

## PROGRAM EXPENDITURE AND FINANCING ASSESSMENT

1. The program expenditure and financing assessment reviews the extent to which the proposed Sustainable Energy Access in Eastern Indonesia—Electricity Grid Development Program Phase 2 has a clearly defined expenditure framework for the Asian Development Bank (ADB) to support with results-based lending (RBL).

### I. Expenditure Framework

2. The State Electricity Corporation (Perusahaan Listrik Negara [PLN]) annually prepares a 10-year Electricity Power Supply Business Plan (Rencana Usaha Penyediaan Tenaga Listrik [RUPTL]), which guides development of power infrastructure to meet electricity demand,<sup>1</sup> and covers provincial electricity demand load forecasts; generation capacity expansion plans; and development plans related to transmission, substations, and distribution. The forecasts project the electricity infrastructure required to support the government's economic growth targets. Generation capacity is planned to meet electricity demand and the reserve margin on a least-cost basis. Development of the transmission system is planned to balance generation capacity and power requirements and meet specific reliability and quality criteria.

3. The proposed RBL program will enhance sustainable, equitable, and reliable access to electricity, supporting increased clean energy generation capacity and power grid delivery investment in Kalimantan, Maluku and Papua, with estimated investment of \$1,505 million for 2020–2025. This estimate includes only the engineering, procurement, and construction (EPC) costs. ADB and PLN also estimated other expenditure categories required to make the program operational (e.g., land acquisition, permits, consultants, project management, and overhead). In addition, to achieve the stated program results and maintain reliable access to electricity especially during the COVID-19 pandemic, eligible program expenditures were extended to include operation and maintenance costs until 2021 estimated at \$164 million, arriving at an RBL program cost estimate of \$2,275 million (Table 1).

**Table 1: Program Expenditure Framework, 2020–2025**

Item	PLN Total Program		RBL Program	
	Amount (\$ million)	Share of Total (%)	Amount (\$ million)	Share of Total (%)
Generation	1,707	33.3	449	19.8
Transmission	699	13.6	0	0.0
Distribution	1,162	22.7	1,162	51.1
Corporate Social Responsibility budget	3	0.1	3	0.1
Land acquisition	52	1.0	0	0.0
Project management	24	0.5	0	0.0
Monitoring and supervision	126	2.5	8	0.4
Environmental management	47	0.9	6	0.3
Interest during construction	601	11.7	287	12.6
Subtotal	4,422	86.2	1,916	84.2
Physical contingencies <sup>a</sup>	357	7.0	163	7.1
Price contingencies <sup>b</sup>	349	6.9	196	8.6
<b>Total</b>	<b>5,128</b>	<b>100.0</b>	<b>2,275</b>	<b>100.0</b>

ADB = Asian Development Bank, PLN = Perusahaan Listrik Negara, RBL = Results based loan

Note: numbers may not sum precisely because of rounding

<sup>a</sup> Based on 10% estimated physical contingencies (typical for this type of project).

<sup>b</sup> Based on ADB forecast domestic and international cost escalation factors.

Source: PLN and ADB estimates; PLN. 2018. *Electricity Power Supply Business Plan, 2018–2027*. Jakarta.

<sup>1</sup> PLN. *Electricity Supply Business Plan (RUPTL)*.

**Table 2: Results-Based Lending Program Expenditure Framework, 2020–2025**  
(\$ million)

Item	RBL Program	
	Amount	Share of Total (%)
<b>Distribution</b>		
A. Capacity Expansion	660	29.0
B. Capacity Strengthening	502	22.1
Renewable Generation <sup>a</sup>	450	19.8
Corporate Social Responsibility Budget	3	0.1
Monitoring and Supervision	8	0.4
Environmental Management	6	0.3
Interest During Construction	287	12.6
<b>Subtotal</b>	<b>1,916</b>	<b>84.2</b>
Physical contingencies <sup>b</sup>	163	7.1
Price contingencies <sup>c</sup>	196	8.6
<b>Total</b>	<b>2,275</b>	<b>100.0</b>

ADB = Asian Development Bank, PLN = Perusahaan Listrik Negara, RBL = Results based loan

Note: numbers may not sum precisely because of rounding

<sup>a</sup> Micro-hydro < 1MW and community-scale solar photovoltaic plants <10MW

<sup>b</sup> Based on 10% estimated physical contingencies (typical for this type of project).

<sup>c</sup> Based on ADB forecast domestic and international cost escalation factors.

Source: ADB and PLN estimates

**Table 3: Annual Breakdown of Engineering, Procurement, and Construction Costs, covering distribution and renewable generation**  
**2020–2025**  
(\$ millions)

Categories	2020	2021	2022	2023	2024	2025	Total
Distribution	165	266	173	178	182	188	1,055
Renewable Generation	49	31	22	0	0	348	450
<b>TOTAL</b>	<b>214</b>	<b>200</b>	<b>195</b>	<b>178</b>	<b>182</b>	<b>535</b>	<b>1,505</b>

Source: State Electricity Corporation (PLN) estimates for engineering, procurement and construction costs, calculated based on PLN. 2018. *Electricity Power Supply Business Plan, 2018–2027*. Jakarta.

4. **Effectiveness.** The Government of Indonesia aims to expand energy infrastructure by increasing investments in the energy sector. The RBL program will support this by strengthening the power grid in Eastern Indonesia, by focusing on the distribution system, increasing renewable energy generation capacity, and strengthening PLN's implementation capability. The resources will directly address energy security to achieve the program's development outcomes of sustainable, equitable and reliable access to electricity in Kalimantan, Maluku and Papua. The RUPTL, 2018–2027 is the foundation for the program and is based on detailed calculations of electricity demand and required transmission and distribution capacity. The calculations were determined and benchmarked against internationally accepted best practice. Therefore, the identified expenditures correspond with the planned results, and have a high probability of achieving the expected program results.

5. **Efficiency and economy.** The component-specific investment requirements determined for the program are based on a conventional technical design of medium and low voltage works that PLN deems to be the most cost-effective in terms of achieving the expected results. The distribution design is mostly overhead construction but could include some underground in specific urban areas. This follows standard international practice and is expected to reduce overall distribution losses (efficiency gains), improve reliability and quality of supply to the customer. The

private sector will continue to play an important role in Indonesia's energy sector for generation, but PLN holds a monopoly over the medium and low voltage distribution system. Therefore, it is the only agency responsible for network expansion and distribution investments (private sector operation of transmission and distribution systems is not considered).

6. **Adequacy.** PLN determined the EPC costs based on the optimal technical design for the forecasted electricity demand growth. PLN developed the technical program design in accordance with internationally accepted good practice. ADB and PLN calculated the additional cost items required to make the program fully operational (i.e., land acquisition, permits, consultants, project management, and overhead), based on estimates from previous operations in Indonesia. ADB considers the program expenditures to be realistic in terms of prioritization and coverage. The allocation of resources for the RBL program was determined to generate the expected results from the available funding sources. PLN has adequate implementation capacity and the absorption of funds is unlikely to be a challenge.

## II. Financing Plan

7. PLN has requested ADB to provide a direct loan of \$600 million from ADB's ordinary capital resources. The loan will be guaranteed by the Government of Indonesia and will support PLN's total program expenditure for the strengthening and development of power transmission, generation and distribution systems in Kalimantan, Maluku and Papua during 2020–2025. To further support the program, PLN has requested a \$3 million grant from the Japan Fund for Poverty Reduction and a \$3 million grant from Asia Clean Energy Fund; these grants will support the program's outputs and enhance achievements under the program's disbursement linked indicators and results framework. The ADB loan represents 7% of the total transmission, generation and distribution needs and 19% of the overall RBL expenditure requirements for Kalimantan, Maluku and Papua. ADB and grant financing is not linked to certain expenditure items but is an integral part of the program's overall financing plan (Table 3). PLN has shown historically strong budgeting and planning capabilities to transform their strategic priorities into results, as evidenced by two ADB RBL programs under implementation.<sup>2</sup>

**Table 3: Program Financing Plan**

Source	PLN Total Program		RBL Program	
	Amount (\$ million)	Share of Total (%)	Amount (\$ million)	Share of Total (%)
PLN <sup>a</sup>	3,239	63.2	1,669	73.4
ADB	600	11.7	600	26.4
Others <sup>b</sup>	1,283	25.0	0	0.0
Grants	6	0.2	6	0.2
<b>Total</b>	<b>5,128</b>	<b>100.0</b>	<b>2,275</b>	<b>100.0</b>

ADB = Asian Development Bank; PLN = State Electricity Corporation, RBL = results-based lending.

<sup>a</sup> From PLN's internal cash flows, commercial funding partners and equity injections from the government.

<sup>b</sup> Includes funding from the Islamic Development Bank, German development cooperation through KfW, and other bilateral and multilateral financial institutions.

Sources: ADB and PLN estimates.

8. **Predictability and sustainability.** The outlined RBL program financing plan is deemed predictable if PLN achieve the agreed disbursement-linked indicators. However, funding from ADB may not be available for disbursement until the indicators are achieved. In this situation, it is expected PLN will have sufficient liquidity to meet its ongoing capital requirements. This is

<sup>2</sup>ADB. Indonesia. Sustainable Energy Access in Eastern Indonesia–Electricity Grid Development Program (\$600 million); ADB. Indonesia. Electricity Grid Strengthening–Sumatra Program (\$600 million).

evidenced by its strong record in accessing the debt capital markets or arranging syndicated bank facilities. PLN is expected to finance 73% of the program from internal cashflows, the debt capital markets, syndicated and bilateral bank facilities, and development financial institutions. The Government of Indonesia is expected to support PLN's investment programs by providing guarantees on PLN debt, direct equity, compensation income, and tariff subsidies. Therefore, the funding for the broader program is assessed as sustainable and predictable.

9. **State Electricity Corporation's financial performance, 2016–2019.**<sup>3</sup> PLN's total operating revenues (including subsidies) increased from IDR 281,958 billion in 2016 to IDR 355,938 billion in 2019, a compound annual growth rate (CAGR) of 8%, with stable government subsidies of 21% of revenues between 2016 to 2019. PLN's total operating expenses increased from IDR 254,450 billion in 2016 to IDR 315,441 in 2019 (a 7% CAGR). The combined effect was an increase in PLN's operating profit from IDR 26,415 billion in 2016 to IDR 44,165 billion in 2019 (CAGR of 18.7%). Financing costs increased from IDR 27,512 billion in 2016 to IDR 35,318 billion in 2019 (CAGR of 8.7%), attributed to significant debt funded investment during the same period. Total net debt (which includes two-step loans, government loans, bank loans, medium-term notes, and bonds less cash) increased from IDR 232,604 billion in 2016 to IDR 407,574 billion in 2019 (CAGR of 20.6%). ADB has closely monitored PLN's financial condition since 2016, with PLN required to submit regular forecasts and quarterly actuals due to its highly leveraged cash flow position. PLN has reported a lower debt service coverage ratio than ADB's covenant level since FY2013. However, the ratio has never dropped below 1.0x, which indicates PLN has always generated enough cash flow to cover all its fixed obligations (debt service and IPP payments). This ratio will be adjusted from 1.5x to 1.2x in 2020, consistent with other regional vertically integrated electric utility excuting agencies. Retesting the debt service coverage ratio at the lower level of 1.2x, PLN would have been slightly below the 1.2x level for FY2016, FY2017 and FY2019. Key historical financial covenants and ratios are shown in Table 4.

10. On the 26 May 2020, Moody's Investors Service affirmed PLN's investment grade credit rating (Baa2), with a stable outlook<sup>4</sup>. PLN's credit rating benefits from an assessment of very high support from the Government of Indonesia (Baa2). PLN's credit profile is supported by its strategically important position as Indonesia's only vertically integrated electric utility. A long-standing subsidy payment mechanism ensures PLN's financial viability and operational soundness.<sup>5</sup> However, PLN's Baseline Credit Assessment (BCA) was downgraded to ba3 from ba2. This baseline assessment represents PLN's standalone credit assessment without government support. The downgrade reflects the company's weakening fundamentals, driven by a sharp decline in electricity demand over recent months, continued shortfall in receipts from the government and at the same time its increased dependence on government subsidies, as well as its very high leverage. PLN's debt levels are expected to increase, and its key credit metrics are likely to come under pressure in 2020. However, PLN continues to benefit from government support via subsidies, compensation income, capital injections, and credit guarantees on multilateral, bilateral and commercial debt.

11. Standard and Poor's (S&P) issued an updated credit opinion on the 24<sup>th</sup> July 2020, stating PLN has adequate liquidity to continue to meet principal and interest payments on its debt obligation. S&P also expects the government to continue timely and ongoing support to meet all

<sup>3</sup> Based on PLN's audited financial statements.

<sup>4</sup> Moody's Investors Service. 2020. *Credit Opinion: Update following ratings affirmation and downgrade of BCA - Perusahaan Listrik Negara (P.T.)*

<sup>5</sup> 2020 saw increased compensation income and subsidies for electricity consumption to compensate PLN for the government tariff freeze since 2018.

of PLN's obligations under all circumstances. PLN's credit rating of BBB was placed on negative outlook for the next 12-24 months reflecting the outlook on the sovereign rating of Indonesia. S&P highlights Indonesia's weak regulatory framework as a key weakness with the inability to generate a sustainable return on invested capital given the current tariff structure. Forecast capital expenditures are expected to half from 2019 levels due to the funding pressures experienced during the first half of 2020. Subsidies are critical for PLN as the company's earnings before interest, taxes, depreciation and amortization (before subsidies) are insufficient to meet its debt service requirements, due to losses incurred on the sale of electricity.

12. **Capital Markets.** In June 2020, PLN raised US \$1.5 billion across the 10 year and 30 year tenors. The deal was oversubscribed by more than 5 times and received tighter pricing than initial broker guidance. This was the first time PLN has accessed the debt capital markets since October 2019 and shows positive signs that traditional funding channels are opening up again after the COVID-19 shutdown. This is an important development due to the USD debt roll overs that need to be refinanced over the coming months and shows investors are still confident of continued government support for PLN.

13. In response to the threat of lower demand growth due to COVID-19, PLN has engaged McKinsey & Company to identify and implement strategies to release cash from the business. This mandate will improve PLN's visibility and management of cash flow, in addition to disciplined capital expenditure prioritization. ADB is also supporting PLN's finance department through TA-8977<sup>6</sup>. The objective of this TA is to improve PLN's business tools for greater risk insight and identify appropriate risk management strategies in response to increased market volatility.

**Table 4: State Electricity Corporation Financial Summary, 2016–2019**  
(IDR billion)

	2016	2017	2018	2019	CAGR <sup>a</sup>
<b>Income Statement Summary</b>					
Total operating income	282,536	305,510	360,641	356,693	8.1%
Total operating expenses	(226,938)	(246,313)	(277,444)	(280,123)	7.3%
Operating profit	27,508	28,969	51,647	40,497	13.8%
Net income after tax	8,150	4,428	11,576	4,322	(19.1)%
<b>Balance Sheet Summary</b>					
Net working capital	20,633	(8,182)	(6,118)	28,959	
Net debt	232,605	274,703	354,971	407,574	20.6%
Equity	878,399	869,417	927,414	929,380	1.9%
Total Assets	1,272,178	1,334,958	1,492,488	1,585,055	7.6%
<b>Cashflow Summary</b>					
Cash flow from operations	47,874	74,738	54,772	63,102	9.6%
Government subsidy received	58,043	45,738	71,275	73,965	8.4%
Cash flow from investing	(54,800)	(87,108)	(100,156)	(100,982)	22.6%
Cash flow from financing	36,342	64,238	80,418	107,008	43.3%
Net cash flow					
<b>ADB Covenants</b>	<b>Average</b>				

<sup>6</sup> TA-8977 REG: Knowledge Development Support for Southeast Asia - Corporate Model and Risk Analysis

Debt Service Coverage Ratio ( $\geq 1.5x$ )	1.18x	1.17x	1.72x	1.16x	1.31
Self-Financing Ratio ( $\geq 15\%$ )	(5.6)%	43.9%	4.0%	(15.9)%	61%
Debt to Equity Ratio ( $\leq 3.0x$ )	0.31	0.36	0.42	0.49	0.40

#### Key Financial Ratios

Subsidies / Revenues	25.9%	17.7%	24.7%	26.2%	23.6%
Operating profit margin	9.8%	9.5%	14.4%	11.4%	11.3%
Capex to Operating Revenue	19.4%	28.5%	27.8%	28.3%	26.0%
Return on Equity	0.9%	0.5%	1.3%	0.5%	0.8%
Return on Invested Capital	1.8%	1.8%	2.9%	2.2%	2.2%

( ) = negative, ADB = Asian Development Bank, CAGR = compounded annual growth rate

<sup>a</sup> The CAGR is measured during 2016–2019

Sources: State Electricity Corporation (Perusahaan Listrik Negara) audited financial statements.

14. **Electricity tariffs.** The Ministry of Finance is required to compensate PLN through a subsidy if the regulated price for electricity falls below the cost of production. Since 2013, the electricity subsidy has declined due to the stabilization of the average cost of electricity supply, as well as PLN's ability to pass on increases in inflation, commodity prices and the dollar–rupee exchange rate to (non-subsidized) consumers (the “automatic tariff adjustment mechanism”) through Ministry of Energy and Mineral Resources Regulation No. 31/2014. This subsidy includes a public service obligation (PSO) margin that was originally set (in 2009) at 5% above the cost of electricity supplied. The margin was increased to 8% for 2010 and 2011 and then reduced to 7% from 2012. Unfortunately, PLN's tariffs were frozen from 2018 and will likely remain at the 2018 price levels over the medium term. In response to the economic shocks attributed to COVID-19 the government announced that PLN will supply free electricity for three months from 24 April 2020 for 24 million households in the 450-volt ampere (VA) category and a 50% discount for 7 million households in the 900 VA category. The government is expected to compensate PLN in the form of PSO payments but it will place immediate cash flow pressures on PLN to fund the cost of supply until compensation income is paid.

15. **Key financial risks and mitigants for the State Electricity Corporation.** PLN was executing a significant debt funded investment program before the onset of COVID-19. The pandemic has adversely impacted electricity demand and operating costs, so PLN will have to revise its growth strategy as it adopts to the new normal. Currency depreciation and a slow down in demand growth remains the key risks for PLN. Power purchase agreements are denominated in USD's and have take or pay clauses which is placing increasing pressure on PLN's profit margins as the currency depreciates and demand softens. The depreciation in the IDR is also likely to lead to higher capital expenditure on imports and higher principal payments on foreign currency debt, which currently comprises of more than 60% of debt outstanding. However, the government continues to provide timely subsidy payments and equity infusions to support PLN. The government also maintains significant influence over PLN through various ministries, giving it multiple avenues to identify risks. The coordination between ministries within the Indonesian government is strengthening through active monitoring of financial health, covenant levels, and currency risk which provides greater confidence that issues will be identified early and enable government support for PLN on a timely basis.