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Result Based Loan Program in Indonesia

Energy Sector Development

Cambodia July 31st, 2019

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*Proper Emas 2018
PLTU Paiton & PLTDG Pesanggaran*

PLTDG Pesanggaran

www.pln.co.id

PLN in a Glance



Ten Years Development Planning of PLN



Electricity Demand Growth
6.42 %



Transmission Lines Development
57,293 kms



Power Plant Capacity Development
56,395 MW



Substation Development
124,341 MVA



Energy Mix in 2025
Renewable **23.0 %**
Gas **22.0 %**
Coal **54.6 %**
Oil **0.4 %**

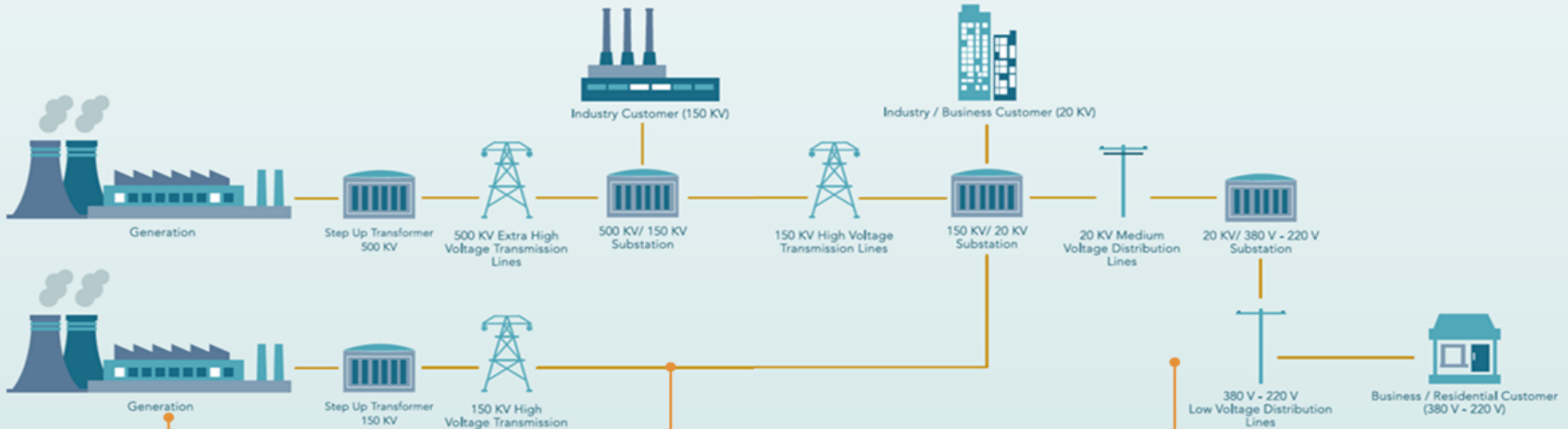


Distribution Network Development
472,795 kms



Total Customers Addition
16.9 million

Business Process



GENERATION

As Power Company, PLN controls, owns, and operates no less than 80% generation capacity in Indonesia. PLN also the sole buyer of electricity produced by IPP including electricity from renewable energy. In total, PLN controls 57 GW of generation capacity

TRANSMISSION

PLN controls and operates 100% of transmission networks in Indonesia, which extends to a total length of 50.8 thousand kilo-meter circuit (Ckt Km), and a total substation capacity of 124 thousand Mega Volt Ampere (MVA)

DISTRIBUTION

PLN controls and operates 100% of distribution networks in Indonesia. Our Network has total length of 940.5 thousand Circuit Km for our consumers around Indonesia's archipelago. Today, we serve a total 70 million customers across the country.

PLN as of 2018



PROGRES PEMBANGUNAN PEMBANGKIT LISTRIK 35.000 MW PROGRESS OF 35.000 MW POWER PLANT (EUI/EUI4)



PERENCANAAN | PLANNING
954 MW



PENGADAAN | PROCUREMENT
1.383 MW



KONTRAK BELUM KONSTRUKSI
CONTRACT (PRE CONSTRUCTION)
9.507 MW



KONTRUKSI
CONSTRUCTION
20.416 MW



SLO/COD/KOMISIONING
SLO/COD/COMMISSIONING
3009 MW



PROGRES PEMBANGUNAN TRANSMISI DAN GARDU INDUK PROGRESS TRANSMISSION AND SUBSTATION



PRA KONSTRUKSI
PRE CONSTRUCTION
14.617 KMS

TRANSMISI
TRANSMISSION

KONSTRUKSI
CONSTRUCTION
17.898 KMS

ENERGIZE/RLB/KOMISIONING
ENERGIZE/RLB/COMMISSIONING
14.458 KMS



PRA KONSTRUKSI
PRE CONSTRUCTION
29.570 MVA

GARDU INDUK
SUBSTATION

KONSTRUKSI
CONSTRUCTION
25.539 MVA

ENERGIZE/RLB/KOMISIONING
ENERGIZE/RLB/COMMISSIONING
56.653 MVA



RASIO ELEKTRIFIKASI
Electrification Ratio : **97,05%**



KAPASITAS PEMBANGKIT
Power Plant Capacity : **57.822 MW**



PANJANG TRANSMISI
Transmission Length : **49.685 kms**



KAPASITAS GARDU INDUK
Substation Capacity : **124.345 MVA**



The Relationship

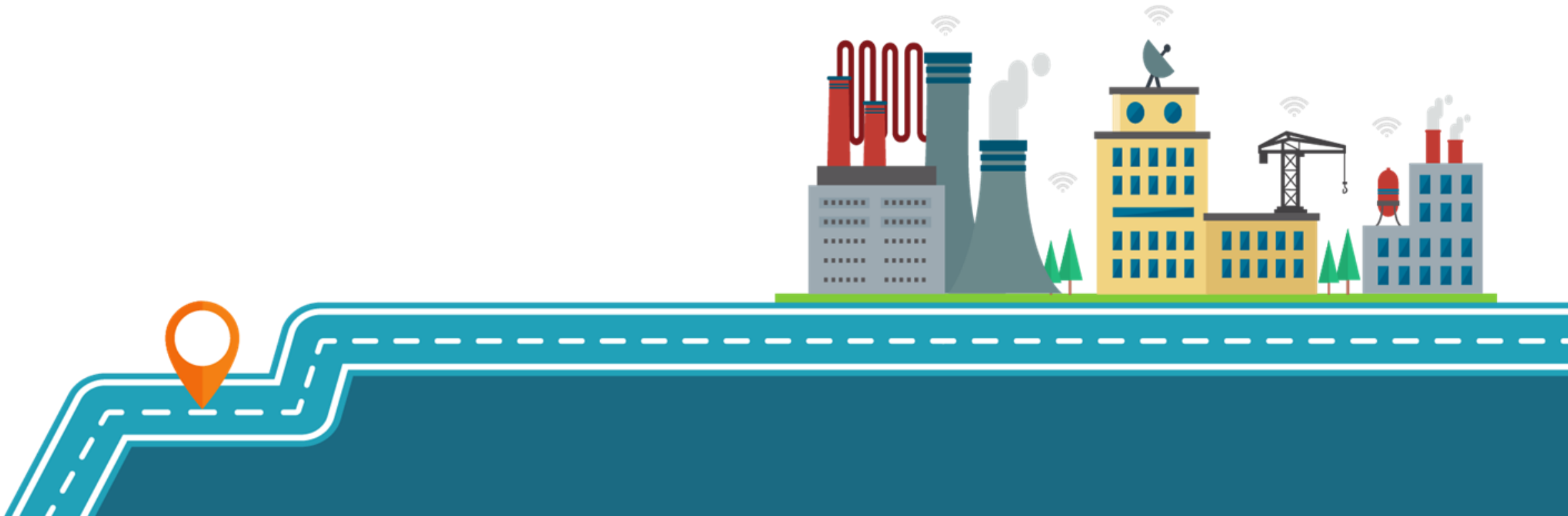


ADB - Indonesia - PLN

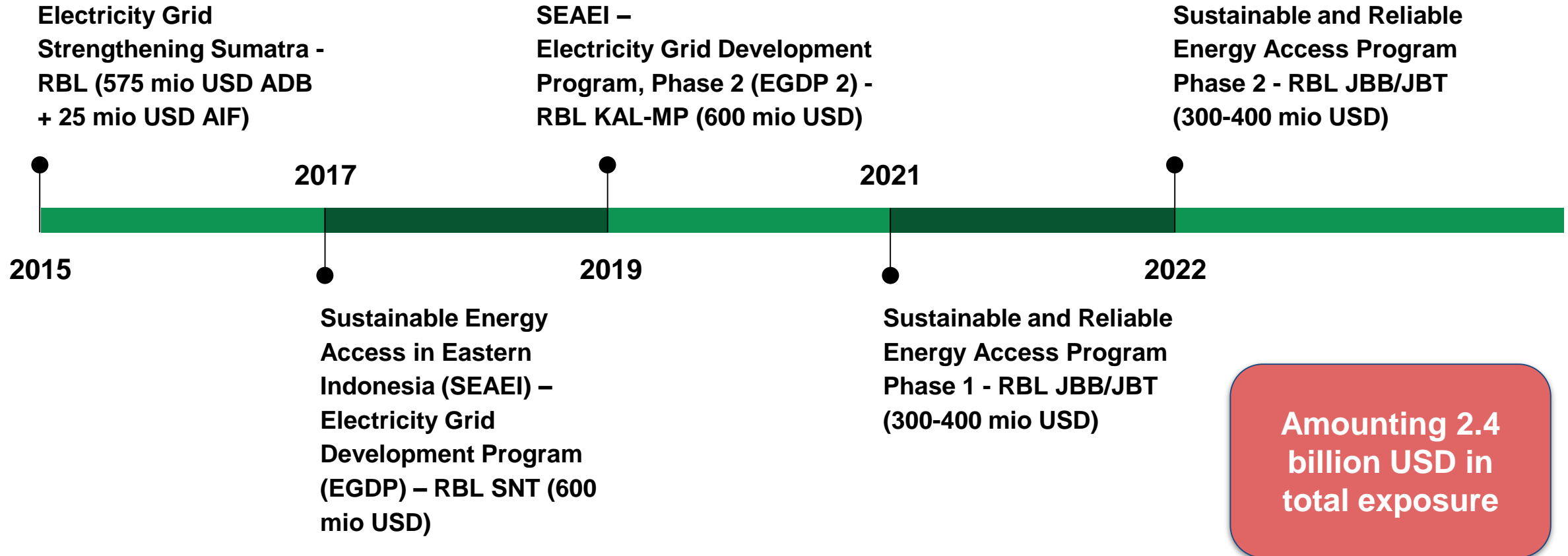


- ❖ One of the founding members of ADB in 1966
- ❖ Since 1966, ADB has committed \$36.68 billion in sovereign and nonsovereign loans, equity investments, and guarantees; \$460.5 million in technical assistance; and \$449.98 million in grants for Indonesia
- ❖ Energy and Public Sector are the biggest sector which ADB committed too
- ❖ In PLN the cooperation starts in 1990
- ❖ In 2010, PLN and ADB has its last project financing for Distribution

The Evolution of RBL



The Evolution of RBL in PLN



Project Overview



RATIONALE

Government Support

Adopting Country System for Safeguards and Procurement

History in Distribution Financing with ADB

Time Efficient in Loan Preparation

Need for Investment Support in Distribution Development

First ever **result-based lending (RBL)** program in the energy sector in any country

Project Design and Scope



Design and Monitoring Framework



Impact

The quality of life in Indonesian society will be enhanced by the sustainable use of electricity as a key driver of increased economic activity

Outcome

Adequacy and reliability of power supply achieved for Sumatra

Output

1. Existing transmission system strengthened and expanded
2. Existing distribution system strengthened and expanded
3. Performance management and implementation improved
4. Contract Management
5. Procurement Monitoring System

Intended outcome of RBL

Supports existing PLN program or a subcomponent

Uses country systems and PLN business processes

Uses a principles-based (KPI) approach

Improves accountability and ownership

Incentivizes program quality and results

Disbursement-Linked Indicators



Results Indicators	DLI (Yes/ No)	Baseline Value & Unit of Measurement	Baseline Year	Target Values of Results Indicators			
				2016	2017	2018	2019
Outcome							
1. Number of PLN customers in Sumatra increase by at least 3% each year	Yes/ DLI 1	11.18 m	2014	≥ 11.86 m	≥ 12.21 m	≥ 12.58 m	≥ 12.96 m
2. Residential energy sales grow by at least 3% each year from the preceding year	Yes/DLI 2	15,850 GWh	2014	≥ 16,848 GWh	≥ 17,421 GWh	≥ 18,048 GWh	≥ 18,734 GWh
3. Number of MV feeder permanent interruptions per 100 km maintained at 2014 baseline level or improved	Yes/DLI 3	21.22/100 km	2014	< 21.12	< 21.08	< 21.04	< 21.02
4. Technical complaints from PLN customers to Sumatra call center reduced	No	61 complaints/1000 customers/month	2014	< 59	< 57	< 54	< 52
Outputs							
5. Cumulative length of 150 kV transmission lines reconducted	Yes/ DLI 4	1,142 ckm	2014	≥ 1,242 ckm	≥ 1,367 ckm	≥ 1,543 ckm	≥ 1,743 ckm
6. Additional number of distribution transformer units installed annually	Yes/ DLI 5	80,130 units	2014	≥ 2,582	≥ 2,642	≥ 3,501	≥ 3,625
7. Additional length of MV distribution lines installed annually	Yes/ DLI 6	92,716 ckm	2014	≥ 1,860 ckm	≥ 2,010 ckm	≥ 2,044 ckm	≥ 2,121 ckm
8. Percentage of PLN staff who are competency certified by PLN increased to at least 95% by 2019	No	87.5%	2014	> 89%	> 91%	> 93%	≥ 95%
9. Timely completion of implementation of distribution system contracts increased annually	No	<10%	2014	> 10%	> 14%	> 19%	> 24%
Other Results (Financing for prior results)							
10. FPR: At least 25% of the contracts for the strengthening and expansion of the transmission system of the Sumatra grid are made effective in 2015	FPR	NA	NA	NA	NA	NA	NA
11. FPR: Procurement monitoring system for EGSS implemented ^a	FPR	NA	NA	NA	NA	NA	NA

Verified by an Independent Verification Agent

ckm = circuit-kilometer, DLI = disbursement-linked indicator, EGSS = Electricity Grid Strengthening—Sumatra Program, FPR = financing for prior results, GWh = gigawatt-hour, km = kilometer, kV = kilovolt, m = million, MV = medium voltage, NA = not applicable, PLN = State Electricity Corporation.

^a To achieve the FPR, the following have to be achieved, whereby: (i) PLN's procurement performance indicators agreed with ADB in line with PLN's guidelines, (ii) procurement baseline data for the first half of 2015 collected and made available to ADB, and (iii) procurement performance measurement targets for 2016–2019 agreed with ADB.

Sources: Asian Development Bank estimates, PLN management information systems, and RUPTL (Rencana Usaha Penyediaan Tenaga Listrik) 2015–2024.

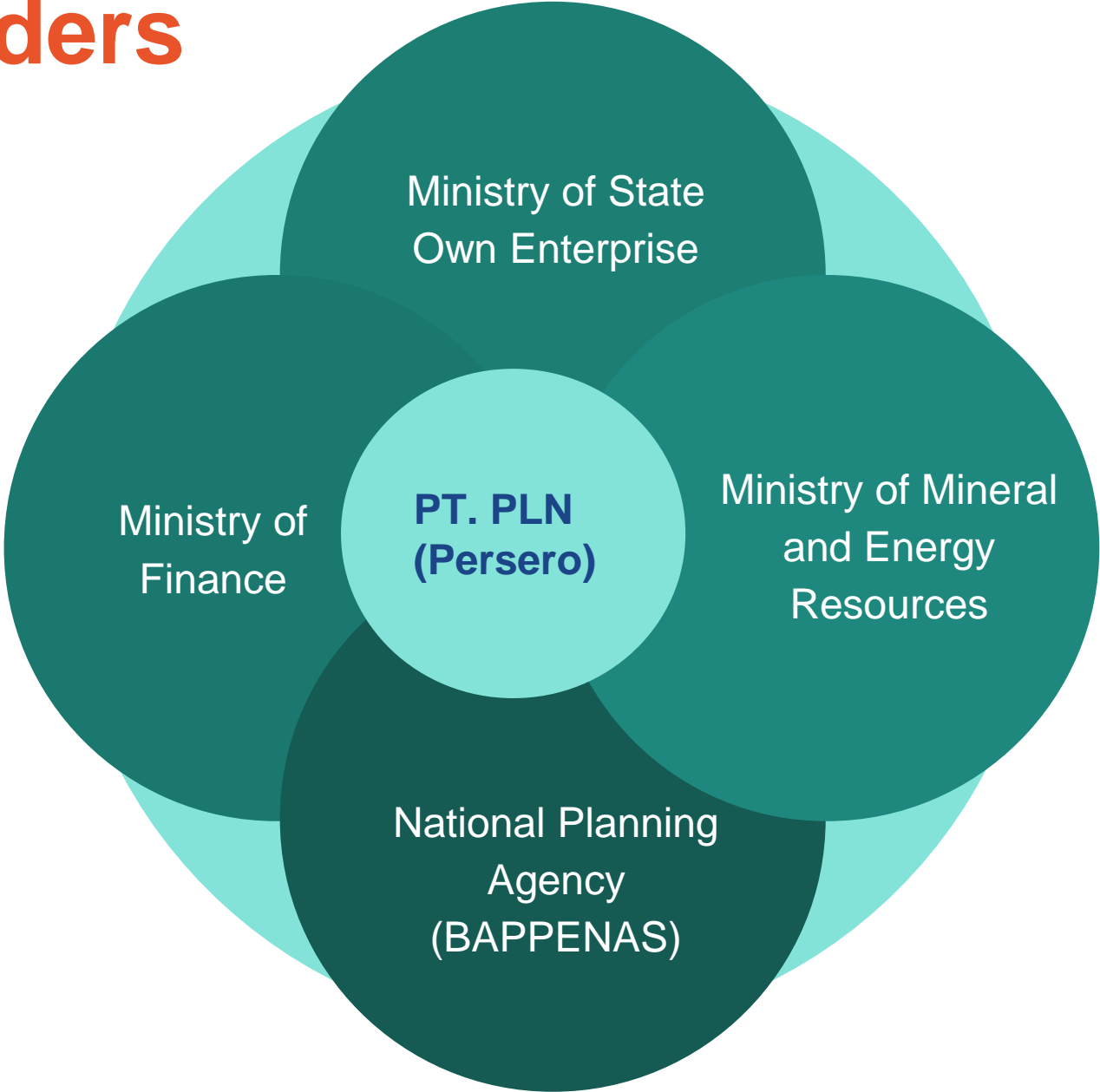
Program Action Plans



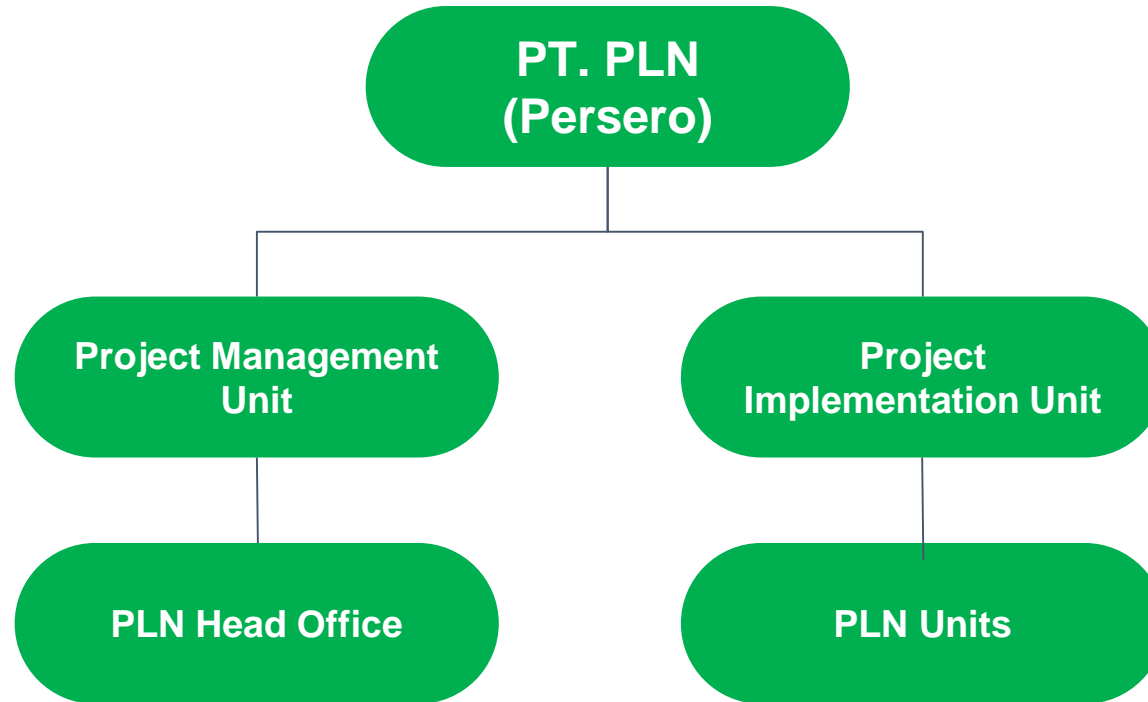
Technical	7 actions
Monitoring and evaluation	4 actions
Financing and partnerships	2 actions
Financial management	2 actions
Procurement	4 actions
Safeguards	7 actions

**Verified by an
Independent
Verification
Agent**

Key Stakeholders



Implementation Institutional Arrangements



Delivery Challenges and Approaches



Development Challenges and Solutions

01

Setting the DLI targets

- Setting a fair target that is challenging but achievable
- Continuous monitoring for result
- Risk mitigation for the DLI Targets

02

Setting the Program Action Plans

- Assessment with the right division and person
- Setting a continuous plan that can be implemented
- Management's engagement in the implementation

03

Monitoring and Evaluation

- Strengthening the monitoring system
- IVA as one of the tools to improve monitoring and evaluation



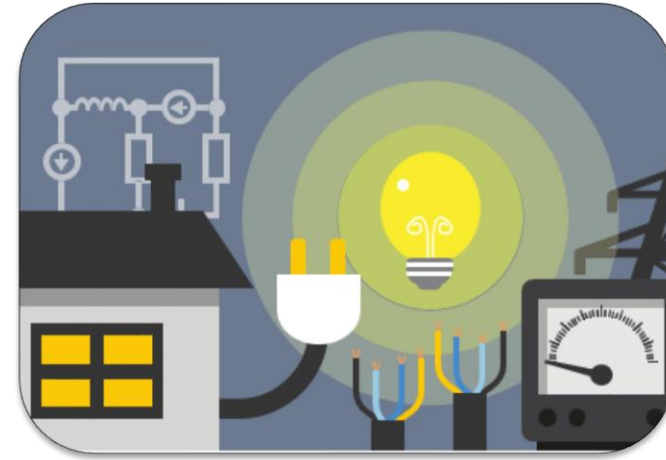
Lessons Learned – what went well



Use of Country System



Disbursement based on Results



Flexibility of the projects



Recommendations for future projects

Substations

Reliability Enhancement





*Thank you
electricity for a better life*



Evolution of DLI on ADB's RBL in PLN

RBL Sumatera	RBL SNT	RBL Kalimantan Maluku Papua
Number of PLN customers in Sumatra increase by at least 3% each year	Number of total customers increased by an average annual rate of at least 5.6% to reach at least 6.99 million customers by 2020	Number of PLN customers in KMP increased to reach at least 6.77 million customers by 2024
Residential energy sales grow by at least 3% each year from the preceding year	Total annual electricity sales increased by an average annual rate of at least 8.5% to reach at least 15,710 GWh by 2020, with an equal or higher growth rate for commercial customers to reach at least 3,234 GWh annual sales by 2020	An additional 112,428 poor households provided with PLN electricity by 2024, disaggregated by female/male headed households (supported by grant), of which at least 10% are female headed households
Number of MV feeder permanent interruptions per 100 km maintained at 2014 baseline level or improved	Feeder line permanent interruptions in the distribution system reduced by an average annual rate of at least 5% each year to reach less than 15.82/100 ckm by 2020	Feeder line permanent interruptions ^a in the distribution system reduced to reach less than 17.12 per 100 ckm by 2024
Additional length of MV distribution lines installed annually	Additional length of medium-voltage distribution lines installed increased by an average annual rate of at least 5.6% each year to reach at least 58,764 ckm by 2020, with an equal or higher growth rate in Lombok and Flores combined to reach at least 7,388 ckm by 2020	Installed length of MV distribution lines increased to reach at least 63,692 ckm by 2024
Additional number of distribution transformer units installed annually	Number of distribution transformer units installed increased by an average annual rate of at least 5.6% each year to reach at least 50,721 by 2020	Power generation from solar PVs (<10 MW) and micro hydro (<1 MW) increased
Cumulative length of 150 KV transmission lines reconducted	Asset and waste management improved with at least 90% of used PLN equipment from the 2016 disposal inventory safely disposed by 2021	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 having obtained permits from DLH
	Operational efficiency and resource optimization enhanced with digital pre-paid meter or smart meters use increased to at least 75% of total customers by 2021	By 2024, consumer education workshops on safe and productive energy use implemented in 5 UIWs and at UP3 clevel, with a minimum of 30% female participation for each workshop, based on a scoring system to promote female participation
	Pilot-scale smart grid projects implemented in at least 4 areas by 2021	E-Procurement and SAP systems are integrated and rolled out by 2020, and 80% of contracts in financial value are recorded in the E-Procurement+SAP system by 2024

Orange column indicates the same indicator

Evolution of PAP on ADB's RBL in PLN



Action Plans	Sumatera	Sulawesi & Nusa Tenggara	Kalimantan & Maluku-Papua
Program Scope	-	2	1
Technical	7	1	2
Program Results	-	2	2
Monitoring & Evaluation	4	4	1
Gender	-	-	1
Financial & Partnership	2	1	-
Financial Management	2	1	2
Procurement	4	4	3
Safeguards	7	10	5
Total	26	25	17