap. Some locations in the rollout as planned in the Geospatial Analysis Study also the road map of PLN have been electrified and some are still in progress.</li> <li>b. The PLN electrification roadmap used is the result of the UGM study and has been synchronized with the survey results of UIW MMU and UIW P2B and also synchronized with several electrification requests from the local government</li> <li>c. For the next electricity plan, geospatial study data from ADB is also one of the references in the preparation of electricity rollout in the Sulmapana Region.</li> </ol> </li> </ol>

PAP Items	Indicator	Responsible Teams	Time Frame	PLN Claim to ADB
				<p>The link of Gspreadsheet :  <a href="https://docs.google.com/spreadsheets/d/1wNxHUuGhxxzXhUJtIA4LdSsLKEwOa9FW/edit#gid=633615165">https://docs.google.com/spreadsheets/d/1wNxHUuGhxxzXhUJtIA4LdSsLKEwOa9FW/edit#gid=633615165</a></p> <p>item (iii)</p> <p>5. PLN has a sample documentation of the implementation of the safety briefing of PLN and its partners in TW IV</p> <ul style="list-style-type: none"> <li>• UIW Kalbar: JSA documents available in Q1 until QIV 2023</li> <li>• UIW Kalselteng: JSA documents available in Q1 2023</li> <li>• UIW Kaltimra: JSA documents available in Q1 and QII 2022</li> <li>• UIW MMU: JSA documents available in Q1 until QIV 2023</li> <li>• UIW P2B: JSA documents available in Q1 until QIV 2023</li> </ul> <p>Item (iv)</p> <p>6. PLN has BAST for Q1 until Q4 2023 work</p> <ul style="list-style-type: none"> <li>• UIW Kalbar: 2 documents</li> <li>• UIW Kalselteng: 8 documents of UP3 UP2K UP2D</li> <li>• UIW Kaltimra: 6 documents</li> <li>• UIW MMU: 9 documents</li> <li>• UIW P2B: documents</li> </ul> <p>7. PLN has a Q4 2023 investment realization</p>
<b>Technical Design</b>				
2	(i) Review report of current voltage regulation measures for distribution lines including application for auto/step voltage regulators for MV lines (ii) Technical guidance developed for auto/step voltage regulators.	DIV RSD	From 2022 and 2023	<p>The Center for Research and Development (Puslitbang) has completed review report of current voltage regulation measures for distribution lines (i) and the technical guidance developed for auto/step voltage regulators (ii)</p> <p>Pending evidence:</p> <ul style="list-style-type: none"> <li>○ PAP 2 (i) As of 30 June 2023, DIV RSD informed that the revised report from Puslitbang has incorporated feedback from DIV RSD, however, IVA has not received the revised report from PLN dated after the discussion on 10-May-2023 and evidence signifying acceptance from DIV RSD of the report. PLN need to submit updated handover certificate from Puslitbang to RSD.</li> <li>○ PAP 2 (ii): Puslitbang has completed the Technical Guidance for Auto Voltage Regulator. PLN needs to provide the update regarding the plan to disseminate and RSD letter to PLN Unit endorsing the usage of the technical guideline.</li> </ul>

PAP Items	Indicator	Responsible Teams	Time Frame	PLN Claim to ADB
3	(i) Study conducted for review of current three-phase distribution system and single-phase distribution system. (ii) If applicable, technical recommendation submitted to BOD for SPL and/or SWER.	DIV RSD	From 2022 and 2023	<p>The Center for Research and Development has completed the study (i)</p> <ul style="list-style-type: none"> <li>○ PAP 3 (i): Puslitbang needs to (i) incorporate feedback from DIVs RSD, ODS, ODM, MES and IVA that the study should also consider cases where SWER thrives, and add analysis on operation &amp; maintenance, grounding, reliability, and main distribution material procurement, and (ii) provide official documentation of the study completion. The revised report was planned to be submitted by December 2023.</li> <li>○ PAP 3 (ii): Div RSD and Puslitbang need to assess if technical recommendation should be made to the BOD based on the study in item (i).</li> </ul>
<b>Program Result</b>				
4	(i) Report on grant achievements against indicative targets of: (a) additional 16,000 poor HHs provided with PLN electricity, with results disaggregated by female/male-headed households, (b) an e-module developed and two training-of-trainers sessions on conducting community workshops for safe and productive energy use conducted with participation by a total of at least 58 PLN staff, including female staff, consisting of two staff who are responsible for socialization workshops from each of the 29 UP3 office and other relevant PLN staff; (c) culturally-sensitive materials (e.g. language and literacy, among others) for safe and productive energy use provided to each of the 29 UP3 offices for community education workshops; (ii) Conduct recruitment using international competitive bidding for a firm to conduct a socio-economic and gender baseline study and convene an expert working group, including ADB experts, on impact	PUSDIKLAT DIV RSD,	From 2021	(i) a. PLN has conducted further joint discussions regarding the budgeting process and grant implementation, namely with DIV RSD, DIV PPR, DIV RMR, DIV ANG, DIV AKT and UIW regarding the mechanism for coordinating the proposal and use of the ADB JFPR grant budget with a reimbursement system. DIV PBH and DIV STI together carry out the process of assessing change request (CR) details and W4 business processes at FIX and then the timeline for the work will be delivered. There is an issue related to free electricity connection, there is the government's BPBL 2022 program where the target beneficiaries are the same as the free electricity grant program. Based on the results of regional discussions with DIV APR and DIV ATS, the potential provincial customers have entered the ESDM BPBL in 2022, for North Maluku it is not included in the program, with a potential of 200 customers. Minutes of agreement on the 2022 Electricity New Install Assistance Budget Plan (BPBL), for materials and services items are as follows:

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	assessment, to review and approve the firm's outputs; (iii) Conduct a socio-economic and gender impact assessment with a query-able database of the program in Maluku and Papua, with inputs from the expert working group for endorsement by PLN management.			<table border="1" data-bbox="919 282 1577 898"> <thead> <tr> <th rowspan="2">NO</th> <th rowspan="2">MATERIAL</th> <th rowspan="2"></th> <th colspan="2">Daya 450 VA</th> </tr> <tr> <th>Vol</th> <th>Satuan</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>MCB satu pole 10A + Box</td> <td>SNI</td> <td>1</td> <td>buah</td> </tr> <tr> <td>2</td> <td>Kabel NYM 3 x 4 mm<sup>2</sup></td> <td>SNI</td> <td>1</td> <td>Meter</td> </tr> <tr> <td>3</td> <td>Kabel NYM 3 x 2,5 mm<sup>2</sup></td> <td>SNI</td> <td>10</td> <td>Meter</td> </tr> <tr> <td>4</td> <td>Kabel NYM 2 x 1,5 mm<sup>2</sup></td> <td>SNI</td> <td>10</td> <td>Meter</td> </tr> <tr> <td>5</td> <td>Kotak Kontak 16 A Outbow</td> <td>SNI</td> <td>1</td> <td>buah</td> </tr> <tr> <td>6</td> <td>Saklar Tunggal Outbow</td> <td>SNI</td> <td>1</td> <td>buah</td> </tr> <tr> <td>7</td> <td>Saklar Ganda Outbow</td> <td>SNI</td> <td>1</td> <td>buah</td> </tr> <tr> <td>8</td> <td>Fitting Plafon</td> <td>SNI</td> <td>3</td> <td>buah</td> </tr> <tr> <td>9</td> <td>Earthing Rod/Grounding 25 mm<sup>2</sup></td> <td></td> <td>1</td> <td>Set</td> </tr> <tr> <td>10</td> <td>Lampu LED 10 W</td> <td>SNI</td> <td>3</td> <td>buah</td> </tr> <tr> <td>11</td> <td>Material Bantu (tDos, roset, klem, paku dan isolasi)</td> <td></td> <td>1</td> <td>Lot</td> </tr> <tr> <td>12</td> <td>Stiker</td> <td></td> <td>1</td> <td>buah</td> </tr> </tbody> </table> <p data-bbox="919 906 1199 930">Non Material Cost include:</p> <ol data-bbox="919 938 1146 1092" style="list-style-type: none"> <li>1. Installation Service</li> <li>2. Connection Fee</li> <li>3. SLO</li> <li>4. Initial voucher</li> <li>5. Stamp duty</li> </ol> <p data-bbox="919 1101 2007 1313">c. &amp; b. For the plan to add trainers through the ToT based on information from PLN Pusdiklat, there are 3 proposals that have been followed up by their assignment letters to UPDL, namely from UIW Kalselteng, UIW P2B and UIW MMU. For UIW Kalselteng, ToT has been held on June 30 (37 participants), 2022, while UIW P2B and UIW MMU have been held on August 1 and 2, 2022. UIW Kaltimra will propose ToT needs to Regional HTD. For addition, culturally sensitive materials are available for UIW Kalbar, UIW Kalselteng and UIW Kaltimra (represented per UIW) and for UIW P2B in April 2022 and UIW MMU per UP3 in Q3 2022.</p>					NO	MATERIAL		Daya 450 VA		Vol	Satuan	1	MCB satu pole 10A + Box	SNI	1	buah	2	Kabel NYM 3 x 4 mm <sup>2</sup>	SNI	1	Meter	3	Kabel NYM 3 x 2,5 mm <sup>2</sup>	SNI	10	Meter	4	Kabel NYM 2 x 1,5 mm <sup>2</sup>	SNI	10	Meter	5	Kotak Kontak 16 A Outbow	SNI	1	buah	6	Saklar Tunggal Outbow	SNI	1	buah	7	Saklar Ganda Outbow	SNI	1	buah	8	Fitting Plafon	SNI	3	buah	9	Earthing Rod/Grounding 25 mm <sup>2</sup>		1	Set	10	Lampu LED 10 W	SNI	3	buah	11	Material Bantu (tDos, roset, klem, paku dan isolasi)		1	Lot	12	Stiker		1	buah
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				<p>(ii) To support the assistance of the Socio-Economic and Gender Impact Assessment in MP, DIV RMP has issued a Team Decree:</p> <p style="text-align: center;">LAMPIRAN I KEPUTUSAN DIREKSI PT PLN (PERSERO) NOMOR : 0092.K/DIR/2022 TANGGAL : 15 Maret 2022</p> <p style="text-align: center;">SUSUNAN KEANGGOTAAN TIM PENDAMPING PELAKSANAAN GRANT SOCIO-ECONOMIC AND GENDER IMPACT EVALUATION DI MALUKU PAPUA</p> <p>1. Ketua EVP Perencanaan dan Pengendalian Regional Sulawesi, Maluku, Papua dan Nusa Tenggara</p> <p>2. Wakil Ketua</p> <table border="1"> <tr> <td>a.</td> <td>VP Manajemen Keuangan Regional Sulawesi, Maluku, Papua dan Nusa Tenggara</td> <td>DIV RMP</td> </tr> <tr> <td>b.</td> <td>VP Pengelolaan Aset Distribusi Regional Sulawesi, Maluku, Papua dan Nusa Tenggara</td> <td>DIV RMD</td> </tr> </table> <p>3. Anggota</p> <table border="1"> <tr> <td>a.</td> <td>VP Pengembangan dan Standarisasi Proses Administrasi Perencanaan dan Enjiniring</td> <td>DIV MRE</td> </tr> <tr> <td>b.</td> <td>VP CSR</td> <td>DIV KOM</td> </tr> <tr> <td>c.</td> <td>VP Hubungan Investor, Institusional dan GCG</td> <td>SET PER</td> </tr> <tr> <td>d.</td> <td>VP Manajemen Keuangan Regional Sumatera Kalimantan</td> <td>DIV RSP</td> </tr> <tr> <td>e.</td> <td>VP Pengamanan Pendapatan Regional Sulawesi, Maluku, Papua dan Nusa Tenggara</td> <td>DIV RMR</td> </tr> <tr> <td>f.</td> <td>VP Administrasi Pinjaman dan Hibah Luar Negeri</td> <td>DIV RKO</td> </tr> <tr> <td>g.</td> <td>Senior Manager Perencanaan</td> <td>UIW MMU</td> </tr> <tr> <td>h.</td> <td>Senior Manager Perencanaan</td> <td>UIP2B</td> </tr> <tr> <td>i.</td> <td>Senior Manager Niaga &amp; Pelayanan Pelanggan</td> <td>UIW MMU</td> </tr> <tr> <td>j.</td> <td>Senior Manager Niaga &amp; Pelayanan Pelanggan</td> <td>UIP2B</td> </tr> </table> <p>ADB has hired international consultants from Milan University, which are Giovani and Jacopo. PLN and consultants together with ADB have held several discussions related to data needs for assessment activities and PLN has sent the required data</p> <p>(iii) PLN and consultants together with ADB have held several discussions related to data needs for assessment activities and PLN has sent the required data. The procurement plan for the national surveyor will be finalized by the MRE Division, the current progress of the RMP Division (PLN) is waiting for recommendations from the ADB regarding recommended universities (for surveyor).</p>	a.	VP Manajemen Keuangan Regional Sulawesi, Maluku, Papua dan Nusa Tenggara	DIV RMP	b.	VP Pengelolaan Aset Distribusi Regional Sulawesi, Maluku, Papua dan Nusa Tenggara	DIV RMD	a.	VP Pengembangan dan Standarisasi Proses Administrasi Perencanaan dan Enjiniring	DIV MRE	b.	VP CSR	DIV KOM	c.	VP Hubungan Investor, Institusional dan GCG	SET PER	d.	VP Manajemen Keuangan Regional Sumatera Kalimantan	DIV RSP	e.	VP Pengamanan Pendapatan Regional Sulawesi, Maluku, Papua dan Nusa Tenggara	DIV RMR	f.	VP Administrasi Pinjaman dan Hibah Luar Negeri	DIV RKO	g.	Senior Manager Perencanaan	UIW MMU	h.	Senior Manager Perencanaan	UIP2B	i.	Senior Manager Niaga & Pelayanan Pelanggan	UIW MMU	j.	Senior Manager Niaga & Pelayanan Pelanggan	UIP2B
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5	(i) Report on grant achievements against indicative target: (a) power generation from solar PVs (<10 MW) increased by an additional 4,020 MWh annually; (b)	DIV MEB, DIV RSD, DIV RKO,	From 2021	<p>(i) There are 10 locations in KMP that are proposed to the TOR, which will be assessed by consultants as Non DLI 2. 2 of the 10 PLTS locations, Derawan or Sebatik that will be upgraded to remote pilot monitoring and local training</p>																																				

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	17,500 HHHs have access to PLN electricity from improved PLTS; (ii) 10 PLN PLTS upgraded and operational with remote monitoring; (iii) 10 PLN PLTS upgraded and operational with hybridization utilizing energy management systems; and (iv) At least one pilot community training delivered on basic PLTS maintenance where remote monitoring is used with at least 30% women's participation.	DIV KEU		<table border="1"> <thead> <tr> <th>No</th> <th>Lokasi</th> <th>Kondisi</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Kalimantan Barat</td> <td></td> </tr> <tr> <td></td> <td>a. PLTS Siding (40 kWp), Ds Temong, Kec Siding, Kab Bengkayang</td> <td>Damaged</td> </tr> <tr> <td>2</td> <td>Kalimantan Timur &amp; Utara (Pilot Project)</td> <td></td> </tr> <tr> <td></td> <td>a. PLTS Sebatik (340 kWp), Ds Padaidi, Kec Sebatik, Kab Nunukan</td> <td>Operation</td> </tr> <tr> <td></td> <td>b. PLTS Derawan (90 kWp), Ds Derawan, Kec Pulau Derawan, Kab Berau</td> <td>Operation</td> </tr> <tr> <td>3</td> <td>Maluku &amp; Maluku Utara</td> <td></td> </tr> <tr> <td></td> <td>a. PLTS Pulau Tior (100 kWp), Ds Tioor, Kec Tioor, Kab Seram Bagian Timur</td> <td>Operation</td> </tr> <tr> <td></td> <td>b. PLTS Daruba, (950 kWp) Ds Wamama, Kec Morotai Selatan, Kab Pulau Morotai</td> <td>Operation</td> </tr> <tr> <td></td> <td>c. PLTS Amarsekaru, (100 kWp)</td> <td>Damaged</td> </tr> <tr> <td></td> <td>d. PLTS Banda, (100 kWp)</td> <td>Damaged</td> </tr> <tr> <td></td> <td>e. PLTS Elat, (200 kWp)</td> <td>Damaged</td> </tr> <tr> <td>1</td> <td>Kalimantan Barat</td> <td></td> </tr> <tr> <td></td> <td>a. PLTS Siding (40 kWp), Ds Temong, Kec Siding, Kab Bengkayang</td> <td>Damaged</td> </tr> <tr> <td>2</td> <td>Kalimantan Timur &amp; Utara (Pilot Project)</td> <td></td> </tr> <tr> <td></td> <td>a. PLTS Sebatik (340 kWp), Ds Padaidi, Kec Sebatik, Kab Nunukan</td> <td>Operation</td> </tr> </tbody> </table> <p>Based on the achievement of MWh production up to Q2 of 1,302 MWh and it is estimated that the achievement until the end of 2022 is around 2,600 MWh. For 2023, if asset revitalization in Kalimantan can be completed in early 2023, there will be additional MWH production so that the total will be 3,500 MWh in 2023 (exceeding the Baseline Data). However, when compared to the 2022 - 2024 target, the gap is still very wide. So that the focus to be able to achieve these targets is the PLTD to EBT conversion program with an estimated addition of 159,165 MWh in 2025.</p> <p>(ii) There is no progress yet. procurement and construction of system upgrades for other PLTS will be carried out in separate contracts with PLTS support consultants</p> <p>(iii) There is no progress yet. procurement and construction of system upgrades for other PLTS will be carried out in separate contracts with PLTS support consultants</p>	No	Lokasi	Kondisi	1	Kalimantan Barat			a. PLTS Siding (40 kWp), Ds Temong, Kec Siding, Kab Bengkayang	Damaged	2	Kalimantan Timur & Utara (Pilot Project)			a. PLTS Sebatik (340 kWp), Ds Padaidi, Kec Sebatik, Kab Nunukan	Operation		b. PLTS Derawan (90 kWp), Ds Derawan, Kec Pulau Derawan, Kab Berau	Operation	3	Maluku & Maluku Utara			a. PLTS Pulau Tior (100 kWp), Ds Tioor, Kec Tioor, Kab Seram Bagian Timur	Operation		b. PLTS Daruba, (950 kWp) Ds Wamama, Kec Morotai Selatan, Kab Pulau Morotai	Operation		c. PLTS Amarsekaru, (100 kWp)	Damaged		d. PLTS Banda, (100 kWp)	Damaged		e. PLTS Elat, (200 kWp)	Damaged	1	Kalimantan Barat			a. PLTS Siding (40 kWp), Ds Temong, Kec Siding, Kab Bengkayang	Damaged	2	Kalimantan Timur & Utara (Pilot Project)			a. PLTS Sebatik (340 kWp), Ds Padaidi, Kec Sebatik, Kab Nunukan	Operation
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2	Kalimantan Timur & Utara (Pilot Project)																																																			
	a. PLTS Sebatik (340 kWp), Ds Padaidi, Kec Sebatik, Kab Nunukan	Operation																																																		

PAP Items	Indicator	Responsible Teams	Time Frame	PLN Claim to ADB
				(iv) PLN Pusdiklat has completed and submitted the development of materials for training according to input from ADB on 22 September 2021. This will be updated to incorporate result from PLTS upgrade on remote monitoring and hybridization using EMS. The plan is to conduct training in 2025.
<b>Monitoring and Evaluation</b>				
6	(i) Regular quarterly reviews of RBL program implementation established at the coordination meetings between PLN headquarters and UIW. (ii) See 7(i) under Gender.	DIV RSD DIV STI, DIV APN, dan DIV ATS	From 2020	(i) a. DIV KEU as coordinator has prepared a workflow for communication, monitoring, and evaluation of DLI and PAP achievements. b. WAG is available for communication, coordination and sharing of information related to the Program. c. PLN has evaluated and monitored with all PICs for the implementation of DLI and PAP in the Q1 2023, Q2 2023, Q3 2023 and Q4 2023  (ii) An interface module is available between the PLN AP2T database and the National TNP2K that allows identification and tracking of households headed by women/men and can be monitored over a period of time and per UP3 at UIW.
<b>Gender</b>				
7	(i) An interface module between PLN's AP2T and National TNP2K database developed and applied to enable identification and tracking of female/male-headed households. (ii) Training module on livelihood opportunities for women included in consumer education trainings on safe and productive energy use. (iii) See 4 (iii) on impact assessment, including impact on gender. (iv) See 5 (iv) on pilot community training on basic PLTS maintenance.	DIV ATS, DIV STI, PUSDIKL AT	(i) From 2020  (ii) From 2020  (iii) By 2025  (iv) By 2025	(i) The interface module between PLN's AP2T and the National TNP2K database can be used and has undergone additional filters for the on period and selection of all districts/cities. As for the template, there is an improvement in the naming of UP3 and ULP according to the naming at PLN. (ii) PLN Pusdiklat has completed developing a training module on livelihood opportunities for women which is included in consumer education (DLI 7). Training on the safe and productive use of energy is ongoing. (iii) On progress. This is discussed in PAP 4 (iii) and non-DLI 1 Results Indicator 3. The national survey firm has been contracted on 23 October 2023. Pre-baseline survey is scheduled for 6-10 November 2023 while the baseline data collection is from January to March 2024 (iv) PLN Pusdiklat has prepared training material on PLTS maintenance that needs to be updated to incorporate inputs from PLTS pilot upgrade on remote monitoring and hybridization utilizing EMS. ToT and the training to local communities will be from October 2025 upon commissioning of one PLTS upgrade in July 2025
<b>Financial Management</b>				



PAP Items	Indicator	Responsible Teams	Time Frame	PLN Claim to ADB
8	(i) Consolidated quarterly financial statements produced automatically by MAXICO. (ii) E-Budget implemented in the program target regions. (iii) Staff in all relevant divisions trained in the use of MAXICO and E-Budget systems	DIV ANG DIV AKT DIV STI	From 2020	(i) The MAXICO program in preparing financial reports is running normally. As for the financial reporting of subsidiaries, it is still uploaded manually because it is in a separate system. . (ii) E-Budget is implemented in Regional program targets. Evidence of the use of E-Budget documentation at UIW has been delivered. (achievement once in program) (iii) An update regarding the Single Source of Truth (SSoT) program from the IT development party has been presented and is currently entering the first stage, namely shorter term improvement, 1 of 6 stages being carried out.
9	High level summary of key internal initiatives and their impacts included in the 2nd quarter and annual RBL progress reports.	DIV TCO	From 2020	PLN (DIV TCO) submitted an updated report on the main internal initiatives to reduce costs and strengthen financial sustainability of 21 initiatives.
<b>Procurement</b>				
10	Report submitted following procurement Monitoring Framework.	DIV MRP, DIV RSD, and UID/W	From 2020	In Q4 2023 procurement recapitulation data still on progress and will be submitted by DIV MRP in January 2024.
11	Recruit consultants through international competitive bidding to support PLN in PLTS (a) failures analysis, (b) design, procurement, and commissioning of PLTS upgrades with remote monitoring and hybridization using EMS, and (c) implementation of sustainable operations and maintenance procedures for remote monitoring and EMS operations..	DIV RSD DIV MEB DIV MRE	From 2021	On Progress.  Consultant procurement is planned to be completed in March 2024.

PAP Items	Indicator	Responsible Teams	Time Frame	PLN Claim to ADB
12	Procurement audits each year of 10% of all contracts at Wilayah/Area offices. Procurement audits conducted and information sheet shared with ADB	DIV MRP, DIV RSD, UID/UIW, and SPI	From 2021	SPI Regional Kalimantan, Maluku, and Papua has submitted a resume of the 2023 annual audit report to the Regional.
Safeguard				
13	<p>Strengthen institutional capacity on environmental and social safeguards, respectively, by: (i) appointing safeguards focal persons in each UIW, UP3 and UP2K office; (ii) issuing a technical guidance and training PLN personnel on the implementation of the PSSA and PAP; (iii) developing an environmental and social safeguards code of practice for solar PV, mini/micro-hydro, and small biogas plants that will include criteria for selecting sites, pollution control, environmental monitoring, sustainable sourcing and management of biomass fuels, and community consultations as well as templates for UKL/UPL.</p> <p>(i) Safeguards focal persons appointed at HSSE, PPT, each UIW, UP3 and UP2K office.  (ii) Technical Guidance including training materials on safeguards for EGDP I (SNT) is updated to include program actions for EGDP II  (iii) Annual training conducted for Environmental and Social</p>	DIV K3L, DIV TEK, DIV RSD, DIV ODS, DIV ODM, and UID/UIW	From 2020	<ul style="list-style-type: none"> <li>(i) DIV RSP submitted a Letter of Assignment of revision-2 Focal Person safeguards in Kalimantan based on the UIW proposal which was submitted to the Regional in the period October - Dec 2023. For DIV RMD and DIV TEK always doconfirmation of the change in the focal person safeguards. In the future, for changes in the focal person at UIW, UP3, and UP2K, the authority and publication will be handed over by the GM of each UIW.</li> <li>(ii) The Final TG document completed with the forms of PAPs implementation were approved by ADB on 19 October 2023, thus this indicator will be completed in annual 2023 verification.</li> <li>(iii) PLN HQ have conducted ToT on 4-6 December 2023, followed with capacity building to safeguard focal persons and relevant staff in each UIWs/UIDs by ToT participants in Q1 2024</li> <li>(iv) The social safeguards briefing brochure was approved by ADB on 25 September 2023 and this indicator will be completed in annual 2023 verification.</li> <li>(v) The final version of the COP has been submitted Hatfield to ADB on 9 of June 2022.</li> </ul>

PAP Items	Indicator	Responsible Teams	Time Frame	PLN Claim to ADB
	<p>Safeguards Focal Persons, representatives from each UIW, UP3 and UP2K office, and representatives from ULP office as needed, through PLN's Corporate University.</p> <p>(iv) Briefing brochure on safeguards requirements prepared for and disseminated (through briefing sessions) to contracted vendors / contractors on environmental and social safeguards.</p> <p>(v) Safeguards code of practice developed for solar PV, mini/micro-hydro, and small biogas facilities</p>			
14	<p>Strengthen safeguards screening and assessment: (i) screen annual work plans to ensure category A activities for environment, involuntary resettlement and Indigenous Peoples (Customary Communities) are not included in the program; (ii) prepare the UKL/UPL of UIW annual activities and submit to DLH for approval</p> <p>(i) Distribution line, solar PV, mini/micro-hydro, and biogas plant development plans internally screened for environmental safeguards by UIW based on list of villages in key biodiversity areas, and monitored by DIV K3L.</p> <p>(ii) UIW annual workplan is screened and categorized by DLH and Forestry Department</p> <p>(iii) Involuntary resettlement and Indigenous Peoples (Customary Communities) screening and categorization reports prepared by</p>	<p>(i) UID/UIW, DIV TEK and DIV K3L</p> <p>(ii) UID/UIW, DIV TEK and DIV K3L</p> <p>(iii) UID/UIW, DIV RSD</p> <p>(iv) UID/UIW, DIV TEK and DIV K3L</p>	From 2020	<p>To achieve the environmental safeguards PAP, DIV K3L has issued letter No. 8314 / KLH.00.01 / C01060500 / 2021 dated March 12, 2021 regarding information on DLI and PAP targets and guidelines for filling out screening forms.</p> <p>(i) New Forms that included in TG has been finalized. When the screening form is final, capacity building is required to help unit in screening process. Until Q4 2023, KKP has been screened for 20 documents.</p> <p>(ii) As of Q4 2023, Environmental documents for UID Kalselteng have been issued. 2 Units that have submitted letters of request for directions for Environmental Documents to the KLHK, namely UID Kalbar, UIW Kaltimra, and UIW Kalselteng. UIW MMU and UIW P2B are preparing the data and documents required for submitting the official letter of request.</p> <p>(iii) partially completed. Of 38 UP3/UP2K units, IR screening was reported by 26 units.</p> <p>(iv) Environmental Management and Environmental Monitoring Efforts (UKL/UPL) documents are to be prepared based on screening result and following directions from related Environment and Forestry Agency (DLH)/Ministry of Environment and Forestry (MOEF) as per PAP 14 (ii)</p> <p>The above update is still at the position of 2023.</p>

PAP Items	Indicator	Responsible Teams	Time Frame	PLN Claim to ADB
	UIW and reviewed by DIV RSD and DIV RMD (iv) UKL/UPL of annual activities prepared in accordance with screening results and submitted to relevant DLH. Executive summaries of UKL/UPL disclosed on PLN website. Full reports made available upon request.			
15	<p>Strengthen meaningful consultation with affected persons including customary communities and vulnerable groups. Improve grievance redress mechanism</p> <p>(i) Vulnerable groups (poor households, customary communities, women, and children/youth) invited to consultations.</p> <p>(ii) Topics of consultations include selection of sites and implications of distribution lines, solar PV, micro-hydro, and biogas plants, cost estimates for electricity connection and installation, procedure of accessing free electricity program to the poor, and awareness on safe usage and economic benefit of electricity.</p> <p>(iii) Consultation records on issues discussed and agreements reached with participants completed with attendance list segregated by gender and customary (indigenous) status.</p>	UID/UIW, UP3, UP2K, DIV RSD, DIV ODS, DIV ODM	2020 onwards	<ul style="list-style-type: none"> <li>(i) Some UP3 has done the consultation. The list of the consultation can be seen in the form.</li> <li>(ii) The list of the consultation that has been done can be seen in the form. However, there is no evidence of the MoM. But based on UP3 information, the topic of the consultation has included the selection of sites and implications of distribution lines, cost estimates for electricity connection and installation, procedure of accessing free electricity program to the poor, and awareness on safe usage and economic benefit of electricity.</li> <li>(iii) After ToT and monitoring from DIV ODM and ODS, most UP3 already do the consultation. The list of the consultation can be seen in the form.</li> <li>(iv) Done. All UP3 has submitted the complaint form and reported no complain for semester 2 2023 period</li> </ul>

PAP Items	Indicator	Responsible Teams	Time Frame	PLN Claim to ADB
	(iv) All complaints/grievances and remedial measures recorded and compiled.			
16	<p>Improve transparency and fair compensation for negotiated land acquisition and voluntary land donation to ensure that people will maintain the same or better level of income or livelihood</p> <p>(i) Written agreement (private land) for distribution transformers (ii) Written agreement regarding voluntary land donation for construction of micro-hydro and biogas power plants and village-level solar PV from land owners or clan members of customary communities with communal access rights prior to the construction commencement. (iii) Semi-annual verification (sample) by an independent party to ensure that the negotiated land acquisition and voluntary land donation were conducted through proper consultations. Voluntary donation did not severely affect the living standards of affected persons (donor is not poor and does not lose more than 5% of total land owned; donated land is not ancestral land and in sacred areas).</p>	(i), (ii): UID/UIW, UP3, UP2K, DIV RSD (iii): IVA (iv) UID/UIW, UP3, dan UP2K	From 2021	<p><b>(i) Written agreement for distribution transformer</b> <b>-Status per UIW</b></p> <p>a. UIW Kalbar</p> <ul style="list-style-type: none"> <li>- Number of installed distribution transformer on private land : 90</li> <li>- Number of written agreement from land owner : 90</li> <li>- Achievement : 100%</li> </ul> <p>b. UIW Kaltimra</p> <ul style="list-style-type: none"> <li>- Number of installed distribution transformer on private land : 39</li> <li>- Number of written agreement : 39</li> <li>- Achievement : 100%</li> </ul> <p>c. UIW Kalselteng</p> <ul style="list-style-type: none"> <li>- Number of installed distribution transformer on private land: 85</li> <li>- Number of written agreement: 85</li> <li>- Achievement: 100%</li> </ul> <p>d. UIW MMU:</p> <ul style="list-style-type: none"> <li>- Number of installed distribution transformer on private land: 47</li> <li>- Number of written agreement: 15</li> <li>- Achievement: 31,91%</li> </ul> <p>e. UIW P2B:</p> <ul style="list-style-type: none"> <li>- Number of installed distribution transformer on private land: 10</li> <li>- Number of written agreement: 7</li> <li>- Achievement: 70%</li> </ul> <p><b>(ii) Written agreement regarding voluntary land donation for construction of micro-hydro and biogas power plants and village-level solar PV from landowners</b> <b>-Status per UIW</b></p> <p>a. For Kalimantan there is no construction of micro hydro and biogas power plant and village level solar PV</p> <p>b. UIW P2B: there are 15 voluntaries lands donations for solar PV in 2017-2020 period. The document of land donation has been submitted for all 15 lands plots.</p>

PAP Items	Indicator	Responsible Teams	Time Frame	PLN Claim to ADB
	(iv) Proper mitigation (compensation for lost non-land assets or income and income restoration program) for land users affected by the program.			<p>(iii) <b>Done. The list of the landowner of transformer installed can be seen in the form, also the picture of the written agreement. The written agreement has stated that the donation of the land is not more than 5% of the total land owned.</b></p> <p>(iv) <b>There is no loss of non-land asset or income affected by the program. It can be related to the complaint form that reports no complain about semester 2 2023 period.</b></p>
17	<p>Monitor and report on compliance with safeguards program actions and program impacts on income/livelihoods of affected households. Prepare and implement corrective actions if adverse impacts on income/livelihood are identified</p> <p>(i) Q2 and Q4 RBL implementation reports submitted to ADB include consolidated results of safeguards screening and safeguards program actions.</p> <p>(ii) Impacts of program activities on the income / livelihood of affected persons monitored by DIV PPT through review of complaint handling and compensation records. Corrective actions implemented and documented if adverse impacts on income/livelihood are identified.</p> <p>(iii) Assessment of whether customary communities' access to electricity has increased by the Mid Term Review and end of the Program.</p>	DIV K3L, DIV TEK, DIV ODS, DIV ODM	From 2021	<p>(i) Result of safeguard screening and safeguard program action has been Included in PLN report as written in achievement per indicator (PAP). PLN has submitted until Q4 report that has included safeguards screening and safeguards program actions. PLN HQ (DIV ODS and ODM) have send a letter to all units PLN units to request the units to submit the pending evidence for PAPs achievement, including social safeguard clauses in the distribution line contracts, update social safeguard focal persons in all units, and accelerate data collection for PAP.</p> <p>(ii) Since interim mission 2023, DIV ODS, and DIV ODM start to review the reports submitted by units and verify whether the program activities impact on the income/livelihood of affected persons. Review included complaint handling and compensation records.</p> <p>(iii) PLN UIW at KMP has confirmed data on the number of PLN electricity customers in customary villages through the reference data "List IP 2021".</p>

## 7.APPENDIX

### PAP 9. High Level Summary of Key Internal Initiatives and Their Impacts Included In The 2<sup>nd</sup> Quarter 2023 RBL Progress Reports

<b>Date of Report</b>	25 <sup>th</sup> July 2023	<b>For Period Ended</b>	1 <sup>st</sup> June to 30 <sup>th</sup> June 2022
<b>Version</b>	1.0	<b>Update</b>	1 <sup>st</sup> Update

No	Sub Initiative Number	Sub Initiative Name	Description	Start Date	End Date	Status (based on Wave)	Expected Costs / Benefits	Actual Cost / Benefits
1	504	Completion of Transmission and GI Project at UIP JBT - Java North Line	Completed the transmission and substation (GI) project in central Java so that it can distribute energy from cheaper generators	01/01/2020	30/09/2021	Completed	Expected savings of Rp280B (2022), Rp 1.68T (2023), Rp 2.42T (2024) L4 Executed 10 Sept 2021	Saving in 2022 Rp374B
2	500	Completion of Transmission and GI Project at UIP JBB	Completed the transmission and substation (GI) project in western Java so that it can distribute energy from cheaper generators	01/01/2020	01/12/2022	On track	Expected savings of Rp 1.68T (2023), Rp 2.42T (2024)	Saving start in 2023
3	496	Optimization of reactive power through the installation of capacitors in the JBT Area	Efforts to maintain the voltage at normal conditions in order to be able to distribute energy from cheaper generators through	01/01/2020	01/12/2021	Completed	From 2021 savings of Rp 16.6B per year is expected	- Saving in 2021 Rp16.6B - Saving in 2022 Rp16.6B

No	Sub Initiative Number	Sub Initiative Name	Description	Start Date	End Date	Status (based on Wave)	Expected Costs / Benefits	Actual Cost / Benefits
			the installation of capacitors in the GI					
4	505	Completion of Transmission and GI Project at UIP JBTB	Completed transmission and substation (GI) projects in eastern Java and Bali so that they can distribute energy from cheaper generators.	01/12/2021	01/12/2024	On track	Expected savings Rp900B (2023), Rp 2.3T (2024)	Saving start in 2024
5	468	Scale Up EAM Distribusi di Jawa-Bali	Implementing the Enterprise Asset Management (EAM) Program in the distribution sector in Java and Bali to reduce disruption	01/05/2019	15/12/2021	Completed	Expected savings of Rp 8.16B (2021)	- Get saving of Rp72.5B in 2021
6	2459	[QW 20] Reducing PJBB Coal Transportation Costs through Negotiations	Negotiating Existing Coal Contracts to obtain more efficient transportation costs	01/01/2020	15/10/2020	Completed	Expected savings of Rp 56B (2021)	- Get saving of Rp45.7B in 2021
7	4864	Development of Icon Cash e-money	Development of an electronic wallet (e-wallet) platform to generate additional revenue for PLN	21/09/2020	30/06/2022	On track	Expected revenue of Rp7.1B (2021), Rp9.6B (2022), Rp12.9B (2023), Rp 17.1B (2024)	-
8	1141	[QW 20] Coal Switching – PJB	Program to reduce the calorific value of coal from Medium Rank Coal (MRC) to Low Rank Coal (LRC) to reduce the cost of supply (BPP) of coal	11/05/2020	30/11/2020	On Hold	From 2021 expected savings of Rp155B, Rp72B	- Saving in 2021 Rp19B - No Saving in 2022



No	Sub Initiative Number	Sub Initiative Name	Description	Start Date	End Date	Status (based on Wave)	Expected Costs / Benefits	Actual Cost / Benefits
			at PLTU Indramayu, PLTU Rembang, PLTU Pacitan and PLTU Tanjung Awar Awar					
9	5213	Roll out AA for EE 2021 - Java (Brantas, Pacitan, Rembang)	Implement advanced analytics to improve energy efficiency at PLTU Brantas, Pacitan, and Rembang.	01/01/2021	31/12/2021	Completed	Savings of Rp 105.3B per year from 2022 is expected	Get saving of Rp0.023B in 2022, Rp15.53B in 2023
10	487	Captive Power: Hot prospect - engage and win power supply with PT ITP (50 MW)	Efforts to increase sales to PT ITP's captive power owners	20/05/2018	31/12/2020	Completed	Expected revenue of Rp148B (2022), Rp197.3B (2023-2024)	- Revenue in 2022 Rp108.05B - Revenue in 2023 Rp76.75B
11	915	Possible prospects - mining captive JIPE (30 MVA)	Efforts to attract potential target customers in the mining industry	20/08/2020	31/01/2022	Completed	Expected revenue of Rp645.7B (2022), Rp968.6B (2023), Rp968.6B (2024)	Revenue start in 2023
12	1106	[KPI] Create and Run a Marketing and Sales Program - 2022	Perform end-to-end customer acquisition activities	20/08/2020	30/11/2022	On Track	Expected revenue of Rp858B (2022)	Revenue in 2022 Rp556B
13	7931	Possible prospects - oil and gas Pertamina MoU RU VI Balongan	Efforts to negotiate and enter into contracts with Captive Pertamina RU VI Balongan customers	11/01/2021	30/06/2022	On Track	Expected revenue of Rp138.1B (2023), Rp236.8B (2024), Rp236.8B (2025)	Revenue start in 2023
14	12866	Captive prospect - Mining/Smelter: PT Stargate Mineral Asia (200 MVA)	Efforts to negotiate and enter into contracts with Captive	12/11/2021	17/06/2022	Completed	Expected revenue of Rp29.9B (2023) and Rp358.8B (2024)	Revenue start in 2023

No	Sub Initiative Number	Sub Initiative Name	Description	Start Date	End Date	Status (based on Wave)	Expected Costs / Benefits	Actual Cost / Benefits
			customers PT Stargate Mineral Asia					
15	497	Optimization of reactive power through the installation of capacitors in the JBTMB region	Optimizing Dispatch in the JBTMB area	8/08/2020	1/12/2024	On Track	Expected savings of Rp161.1B (2023) and Rp161.1B (2024)	Saving start in 2024
16	509	Completion of the Transmission and GI Project at UIK SBS - South Sumatra- Lampung Reinforcement and PLTP Rantau Dadap Evacuation	Completed the transmission and substation (GI) project in Southern Sumatra so that it can distribute energy from cheaper generators	8/08/2020	1/12/2024	On Track	Expected savings Rp40B (2023), 261B (2024)	Saving start in 2025
17	899	[QW 21] Implementation of the Decree of the Minister of Energy and Mineral Resources No. 13 in Sorong	Implementation of the Decree no 13 related to gasification of 58 power plants	17/08/2020	31/01/2021	Complete	Expected savings of Rp112B (2021), Rp 272B (2022), Rp528B (2023), Rp592B (2024)	Get saving of Rp212B (2021), Rp288.4B (2022)
18	9526	[QW21] Hot prospect - engage and acquire Captive Power : Tjiwi Kimia (30 MW)	Efforts to increase sales to Tjiwi Kimia's captive power owners (30 MW)	4/05/2021	30/06/2021	Complete	Expected revenue of Rp183B (2021), Rp274.6B (2022-2024)	Revenue in 2021 Rp179.1B, Rp157.1B (2022), Rp77B (2023)
19	1105	[KPI] Create and Run a Marketing and Sales Program - 2021	Perform end-to-end customer acquisition activities	20/08/2020	15/12/2021	Complete	Expected revenue of Rp120B (2021)	Revenue in 2021 Rp125B
20	13754	[2022] Roll Out Digital Procurement di Kategori kWh Meter 1 Phase Prabayar	Implementation of Digital Procurement in the Prepaid 1 Phase kWh Meter Category	2/02/2022	27/04/2022	Complete	Expected savings Rp50B (2022)	Get saving of Rp503B in 2022

No	Sub Initiative Number	Sub Initiative Name	Description	Start Date	End Date	Status (based on Wave)	Expected Costs / Benefits	Actual Cost / Benefits
21	13755	[2022] Roll Out Digital Procurement di Kategori Trafo Distribusi	Implementation of Digital Procurement in the Distribution Transformer Category	2/02/2022	23/02/2022	Complete	Expected savings Rp209B (2022)	Get saving of Rp209B in 2022