

## PROGRAM RESULTS ASSESSMENT

### A. Program Results Framework

1. **Country results.** The Government of Indonesia uses three kinds of results frameworks for national development planning. The National Long-Term Development Plan (RPJPN), 2005–2025 has qualitative targets. It includes four 5-year national medium-term development plans (RPJMNs), which provide changing governments with programmatic and political flexibility. Each RPJMN has quantitative and qualitative targets aligned with the long-term plan. The RPJMN then forms the framework for annual government work plans of ministries, line agencies, and regional programs.<sup>1</sup> The RPJMN, 2015–2019 has several results areas and sets out 31 national 5-year goals, each with an action program.<sup>2</sup>

2. **Sector results.** The Energy Sector Action Program is linked to the infrastructure and environment action programs. Its stated goal in the RPJMN, 2015–2019 is “enhanced energy security.” Measures to achieve this include expanding energy infrastructure and investments, increasing energy efficiency and energy accessibility, diversifying the energy mix with new and renewable energy sources, reducing greenhouse gas emissions, and increasing private sector participation.

3. The longer-term goals of the energy sector are guided by a number of policies and plans including (i) Presidential Decree No 5/2006 on a national energy policy; (ii) the government’s Vision 25/25 Program; (iii) the government’s 20-year National Electricity Development Plan (RUKN), 2012–2031; and (iv) the Electricity Law 30/2009, which ended the legal monopoly of the State Electricity Corporation (PLN) over Indonesia’s power subsector and provides a legal basis for increased private sector participation.

4. **Medium-term results.** The Electricity Power Supply Business Plan (RUPTL) provides a 10-year electricity development plan for 2015–2024. The plan includes a 5-year electricity development plan with specific targets for 2015–2019.<sup>3</sup> Assuming the RUPTL, 2015–2024 economic growth rate assumption of 6.7% and growth in demand for electricity at 8.8%, the plan aims for (i) increasing the national electrification ratio from 84% in 2014 to 96.6% by 2019;<sup>4</sup> (ii) bringing an additional 42 gigawatts (GW) of generating capacity online by 2019;<sup>5</sup> (iii) increasing electricity sales from 219 terawatt-hours (TWh) in 2015 to 307 TWh in 2019; (iv) strengthening transmission networks, with additional transformer capacity by 2019: 45,863 megavolt-amperes (MVA) for extra-high-voltage substations and 62,926 MVA for high-voltage substations; and (v) strengthening the distribution network with additional transformer capacity of 20,751 MVA by 2019 (footnote 3). Of the additional electricity coming online, the share produced by the private sector is to increase from 15% in 2015 to 58% by 2019 (footnote 3).

5. **Results areas in national electricity planning.** PLN has a series of key performance

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<sup>1</sup> A. S. Alisjahbana. 2014. Presentation at the International Conference on Economic Modelling, Bali. 18 July.

<sup>2</sup> Government of Indonesia, Bappenas. 2015. *Medium-Term National Development Plan, 2015–2019*. Executive Summary. Jakarta.

<sup>3</sup> State Electricity Corporation (PLN). 2015. *Electricity Power Supply Business Plan, 2015–2024*. Five-Year Electricity Development Plan, 2015–2019. Jakarta.

<sup>4</sup> About 42 million people still lack access to electricity in Indonesia. Electrification ratios are 97% in Malaysia, 100% in Singapore, 96% in Thailand, and 98% in Viet Nam.

<sup>5</sup> Government sources.

indicators (KPIs) that it uses to track corporate results areas:

6. **Results area 1: Enhanced customer focus and services.** Progress is tracked by KPIs relating to customer satisfaction, number of customers, recovery time, wait times for connections to medium- and low-voltage networks, system average interruption duration index (SAIDI), system average interruption frequency index (SAIFI), and number of feeder technical interruptions.

- (i) **Results area 2: Increased product and process effectiveness.** Progress is tracked by KPIs on electricity sales, distribution losses, frequency of interruptions per 100 km, and proportion of transformers not operating or out of service.
- (ii) **Results area 3: Enhanced human resource management.** KPIs relate to the productivity of employees, human capital readiness, and organization capital readiness.
- (iii) **Results area 4: Improved financial management.** KPIs relate to operating expenditures, the basic cost of electricity production, the average selling price per kilowatt-hour, the accounts receivable collection period, inventory turnover, and progress in project and contract implementation.
- (iv) **Results area 5: Enhanced leadership performance.** This is tracked by progress in implementing leadership programs such as Enterprise Risk Management, K2 Leadership Development, Compliance Leadership, and the Criteria for Performance Excellence Initiative (KPKU).

7. **Results-based lending program focus.** Indonesia comprises about 17,504 islands spread across three time zones. It has an energy system made up of separate island grids. Sumatra accounts for about 25% of the country's gross domestic product (GDP) and in 2013 had the second-largest electricity system in the country with an installed capacity of 6,000 megawatts (MW). Areas in northern Sumatra are continuing to experience power shortages (with an average deficit of 250 MW) and outages, with PLN struggling to meet the demand for increased electricity. Furthermore, the south has surplus power that cannot be delivered to the north due to the absence of a strong transmission backbone. The government is keen to boost Sumatra's productivity by strengthening its power grid and increasing the capacity to around 15,000 MW by 2022. However, financing needs are large. According to the RUPTL, 2015–2024 the capital expenditure investment needs for transmission and distribution for Sumatra during 2015–2019 total \$7.36 billion. Over the same period, PLN estimates that the overall expenditure for the program is approximately \$10.834 billion. The proposed program will focus on supporting the strengthening of the Sumatra power grid. The RBL modality is appropriate given (i) PLN's and the government's strong ownership of the 42 GW program; (ii) the government's desire to shift to direct lending for ease of efficiency and simplification of the project approval process; (iii) the opportunity to improve institutional capacity and country fiduciary systems; and (iv) the presence of the World Bank, Japan, German development cooperation through KfW, and other development partners in the power subsector.

8. **Program results framework.** For the program impact, the program is aligned with the RUPTL's goal of enhancing quality of life in Indonesian society by using electricity sustainably as a key driver of increased economic activity. The expected program outcome is the achievement of an adequate and reliable power supply for Sumatra. This adequacy and reliability is defined by the outcome indicators, which are measured against realistically set targets in the Program Results Framework.<sup>6</sup> Three levels of output results make up the results

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<sup>6</sup> Program Results Framework (accessible from the list of linked documents in Appendix 2 of the report and recommendation of the President).

chain below the outcome, articulating the program's contributions to the overall outcome. This means that if all three outputs are fully achieved and if risks are well managed, then Sumatra will have an adequate and reliable power supply.

9. The outcome is linked to all five results areas in the national electricity results framework. Program progress in Sumatra will contribute especially to the national results areas 1 and 2 (enhanced customer focus and services, and increased product and process effectiveness). The outcome indicators in the Program Results Framework are identical or similar to the KPIs used by PLN in their own results areas (increase in number of customers, electricity sales, and customer satisfaction).

**10. Program results area 1: Existing transmission system strengthened and expanded.** Output 1 will contribute to PLN's efforts to strengthen and expand the existing transmission system by (i) reconductoring existing 150 kilovolt (kV) transmission lines; (ii) extending 150 kV and 275 kV substations; (iii) installing 150 kV and 275 kV reactors and capacitors; and (iv) expanding outgoing 20 kV switchgear at existing 150 kV substations. This results area addresses the lack of financing for transmission system expansion. Achieving this expansion for Sumatra will contribute to the government's efforts to extend the transmission network, connect Sumatra to the Java–Bali grid by 2020 with a high-voltage direct current link with a capacity of 3,000 MW,<sup>7</sup> and connect Sumatra to Peninsular Malaysia with another high-voltage direct current link with proposed capacity of 600 MW (footnote 3).

11. The KPI in this results area reflects infrastructure improvements to be brought about by the program, notably, circuit-kilometers of 150 kV transmission lines to be reconducted by the program. The number of medium-voltage feeder interruptions, measured as part of results area 2, reflects improvements in the transmission system. This program results area fits into PLN's results area 1: "enhanced customer focus and services."

**12. Program results area 2. Existing distribution system strengthened and expanded.** Output 2 will contribute to PLN programs for expanding and reinforcing the existing medium-voltage (20 kV) and low-voltage distribution network, the installation of distribution transformers, the installation of service connections and feeders, and the installation of customer meter boxes and circuit breakers. This results area addresses the lack of financing for distribution system expansion and the resulting negative impact on Sumatra's population and businesses, which are encountering overloading and unreliability issues. PLN's distribution network has begun to deteriorate because of lack of upkeep; it urgently requires heavy network investment to ensure that additional generation capacity can actually translate into the delivery of more and better quality supply to consumers.

13. KPIs in this results area include increases in the number of additional distribution transformer units installed, reduction in the number of medium-voltage feeder technical interruptions per 100 kilometers of line maintained at 2014 baseline level or improved, and the additional length of medium-voltage lines installed, all of which are tied to improvements in the distribution system. This second results area fits into PLN's results areas 1 and 2: enhanced customer focus and services, and increased product and process effectiveness.

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<sup>7</sup> ADB. 2015. Draft Indonesia Energy Sector Assessment, Strategy, and Road Map (condensed version). Manila. 19 January.

**14. Program results area 3. Performance management and implementation improved.**

Output 3 will focus on accelerating PLN staff training and certification programs, as well as on strengthening contract implementation processes. This will contribute to PLN's overall efforts to increase staff productivity, improve human capital readiness, and strengthen institutional capacity. This results area also addresses some implementation-related issues. First, the proportion of competency-certified PLN employees needs to increase, especially those in critical positions, such as substation operators. Second, less than 10% of implementation contracts are completed on schedule. KPIs in this results area reflect these two issues. PLN procurement system will also be strengthened using RBL with the development of a procurement monitoring framework needing quarterly reporting. This results area fits into PLN's results areas 3 and 4: enhanced human resource management, and improved financial management.

**15. Flexibility and sustainability.** The program's results framework has been developed so that its results chains fit with the RUPTL, 2015–2024 and align with the broader national planning frameworks of the 5-year RPJMN, 2015–2019. As part of PLN's programs to strengthen Indonesia's power grid, the program should not be viewed in isolation, but rather as part of a long-term engagement by ADB and its partners to (i) contribute to reliable and uninterrupted provision of electricity, (ii) support interregional and intraregional development, and (iii) improve the well-being and livelihoods of communities in Sumatra. Sufficient flexibility has been built into the program, notably in the formulation of outputs and outcome, and in the formulation and targets of the disbursement-linked indicators (DLIs), which will allow yearly progress to be made at PLN's own pace toward achievement of the final 4-year target.

**B. Disbursement-Linked Indicators**

16. Altogether 11 indicators were carefully selected, refined, and sequenced to align with areas crucial for successful implementation of the program; six of the indicators are DLIs directly linked to loan disbursements during implementation. The six DLIs comprise three outcome indicators and three output indicators. The following criteria were used for each DLI: (i) the indicator must be SMART;<sup>8</sup> (ii) to the extent possible, the indicator should go beyond infrastructure and equipment to reflect progress in meeting consumer needs; and (iii) the indicator should be easily available in the PLN system. In addition, two process indicators on strengthening PLN's procurement system and program implementation are included as financing of prior results and are linked to disbursement in the preparatory phases of the program. The remaining three indicators are for performance monitoring only and are not linked to loan disbursements. Overall, the DLIs and the other performance indicators provide robust and realistic measures of progress toward program outputs and outcome.

17. **Focus.** Table 1 shows the DLIs that reflect the critical factors to achieve the overall program results.

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<sup>8</sup> SMART = specific, measurable, achievable, relevant, and time-bound. Source: ADB. 2015. *Updated Design and Monitoring Framework Guidelines*. Manila.

**Table 1: Disbursement-Linked Indicators**

<b>Indicator</b>	<b>Disbursement Allocated</b> (\$ million)	<b>Share of Total ADB Financing</b> (%)
<b>Outcome</b>		
DLI 1 Number of PLN customers in Sumatra increase by at least 3% each year	120.0	20.0
DLI 2 Residential energy sales grow by at least 3% each year from the preceding year	72.0	12.0
DLI 3 Number of medium-voltage feeder permanent interruptions/100 km maintained at 2014 baseline level or improved <sup>a</sup>	48.0	8.0
<b>Outputs</b>		
DLI 4 Cumulative length of 150 kV transmission lines reconductored	180.0	30.0
DLI 5 Additional number of distribution transformer units installed annually	120.0	20.0
DLI 6 Additional length of medium-voltage distribution lines installed annually <sup>a</sup>	60.0	8.0
<b>Total</b>	<b>600.0</b>	<b>100.0</b>

ADB = Asian Development Bank, DLI = disbursement-linked indicator, km = kilometer, kV = kilovolt, PLN = *Perusahaan Listrik Negara* (State Electricity Corporation).

<sup>a</sup> PLN generally defines medium-voltage as 20 kV.

Sources: Asian Development Bank estimates, PLN management information systems, and Electricity Power Supply Business Plan (RUPTL), 2015–2024.

### C. Managing Risks and Improving Capacity

18. The program is the first energy sector RBL program. Introducing this new approach requires a paradigm shift among counterparts, especially in dealing with DLIs that may also bring some risks. Overall, the program-related risks are assessed as moderate to substantial. The risks related to program results include (i) underestimations of growth trends in the economy and in the customer base (population and businesses); (ii) inadequate commitment and ownership among the counterparts due to a failure to understand the way RBL works; (iii) inadequate institutional capacity and insufficient staff competency resulting in implementation delays and extra costs; (iv) undue delays in delivery and logistics; and (v) unforeseen increases in the prices of commodities, supplies, transportation, and wages. The risk that PLN's funding targets may not be met would undermine the program, since PLN will fund a significant portion of the Sumatra program and most of the inputs. Measures to mitigate these and other risks have been integrated in the program. For instance, the risk that PLN's funding targets may not be met will be managed by having open lines of communication with the Ministry of Finance and PLN and, if necessary, scaling-up this program and mobilizing additional financing from other partners, such as private sector partners. A fuller risk assessment is provided in the Integrated Risk Assessment and Mitigating Measures.<sup>9</sup>

<sup>9</sup> Integrated Risk Assessment and Mitigating Measures (accessible from the list of linked documents in Appendix 2 of the report and recommendation of the President).