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IMPLEMENTATION COMPLETION AND RESULTS REPORT
(IBRD-85570)

ON A LOAN

IN THE AMOUNT OF US\$500 MILLION

TO THE

REPUBLIC OF INDONESIA

FOR A

FIRST INDONESIA SUSTAINABLE AND INCLUSIVE ENERGY
DEVELOPMENT POLICY LOAN

June 26, 2019

Macroeconomics, Trade and Investment Global Practice
Energy and Extractives Global Practice
East Asia and Pacific Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective, as of June 26, 2019)

Currency Unit		Rupiah (IDR)
US\$ 1.00	=	IDR 14,125

FISCAL YEAR

January 1 - December 31

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ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
AFD	Agence Française de Développement (French Development Agency)
BKPM	Badan Koordinasi Penanaman Modal (Indonesia Investment Coordinating Board)
BPP	Amount of Cost of Generation Provision
CMEA	Coordinating Ministry for Economic Affairs
CoP	Conference of the Parties
CR PSC	Cost Recovery Production Sharing Contracts
CPF	Country Partnership Framework
DMO	Domestic Market Obligation
DPL	Development Policy Loan
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GoI	Government of Indonesia
GS PSC	Gross Splits Production Sharing Contracts
GW	Giga-Watt
IBRD	International Bank for Reconstruction and Development
ICR	Implementation Completion and Results
IDR	Indonesian rupiah
IMWG	Inter-Ministerial Working Group
IPF	Investment Project Financing
IPP	Independent Power Producer
KfW	Kreditanstalt Für Wiederaufbau (German Development Bank)
MEMR	Ministry of energy and mineral resources
MoF	Ministry of finance
PBR	Performance-Based Regulation
PEFA	Public Expenditure and Financial Accountability
P4R	Program for Results
PGN	Perusahaan Gas Negara
PLN	Perusahaan Listrik Negara (State Electricity Company)
PPA	Power Purchase Agreement
PSC	Production Sharing Contract
PSO	Public Service Obligation
RPJMN	Rencana Pembangunan Jangka Menengah Nasional (National Medium-term Development Plan)
RUKN	Rencana Umum Ketenagalistrikan Nasional (National General Plan for Electricity)
RUPTL	Rencana Umum Pembangunan Tenaga Listrik (PLN Long Term Business Plan)
SCD	Systematic Country Diagnostics
SIEDPL	Sustainable and Inclusive Energy Development Policy Loan
SKK Migas	Satuan Kerja Khusus Pelaksana Kegiatan Usaha Hulu Minyak dan Gas Bumi (State Oil and Gas Regulator)
SOE	State-Owned Enterprise
TA	Technical Assistance
UPD	Unified Poverty Database
USD	United States Dollar
VA	Volt Ampere
WB	World Bank
yoy	Year-on-year



Indonesia
Indonesia Energy Sector DPL

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A. BASIC INFORMATION

Country:	Indonesia	Program Name:	Indonesia Energy Sector DPL
Program ID:	P154291	L/C/TF Number(s):	IBRD-85570
ICR Date:	June 2019	ICR Type:	Core ICR
Financing Instrument:	DPL	Borrower:	REPUBLIC OF INDONESIA
Original Total Commitment:	USD 500.00M	Disbursed Amount:	USD 500.00M
Revised Amount:	USD 500.00M		

Implementing Agencies:

Coordinating Ministry for Economic Affairs
Ministry of Finance

Cofinanciers and Other External Partners: The DPL series was prepared in coordination with the Asian Development Bank (ADB), the French Development Agency (*Agence Française de Développement*, AFD), and Germany's Development Bank (KfW). Total financing of the series by the three co-financiers was: ADB (US\$ 1 billion), AFD (US\$ 250 million) and KfW (US\$ 200 million and Euro 200 million).

B. KEY DATES

Process	Date	Process	Original Date	Revised / Actual Date(s)
Concept Review:	04/20/2015	Effectiveness:		01/04/2016
Appraisal:	10/27/2015	Restructuring(s):		
Approval:	12/01/2015	Mid-term Review:		
		Closing:	06/30/2016	09/30/2018

C. RATINGS SUMMARY

C.1 Performance Rating by ICR

Outcomes: Moderately Satisfactory

Risk to Development Outcome: High

Bank Performance: Moderately Satisfactory

Borrower Performance: Moderately Satisfactory



C.2 Detailed Ratings of Bank and Borrower Performance (by ICR)

Bank	Ratings	Borrower	Ratings
Quality at Entry:	Moderately Satisfactory	Government:	Moderately Satisfactory
Quality of Supervision:	Moderately Unsatisfactory	Implementing Agency/Agencies:	Moderately Unsatisfactory
Overall Bank Performance:	Moderately Satisfactory	Overall Borrower Performance:	Moderately Satisfactory

C.3 Quality at Entry and Implementation Performance Indicators

Implementation Performance	Indicators	QAG Assessments (if any)	Rating
Potential Problem Program at any time (Yes/No):	No	Quality at Entry (QEA):	None
Problem Program at any time (Yes/No):	No	Quality of Supervision (QSA):	None
DO rating before Closing/Inactive status:			

D. SECTOR AND THEME CODES

	Original	Actual
Sector Code (as % of total Bank financing)		
Energy and Extractives		
Other Energy and Extractives	63	63
Renewable Energy Wind	6	6
Renewable Energy Solar	6	6
Renewable Energy Geothermal	6	6
Oil and Gas	13	13
Renewable Energy Biomass	6	6
Theme Code (as % of total Bank financing)		
Economic Policy	8	8
Economic Growth and Planning	4	4
Migration, Remittances and Diaspora Engagement	4	4
Fiscal Policy	4	4
Subnational Fiscal Policies	4	4
Environment and Natural Resource Management	40	40
Climate change	40	40
Mitigation	40	40
Human Development and Gender	4	4
Labor Market Policy and Programs	4	4
Labor Market Institutions	4	4
Private Sector Development	41	41
Business Enabling Environment	37	37
Regulation and Competition Policy	37	37
Jobs	4	4



Youth Employment	4	4
Public Sector Management	6	6
Public Administration	6	6
Transparency, Accountability and Good Governance	6	6

E. BANK STAFF

Positions	At ICR	At Approval
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F. RESULTS FRAMEWORK ANALYSIS

Program Development Objectives

The DPL series aimed to address key energy sector challenges through institutional and policy reforms with four objectives:

- A. Reducing the fiscal cost of electricity provision;
- B. Improving the investment climate in the energy sector;
- C. Removing constraints to renewable energy expansion;
- D. Expanding access to modern, reliable energy.

Revised Program Development Objectives

The PDOs were not revised.



PDO indicators

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
PILLAR A Fiscal Sustainability - Reducing the fiscal cost of electricity provision				
Indicator A1:	Reduction in the electricity subsidy transferred from the government budget to PLN as electricity tariffs move toward economic cost.			
Value	IDR 79 trillion (PD) IDR 101 trillion (actual) ¹	IDR 40 trillion	Not revised	Target date 2016: IDR 58 trillion Closing date 2018: IDR 48 trillion
Date achieved	2013	2016		
Comments (incl. % achievement)	Partially achieved: Revised baseline was higher than in the PD (IDR 101 vs 79 trillion). Electricity subsidies were cut by 43% in nominal terms between 2013 and 2016 (resp. 54% between 2013 and 2018), compared to a target reduction of 49 percent.			
Indicator A2:	PLN tariffs and electricity subsidy calculation are based on efficient benchmarks for network losses, thermal plant efficiency, operational expenses, and a productivity improvement factor approved under a Performance-Based Regulatory (PBR) framework.			
Value	No	Yes	Not revised	Target date 2017: No Closing date 2018: No
Date achieved	2013	2017		
Comments (incl. % achievement)	Not achieved: While the Ministry of Finance adopted PBR regulation in 2015 (MoF PMK195/2015), it has not been implemented. A regulation revoking the original PBR was issued in 2017 (MoF44/ PMK#02/2017-article 26) which applies PBR on a pilot basis.			
PILLAR B Investment Climate - Improving the investment climate in the energy sector				
Indicator B1:	PLN enters into new long-term agreements for domestic and/or inter-island gas supply, as measured by the daily gas volume to be supplied under new contracts or contract extensions signed after December 2015 of 5-years or greater duration.			
Value	Zero	125 million cubic feet per day	Not revised	Target date -12/31/2016: >218 million cubic feet per day Closing date - 12/31/2018: > 218 million cubic feet per day
Date achieved	2013	End-2016		
Comments (incl. % achievement)	Achieved. PLN has contracted gas for the Jawa 2 power plant from BP's Tangguh project, which will rise in 2020 from 17 million cubic feet per day (mmscfd) to 218 mmscfd. This and other gas sales agreement were made in 2016.			
Indicator B2:	Reduction by half in the number of days, as stated in the regulations, to process a (gas) IPP license			
Value	600 days	300 days	Not revised	Before July 2018: 350 days After July 2018: 145 days
Date achieved	2015	2016		
Comments (incl. % achievement)	Achieved with a lag: A business identification number can be obtained in 25 days and investment licenses in 5 days. However, in the case of a power project, an additional environment license is required, which takes up to 115 days.			
PILLAR C Renewable Energy - Removing constraints to renewable energy expansion				
Indicator C1:	Geothermal power projects are developed according to the provisions of the Geothermal Law of 2014			
Value	No	Yes	Not revised	2017 target date: No

¹ The baseline in the project document was shown as IDR 79 trillion. This figure was adjusted to IDR 101 trillion following an audit of PLN's 2013 accounts.



Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
				2018 closing date: Yes
Date achieved	2013	2017		
Comments (incl. % achievement)	<u>Achieved:</u> 31 geothermal projects have been assigned totaling 1475 MW (compared to an installed geothermal generation capacity of 1948.5 MW) of which 715 MW (or 48.5%) to the private sector. Of these, 16 projects were assigned before 2017.			
PILLAR D	Access - Expanding access to modern, reliable energy.			
Indicator D1:	Increase in the Government-measured household electrification rate			
Value	84.35 percent (MEMR figure)	92.75 percent (MEMR target)	Not revised	2017: 95.3% 2018: 98.3% (MEMR figures)
Date achieved	2014	2017		
Comments (incl. % achievement)	<u>Achieved:</u> The electrification rate reached 95.3 percent in 2017 and 98 percent in 2018. PLN, supplied 97.6% of all electrified households and the remainder by other entities (local governments, mini-grid operators, or using stand-alone household systems)			

G. RATINGS OF PROJECT PERFORMANCE IN ISRs

No.	Date ISR Archived	DO	IP	Actual Disbursements (USD millions)
P154291	No ISR	Not Applicable	Not Applicable	USD 500.00M

H. RESTRUCTURING (IF ANY)

Not Applicable



1. PROGAM CONTEXT, DEVELOPMENT OBJECTIVES AND DESIGN

1. This Implementation Completion and Results Report (ICR) assesses the results of the programmatic series of Sustainable and Inclusive Development Policy Loans (SIEDPL) to the Republic of Indonesia. The SIEDPL aimed to: (i) reduce the fiscal cost of electricity provision; (ii) improve the investment climate in the energy sector; (iii) remove constraints to renewable energy expansion; and (iv) expand access to modern, reliable energy. The SIEDPL series was planned to comprise two operations. The first operation of US\$ 500 million (SIEDPL-1) was approved by the World Bank Board of Directors on December 1, 2015. The second operation (SIEDPL-2) was dropped.

1.1 Context at Appraisal

Program Context

2. **Upon taking office in 2014, the government set out a package of ambitious efficiency-enhancing structural reforms in the energy sector.** Elected in October 2014, President Jokowi's electoral program, the "Nawa Cita", was reflected in the National Medium-term Development Plan (RPJMN) for 2015-2019 which sets out the new development strategy. The RPJMN 2015-19 regarded the energy sector as a key building block for economic development, and its key goals were to: (a) reliably and efficiently meet rising energy demand by expanding domestic supply of primary energy through increased domestic oil and gas production; (b) transition towards a sustainable energy sector development path through increased use of domestic gas, renewable energy and scaling up energy efficiency measures; (c) make the energy sector more efficient and competitive; and (d) achieve nearly universal access to electric power. To achieve its development objectives, the Government placed a high priority in cutting inefficient subsidies and increasing investment in the power sector, including from the private sector. In addition, in preparation for the Conference of the Parties (CoP) in Paris, GoI made an unconditional commitment to reducing Greenhouse gas (GHG) emissions by 29 percent by 2030 —compared to the business as usual scenario — and identified the promotion of clean and renewable energy sources among the key measures to achieve this target².

3. **In this context, the SIEDPL focused on addressing binding policy and institutional constraints to making the energy sector more inclusive and sustainable (both fiscally and environmentally).** An early priority for the government was to reduce the fiscal cost of the poorly targeted energy subsidies, which had reached 3.9 percent of GDP in 2014, and reallocate the savings to pressing development needs such as infrastructure and social spending. To meet growing electricity demand, GoI placed priority on an ambitious program to increase generation capacity by 43 GW by 2019, of which about 60 percent was to be coal-fired (n.b. coal already accounted for over half the generation fuel mix in 2014). GoI also recognized that enabling Indonesia's transition to a more sustainable and inclusive energy development path required unlocking opportunities for alternatives to coal-fired generation as quickly as possible. This required strengthening the policy environment to unlock the country's significant endowment of renewable and gas resources.

4. **The first SIEDPL operation was prepared and approved during a period of strong reform momentum.** Within a month of taking office, the Government increased gasoline prices by 30 percent and diesel prices by 36 percent to close the gap with international prices. Gasoline subsidies paid through the government budget were then fully eliminated in the Java-Madura-Bali (Jamali) area in central Indonesia and an automatic price adjustment mechanism was adopted. Electricity subsidies were eliminated for several

² also announced a conditional reduction of an additional 12 percent subject to certain provisions in an anticipated global agreement.



classes of consumers between 2014 and 2015 and an automatic price adjustment mechanism was adopted. A new Geothermal Law was also adopted in 2014 which aimed to unlock geothermal power generation given its direct substitutability to coal. A program to streamline business licensing procedures focused on the energy sector was also initiated. The new government also launched a large infrastructures program, reforms in tax collection, and social protection.

5. **Indonesia’s macroeconomic framework has remained robust during the program period**, with growth averaging 5.05 percent during 2015-2018, driven by an investment growth and stable private consumption. After the peaks in 2014-2015 at above 6 percent, inflation was subdued and contained at 3.5 percent on average during 2016-2018, thanks to the slightly negative output gap, stable food prices, and sound monetary policy which helped to offset the increase in electricity prices. Gradual export recovery since 2015 helped to limit the current account deficit to 1.8 percent of GDP on average 2015-2017 while in 2018 import grew faster than export (notably non-oil and gas) which led to a wider current account deficit of -3 percent.

6. **The fiscal deficit has also remained contained 2.4 percent of GDP during 2015-2018 thanks notably to the subsidies reform.** Energy subsidies that accounted for 3.2 percent of GDP in 2014 (fuel 2.3 percent and electricity 1 percent) were significantly reduced, to 1 percent in 2015 then gradually to 0.7 percent in 2017, while in 2018 subsidies reform suspension led to a slight increase of the subsidies to 1 percent. Combined with other current expenditures increase (interest for instance increased from 1.3 percent in 2014 to 1.7 percent in 2017), public debt has continued to rise, from 24.7 percent of GDP in 2014 to 29.8 percent in 2015.

Rationale for Bank Assistance

7. **The program was consistent with the findings of the Systematic Country Diagnostic (SCD) and closely linked to the Country Partnership Framework (CPF) and its objectives.** As set out in the SCD (2015), the energy sector development is at the top of the government’s infrastructure priorities and one of the major bottlenecks to growth, shared prosperity and human capital formation. This engagement links with SCD Pathway 1 “job creation by addressing one of the biggest constraints to growth and the creation of high productivity jobs” and Pathway 2 “service delivery and opportunity for all” particularly in its access agenda. The SIEDPL falls in the WB engagement area 2 “sustainable energy and universal access” of the CPF for FY2016-FY20. The SIEDPL program benefited from long-standing and in-depth TA and analytical work and by the experience of energy sector investments by the IFC and IBRD, for example, in geothermal and distribution.

8. **The program was part of a coordinated package of policy-based operations with other development partners.** The Asian Development Bank, AfD and KfW prepared policy-based operations against a substantially similar set of policy actions (ADB: US\$500 million, AFD: US\$100 million and KfW: US\$200 million). While the Bank dropped the second operation after an initial extension of delivery date, the three other partners jointly prepared and financed a second operation in 2017 (ADB US\$500 million, AFD US\$150 million, KfW €200 million) on the basis of a matrix with more gradual reform steps. Moreover, analytical and TA activities have been coordinated between the partners.

1.2 Original Program Development Objectives (PDO) and Key Indicators

9. **The Program Development Objective (PDO) of the series was to address key energy sector challenges through institutional and policy reforms.** The PDO was supported by four pillars: (A) Reducing



the fiscal cost of electricity provision; (B) Improving the investment climate in the energy sector; (C) Removing constraints to renewable energy expansion; and (D) Expanding access to modern, reliable energy.

10. **Six key indicators were associated to the PDO**, as indicated in the Table F on Results Framework: (A1) Reduction in the electricity subsidy transferred from the government budget to PLN as electricity tariffs move toward economic cost; (A2) PLN tariffs and electricity subsidy calculation is based on efficient benchmarks for network losses, thermal plant efficiency, operational expenses, and a productivity improvement factor approved under a PBR framework; (B1) PLN enters into new long-term agreements for domestic gas supply, as measured by the daily gas volume to be supplied under new contracts or contract extensions signed after December 2015 of 5-years or greater duration; (B2) Reduction by half in the number of days, as stated in the regulations, to process a (gas) IPP license; (C1) Geothermal power projects are developed according to the provisions of the Geothermal Law of 2014; and (D1) Increase in the Government-measured household electrification rate.

1.3 Revised PDOs and Key Indicators, and reasons/justification

11. The PDOs and indicators were not revised.

1.4 Original Policy Areas Supported by the Program

12. **The four pillars were supported by six following policy areas.** The program's reforms implementation status is presented in the section 2.1 with Tables 2 and 3, the achievements in the section 3.2, and the PDO outcomes indicators are reported in the Table F.

13. **Policy Area A1: Reducing subsidies and moving to cost-reflective tariffs for electricity.** The electricity subsidies have been poorly targeted (averaging 1 percent of GDP at the time of PD), have imposed a significant opportunity cost on public spending, has weakened the PLN's financial situation and its capacity for new investment, and have been imposing substantial constraints on the renewable energy and energy efficiency.

14. **Policy Area A2: Improving the efficiency of PLN.** The program supported adoption and implementation of the Performance-Based Regulation (PBR) for PLN to improve the targeting, transparency and accountability of subsidies, and to ensure that actual subsidies remain within its approved budget. The subsidy was to be calculated based on the approved cap for efficient production costs, allowing the Government to avoid using the budget to cover PLN inefficiencies.

15. **Policy Area B1: Supporting gas supply development in Indonesia to facilitate investment in power generation.** Despite the need to expand its gas production, regulatory uncertainty and limited incentives for investment constraints the supply. In order to face the crisis of under-investment throughout the gas value chain, the program supported: (i) setting a conducive environment for commercializing existing gas resources and stimulating exploration in the upstream; (ii) accelerating investment in critical gas infrastructure (transportation, processing, storage) to manage gas supply in the midstream; and (iii) increasing the share of gas in power generation and promoting the use of gas in a wide range of industry sectors in the downstream.

16. **Policy Area B2: Facilitating licensing and delivery of new power generation by the private sector (IPPs).** Business licensing processes are notoriously cumbersome in Indonesia, with electricity generation one of the most prominent examples. Despite the government's ambitious plans for 35 GW more generation capacity, the lengthy process, lack of clarity and uncertainty of IPP licensing act as a deterrent for interested investors. In addition, processes outside BKPM and central government were also considered as critical



constraints, including the process with PLN for obtaining a power purchase agreement (PPA). In 2015, the One Stop Service was established in BKPM, as part of the government’s licensing reform, and electricity generation IPP licenses were the priority sector to be implemented.

17. **Policy Area C: Removing constraints to renewable energy expansion.** To scale up the energy mix and more specifically the geothermal power development, a new Geothermal Law was adopted in 2014. The program supported its operationalization through implementing regulations, appropriate pricing mechanisms and addressing other barriers that have stalled geothermal and other renewable development.

18. **Policy Area D: Expanding access to modern, reliable energy.** Inadequate resource allocation as well as lack of adequate pricing and institutional arrangements have slowed progress in increasing access and rural electrification. To optimize resources and achieve the target in a planned, coordinated and cost-effective manner, the program supported an establishment of a clear road map and action plan with appropriate funding, through a process which involves all relevant key stakeholders, in particular local governments and the private sector.

1.5 Revised Policy Areas

Not applicable.

1.6 Other Significant Changes

19. **While the programmatic series was initially designed to include two operations, the second operation was dropped.** The second SIEDPL operation was postponed and subsequently dropped amid changes in priorities for the sector (see discussion in Section 2.1 below).

2. KEY FACTORS AFFECTING IMPLEMENTATION AND OUTCOMES

2.1 Program Performance

Table 1: Key Dates of the OGPFM series

Operation	Approval Date	Effectiveness Date	Amount	Closing Date
SIEDPL-1	12/01/2015	01/04/2016	USD 500 M	09/30/2018
SIEDPL-2	Dropped	--	--	--

20. **All prior actions listed in Table 1 were fulfilled prior to effectiveness.** Table 1 below provides a detailed account of the program performance in terms of Prior Actions (PAs).

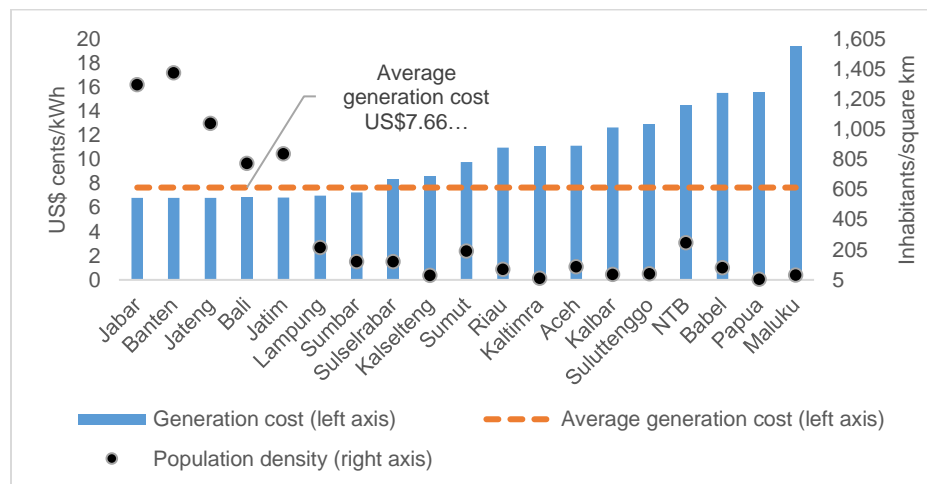
21. **The planned second operation of the SIEDPL series was postponed due to changes in reform priorities, and subsequently dropped.** An extension of the deadline for Board consideration (24 months) was granted to the program in July 2017, following a cabinet reshuffling in July 2016, which involved a change in the Minister of Energy. At the time of the ICR (April 2019), there had been four Ministers of Energy (including acting) since the time of program preparation. The change in ministers reflected a shift in Government priorities for the sector, which were different from those envisioned in the program. These priorities focused on affordability and electricity access, and to minimize the fiscal burden of keeping tariffs unchanged for affordability, several policies were introduced to reduce the cost of electricity generation. The Government’s new priorities in the sector led to a postponement in implementation of several triggers envisioned for the



second operation. As described in Table 2, implementation of some of the triggers for the second operation were delayed, which ultimately led to the decision to drop the second operation.

22. **The Government’s priorities shifted towards faster electrification and affordability, which affected program performance.** Electricity tariff adjustments were frozen starting at the end of 2017 and several policies were introduced to reduce the cost electricity generation and thus minimize costs of provision. Firstly, in 2017, the government introduced a new regulation (#19/2017) setting electricity purchase price caps from all technologies (e.g. fossil fuel, hydro, renewables) with reference to the previous year’s average cost of generation by location (“BPP”)³. The BPP given the current energy mix tends to promote coal-fired generation and to disadvantage investments in renewables (Indonesia InfraSap energy chapter, 2018), especially in populous regions (e.g. Java, Sumatra, Bali) with a low BPP due to a high share of coal-fired generation in the existing fleet. On the other hand, the BPP regulation provides more incentives for renewable energy generation in the less populated and poorer eastern parts of Indonesia, where the generation tended to be diesel-based (Figure 1). Secondly, as coal prices increased, in 2018, the government introduced a Domestic Market Obligation (DMO) policy requiring coal plants to meet domestic supply targets and capping the domestic price of coal at US\$ 70 per ton, which was on average below the international market price (MEMR regulation No. 12/2018 on procedures for determining benchmark prices of metal and coal sales and MEMR regulation No. 1395 K/30/MEM/2018 on the selling price of coal for the electricity supply). Thirdly, in 2017 the government introduced new regulations on the pricing of natural gas and LNG used of power generation, along with new gas transmission charges. With respect to access, the government’s focus on speedy electrification gains led to increase reliance on PLN to meet specific goals, in particular of increasing access in areas where tariffs do not cover costs.

Figure 1. Power generation cost by province



Sources: MEMR (generation cost), Statistical Yearbook of Indonesia 2018 (Population) and Ministry of Home Affairs (Area).

³ Both the Local BPP and the National BPP are determined every year by an MEMR Decree. The Modified BPP Pricing Strategy for renewables is as follows: (a) Where the Regional BPP is higher than the National BPP, the maximum electricity purchase price for renewable energy, payable by PLN, will be 85% or 100% of the Regional BPP, depending on the specific type of Renewable Energy; (b) Where the Regional BPP is less than or equal to the National Generation BPP, the electricity purchase price for renewable energy, payable by PLN, shall be directly negotiated and agreed between PLN and the relevant IPP.



Table 2 - Prior Actions and Status at the time of the ICR (as of April 2019)

Priors Actions	Implementation Status
<i>Pillar A - FISCAL SUSTAINABILITY</i>	
<p>Prior action #1: The Minister of Energy and Mineral Resources has issued regulations to phase out electricity subsidies for: (a) large- and medium-sized industrial and business categories; and (b) large- and medium-sized residential consumers, as evidenced through MEMR Regulation 9/2014 and MEMR Regulation 19/2014, and PLN has implemented the corresponding tariff increases.</p>	<p>The prior action was met, electricity subsidy reforms to phase-out most subsidies proceeded successfully until end-2017, at which time tariffs have remained frozen. In 2014, gradual tariff increases were applied to 8 consumer classes including (a) large- and medium-sized industrial categories, and (b) small (over 1300VA) to medium sized residential consumers, while it was already applied to (a) large- and medium-sized business categories; and (b) large residential consumers since 2013.</p>
<p>Prior action #2: The Minister of Energy and Mineral Resources has issued regulations for the monthly automatic indexation of electricity tariffs – to reflect changes in oil prices, the exchange rate, and inflation – for: (a) large- and medium-sized industrial and business categories; and (b) large residential consumers, as evidenced through MEMR Regulation 31/2014 and MEMR Regulation 9/2015; and, from January 2015, PLN has adjusted its tariffs in accordance with said regulations for the abovementioned categories.</p>	<p>The prior action was met, the automatic electricity tariffs adjustment was rolled-out including for medium-sized households until end-2017. In 2014, following the regulations, monthly tariff adjustments were applied to the following categories: (a) large- and medium-sized industrial and business categories; and (b) large residential consumers (see annex 3 on the sequencing of tariff adjustments across consumer classes). In 2015, monthly adjustments are expanded to certain small size household users (above 900 VA). In 2017, gradual tariff increases and adjustments were applied to “non-poor” households in the 900VA category, but tariff adjustment for “non-poor” 450 VA was suspended. However, these tariff adjustments have been suspended and all tariffs frozen since December 2017 by Ministerial regulations.</p>
<p>Prior action #3: The Minister of Finance has signed the MOF Regulation that lays out a performance-based regulation framework covering: (a) setting targets for controllable costs, and the calculation of the revenue requirement for PLN’s operations and investments; and (b) the calculation and disbursement of budget support to PLN based on revenue requirement and approved tariffs.</p>	<p>The prior action was met, but the PBR reform was not implemented. The PBR regulation was adopted in 2015 (PMK 195/2015), however in 2016 its application was officially suspended before its implementation start date (2017), following lack of consensus about the methodology and institutional disagreement between the parties of the Inter-Ministerial Working Group (IMWG). The IMWG included staff from MoF, Ministry of SOEs, and Ministry of Energy & Mineral Resources (MEMR/ESDM). The IMWG itself was never made effective as some Ministries considered that a higher-level regulation (i.e. a Presidential Decree) should have been issued to empower the IMWG.</p> <p>A regulation revoking the original PBR regulation was issued in 2017 (MoF44/ PMK#02/2017-article 26) which applied PBR only on a pilot basis for the small province of Bangka-Belitung.</p>
<i>Pillar B---INVESTMENT CLIMATE</i>	
<p>Prior action #4. The Minister of Energy and Mineral Resources has issued a</p>	<p>The prior action was met, all expiring gas contracts were renewed since adoption of the regulation, thereby contributing to</p>



Priors Actions	Implementation Status
<p>regulation for a systematic and time-bound process for managing expiring production sharing contracts as evidenced through MEMR Regulation 15/2015.</p>	<p>reducing the uncertainty that would otherwise inhibit investment in sustaining gas production in the run up to PSC expiry and negative consequences for gas supply commitments. In total 20 contracts were renewed since the 2015 regulation, the rights of existing operators have been extended in 10 cases, and in another 10 cases operatorship was transferred to Pertamina. Regulation #20/2018 provides greater power to Pertamina to deal with the extension of expiring contracts. Several amendments and additions to the regulation have allowed applications to be made further in advance of PSC expiry and further clarified the terms under which transfers take place.</p>
<p>Prior action #5: The Minister of Agrarian and Spatial Affairs/Head of National Land Agency and the Minister of Environment and Forestry have amended regulations to streamline administrative procedures (relating to licensing of building rights, land use and location permits) and reduce the time required to obtain central government’s licenses for setting up independent power producer projects, as evidenced through MoEF Regulation P-97/2015 and MASA Regulation 2/2015.</p>	<p>The prior action was met, procedures were streamlined and time to obtain investment licenses was shortened. A number of regulations from several ministries helped streamline procedures. It now takes 25 days to obtain a business identification number, and 5 days for investment license after reviewing fulfillment of technical and financial requirements (prepared by accredited agencies), except for the environmental license in areas under specific regulation of the Ministry of Environment and Forestry which can take up to 115 days.</p>
<p>Prior action #6: The Minister of Energy and Mineral Resources and the Minister of Environment and Forestry have issued regulations to delegate the licensing authority for setting up independent power producer projects to the Indonesia Investment Coordinating Board for inclusion in its national one-stop-service for investment, as evidenced through MEMR Regulation 35/2014, MoEF Regulation 97/2014, as amended by MoEF Regulation 1/2015.</p>	<p>The prior action was met and an online one-stop-service is operational. BKPM received delegation of authorities from 22 Ministries including the ones adopted as prior action and the procedures were handled directly by BKPM under the one stop service. The One-stop-service was transformed to online-single-submission service in July 2018 (Regulation #24/2018), which further streamlined procedures.</p>
<p><i>Pillar C---RENEWABLE ENERGY</i></p>	
<p>Prior action #7: The Borrower has improved conditions for geothermal power development through the issuance of Geothermal Law No. 21 of 2014.</p>	<p>The prior action was met, the New Geothermal Law (Law 21/2014) was adopted by the Parliament in 2014, and related regulations are being issued (see triggers #6 and #7). This replaced the Geothermal Law 2003 (Law No. 27/2003). The most significant changes are that the New Geothermal Law: (i) no longer classifies geothermal development as a mining activity; (ii) allows geothermal development in certain part of in Conservation Forest Areas, which was previously restricted by the Forestry Law (a large share of geothermal resources, of about 42% are located in forest areas); (iii)</p>



Priors Actions	Implementation Status
	clarifies the allocation of authority of government institutions over ‘indirect use’ of geothermal resources (geothermal for electricity generation); and (iv) introduces Geothermal Production Bonus as an additional benefit to Local Government and communities surrounding the geothermal project.
Prior action #8: The Ministry of Energy and Mineral Resources has submitted to the Ministry of Law and Human Rights, a draft Government Regulation to implement the Geothermal Law No. 21 of 2014 provisions for the local benefit-sharing mechanism involving a “production bonus” payment by geothermal companies to local governments.	The prior action was met. Government Regulation (#28/2016) specifies the terms of the Production Bonus scheme: Geothermal permit holders are to provide a “production bonus” to the local government with jurisdiction over the permit holder’s working area. The level of the “production bonus” is set as a percentage share of the gross revenue. Further details on implementation arrangements were provided through the issuance of MEMR Regulation No. 23/2017 “Concerning the procedure for Reconciliation, Depositing, and reporting of Geothermal Production Bonus”. The first payment to local government happened in 2018 covering the payment period of 2014-2017.

Table 3: Implementation status of Indicative Triggers for the second operation

Triggers	Implementation Status
<i>Pillar A - FISCAL SUSTAINABILITY</i>	
Trigger #1: The Borrower issues a decree with actions and roadmap for improved (i) allocation of electricity subsidies to low income consumers, and (ii) tariff structure and efficient cost allocation methodology to tariff categories.	The trigger was implemented, but only until end-2017. (i) For residential consumers, the targeting of electricity subsidies has been improved using the unified poverty database (UPD) – a database that gathers socioeconomic data on Indonesia’s poorest households. This was used to phase-out subsidies for non-poor 900 VA household customers; (ii) the automatic tariffs adjustment scheme was adopted and implemented until end-2017, when tariffs were frozen.
Trigger #2: The PBR Inter-Ministerial Committee is (i) operational and has agreed on the benchmarks for the initial implementation of PBR for PLN and (ii) is supported by a standing secretariat housed in MOF.	The trigger was not implemented since the regulation underpinning prior action #2 was amended to postpone the initial implementation start date. The inter-ministerial committee was formed, but due to a drift in consensus on the PBR methodology, it has not become operational (see Table 2 above).
<i>Pillar B---INVESTMENT CLIMATE</i>	
Trigger #3: The Borrower adopts revised fiscal terms for production sharing contracts to increase investment into the upstream/midstream including incentives for developing marginal fields, and unconventional resources.	The trigger was met and the revised fiscal terms for production sharing contracts have been applied to all new contracts and some contracts extension. However, the effectiveness of the fiscal terms in attracting investment have been limited. The Gross Splits Production Sharing Contracts (GS PSC) system replaced the previous cost recovery PSC (CR PSC) by ESDM Regulation #8/2017 in January 2017. Its new streamlined procedures offered relief from the delays and compliance burden associated with the



Triggers	Implementation Status
	<p>previous Cost Recovery Production Sharing Contracts (CR PSC) which required parliamentary approval of cost recovery amounts during State Budget reviews. While it is expected to improve cost-efficiency - since it does not provide any mechanism for recovering sunk costs before production is shared with the State - it can also discourage more risky exploration ventures. Revised fiscal terms associated with the new GS CPS is regulated by GR No. 53/2017, with the change from previous regime that loss carry forward is now limited to a period of 10 years. Meanwhile, price capping regulation (BPP) might discourage some investments (see status of trigger #7).</p>
<p>Trigger #4: The Borrower introduces regulatory measures in the gas mid-stream that would encourage mid-stream entities to accelerate investment in critical gas processing, transportation and storage facilities.</p>	<p>The trigger was not implemented as envisaged, but government has taken steps to restructure SOEs in the sector with the aim to rationalize investments. At appraisal, the government intended to establish a gas “aggregator” (whose functions would be to pool gas supplies and assure delivery) and the operation envisaged supporting MEMR develop regulations for the aggregator to promote investment and enhance competition in the sector. The gas “aggregator” was not created but GoI has merged PGN (Perusahaan Gas Negara) and Pertamina gas (Pertagas) to create a single dominant state-owned owner and operator of the gas transmission system. While this restructuring in the mid-stream gas sector is an essential first step towards addressing underlying system limitations (Government regulation No. 6/2018), it is critical that the newly consolidated midstream assets be subject to close regulation to avoid abuse of monopoly. MEMR, through SKK Migas, is likely to remain the regulator of the oil and gas sector</p>
<p>Trigger #5: The Borrower completes a process of detailed gas infrastructure project planning that builds on the 2015 Gas Roadmap and which addresses land use, environmental and social considerations and financing arrangements.</p>	<p>The trigger was partially met. A comprehensive review of the 2015 Gas Roadmap was carried out by the WB for MEMR in 2016-17. A new gas plan was drafted in 2018 that lays out a government’s medium-term strategy in the gas sector. The merger of PGN and Pertamina Gas in 2018 provides an opportunity to improve the economic efficiency in gas network planning, capital investments and operations provided there are further reforms on gas pricing (move from point-to-point towards a network methodology), on the separation between transport and merchant functions, and on effective open access to gas pipelines and fostering competition across the network.</p>
<p><i>Pillar C---RENEWABLE ENERGY</i></p>	
<p>Trigger #6: The Borrower issues the implementing regulations for the 2014 Geothermal Law on the process to convert geothermal energy to electricity (“indirect utilization”).</p>	<p>The trigger was met and the regulation on indirect use (PP#7/2017) was adopted in 2017 and all the geothermal power projects are undertaken under the 2014 Geothermal law and its implementing regulations. Ministry of Environment & Forestry issued a ministerial regulation (#P46/Menlhk/Setjen/Kum.1/5/2016 as amended by ministerial regulation #P.4/MENLHK/SETJEN /KUM.1/1/2019) concerning the geothermal development in</p>



Triggers	Implementation Status
	conservation forest areas. However, there are still a few pending regulations to fully implement the law, including a government regulation on direct use (in draft stage, to be adopted in 2019).
<p>Trigger #7: The Borrower reviews performance of existing schemes promoting market-based mechanisms for development of renewable energy.</p>	<p>The trigger was partially achieved. There was no formal public review by Borrower of the performance of existing schemes promoting market-based mechanisms for development of renewable energy. Instead, the government, through MEMR, made several regulatory changes affecting the procurement of renewable energy in 2017. Those changes largely moved away from price-based competitive auctions with price caps (for wind and geothermal projects) and from Reference Prices or Feed-in-Tariffs (FiTs) for other forms of renewables — and back towards favoring allocations based on Direct Assignment or Direct Selection. Specifically, the regulation MEMR #50/2017 (which revoked and replaced MEMR 12/2017) sets renewable PPAs to fall under the “direct selection” process (limited tender process involving at least two bidders drawn from a pre-qualified list), except geothermal and waste to energy projects which follow a “direct appointment” process that may not guarantee lowest cost and high-quality outcomes, but MEMR Regulation #50/2017 also opens the door for competitive auctions for large-scale solar PV.</p> <p>Several other policies were introduced (DMO, price caps through the BPP) that make it difficult to promote market-based competition in renewable energy, particularly in the more densely populated eastern part of the country.</p>
<i>Pillar D---ACCESS</i>	
<p>Trigger #8: The Borrower issues a national approach to electrification with improved coordination of institutional responsibilities, financing mechanisms and planning.</p>	<p>The trigger was partially achieved. The Government’s approach over the past 5 years has been to use PLN, and in fact this strategy has shown very good results. Despite these results exceeding target in Government-measured household electrification rate (mainly driven by PLN), the challenge to reach 100 percent electrification (last miles) remains high. The last-miles strategy is still rather fragmented and different business-model are tested for very remote areas.</p> <p>The Bank has supported improved electrification planning in Eastern Indonesia and Sumatra, via technical assistance and investment projects listed below in Table 4. The Bank, under a new TA project, is currently working with MEMR and PLN to develop a sustainable deployment method (or platform) assessing the technical, financial and institutional structuring optimum for last-mile electrification looking at mini-grids as well as solar home system (SHS).</p>



2.2 Major Factors Affecting Implementation

23. **Adequacy of government’s commitment:** The first operation was approved on a wave of ambitious and bold reforms, and strong momentum, particularly in energy subsidy reduction and in streamlining IPP licenses. The change in Government priorities and related Cabinet reshuffle, with its strong focus on affordability and greater reliance on SOEs, affected the performance of the program as designed. While relying on a few champions can be considered a key opportunity to advance reforms, it often remains a significant risk factor, as was the case of the 2016 change in priorities that were not aligned with the program objectives. The challenges, even at the design stage, to address deep reforms, notably in the regulatory framework (e.g. independent regulator in the electricity sector) and PLN’s role in the energy sector, highlights the substantial risks to the implementation of the reforms envisioned in the program (stakeholder risks). The government has nevertheless maintained a policy dialogue with the Bank and other co-financers, which may lead to a new momentum for reforms in the areas supported under the program, as priorities may again shift towards greater financial sustainability for PLN and greater focus on renewable energy.

24. **Soundness of the background analysis:** The SIEDPL was built on an impressive body of analysis and TA (as presented in the Table 3 of the program document) from the Bank and partners, notably the ADB. The Bank has continued to support the sector (e.g. TA to develop PLN’s corporate financial strategy, an IPF to improve the competitiveness of geothermal energy by reducing the financial risks related to exploration and drilling, and analytical work contributing to the gas sector development). (See Table 4 below)

Table 4: World Bank ASA and TA Supports in the SIEDPL reforms area

Reforms	World Bank Support
Pillar A - FISCAL SUSTAINABILITY	
PLN tariffs and subsidies reforms (prior actions #1-3, triggers #1-3)	<ul style="list-style-type: none"> - Indonesia Fuel to Power Value Chain (2012-2013) - Analysis of efficiency of PLN power plants in Java (2013) - Review of PLN Transmission and Distribution Operational Expenditures and Corporate Functions (2013); - Review of PLN’s Investment Plan for 2014-2018 (2013); - Determination of PLN’s Revenue Requirement applying Performance Based Regulation (2013); and - Performance Based Regulation: Procedure, Budget Provision, Electricity Payment and Accountability (2014) - Electricity Cost of Service and Tariff Review (CSTR, 2017) - Assessment of financial performance of PLN and PLN corporate finance strategy (2018-now)
Pillar B---INVESTMENT CLIMATE	
Gas sector (prior action #4, triggers #3-5)	<ul style="list-style-type: none"> - Gas sector planning review (2017) - Gas value chain analysis (Ongoing, Natural Resources for Development trust-funded program) - Gas Regulatory framework assessment (Ongoing)
IPP licenses (prior actions #5-6)	<ul style="list-style-type: none"> - Regulatory reviews for the Central One Stop Service and related licensing simplifications. - World Bank (2018) – Indonesia Infrastructure Sector Assessment Program (InfraSAP) – including a power sector assessment and review of gas-to-power challenges
Pillar C---RENEWABLE ENERGY	



Reforms	World Bank Support
Geothermal law 2014	<ul style="list-style-type: none"> - ADB and World Bank (2014), Unlocking Indonesia’s Geothermal Potential - ADB and World Bank (2014) Indonesia Geothermal Tariff Reform: Tariff Methodology Report - World Bank (2015), The Geothermal Production Bonus-Methodology Report to MEMR - Advisory Service to MEMR on the regulation drafting of Geothermal Indirect Utilization and its Stakeholder Consultation Management, 2015 - World Bank (2017), Rapid Environmental and Social Assessment of Geothermal Power Development in Conservation Forest Areas of Indonesia - Geothermal Energy Upstream Development (GEUDP) and proposed Geothermal Resource Risk Mitigation (GREM) Projects to scale up investment in geothermal energy development and support the GoI in its efforts to reduce greenhouse gas emissions in the country
Pillar D---ACCESS	
Electrification	<ul style="list-style-type: none"> - World Bank (2014) Geospatial Least-Cost Electrification Plan and Investment Plan for Eastern Indonesian provinces of Nusa Tenggara, Maluku and North Maluku - World Bank (2016) — Solar Atlas of Indonesia - World Bank (2017) — Indonesia Small Scale Hydropower Geospatial Mapping and Prefeasibility Assessment Report - World Bank (2018-now) — Eastern Indonesia Electrification Project (under preparation) - Indonesia Power Distribution Programme for Results (IBRD Loan No. 8610-ID, US\$500 million) – increasing electricity access and quality of supply in Sumatra, along with distribution system planning and operations.

25. **Assessment of the operation’s design:** The SIEDPL is an early example of the Maximizing Finance for Development (MFD) approach in Development Policy Lending (DPL). It drew extensively on lessons learned from sector and energy DPLs globally (e.g. Turkey, Pakistan) as well as in Indonesia, and was presented at the WB Board of Directors at the same time as the CPF, a day before the COP21 in Paris highlighting its strategic relevance and role. While the Bank adapted to evolving circumstances by extending the deadline for consideration by the Board of the second operation, the design of the operation could have been adapted to the evolution of government priorities and country context as was the case for the other co-financers that provided the financing for the second operation (e.g. move to a series of three operations to allow for more gradual implementation with a focus on key policies). The operation was complemented by an impressive body of complementary TA and investment operations. The SIEDPL itself has contributed to expanding the Bank engagement on policy issues in the energy sector and deepening it in certain areas (e.g. support to PLN, renewable energy development).

26. Importantly, the DPL instrument may provide only limited leverage in an emerging country such as Indonesia, where: (i) the DPL loan amount is a relatively small share of annual government revenue; (ii) the government can readily raise debt financing on the international bond market; (iii) the proposed policy reforms are in a politically sensitive area, with powerful political-economy interests around the capture, allocation, and use of economic rents arising from the extraction of oil, gas, coal and other minerals; (iv) and where planning



and implementation approaches have historically favored directed State Owned Enterprise (SOE) driven approaches over more transparent and competitive approaches that rely on private enterprise investments. This highlights the need for relying on policy measures with adequate consensus within Government and where political-economy considerations of implementation have been fully considered – for example, the political economy implication of rising energy prices ahead of elections. Several prior actions in pillar A of the operation were subsequently either suspended or revoked during implementation. According to an Indonesian Power Industry Survey in 2018 (PWC, 2018⁴), 94 percent of respondents view regulatory uncertainty as a major barrier to investing in large-scale generation. In addition, 71 percent answered that lack of consistent policies and vision across government institutions is another major barrier to investing in large-scale power generation capacity. In 2017, the MEMR passed 20 regulations that directly affected the power sector, out of which many were amended or revoked.

27. **Implementation arrangements and coordination:** The high number of Ministries and units (Directorate Generals) involved in the operation diluted the responsibility without one entity having the role of ultimate coordination and overseeing reform implementation on the government side. Both the Coordinating Ministry for Economic Affairs (CMEA) and the Ministry of Finance were designated as implementing agencies in the program document. The convening and facilitation of the CMEA helped in the preparation of the first operation. The establishment of the Coordinating Ministry for Maritime Affairs, which was the coordinating ministry in charge of MEMR and a historically weak Center of Government (Indonesia SCD, 2015) affected CMEA’s convening power and the alignment and consensus between different Ministries. In fact, CMEA would only have had a mandate to coordinate if in receipt of request letters from MEMR, MoF and MSOEs, which did not materialize. Moreover, the DPL instrument had a limited leverage on the sector Ministries that are not direct beneficiaries of the financing.

28. On the side of development partners, the WB and other co-financers (ADB, KfW and AFD) established a coordination platform that is still in place despite differences in operational timing and decisions to move to a second operation (ADB, AFD and KfW have continued the second operation with a common matrix and timing). The high share of WB field-based staff and the deep technical engagement helped maintain implementation support, but the natural turnover of WB staff and rotation of leadership arrangements between the Bank teams for the first and second operation, combined with the political changes constituted additional challenges in the policy dialogue.

29. **Relevance of the risks identified:** The overall risk was rated substantial in the program document, based on the Bank’s Systematic Risk Assessment Tool (SORT). The risks were correctly identified. Several risks materialized despite the mitigation measures identified in the program document. Annex 2 provides a detailed account of the risks that materialized and their impact on the program.

2.3 Monitoring and Evaluation (M&E) Design, Implementation and Utilization

M&E Design

30. **The results indicators were relevant and well defined and selected to maximize the use of national systems.** The results framework focused on a limited number (6) of key indicators that captured well the achievements towards the PDO, except the indicator D1 that does not reflect the pillar’s reform (electrification rate vs. national approach for the country’s electrification plan). It was also built to maximize the use of national

⁴ Price Waterhouse Coopers (2018): “Alternating Currents: Indonesian Power Industry Survey 2018”, July 2018 Second Edition, PwC 2018



systems as detailed in the program document (e.g. PLN financial reports, government monitoring of the National Energy Plan and the National Medium-Term Development Plan etc.).

M&E Implementation and Utilization

31. **However, no effective mechanisms were in place to systematically collect and analyze the results indicators.** The CMEA and the MEMR (described as implementing agencies in the PD) did not collect results indicators on a systematic basis. The WB team did not report on implementation progress and results indicators using Bank systems such as the ISRs or memo to management recorded in filing systems.

2.4 Expected Next Phase/Follow-up Operation

32. **The second operation of the SIEDPL series was dropped,** but the WB and GoI have kept a deep technical and policy dialogue and the reforms momentum could pick up with the 2019 post-elections government. In particular, the 2018 Indonesia Infrastructure Sector Assessment Program, and its companion reports, outlines an array of actionable policy recommendations that could inform key government reforms in infrastructure and energy. Other key pieces of technical and policy dialogue are outlined in Table 4 above.

3. ASSESSMENT OF OUTCOMES

3.1 Relevance of Objectives, Design and Implementation

Relevance of Objectives --- Rating: Substantial

33. **The SIEDPL objectives have remained relevant but the momentum for the reforms in the program decelerated substantially.** The SIEDPL was presented to the Board of Directors together with the CPF 2015-19 and the day before COP21 in Paris which reflect high level of policy relevance both for the WB and for the government. Since Board approval, the reform momentum has been uneven. The government priorities shifted in the run-up to local and national elections (in 2018 and 2019 respectively) with a focus on affordability and access, and growing reliance to a state-led development model driven by the SOEs. Given rising oil prices, a widening oil and gas trade deficit, and the remaining gap in reliable access to electricity particularly in lagging regions, the objectives of the operation will remain among the top policy issues in the energy sector in the post-2019 presidential elections. In addition, actions to support climate change mitigation in large countries such as Indonesia remains key and the energy sector would need to play an important role if the GoI is to meet its unconditional commitment to reducing greenhouse gas emissions by 29 percent made prior to the Paris COP21.

Relevance of the Design --- Rating: Substantial

34. **The program design responded to the need for comprehensive reforms to support the new government's energy sector strategy and was embedded within a broad WB engagement in the sector.** The SCD (2015) and CPF 2015-19 had identified infrastructure and energy as critical areas for growth, poverty reduction and shared prosperity in Indonesia. At the same time, the newly elected President's electoral platform (2014) – the “Nawa Cita” – had been reflected in the National Medium-term Development Plan (RPJMN) for 2015-2019 which identified the energy sector as a key constraint to inclusive growth. The SIEDPL was designed on a wave of efficiency-enhancing reforms, particularly in energy subsidy reduction, but the programmatic approach was warranted to tackle deeper reforms to improve the efficiency and investment



climate in the sector. The SIEDPL was complemented by an extensive body of complementary TA and analytical support and investment operations.

35. **The design faced challenges amid reshuffling in government composition and priorities.** Key design issues relate to the weight of regulations that underpinned prior actions, leverage of DPLs as well as specific challenges linked to sector DPLs. The WB adapted to the slower reform momentum and evolving context by extending the delivery date of the second operation but did not envisage shifting to a more phased-in programmatic approach by, for instance, splitting the second operation in two. In addition, three regulations supported in prior actions (all in pillar A and all corresponding to ministerial regulations) were subsequently either suspended or significantly amended due to changes in priorities and lack of inter-ministerial consensus (partly due to insufficient socialization and consultations on proposed reforms), especially on sensitive regulatory issues such as in the PBR reform (PA #3). The fact that most reforms were to be issued by a sector Ministry (particularly for the second operation) while the DPL provided general budget support further lowered the potential leverage and incentive-compatibility linked with the financing.

Relevance of Implementation Arrangements --- Rating: Modest

36. **Implementation arrangements required a high degree of policy alignment and coordination between ministries.** The main counterparts for the operation were the Ministry of Finance (MoF) and the Coordinating Ministry for Economic Affairs (CMEA); yet, the Ministry of Energy and Mineral resources (MEMR) and PLN, which is under the Ministry of SOEs, were key technical implementing agencies. Moreover, MEMR entered the portfolio of the Coordinating Ministry for Maritime Affairs in 2016. During implementation, MoF and CMEA found it difficult to bring about consensus among all parties on the modality of reform implementation, which in the Indonesian context prevented the reforms from being effectively implemented.

37. **Implementation oversight and coordination weakened over time.** Shifts in portfolios and key personnel were compounded by the historically weak Center of Government (Indonesia SCD, 2015), CMEA's difficulties in convening the different agencies and building consensus, and a drift in alignment between different Ministries. At the time of the ICR, there was no single entity in charge of overall oversight of the program and reforms supported by the operation, but the Ministry of Finance continued to play convening and coordination roles. The WB and other co-financers still maintain a coordination platform in the energy sector. WB implementation support has been significant thanks to a deep technical and analytical engagement and the presence of field-based staff. But the change in the Bank teams between the first and second operation combined with the high government and ministerial turnover during the program period constituted challenges in maintaining effective implementation support and oversight.

3.2 Achievement of Program Development Objectives

Objective A: Reducing the fiscal cost of electricity generation ---- Rating: Modest

Reducing subsidies and moving to cost-reflective tariffs for electricity --- Rating: Modest

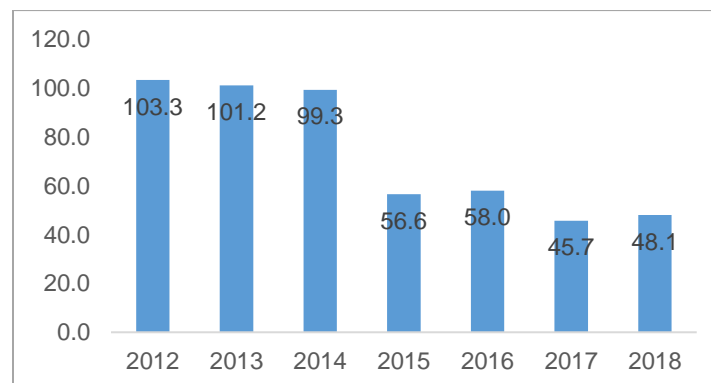
38. **The electricity subsidy phase-out was implemented between 2013 and 2017, but tariff adjustments have been temporarily halted since end-2017.** Gradual electricity tariff increase had started in 2013 with a 15 percent increase of the base tariff (excluding 450-900 VA households), and the elimination of subsidies for four customer classes, including large residential customers and medium to large business



customers.⁵ In 2014, the subsidy elimination for large customers with capacity to pay was extended to 8 additional customer classes (PA#1)⁶ and by 2016 monthly tariff adjustments reflecting changes in oil prices, the exchange rate and inflation are applied to the 12 categories of customers (PA#2). In 2017, “Non-poor” 900 VA residential are excluded from the subsidy based on the unified poverty database (UPD) for social assistance programs⁷, but tariff adjustment for “non-poor” 450 VA was suspended, leaving small households (450VA), small business and industry, small government offices under the subsidized scheme. In early 2018, the government announced its decision to keep electricity prices at current levels until the end of 2019.

39. **Despite the pause in tariff adjustments, the subsidy bill remains substantially lower compared to the pre-reform era, and the results indicator (A1) was substantially achieved.** The amount of PSO electricity subsidy was cut by almost half during the program implementation and electricity subsidies were gradually phased-out for 30 million customers (or about half of PLN customers). According to audited government statistics (Figure 2), PSO electricity subsidies dropped from IDR 101 trillion in 2013 or 1 percent of GDP (revised baseline) to IDR 58.0 trillion in 2016 (0.5 percent of GDP) and IDR 48.1 trillion in 2018 (0.3 percent of GDP). The reduction in subsidies was however also supported by lower oil prices in the 2015-17 period, and more recently by government policies to lower cost of generation by capping coal prices and the sale price of electricity to PLN for renewable IPP generation. Moreover, PLN has accrued receivables from the Government (excluded from subsidy receivables) of IDR 30.6 trillion for 2017 and 2018 related to the tariff freeze.

Figure 2. Electricity subsidies (IDR trillion, accrual basis)



Source: PLN audited reports

Improving the efficiency of PLN --- Rating: Negligible

40. **The performance based-regulation of PLN was not implemented.** A performance-based regulation framework was adopted (PA#3) which would have based tariff and electricity subsidy calculations on efficient benchmarks for network losses, thermal plant efficiency, operational expenses, and a productivity

⁵ Indonesia’s tariff structure has 37 classes (see annex 3).

⁶ The government removed subsidies for gasoline, established a fixed subsidy scheme of Rp1,000 per liter for diesel, and made retail fuel prices reflective of global fuel prices.

⁷ The MEMR and TNP2K (National Team for the Acceleration of Poverty Reduction) had cross checked PLN customer database and UPD to determine eligible subsidized customers. The TNP2K is responsible to assess a household eligibility based on asset ownership and expenditure, and the MEMR provided a grievance mechanism for customers to appeal for subsidy eligibility. As a result, the number of subsidized 900 VA consumers dropped from an estimated 23 million to 4 million.



improvement factor. However, lack of consensus about the methodology and institutional disagreement on the regulation of energy SOEs between the parties of Inter-Ministerial Working Group (IMWG) led to the suspension of its implementation in 2016. The IMWG was established (trigger#2) comprising staff from MoF, Ministry of SOEs, and Ministry of Energy & Mineral Resources (MEMR/ESDM). The reform was therefore not implemented, although a small pilot case is still operating on paper trial basis for the small province of Bangka-Belitung.

41. **The results indicator A2 was not achieved** as the PBR was not implemented and tariffs are still based on the historical approach of cost-plus-margin regulation of PLN. There is currently no independent regulator in the sector despite the challenges of transparent pricing and the significant private sector participation in power generation (IPPs account for about 25 percent of electricity generation) but policy dialogue in this area has picked up more recently. The Directorate General of Electricity at the MEMR is assuming the role of power sector regulator, and the tariff determination process has remained a top down approach from the government and the President of Indonesia to PLN⁸.

Objective B: Improving the investment climate in the energy sector ---- Rating: Substantial

Supporting gas supply development in Indonesia to facilitate investment in power generation

Rating: Substantial

42. **The reform on extension of the expiring contracts was implemented and helped increase the volume of gas to be supplied under new contracts beyond the program target.** PLN was assigned 75% of the future LNG production from the third train of the Tangguh LNG facility in West Papua currently under construction by a BP-led consortium, and it is expected to be commissioned into service in 2020. PLN has contracted gas for the Jawa 2 power plant from BP's Tangguh project, which will rise in 2020 from 17 million cubic feet per day (mmscfd) to 218 mmscfd, an increase of 190 mmscfd, well above the program target of 125 mmscfd.⁹

43. **The reform also resulted in greater State participation in the upstream oil and gas sector.** To ensure continuity in the gas supply, regulation#15/2015 (PA #4) was adopted to address uncertainty about the terms and conditions surrounding extensions of expiring production sharing contracts (PSCs). However, extension is applied as new contracts, which might be discouraging to non-Pertamina incumbents (Pertamina is the State oil and gas producer). While the government is trying to accommodate incumbents to maintain the same operators, out of 20 contracts extended since 2015, 10 were granted to Pertamina. In some cases, Pertamina took over the majority of shares which might discourage the incumbents to join the new contract.

44. **A new type of Production Sharing Contracts (Gross Split) has been introduced and is experiencing a strong take-up by investors.** The new Gross Splits Production Sharing Contracts (GS PSC) replaced the previous Cost Recovery PSC (CR PSC) (net of capital and operational costs incurred by the firm) by ESDM Regulation #8/2017 in January 2017 (trigger#3) in order to increase the attractiveness of the gas sector to investors. The new GS PSC scheme was expected to encourage oil and gas companies to be more

⁸ Regulatory independence from government in energy sector is considered a vexed attempt in Indonesia, with increasing reliance on the government and SOEs assuming the role of regulator. For example, in 2012, the establishment of an independent regulator for the upstream oil and gas sector — BP Migas — floundered after Indonesia's Constitutional Court decided that such an independent regulator was contrary to Article 33 of the Constitution. The government responded to this court decision in 2013 by establishing a new oil and gas regulator, SKK Migas, which sits under the Minister of Energy & Renewable Resources.

⁹ Some other gas plants will take Tangguh gas, but Jawa accounts for most of the additional gas supplied domestically by BP to PLN from Tangguh once LNG train 3 comes into production.



cost-efficient as it does not provide any mechanism for recovering sunk costs before production is shared with the State. Its streamlined procedures offered relief from the delays and compliance burden associated with the previous CR PSC which required the parliamentary approval. The Regulation was revised in September 2017 with reduced fiscal burden for investors. Removal of uncertainties (i) related to the government's approval, and (ii) concerning the application of taxes to GS PSCs helped investment decisions. All the new contracts signed since the 2017 regulation are under the new GS PSC. However, the impact of introducing GS PSCs on the supply of domestically produced gas to gas users in Indonesia has been mixed. For holders of existing CR PSCs and a few new entrants, relief from cost recovery audits and discretion allowed to the Minister to relax terms, seems to have had a positive impact. Thus, a growing number of GS PSCs have been awarded. However, GS PSCs appear not to attract investments in higher risk exploration and in complex high cost, unconventional or stranded gas fields. Since the existing gas resource base is depleting and gas supplies in the future will increasingly need to come from the latter types of gas field, many industry observers consider that GS PSCs will have only a limited impact on boosting gas supplies. Further, gas price regulation driven by the government's priority of affordability, by capping the price below market prices, tend to make less attractive some investments in the sector.

45. **GoI is in the process of restructuring SOEs in the midstream gas sector to improve coordination of investments and efficiency.** In the absence of progress to review and revise the Oil and Gas Law, MEMR promoted the idea of a Presidential Regulation on the gas sector intended to appoint a single SOE entity to aggregate gas supplies and more efficiently supply gas to end-users. However, this too failed to gain sufficient support and instead, under a new Minister, MEMR issued a series of Ministerial Regulations to tackle specific challenges. These covered the margins allowed for gas distribution, revised tariff formula, adjusted end-user allocation priorities and imposed ceilings on gas prices offered to priority end-users. MEMR through SKK Migas is likely to remain the regulator of the gas sector. Meanwhile, the re-organization of the ownership of gas pipeline assets in 2018 through a merger of PGN with Pertamina's gas subsidiary, Pertagas, to create a single dominant state-owned owner and operator of the gas transmission system. If properly implemented, this merger will contribute to creating a fully integrated gas transmission network. However, the creation of a monopoly both as provider and as supplier of gas in the domestic market presents serious risks of monopoly abuse. Moreover, the government's 2015 Gas Roadmap (trigger #5) that was to be developed as the government's gas infrastructure plan was dropped, no new investment planning approach was adopted.

46. **A final pro-investment Oil and Gas Law is critical to reduce uncertainty in the gas sector.** A draft Oil and Gas law has been prepared and has gone through several rounds of consultations and modification. However there is no clear timetable for its adoption. A pro-investment law is critical to establish a gas sector investment climate that promote domestic gas production and reduce import dependence.

Facilitating licensing and delivery of new power generation by the private sector --- Rating: Substantial

47. **The streamlining of formalities for the licensing of power generation projects have advanced well.** Regulations adopted in 2014-2015 by 22 ministries (including PAs #5 and #6) streamlined and simplified the licensing process for new private power projects by delegating authority to a new one-stop shop set up by the Indonesia Investment Coordinating Board (BKPM). This helped reduce by 10 the number of days necessary to obtain investment licenses. In July 2018, the one-stop-service was transformed into an Online-single-submission service (Government regulation #24/2018) which further streamlined procedures and improved their transparency. Today a business identification number can be obtained after 25 and an investment licenses can be provided by BKPM after 5 days of reviewing the prepared project. However, in case of power plant projects, an additional environment license not delegated to BKPM is required (which can take up to 115 days).



48. **The results indicator (B2) was achieved** with the number of days to process a license at 145 days (25+5+115) if an environmental license is required and 30 days otherwise.

Objective C: Removing constraints to the expansion of renewable energy ---Rating: Substantial

49. **A new Geothermal Law (Law 21/2014) was adopted by the Parliament in 2014 (PA#7), and related regulations are gradually being issued.** A government regulation (#28/2016) specified the terms of the local benefit-sharing mechanism involving a “production bonus” payment by geothermal companies to local governments (PA#8). Moreover, the government regulation on indirect use #7/2017 was adopted in 2017 (trigger #6) and since then all the geothermal power projects are under the 2014 Geothermal law and aforementioned regulation (results indicator C1). However, a few additional regulations are expected to fully implement the law, including a government regulation on direct use (in draft stage, expected to be adopted in 2019), a ministerial regulation on exploration in forest areas (in draft stage).

50. **The number of geothermal projects and extent of private sector participation have increased, but market-based mechanisms for the development of renewable energy still need to be strengthened (trigger #7).** In 2017, new regulations were issued, capping domestic coal prices and renewable energy tariffs in reference to local average generation (“BPP” policy). These regulations contributed to reducing the competitiveness of renewable energies (particularly in the richer more densely populated Western part of Indonesia) which are often characterized by higher short-term marginal cost and risks. Moreover, PLN has kept its discretionary power to grant PPA in all renewable projects under a direct selection process, involving at least two bidders drawn from a pre-qualified list, except for geothermal and waste-to-energy projects. Geothermal projects tendering process is handled by the central government, through the MEMR.

51. **The results indicator (C1) has been achieved.** Since the adoption of the Geothermal Law 2014, a total of 31 projects have been assigned to developers, comprising. A total of 1475 MW additional geothermal power generation capacity is expected from those 31 new projects, which will result in a 76% increase in Indonesia’s installed geothermal generation capacity (from 1948.5 MW to 3423.5 MW). The private sector will develop 715 MW (or 48.5%) of the new geothermal generation capacity.¹⁰ Fifteen of the 31 new projects were assigned after a new regulation on indirect utilization of geothermal energy (regulating conversion of geothermal energy to electricity) was issued in 2017 (MEMR Regulation #7/2017). Of those 15 projects, 11 went to private developers and 4 to SOEs (1 to PLN and 3 to Pertamina).

52. **For Indonesia to meet its energy mix target, more rapid progress is needed.** The current path of increasing share of renewable energy is too slow, including the share of geothermal compared to the country’s potential. PLN’s 10 year rolling development plan RUPTL 2019 increased the share of coal to 54.6 percent by 2028, against 41 percent in 2017 RUPTL. Currently, coal accounts for 55 percent of the country’s power generation (against 53 percent in the program document), gas for 26 percent (up from 24 percent), renewable 12 percent (up from 10.9 percent) including geothermal 3 percent (drop from 4.4 percent). Indonesia is targeting that 23 percent of electricity will be generated from renewable energy sources by 2025.

Objective D: Expanding access to modern, reliable energy -- Rating: Substantial

53. **The results indicator (D1) on electrification rate exceeded the program target,** reaching 98.3 percent in 2018 against 84.4 percent in 2013 and a target of 92.8 percent. Access to affordable electricity was a key government priority, and therefore significant resources were deployed across several programs (e.g.

¹⁰ These statistics include two projects awarded to private developers for which potential capacity is not known.



village electrification program, pre-electrification program with solar rooftops etc.) to expand access. The challenge remains high to meet 100 percent in every region as solutions have to be tailor-made in particular in small Islands in Eastern Indonesia and very remote populations: while electricity reaches 100 percent in the western part of the country (i.e. DKI Jakarta, Banten, West Java and DI Yogyakarta), it is only 59.9 percent in the south east part of the country (i.e. NTT). Electrification increased significantly in Papua, the most eastern region, from 47.8 percent in 2016 to 61.4 percent in 2017. The 2018 RUPTL targets an electrification rate of 99.5 percent by 2027.

54. **The national coordination mechanism to improve planning and financing and expand access to electricity was not put in place as anticipated in the second operation, but rural electrification is progressing.** The National Electricity Development Plan (RUKN, 2015-2024) was adopted in 2015 and at the time of the ICR, a new RUKN for 2018-2037 was being finalized and submitted for approval. While in the program document, it was expected that the RUKN would promote participation of non-PLN actors, the RUKN is rather driven by the PLN’s Electricity Supply Development Plan (RUPTL). New Business models are currently tested, and a sustainable deployment method (or platform) assessing the technical, financial and institutional structuring optimum for last-mile electrification looking at mini-grids as well as solar home system (SHS) is under development. About 96 percent of surveyed investors (PWC 2018) consider that the 2017 RUPTL was not designed to adequately anticipate and respond to the current and future challenges in the power sector, since: (i) it does not provide a clear vision for future planning; (ii) the RUPTL does not sufficiently prioritize the use of renewable energy; and (iii) lack of consistency from year-to-year, the RUPTL being “too easy to change”. The WB has provided substantive analytical and TA support in recent years to improve the RUPTL planning processes (Electricity Cost of Service & Tariff Review, 2017 and PLN Corporate Financing Study, 2018) in addition to subnational interventions in Eastern Indonesia and Sumatra to strengthen electrification planning (see Table 4).

3.3 Justification of Overall Outcome Rating

Rating: *Moderately satisfactory*

Table 5: Overall Outcome Rating

Relevance			Efficacy						Overall Outcome
Objectives	Design	Implementation arrangements	Objective A: Modest		Objective B: Substantial		Objective C	Objective D	
			Objective A1	Objective A2	Objective B1	Objective B2			
Substantial	Substantial	Substantial	Modest	Negligible	Substantial	Substantial	Substantial	Substantial	MS

55. **All objectives of the SIEDPL series were highly relevant, the design of the program was substantial, and the efficacy was substantial, resulting in a moderately satisfactory rating.** The SIEDPL has provided sustained support during a period when government priorities have been reshuffled and frequent changes of Ministers occurred. The operation has helped expand the GoI and WB engagement to policy issues in the energy sector. This has also led to the development of TA and operation support complementary to the reforms under the SIEDPL (development of PLN’s corporate financial strategy, support to geothermal energy to reduce risks related to exploration and drilling etc.). This sustained engagement is critical in an environment of non-linear reform and change and to build capacity and ownership for the needed deeper reforms. Considering the challenges in the evolution of the country political context and complexities during the program implementation, as well as the medium to longer term impact of the SIEDPL program (see section 3.4.b below), this ICR rates the overall outcome on balance as Moderately Satisfactory.



3.4 Overarching Themes, Other Outcomes and Impacts

(a) Poverty Impacts, Gender Aspects, and Social Development

56. **The WB prepared a PSIA for the first operation** which found that the prior actions in the operation were expected to have positive poverty and social impacts over the medium-term and that any potential near-term impact via tariff increases was limited. The prior actions #1 and #2 targeted of the elimination of electricity subsidies among large and medium industrial, business, and residential consumers. In 2017, while tariff adjustment was applied to “non-poor” households in the 900VA category using the unified poverty database (UPD) while subsidies were maintained for households in the 450 VA category. As indicated in the program document, poverty and social impact of tariff increases is therefore likely to be limited. There are potential impacts of expanded access to electricity services as well as possible localized impacts of new investments such as through employment generation in the near to medium term as indicated in the program document for pillars B and C.

57. **The government has also taken steps to expand its safety nets.** The government has doubled the benefit level of the conditional cash transfer program (PKH program), following the rapid expansion of its coverage from 6 million in 2017 to 10 million beneficiary families in 2018. The government is also further expanding the coverage of the waiver for health insurance premium (PBI program) for the poor; and continuing the transformation of streamlining the rice for the poor program through implementation of non-cash food assistance (BPNT program).

(b) Institutional Change/Strengthening

58. **The fiscal savings generated from the electricity subsidy reduction has helped increase infrastructure and social spending.** The SCD (2015) highlighted the large infrastructure gap facing Indonesia and how critical tackling them was for the country’s growth and poverty reduction performance. GoI communicated that, in the face of these challenges, its strategy was to cut inefficient and inequitable electricity and energy subsidies in general to reallocate spending towards social and productive sectors. In 2015, more than 60 percent of fossil-fuel subsidy savings were invested in infrastructure and rural and regional development projects, followed by social welfare program (12%), health and education (2% and 5% respectively), and agricultural subsidies (14%) (G20 peer reviewer report, OECD 2019¹¹). These higher level of infrastructure and social spending will have medium to longer-term positive impact on productivity, growth, poverty reduction and social development in Indonesia.

59. **The SIEDPL mobilized a broad WB team expertise and an impressive array of TA and analytical support which will help lay the ground for future reform.** This has helped support implementation in key areas (e.g. geothermal) but is also critical build capacity and ownership for future reforms (e.g. support to PLN corporate strategy, cost of service TA).

(c) Other Unintended Outcomes and Impacts: Not applicable.

¹¹ G20 Peer reviewer report (2019): “Indonesia’s effort to phase out and rationalise its fossil-fuel subsidies”, OECD 2019



3.5 Summary of Findings of Beneficiary Survey and/or Stakeholder Workshops

Not applicable.

4. ASSESSMENT OF RISK TO DEVELOPMENT OUTCOME

Rating: High

60. **The priorities of the future government in the energy sector remain uncertain.** Following the presidential elections in April 17, 2019, the policy direction and priorities set by the new government (expected in the coming months) will be critical for the needed reforms in the energy sector. The WB is contributing to mitigating the risk of reversal or lack of reform by maintaining an extensive TA and analytical engagement with the government and moving forward with complementary investment operations. Moreover, most of the substantial risks identified by the program remain important.

5. ASSESSMENT OF BANK AND BORROWER PERFORMANCE

5.1 Bank Performance

(a) Bank Performance in Ensuring Quality at Entry

Ratings: Moderately Satisfactory

61. **The WB responded to the new government (2014) priorities of improving the efficiency, equity, attractiveness to investment, sustainability of the energy sector.** The WB has worked with the government and donor community to support GoI develop and implement an ambitious energy reform program. The team has drawn on critical findings and analytical work in preparing the operation, was responsive to the client and delivered the first operation in about eight months (Concept note to Board approval). The objectives supported by the SIEDPL series were relevant and well aligned with the Government priorities, the WB's strategy as well as global agendas (e.g. climate change). The WB has mobilized and deployed a wide portfolio of complementary TA and analytical support as well as investment operations to support the preparation of the SIEDPL program and help GoI achieve its objectives (see Table 4 above).

62. However, the design of the operation could have been adapted to the evolution of government priorities and country context (e.g. move to a series of three operations to allow for more gradual implementation with a focus on key policies). Moreover, the change between the first and second operation in team composition and overall responsibility for the operation planned at design stage partly explains the following lack of formal supervision. (sections 2.2 and 3.1)

(b) Quality of Supervision

Rating: Moderately Unsatisfactory

63. **The WB has mobilized a deep and broad array of expertise, analytical and technical support for the implementation of the SIEDPL.** The SIEDPL is part of the broader WB's engagement in the energy sector in Indonesia. In this context, the WB mobilized a broad team expertise and was complemented by an impressive array of TA, investment operations and analytical support which will help lay the ground for future reform. The SIEDPL itself has contributed to expanding the Bank engagement on policy issues in the energy



sector and deepening it in certain areas (e.g. support to PLN, renewable energy development). The high share of WB field-based staff and the deep technical engagement helped maintain implementation support but the natural turnover of WB staff between the first and second operation combined with the political and sector changes constituted challenges in the policy dialogue.

64. **This support was coordinated with other co-financers (ADB, KfW and AFD)** which established a coordination platform that is still in place despite differences in operational timing and decisions to move forward with a second operation.

65. **However, the WB team did not report on supervision and implementation and results using Bank systems.** No ISR or supervision mission documents are available, although regular follow-ups were provided by the respective sector teams notably in relation with other Bank activities in the sector (TAs, analytical work and IPFs). In particular, there is no information in Bank systems regarding preparation of the second SIEDPL operation which was subsequently dropped without records of formal missions conducted.

(c) Justification of Rating for Overall Bank Performance

Rating: Moderately Satisfactory

66. The quality at entry was moderately satisfactory and the quality of supervision was moderately unsatisfactory. With overall outcome rating moderately satisfactory, the overall Bank performance is rated as moderately satisfactory.

5.2 Borrower Performance

(a) Government Performance

Rating: Moderately Satisfactory

67. **The Government initiated the program on a wave of ambitious reforms, but its priorities shifted over time and the reform momentum slowed significantly.** Changes of Ministers of Energy and Mineral Resources also contributed to these dynamics. The government's new priorities highlighted the need for more equity and focus on the welfare impacts (affordability) of the reforms. All this led to the enactment of policies that made it difficult to achieve certain objectives of the program, but the initial momentum of the SIEDPL-1 contributed to achieving most of the outcome indicators.

(b) Implementing Agency or Agencies Performance

Rating: Moderately Unsatisfactory

68. **The lack of a strong center of Government to coordinate reforms created challenges for program implementation.** Both the Coordinating Ministry for Economic Affairs and the Ministry of Finance were designated as implementing agencies in the program document, while key technical responsibility was with the Ministry of Energy and Mineral Resources, which was shifted to the portfolio of the Coordinating Ministry of Maritime Affairs, leading to coordination challenges. Repeated changes of Ministers of Energy and Mineral Resources (4 ministers in 5 years) further contributed to disruption of the program implementation and coordination.

69. **From the Government's perspective, CMEA had adequate convening power, but not all relevant parties were adequately involved in the program design.** Importantly, there was insufficient consensus across all parties prior to the decision to implement the PBR. The Government notes that implementing the



PBR on a pilot basis prior to passing the regulation (effectively the course taken with the 2017 revocation of the PBR decree) would have been more advisable, as that would have both allowed iteration of design features of the PBR around actual operations, and also created a proof-of-concept that would help socialize the reform across different stakeholders and bring about consensus.

(c) Justification of Rating for Overall Borrower Performance

Rating: Moderately Satisfactory

70. The government performance was moderately satisfactory, and the implementing agencies performance was moderately unsatisfactory. With the overall outcome rating being moderately satisfactory, the overall Borrower performance is rated moderately satisfactory.

6. LESSONS LEARNED

71. **DPL design and risk mitigation measures should account for the fact that specific government policy priorities may rise in prominence, especially along the political cycle, and affect the operation's ability to reach its objectives under the initial timeline.** The reform momentum slowed down after the approval of the first operation (December 2015) following a change in priorities mid-2016 and in the run-up to the local (2018) and presidential (2019) elections. This affected various ministries alignment and consensus on the needed reforms. At that time, “providing affordable energy to all” rose as a top priority for the government in a context where (as of 2015) nearly 30 million people lacked access to electricity, particularly in more remote and poorer areas, but also due to the presence of vested interests against some of the reforms envisioned in the program. This led the government to prioritize reforms and actions that promote low generation cost of electricity and to increasingly rely on and provide support to energy SOEs, in particular PLN, to pursue specific mandates and development objectives, which were not fully aligned with the program objectives.

72. **The uneven reform momentum and change in priorities underscores the need for adaptability and flexibility under DPL operations.** The WB adapted to the evolving context by extending the closing date of the series to mid FY2019 (per memo date July 13, 2017) as government provided signals that it remained committed to the objectives of the operation. However, the programmatic approach with two series may have generated more of a sense of precise linear gradient of change than the political, economic and social situation may have warranted. An alternative could have been to establish a set of more intermediate results that remained consistent with the objectives of the operation.¹² The experience of the PBR also highlights the need to secure upstream consensus, clarify key principles (such as which ministries and institutions regulate sector SOEs, what future actions and commitments are embedded in current policy decisions) and to adapt the operation's strategy and implementation when consensus weakens downstream.

73. **The experience of the SIEDPL also highlights that in middle-income countries with financial market access DPL instruments may provide only limited leverage, especially in the context of weak inter-ministerial coordination. However, they can help the WB and governments expand and deepen their engagement.** Key factors affected the Bank's leverage and impact of the DPL: (i) the financial package provided by the WB and the other financiers to support energy sector reforms in Indonesia is significant but

¹² A similar approach was followed by a co-financer which adopted a programmatic series of three operations with intermediate actions and results.



small compared to the country's budget and external financing needs, and the sector's spending, (ii) most reforms were to be implemented by a sector Ministry for general budget support further lowered the potential leverage and incentive-compatibility linked with the financing, (iii) the long-standing challenges in Indonesia of inter-ministerial and agency coordination and the weakness of center of government functions (prioritization, monitoring and follow-up, coordination etc.) as highlighted in the SCD (2015) reduced reforms implementation and effectiveness. While the SIEDPL contributed to deepening the Bank engagement and dialogue with the government in the energy sector, the Bank should still establish a rigorous desirability and readiness filter when considering using sector-specific DPLs in its mix of instruments. Notably, the Bank should consider if the DPL is the best suited instrument compared for instance to other policy-based operations (e.g. sector P4R, sector IPF with DLIs, thematic DPFs led/coordinated by economic ministers etc.), and if there is a consistent commitment among key players (ministries, SOEs, agencies) for the reforms.

74. **The WB should also consider focusing on policy reforms backed by strong Cabinet and inter-ministerial legal decisions for critical high-stake reforms in Indonesia and other countries with similar context.** Ministerial regulations are needed to move forward implementation of higher-level legal decisions forward such as laws. But they are also more prone to implementations risks related to weak inter-ministerial alignment and political instability in the form of cabinet reshuffles. In this case, a council of ministers or cabinet decision implemented through the relevant ministerial regulations could provide a stronger policy anchor particularly for critical high-stake reforms where a broad inter-ministerial commitment and signal are needed to mitigate implementation risk.

75. **The WB and GoI should establish more effective and durable reform coordination, oversight and follow-up arrangements.** This is particularly relevant and critical for sectoral or multi-sectoral DPFs with key actions outside of the direct control of Ministries of Finance or economic ministries. The SIEDPL had served as a platform for inter-ministerial coordination facilitated by the CMEA and the Ministry of Finance. The operation had also been an opportunity for further coordination between multilateral and bilateral financiers. However inter-ministerial coordination and alignment on specific reforms weakened (e.g. PBR) as well as the overall oversight and follow-up by CMEA and the Ministry of Finance. The high presence of WB field-based staff and the deep technical engagement helped maintain implementation support.



ANNEX 1: BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION PROCESSES

(a) Task Team members

SIEDPL-1 Lending

Names	Title	Unit	Responsibility/Specialty
Ashley Taylor	Senior Economist	OPSCE	Co-Task Team Leader
Gailius J. Draugelis	Lead Energy Specialist	GEE06	Co-Task Team Leader
Anh Nguyet Pham	Senior Energy Specialist	GEE06	Co-TTL through end-June 2015
Nathaniel Adams	Extractives Consultant	GEEXI	
Magda Adriani	Research Analyst	GMTP2	
Vivi Alatas	Lead Economist	GPV02	
Pedro Antmann	Lead Energy Specialist	GEE08	
Evarist Baimu	Senior Counsel	LEGES	Counsel
Hans Anand Beck	Lead Economist	GMTP1	Team Member
Cary Anne Cadman	Senior Environmental Specialist	GENE1	Environmental Specialist
Jamie Carter			
Flavio Chaves			
Indira Dharmapatni	Senior Operations Officer	GSU21	Social Specialist
Ria Nuri Dharmawan	Counsel	LEGES	
Ann Jeannette Glauber	Practice Manager	GENE1	Environmental Specialist
Enda Ginting			
Tendai Gregan	Senior Energy Specialist	GEE02	
Beatriz Jablonski	Consultant	GEE06	Team Member
Ahya Ihsan	Senior Economist	GMTP2	Team Member



Bryan Christopher Land	Lead Oil and Gas Specialist	GEEXI	
Puguh Imanto	Energy Specialist	GEE02	Team Member
Krisnan Pitradjaja Isomartana	Senior Environmental Specialist	GENE1	
Werner L. Kornexl	Sr Natural Resources Mgmt. Spec.	GENE2	
Yue Man Lee	Senior Economist	GMTA1	
Niltha Mathias	Operations Analyst	GMTP2	
Elitza Mileva	Senior Economist	GMTP1	
Arvind Nair	Economist	GMTP1	Team Member
Rajat Narula	Lead Financial Management Specialist	GGOMN	Team Member
Sylvia Njotomihardjo	Program Assistant	EACIF	
Muchsin Chasani Abdul Qadir	Energy Specialist	GEE02	Team Member
Mariangeles Sabella	Senior Country Officer	LCC7A	Team Member
David Santley	Sr Petroleum Spec.	GEEXI	
Dhruva Sahai	Sr Financial Analyst	GEE08	
Alex Sienaert	Senior Economist	CROCR	Team Member
Connor P. Spreng			Team Member
Michael Stanley	Lead Mining Specialist	GEEDR	
P.K. Subramanian			Financial Management Specialist
Bambang Suharnoko Sjahrir	Senior Economist	GPV02	
Unggul Suprayitno	Sr Financial Management Specialist	GGOEA	
Olivia Tanujaya	Consultant	GEE02	
Della Y.A. Temenggung			
Frank Van Oordt	Consultant	GEEXI	
Matthew Wai-Poi	Senior Economist	GPV05	



Ahsan Ali	Lead Procurement Specialist	GGOPG	Procurement Specialist
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(b) Staff Time and Cost

Stage of Project Cycle	Staff Time and Cost (Bank Budget Only)	
	No. of staff weeks	USD Thousands (including travel and consultant costs)
Lending		
2015	39.31	299,392.91
2016	72.70	315,966.01
2017	2.25	4,828.95
Total:	114.26	620,187.87
Supervision/ICR		
2019	4.92	38,121.91
Total:	4.92	38,121.91



ANNEX 2: Risks and mitigation

This annex provides a detailed account of the risks identified in the program document, the effectiveness of the mitigation, the risks that materialized and their impact on the program.

Political and Governance risks were rated substantial: The program document stressed the complexity of the political environment of the sector, including the presence of vested interests, corruption and rent-seeking behaviors. It also raised concerns that PLN was partly opposed to PBR and to enhancement of the government's regulatory framework. The political cycle affected the program implementation as well, particularly the repeated changes of key ministers including the Minister of Energy (four ministers in five years) and the run-up to the local elections in 2018 and 2019 presidential and parliamentary elections which affected the reform momentum and government priorities.

Macroeconomic risks were rated moderate: Fiscal pressures were identified as the main risk amidst a more challenging international environment (given prospective Federal Reserve tightening and the slowing of growth in emerging markets and commodity demand). As economic growth slowed down in 2014-17 (5 percent per annum in 2010-13 vs 6 percent per annum in 2014-17), the fiscal revenue-to-GDP ratio dropped by and remains significantly below its pre-2013 level. Expenditures were also cut in parallel helping the government maintain the fiscal deficit at 2.3 percent of GDP on average in 2014-18. Overall Indonesia's macroeconomic framework has remained solid during the program implementation period: (a) Inflation has remained under control (3.5 percent on average in 2016-2018) and the unemployment rate fell to a 20-year low in 2018 to 5.3 percent; (b) the current account deficit averaged 2 percent of GDP during 2015-2017 and widened to 3 percent in 2018 in most part due to strong capital goods imports, which combined with a shrinking of the financial and capital account, led to a moderate drop in international reserves and depreciation of the Rupiah. Four major credit ratings agencies consider Indonesia's sovereign credit as investment grade, all of which upgraded their ratings since May 2017¹³.

Sector Strategies risks were rated substantial: The program document identified gas sector risks as the highest, with risks of coordination failure (no regulatory framework adopted), risks that oil and gas law debates becomes drawn out, risks that the state-led planning model for gas infrastructure development may lead to inefficiency and poor governance standards. At the time of the ICR, the Oil and Gas Law was still under revision and there was no specific timeframe for its adoption. The restructuring in the mid-stream gas sector through the merger of PGN (Perusahaan Gas Negara) and Pertamina gas (Pertagas) to create a single dominant state-owned owner and operator of the gas transmission system is an essential first step towards addressing underlying system limitations (Government regulation No. 6/2018). However, it is critical that the newly consolidated midstream assets be subject to close regulation to avoid abuse of monopoly, be operated under a regime that provided for unbundling of the gas transmission and merchant functions and greater transparency in providing third party access to pipelines and in setting gas transportation tariffs.

Risks related to the technical design of program were rated low: The SIEDPL was technically a well-prepared operation with strong mobilization of expertise. Most reforms were sequenced in two series, except streamlining of procedures (SIEDPL-1) and electrification plan (SIEDPL-2). The operation also helped to establish broad coordination on the sector policies, both within and outside the WB, within the WB by mobilizing multisector international team and TAs complementing the SIEDPL, and outside the WB by

¹³ Standard and Poor's (BBB), Fitch (BBB), Moody's (Baa2), and the Japan Credit Rating Agency (BBB).



providing platform for policy dialogue and coordination with administrations and with other donors including on TAs. As mentioned above (under assessment of the operations design), the use of regulations as prior actions (as opposed for instance to laws or council of ministers/cabinet decisions implemented by ministerial regulations) accentuated the impact of ministerial turnover and the limited leverage of DPL instruments in middle income countries such as Indonesia.

Risks related to institutional capacity for implementation and sustainability and stakeholders were rated substantial: Indonesia's implementation challenges are well documented in the SCD (2015) and referenced in the program document which also flags the institutional capacity to deliver complex reforms in the energy sector. By supporting the reforms, the Bank's TAs and investment lending were also acting as mitigation measures. Risk that PBR for the PLN would not be implemented was also considered significant. These risks materialized, combined with the following ones: (i) the risk that the operation heavily relied on few champions in the government which disrupted the reform momentum after the change in priorities and cabinet reshuffling in 2016 and subsequent changes across all the Directorates-General of the MEMR; (ii) Financial and political incentives on PLN to maintain the status-quo cost-plus-margin approach to setting its allowed revenues, the PSO subsidy and its tariffs - rather than being subjected to a more rigorous and transparent regulatory approach (PBR) that would seek to drive efficiency gains in capital expenditures and operations. The high presence of WB field-based staff and the deep technical engagement helped mitigate the impact of these changes but the natural turnover of WB staff and the change of team composition between the first and second operation combined with the political and sector changes constituted additional challenges in the policy dialogue.

Fiduciary risks were rated moderate: The program document did not elaborate on this risk with the DPL instrument relying on the country's PFM system as it is directed towards general budgetary support. The average 2017 national PEFA performance score is slightly below B, which is above the basic level of performance broadly consistent with good international practices, with weaknesses notably in budget reliability (PI3), in management of assets and liabilities (PI11), and in external scrutiny and audit (PI31).

Environmental and social risks were rated substantial: The most significant risks identified were environmental risks of geothermal projects on the forest ecosystems and social risks related to land access regime in forest areas. The Geothermal Law 2014 relaxed restrictions over geothermal activities. Geothermal projects are no longer classified as mining activities, and they can be carried out in forest areas including protected forests. A Bank TA "Sustainable Geothermal Power Development in Forest Areas" was provided to advise on the adequacy of the scope of regulations addressing environmental and social impacts of geothermal development especially in the Conservation Forest Areas.



ANNEX 3: Subsidy elimination and tariff adjustment implementation

Classes of customers	2013	2014	2015	2016	2017
Social					
Social (7 classes)	Subsidised tariff	Subsidised tariff	Subsidised tariff	Subsidised tariff	Subsidised tariff
Residential					
Small Household	Subsidised tariff	Subsidised tariff	Subsidised tariff	Subsidised tariff	Subsidised tariff
Small Household – 900 VA	Subsidised tariff				Gradual tariff increase and tariff adjustment
Small Household – 1300 VA	Subsidised tariff	Gradual tariff increase	Tariff adjustment	Tariff adjustment	Tariff adjustment
Small Household – 200 VA	Subsidised tariff	Gradual tariff increase	Tariff adjustment	Tariff adjustment	Tariff adjustment
Medium Household 3 500	Subsidised tariff	Gradual tariff increase	Tariff adjustment	Tariff adjustment	Tariff adjustment
Large Residential (1 class)	Gradual tariff increase	Tariff adjustment	Tariff adjustment	Tariff adjustment	Tariff adjustment
Business					
Small Business (3 classes)	Subsidised tariff	Subsidised tariff	Subsidised tariff	Subsidised tariff	Subsidised tariff
Medium Business (1 class)	Gradual tariff increase	Tariff adjustment	Tariff adjustment	Tariff adjustment	Tariff adjustment
Large Business (1 class)	Gradual tariff increase	Tariff adjustment	Tariff adjustment	Tariff adjustment	Tariff adjustment
Industry					
Small Industry (6 classes)	Subsidised tariff	Subsidised tariff	Subsidised tariff	Subsidised tariff	Subsidised tariff
Medium Industry (1 class)	Subsidised tariff	Gradual tariff increase	Tariff adjustment	Tariff adjustment	Tariff adjustment
Large Industry (1 class)	Subsidised tariff	Gradual tariff increase	Tariff adjustment	Tariff adjustment	Tariff adjustment
Government					
Small government office (4 classes)	Subsidised tariff	Subsidised tariff	Subsidised tariff	Subsidised tariff	Subsidised tariff
Medium government office (1 class)	Gradual tariff increase	Tariff adjustment	Tariff adjustment	Tariff adjustment	Tariff adjustment
Large government office (1 class)	Subsidised tariff	Gradual tariff increase	Tariff adjustment	Tariff adjustment	Tariff adjustment
Street and Road Lighting	Subsidised tariff	Gradual tariff increase	Tariff adjustment	Tariff adjustment	Tariff adjustment
Other					
Traction	Subsidised tariff	Subsidised tariff	Subsidised tariff	Subsidised tariff	Subsidised tariff
Bulk	Subsidised tariff	Subsidised tariff	Tariff adjustment	Tariff adjustment	Tariff adjustment
Premium services	Non subsidised tariff	Non subsidised tariff	Tariff adjustment	Tariff adjustment	Tariff adjustment

Source: OECD 2019, G20 peer reviewer report (Ministry of Energy and Mineral Resources, 2017)



Electricity subsidy reform in Indonesia – Key dates

- 2003-04: Only 450 VA consumers are subsidized (5 classes). The 32 other classes are not subsidized.
- 2005-12: All consumers are subsidized (37 classes). In 2010, the government increased tariffs by 18%, on average, for most consumer classes except 450VA and 900VA households.
- 2013: The base tariff is increased by 15% over the course of the year (450-900 VA households are not included). Four consumer classes are excluded from the subsidy (large residential, businesses, and government customers), leaving 33 classes still subsidized.
- 2014-15: Another 8 classes of consumers are excluded from the subsidy, and tariff adjustment is applied to the 4 classes excluded in 2013.
- 2016: Tariff adjustment is applied to 12 consumer classes (the 4 consumer classes excluded from the subsidy in 2013 and the 8 consumer classes excluded from the subsidy in 2014-15). Twenty-five consumer classes remain subsidized.
- 2017: “Non-poor” 900 VA residential are excluded from the subsidy based on the unified poverty database (UPD) for social assistance programs. Tariff adjustment for “non-poor” 450 VA is suspended.
- 2018: In March, the government announces its decision to keep electricity prices at current levels until the end of 2019.

Source: OCED 2019, G20 peer reviewer report