ADB

Project Concept Paper

Project Number: 52280-001
December 2018

Proposed Loan
Indonesia: Sustainable Energy Access in Eastern Indonesia–Power Transmission Sector Project

Asian Development Bank

CURRENCY EQUIVALENTS
(as of 3 December 2018)

Currency Unit	=	rupiah (Rp)
Rp1.00	=	$0.000069
$1.00	=	Rp14,349

ABBREVIATIONS

ADB	–	Asian Development Bank
APA	–	alternative procurement arrangements
CSS	–	country safeguards systems
GW	–	gigawatt
EARF	–	environmental assessment and review framework
kV	–	kilovolt
PLN	–	Perusahaan Listrik Negara (State Electricity Company)
TRTA	–	transaction technical assistance
RIPPF	–	resettlement framework or combined resettlement and indigenous people framework
IPP		
RPJMN	–	National Medium-Term Development Plan
RUPTL	–	National Power Development Plan
MW	–	Megawatt

NOTES

(i) The fiscal year (FY) of the Government of Indonesia and its agencies ends on 31 December.

(ii) In this report, “$” refers to United States dollars.

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PROJECT AT A GLANCE

1. Basic Data				**Project Number:** 52280-001
Project Name	Sustainable Energy Access in Eastern Indonesia - Power Transmission Sector Project	**Department /Division**	SERD/SEEN	
Country	Indonesia	**Executing Agency**	Perseroan PT. Perusahaan Listrik Negara	
Borrower	Perseroan PT. Perusahaan Listrik Negara			

2. Sector	**Subsector(s)**		**ADB Financing ($ million)**
✓ **Energy**	Electricity transmission and distribution		500.00
		Total	**500.00**

3. Strategic Agenda	**Subcomponents**	**Climate Change Information**	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change impact on the Project	Low

4. Drivers of Change	**Components**	**Gender Equity and Mainstreaming**	
Governance and capacity development (GCD)	Institutional development	Some gender elements (SGE)	✓
Knowledge solutions (KNS)	Application and use of new knowledge solutions in key operational areas		
Private sector development (PSD)	Public sector goods and services essential for private sector development		

5. Poverty and SDG Targeting		**Location Impact**	
Geographic Targeting	Yes	Rural	Medium
Household Targeting	No	Urban	Medium
SDG Targeting	Yes		
SDG Goals	SDG1, SDG7, SDG10		

6. Risk Categorization: Complex

7. Safeguard Categorization **Environment:** A **Involuntary Resettlement:** B **Indigenous Peoples:** B

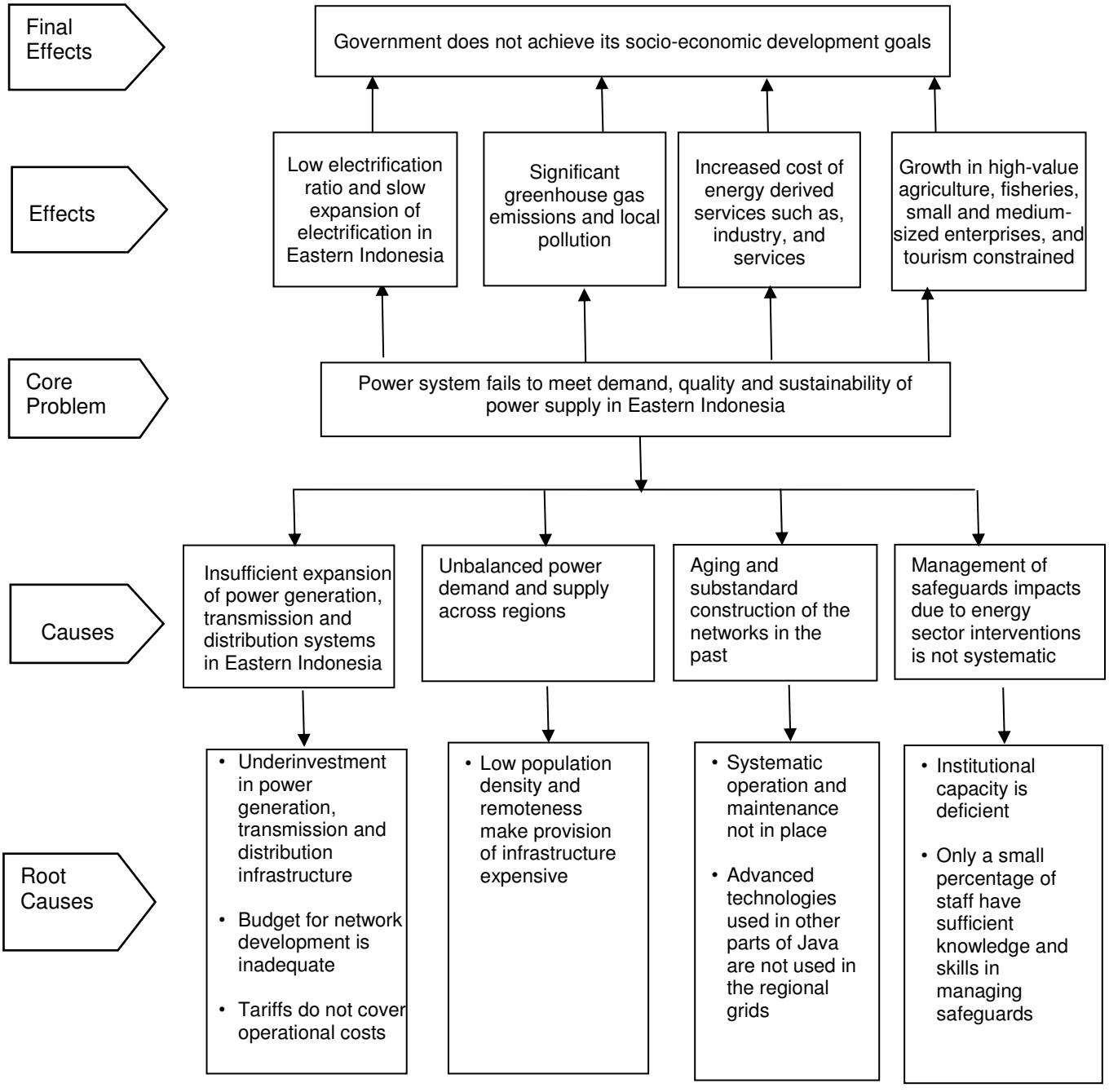
8. Financing

Modality and Sources	Amount ($ million)
ADB	**500.00**
Sovereign Sector (Regular Loan): Ordinary capital resources	500.00
Cofinancing	**0.00**
None	0.00
Counterpart	**150.00**
Government	150.00
Total	**650.00**

Currency of ADB Financing: USD,IDR

Source: Asian Development Bank

PROBLEM TREE



I. THE PROJECT

A. Rationale

1. The proposed sector loan aims to support the development of the high voltage (150 kilovolt [kV] and 70 kV) power transmission system across Eastern Indonesia.[1]

2. Power system fails to meet demand, quality and sustainability of power supply in Eastern Indonesia. Some areas do not have access to sustainable energy services. The electrification ratios are very low—Nusa Tenggara West 83%, Central Sulawesi 78%, Nusa Tenggara East 53% and Papua 40% against a national average ratio of 93% as of 2017. Lack of access to energy constrains growth in high-value agriculture, fisheries, small and medium-sized enterprises, and tourism, all of which rely on a stable energy supply. Uneven development across provinces has contributed toward widening income disparities, with several provinces in Eastern Indonesia lagging significantly behind Java and Bali. To address this, the government has prioritized accelerating investment in infrastructure, which explicitly includes the "outer" and eastern regions as geographical priorities. One of its pillars is to significantly improve access to electricity services by adding generation capacity and expanding power grids to raise the national electrification ratio to 100% by 2024, add 56 gigawatts of new power generation capacity by 2027 and to increase the share of renewable energy in the national energy mix from 15% in 2017 to 23% in 2025.[2,3] Eastern Indonesia, where power grids across the islands are isolated and underdeveloped, presents the greatest challenge in achieving the State Electricity Company (Perusahaan Listrik Negara [PLN]) electrification targets, and to maintain the reliability and quality of power supply.

3. To support expansion of energy access in Eastern Indonesia, Asian Development Bank (ADB) has formulated a holistic program, "Sustainable Energy Access in Eastern Indonesia (SEAEI)", covering power generation, transmission and distribution including ongoing and planned projects comprising (i) the Electricity Grid Development Program (Sulawesi and Nusa Tenggara); (ii) the Power Generation Sector Project; (iii) the Electricity Grid Development Program II (Kalimantan, Maluku and Papua); (iv) the Liquified Natural Gas Distribution Infrastructure Project; and (v) the Power Transmission Sector Project (the proposed project). All these projects and programs will help achieve universal access to sustainable and modern energy services as envisioned in the 2017 National Energy Plan (footnote 3) and the Electricity Power Supply Business Plan 2018–2027 (RUPTL).[4] The project is well anchored to the Country Partnership Strategy in supporting government priorities to promote inclusive economic growth, and is in line with ADB's energy sector assessment for Indonesia and is listed in the Country Operations Business Plan 2019-2021.[5]

4. To achieve the government's target of universal access to energy, an estimated $2 billion investment to expand the transmission system in Eastern Indonesia is required for the period from 2020–2024. Financing this level of capital expenditure while maintaining affordability is a challenge due to the high cost of generation required to maintain reserve margins in small, fragmented grid

[1] "Eastern Indonesia" is used to cover provinces in Kalimantan, Maluku, Nusa Tenggara, Papua, and Sulawesi.
[2] The Government is pausing and reassessing the level of this aggressive generation growth target, but nevertheless, such growth in Eastern Indonesia through 2027 will be substantial.
[3] Government of Indonesia. 2017. *Rencana Umum Energi Nasional (RUEN) 2017 (National Energy Plan 2017)* Jakarta
[4] Government of Indonesia. 2018. *Rencana Usaha Penyediaan Tenaga Listrik (RUPTL) 2018–2027 (Electricity Power Supply Business Plan 2018–2027)*. Jakarta.
[5] ADB. 2016. *Country Partnership Strategy: Indonesia, 2016–2019: Towards a Higher, More Inclusive and Sustainable Growth Path.* Manila; ADB. 2016. *Indonesia: Energy sector assessment, strategy, and road map*. Manila; and ADB. 2018. *Country Operations Business Plan: Indonesia, 2019-2021*. Manila.

systems. Thus, PLN requires government support and has requested ADB's support for the project. [6]

B. Proposed Solutions

5. The project aims to develop the transmission system to resolve the lack of capacity in the high voltage transmission system and improve the quality of supply (reliability and efficiency). Project outputs are: (i) high voltage transmission system strengthened and expanded; and (ii) innovation and institutional capacity of PLN enhanced. Output 1 focuses on rehabilitation, upgrading, and expansion of 150 kV and 70 kV transmission lines; and construction of new 150/70 kV, 150/20 kV and 70/20 kV substations including substation automation in the provinces of Kalimantan, Maluku, Nusa Tenggara, Papua and Sulawesi. Output 2 focuses on advanced technologies and state-of-art operation and maintenance practices.

6. These outputs will result in the outcome: Capacity of the power transmission system in the Eastern Indonesian provinces of Kalimantan, Maluku, Nusa Tenggara, Papua and Sulawesi increased, and its reliability and efficiency enhanced.[7] The project will be aligned with the impact: quality of life in Indonesian society enhanced by the sustainable use of electricity.

7. The project is aligned with the national energy plan, sustainable development goals and energy for all, and the following priorities of ADB's Strategy 2030: addressing poverty and inequality, making cities more livable, and accelerating governance and institutional capacity.[8] Other ADB value additions would be: (i) alternative procurement arrangements (APA) if deemed feasible based on ongoing assessments by the Procurement, Portfolio and Financial Management Department[9] which may reduce delays in carrying out the procurement process and facilitate faster implementation of the project (para 16); (ii) advanced technologies and/or high-level technologies (para 15); and (iii) enhanced capacity of PLN regional offices to use advanced and high-level technologies and state of art operations and maintenance practices. Currently, agency level use of Country Safeguards System (CSS) for PLN is being assessed and will be presented for ADB Board approval.[10] Depending on if and when it will be approved by the ADB board and identified gaps are addressed, this project might consider using this PLN CSS (para13). If the CSS is utilized, the project will add value by improving PLN CSS through enforcement of corrective actions to the existing practices and strengthening PLN's capacity.

C. Proposed Financing Plans and Modality

8. The ADB-financed scope of this sector loan is estimated to cost $650 million, with ADB to provide $500 million from ordinary capital resources with $150 million from PLN as counterpart

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[6] Investment needs for generation, transmission, and distribution program under RPJMN is $83.5 billion of which $43.5 billion is to come from the private sector (independent power producers) and the balance $40 billion from PLN. The government and PLN will not be able to meet the investment needs on their own. PLN has an estimated funding gap of $30.3 billion which will have to be borne by other financing sources including development partners.

[7] The design and monitoring framework is in Appendix 1.

[8] ADB. 2018. *Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific.* Manila.

[9] PLN requested ADB to assess APA for PLN at the project consultation mission in April 2018. Considering PLN's experience in implementing results-based lending programs using its procurement systems, it was agreed that Procurement, Portfolio and Financial Management conducts an assessment. The assessment started in July 2018, findings and draft recommendations were presented to PLN on 8 November 2018. PLN's feedback is expected in December 2018.

[10] Country Safeguard System refers to a country's legal framework, consisting of its national, subnational, or sectoral implementing institutions and relevant laws, regulations, rules and procedures that pertain to the policy areas of environmental and social safeguards.

financing.[11] The tentative financing plan is in Table 1. It is expected that the loan will be provided directly to PLN with a sovereign guarantee.

Table 1: Tentative Financing Plan

Source	**Amount** ($ million)	**Share of Total** (%)
Asian Development Bank	500.00	76.92
Ordinary capital resources (Regular loan)	500.00	76.92
Perusahaan Listrik Negara (State Electricity Company)	150.00	23.08
Total	**650.00**	**100.00**

Source: Asian Development Bank staff estimates.

9. ADB sector lending modality is deemed more applicable for the project based on the lessons learned from earlier project loans where stalled components, most often due to land acquisition, led to the entire loan becoming stuck. This loan will fund many dispersed lines in scattered locations and flexibility is important to select subprojects based on the actual demand growth in each region and to swap problem components as required. Due diligence will incorporate the lessons learned from two previous ADB-financed sector projects in Indonesia's energy sector.[12] Terms of reference for the project preparatory consultancy firm includes thorough due diligence, and the terms of reference for the project implementation consultants', covering the preparation of subsequent subprojects, will include requisite deliverables. Early screening, and early commencement of feasibility studies of subprojects which PLN has agreed to include are important aspects. ADB's new procurement framework will also support timely project delivery. Core subprojects will be identified, and full due diligence will be conducted prior to ADB's Board consideration. Subsequent subprojects will be determined based on the approved screening and selection criteria.

10. PLN has a 10-year electricity development plan (RUPTL, footnote 4) which is updated annually, and PLN has the institutional capacity to prepare, implement and monitor this sector development pan. The subprojects will be selected from the RUPTL. To improve safeguard policy applicable to the sector, the project aims to pilot PLN level use of CSS (para 13), if warranted based on due diligence.

D. Implementation Arrangements

Table 2: Indicative Implementation Arrangements

Aspects	**Arrangements**
Indicative implementation period	July 2020–June 2026
Indicative completion date	30 June 2026
Management[a]	
(i) Executing agency	PLN
(ii) Key implementing agencies	PLN

PLN = Perusahaan Listrik Negara (State Electricity Company)
[a] A dedicated project management unit headed by a full-time project director with administrative support will oversee project implementation.
Source: Asian Development Bank.

[11] Given the larger financing needs of PLN, there is a scope for cofinancing, including parallel collaborative cofinancing.
[12] ADB. 2015. *Investing in Renewable Energy Generation and Power Transmission in Eastern Indonesia.* Manila. The lessons include (i) careful selection of sites that minimize negative environmental and social impacts; (ii) using centralized procurement and clustering of several subprojects when possible to avoid delays caused by procurement processes managed by multiple offices; and (iii) if required, inclusion of transmission line connection to the next substation into the subproject scope.

11. **Subproject selection criteria.** Tentative subproject selection criteria, which will be further refined, will include the following; subprojects shall be technically feasible and economically viable, included in the RUPTL, should not include projects that are category A for social safeguards and indigenous people, as defined in ADB's Safeguard Policy Statement (2009); and should not include dedicated transmission lines connected to sensitive generation stations which have irreversible environmental impacts. The core subprojects will include a sample of subprojects with the highest safeguards category (environmental category A, involuntary resettlement category B and indigenous peoples category B).[13]

12. **Subproject approval procedure.** Subprojects shall be appraised and approved based on the following procedure: PLN shall (i) carry out the technical feasibility study covering the initial engineering design of the subproject,[14] cost estimates, procurement packaging and an implementation schedule; (ii) prepare a resettlement plan or a combined resettlement and indigenous people plan meeting the requirements of the approved resettlement framework or combined resettlement and indigenous people framework (RIPPF); (iii) prepare a subproject's environmental impact assessment following the environmental assessment and review framework (EARF); and (iv) submit an appraisal report, which include items (i) to (iii) above for ADB approval.[15]

13. **Safeguards.** Due to the nature of habitats and biodiversity in the Eastern Indonesian Islands, the project environmental impacts are expected to be categorized as "A"**.** Resettlement impacts for 150 kV and 70 kV transmission lines are not expected to be significant as the project will not pose severe impacts on the community's land and assets based on PLN experience. As such, the resettlement impact category is expected to be "B". Safeguards categorization will be confirmed during project due diligence. Safeguards frameworks (EARF and RIPPF) and safeguards plans for sample subprojects will be prepared. Use of agency level CSS will be considered if and when the use of PLN CSS is approved by ADB's Board of Directors, and PLN and ADB agree to apply PLN CSS to the project after completing an acceptability assessment in the context of this project as required under the Safeguard Policy Statement. In the interim safeguards documents relevant for the sector modality will be prepared and if PLN CSS is approved, the safeguards document can be transferred to meet the requirement of CSS, with the benchmark being the PLN CSS action plan. This assessment will be done during project preparation, and if PLN CSS will be used, the results of the assessment will be included in the Report and Recommendation to the President, together with an action plan to fill any identified gaps for the project. The use of CSS will not obviate ADB's responsibilities for safeguard review during project implementation. The review will be based on requirements under the CSS and on the agreed action plan. ADB's accountability mechanism will continue to apply even if and when PLN CSS is applied.

14. **Indigenous peoples**. Many indigenous groups live in Eastern Indonesia but no significant project impacts on indigenous peoples are expected as the project will not acquire large land areas that will affect their existing traditional livelihood. Indigenous people category B and C subprojects will be selected. There will be no category A subprojects. An indigenous Peoples Plan will be prepared based on ADB's Safeguards Policy Statement and due diligence will be conducted to explore alternative project designs to avoid physical displacement if any.

[13] If CSS is applied to the project, the subprojects selected shall not be highly complex or sensitive.
[14] The contractor finalizes the design as part of a turn-key contract.
[15] Financial and economic assessments shall be prepared for the overall project

15. **Technologies.** Project feasibility studies will assess current technologies used by PLN and recommend more efficient technologies. Some advanced technologies including automated regional control centers, and automated substations with remote sensing of equipment status, and supervisory control and data acquisition systems are already in place in other parts of Indonesia— but not in some parts of Eastern Indonesia. The project will focus on the use of advanced technologies used in Java and globally. The due diligence also includes exploring viable high-level technologies which are scalable. Examples of technologies are; battery technologies to address intermittency of renewable energy systems, flexible alternate current transmission systems to increase fault levels as the network expands, and improved transmission network management systems.

16. **Procurement.** For ADB financed projects, the procurement modality generally used by PLN is turn-key and open competitive bidding following ADB procurement guidelines. The potential to apply APA under new Procurement Policy is under review. Based on the results, ADB will discuss with PLN and determine if the project will follow ADB procurement rules and procedures or APA. In the event ADB procurement procedures are used, turnkey contracts will likely be used and subprojects with compatible characteristics may be packaged together. The indicative procurement method will be open competitive bidding. A project implementation consulting firm will be recruited using the quality and cost-based selection method (quality: cost weighting of 90:10) to assist the EA in implementing the project. All procurement including consulting services will be conducted in accordance with ADB's Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time).

17. **Financial due diligence.** Due diligence will analyze PLN's overall financial performance and will consider the government's subsidy to PLN, tariffs that are below cost recovery levels, the source of the $150 million counterpart funds and the repayment capacity of PLN, and the effect of currency depreciation in Indonesia.

II. PROJECT PREPARATION AND READINESS

18. The project feasibility studies will be supported under the cluster technical assistance C-TA0013-INO: Sustainable Infrastructure Assistance Program financed by the government of Australia through the Department of Foreign Affairs and Trade and administered by ADB. The TA facility for $1.5 million was approved for power sector projects in Indonesia.[16]

19. The project envisages the use of advance contracting and retroactive financing of up to 20% of total financing subject to ADB management's approval, project readiness, and availability of counterpart financing. The project is expected to be implemented from June 2020 to June 2026.

III. DELIBERATIVE AND DECISION-MAKING ITEMS

A. Risk Categorization

20. The proposed project is categorized as complex as it involves subprojects across archipelagic Eastern Indonesia with the loan amount exceeding $200 million.

[16] ADB. 2018. *Transaction Technical Assistance Cluster Subproject for Sustainable Infrastructure Assistance Program-Supporting Sustainable and Universal Electricity Access in Indonesia (Subproject 13).* Manila (TA 9559).

B. Project Procurement Classification

21. The procurement risk category is A as intensive procurement support is required to conduct the APA assessment.

C. Scope of Due Diligence

Table 3: Scope of Due Diligence

Due Diligence Outputs	To be undertaken by
Development coordination	Staff
Economic analysis	Staff, TA grant
Financial management assessment, financial evaluation, and financial analysis	Staff, TA grant
Gender analysis, collection of baseline data and gender design features	Staff, TA grant
Safeguard screening and categorization results	Staff, TA grant
Initial poverty and social analysis	Staff, TA grant
IDD and/or AML/CFT checklists	Staff, TA grant
Project level acceptability assessment for safeguards	Staff, TA grant
Alternate procurement arrangements if viable	Staff, TA grant
Project administration manual	Staff, TA grant
Risk assessment and management plan	Staff, TA grant
Safeguard documents on environment, involuntary resettlement, and/or indigenous peoples[a]	Staff, TA grant
Climate impacts and risk assessment	Staff, TA grant
Sector assessment	Staff
Summary poverty reduction and social strategy	Staff, TA grant

AML = anti-money-laundering, CFT = combating financing of terrorism, CSS = country safeguards systems, IDD = integrity due diligence, PLN= Perusahaan Listrik Negara (state electricity corporation), TA = technical assistance.
[a] Safeguard documents on environment, involuntary resettlement requirements under the use of CSS in case of PLN use of CSS is applied for the project will be the benchmark.
Source: Asian Development Bank

D. Processing Schedule and Sector Group's Participation

Table 4: Processing Schedule by Milestone

Milestones	Expected Completion Date
1. Concept paper approval	Dec 2018
2. Consultants fielding	Oct 2018 (individual consultants), Mar 2019 (consultancy firm)
3. Fact finding mission	Jul 2019
4. Management review of the proposal	Aug 2019
5. PLN processing sovereign guarantee	Aug 2019
6. Loan negotiations	Jan 2020
7. Board circulation	Feb 2020
8. Loan approval	Mar 2020
9. Loan signing	May 2020
10. Loan effectiveness	Jul 2020

Source: Asian Development Bank

E. Key Processing Issues and Mitigation Measures

Table 5: Issues, Approaches and Mitigation Measures

Key Processing Issues	Proposed Approaches and/or Mitigation Measures
1. Delay in Ministry of State-Owned Enterprises' endorsement and Ministry of Finance approval to borrow.[a]	Advance consultation with the government ministries and continuous follow-up with PLN
2. For environmental category A projects, a national environmental impact assessment (AMDAL) is required, and preparation and approval for the subprojects requiring an AMDAL are expected to take about one year.	Core subprojects will be identified early and project preparation consultants will support consultation and preparation of the required documents.

[a] PLN processes the request for approval after ADB management review meeting.

PRELIMINARY DESIGN AND MONITORING FRAMEWORK

Impact the project is aligned With: Quality of life in Indonesian society enhanced by the sustainable use of electricity (RUPTL, 2018–2027)			
Results Chain	**Performance Indicators with Targets and Baselines**	**Data Sources and Reporting Mechanisms**	**Risks**
Outcome Capacity of the power transmission system in the Eastern Indonesian provinces of Kalimantan, Sulawesi, Nusa Tenggara, Maluku and Papua increased, and its reliability and efficiency enhanced.	By 2026, in Eastern Indonesia power system a. Capacity of transmission system increased to xx MVA (in each regional system) 2017 baseline xx MVA (in each regional system) b. Reliability norms of electricity supply maintained or increased (in each regional system) SAIFI reduced to xx interruptions/year SAIDI reduced to xx hours/customer (in each regional system) 2017 baseline: SAIFI xx interruptions, SAIDI xx hours (in each regional system) c. Transmission technical losses maintained or reduced (in each regional system) 2017 baseline: xx% losses (in each regional system)	a. b. and c. PLN annual statistics, PLN SILM	PLN funding targets for required investments in power generation, transmission, and distribution are not met.
Outputs 1. High voltage transmission system strengthened and expanded.	By 2026 1a. xx km of 150 kV and xx km of 70 kV new lines constructed Baseline: N/A 1b. xx number of 150/70 kV and xx number of 150/20 kV new substations built adding total xx MVA of capacity Baseline: N/A 1c. xx km of 150 kV and xx number of 70 kV lines rehabilitated/upgraded 2017 baseline: xx km of 150 kV lines and xx number of 70 kV lines need upgrading and rehabilitation 1d. xx number of 150/70 kV and 150/20 kV substations expanded adding xx MVA of capacity 2017 baseline: xx number of 150/70 kV and 150/20 kV substations need upgrading and rehabilitation	1a-1d, PLN SILM, PLN regional offices records	

2. Innovation and institutional capacity of PLN enhanced	2a. Increased use of x number of advanced technologies (including high-level technologies if viable) in the regional power systems[a] 2017 baseline: no or x units of particular type of advance technology installed 2b. Increased knowledge in advanced technologies (including high-level technologies if viable). Minimum x staff with x% of female staff demonstrate improved knowledge in advance / high-level technologies 2017 baseline: regional units do not have knowledge in advance technologies 2c. Increased knowledge in state-of-art operation and maintenance practices of four PLN regional departments. x% of operation and maintenance staff with x% of female staff demonstrate improved skills on operation and maintenance 2017 baseline: x number of PLN regional offices do not have fully trained / equipped operation and miniatous units. x% of staff have no sufficient skills and do not receive regular training.	2a, capacity assessment and training programs, and training evaluation certificates of the trained staff 2b and 2c, capacity assessment and training programs, training evaluation certificates of the trained staff that shall include the % of trained female staff.	Retention of trained staff affected due to staff transfers

Key Activities with Milestones

Output 1. High voltage transmission system strengthened and expanded

1.1 Screen and select core subprojects and appraise and design the project (Q3 2018–Q3 2019)
1.2 Review existing technologies and propose advanced / high-level technologies based on good global practices (Q1–Q2 2019)
1.3 Identify suitable threshold for appraisal of subprojects (in physical or financial terms), eligibility criteria, and selection procedure for subsequent subprojects (Q1 2019)
1.4 Establish project implementation arrangements, project management and implementation units (Q1 2019)
1.5 Conduct financial and economic assessments (Q3 2019)
1.6 Environmental assessment and review framework, initial environmental examinations and environmental management plans for core subprojects (Q1–Q3 2019)
1.7 Conduct climate impacts and risk assessment, and prepare mitigation measures if there are impacts (Q3 2019)
1.8 Assess the contribution of the project in achieving INDC's targets of mitigating greenhouse gas emissions (Q3 2019)
1.9 Resettlement and indigenous peoples framework, social and poverty impacts assessment, indigenous people plan, land acquisition and resettlement plan (Q1–Q3 2019)
1.10 Advance preparation of bidding documents (Q1–Q3 2019)
1.11 Advance actions for recruitment of project implementation consultants (PIC) and engage PICs (Q2–Q3 2019)
1.12 Bidding and award of contracts (Q2 2019–Q4 2024)
1.13 Construct new high voltage transmission lines and new substations; and rehabilitate existing high voltage transmission lines and substations adopting advanced / high-level technologies (Q4 2019–Q2 2026)

Output 2. Innovation and institutional capacity of PLN enhanced 2.1 Assess capacity of four regional power units in use of advanced technologies and operation and maintenance practices (Q1–Q3 2019) 2.2 Deliver capacity development programs in advanced technologies, operation and maintenance practices for minimum xx staff including x% of female staff and evaluate training courses (Q2 2019–Q4 2023) 2.3 Deliver capacity development programs for minimum xx staff including x% of female staff on gender mainstreaming in power transmission sector (Q2 2019–Q2 2020) 2.4 Review country safeguards systems, its actions plan and identify any gaps relevant to the project and actions to bridge the gaps if country safeguards systems for PLN is approved by ADB board (Q2 2019) 2.5 Review PLN procurement procedures, identify gaps that compromise ADB procurement principles and identify alternate procurement arrangement for the project if viable (Q3 2018–Q1 2019) 2.6 Assess opportunities for inclusion of gender inclusive procurement elements to be applied in the procurement of goods and services during the construction and operations (Q1 2019)
Project Management Activities Risk mitigation measures, monitoring and evaluation, submission of periodic reports, beneficiary and affected people surveys, and other activities identified during project feasibility studies (Q1–Q3 2019) Conduct needs assessment for specific skills and knowledge areas (Q1 2019–Q3 2020) Prepare learning modules as needed to fit participant needs (Q1 2019–Q3 2020) Deliver and evaluate training courses (Q1 2019–Q3 2023) Safeguards, and financial management (Q3 2019–Q4 2026)
Financing Plan Asian Development Bank: $500.0 million (ordinary capital resources) PLN: $150.0 million
Assumptions for Partner Financing “Others” include possible collaborative funding from KfW and other bilateral and multilateral financial institutions. If partner funding is insufficient, PLN is expected to secure the necessary funding from its internal cash flows or additional equity injections from the government.

km = kilometer, INDC= intended nationally determined contributions; PIC=project implementation consultants, PLN = State Electricity Corporation (*Perusahaan Listrik Negara*), RUPTL = Electricity Power Supply Business Plan (*Rencana Usaha Penyediaan Tenaga Listrik*), SILM = Management Reporting Information System (*Sistem Informasi Laporan Manajemen*), SAIDI= System Average Interruption Duration Index, SAIFI = System Average Interruption Frequency Index

[a] The exact technologies will be identified during the feasibility studies.

Sources: Asian Development Bank; PLN.

PROJECT PROCUREMENT CLASSIFICATION

Characteristic	Assessor's Rating:
Is the procurement environment risk for this project assessed to be *high* based on the country and sector and/or agency risk assessments?	☐Yes ☒No
Are multiple (typically more than three) and/or diverse executing agencies and/or implementing agencies envisaged during project implementation? Do they lack prior experience in implementation under an ADB-financed project?	☐Yes ☒No ☐Unknown
Are multiple contract packages and/or complex and high-value contracts (compared with recent externally financed projects in the developing member country [DMC]) expected?	☒Yes ☐No ☐Unknown Multiple and high-value contracts are expected but not complex.
Does the project plan to use innovative contracts (public–private partnership, performance-based, design and build, operation and maintenance, etc.)?	☐Yes ☒No ☐Unknown
Are contracts distributed in more than three geographical locations?	☒Yes ☐No ☐Unknown
Are there significant ongoing contractual and/or procurement issues under ADB (or other externally) financed projects? Has misprocurement been declared in the DMC?	☐Yes ☒No ☐Unknown
Does the DMC have prolonged procurement lead times, experience implementation delays, or otherwise consistently fail to meet procurement time frames?	☐Yes ☐No ☒Unknown
Do executing and/or implementing agencies lack capacity to manage new and ongoing procurement? Have executing and/or implementing agencies requested ADB for procurement support under previous projects?	☐Yes ☒No ☐Unknown
Regional department's overall recommendation (Aruna Wanniachchi)	
Overall project categorization recommended	☒ Category A ☐ Category B
PPFD support will be required since the use of Alternative Procurement Arrangement (APA) under the new Procurement Policy is being considered.	
PPFD's recommendation (Keiko Koiso) Category A is supported. APA assessment is already commenced.	

TECHNICAL ASSISTANCE FACILITY UTILIZATION UPDATE

1. The transaction technical assistance (TA) for Supporting Sustainable and Universal Electricity Access in Indonesia under the technical assistance cluster 0013-INO: Sustainable Infrastructure Assistance Program was approved on 7 August 2018 in an amount of $1,500,000 financed on a grant basis by the Government of Australia. The TA is expected to be completed on 30 June 2019. As of 3 December 2018, the TA contract awards totaled $306,650 and disbursements totaled $31,889.

2. The TA facility supports the processing of four proposed projects and programs: (i) Eastern Indonesia Power Generation Sector Project (PGSP); (ii) Eastern Indonesia Electricity Grid Development Program Phase II (EGDP II); (iii) Eastern Indonesia Power Transmission Sector Project (PTSP); and (iv) Geothermal Power Development Project (GPDP). The TA will also support the implementation of result-based loan for Eastern Indonesia Electricity Grid Development Program approved in September 2017.[1] The TA facility will deliver the following outputs:

3. **Output 1: Power sector projects and programs prepared.** Technical expertise will be provided to prioritize, plan, and prepare a series of investment projects for potential ADB financing. This will enhance the efficiency of project preparation, address cross-common issues among the projects, and will reduce the transaction costs by minimizing the need for stand-alone transaction TAs. Detailed activities will include, as required: (i) feasibility studies; (ii) economic analysis; (iii) financial management assessments, financial evaluation and analysis; (iv) procurement assessments, procurement plans, and preparation of bidding documents; (v) gender analysis, collection of baseline data, and gender action plans; (vi) risk assessment and management plans; and (vii) safeguards documents on environment, involuntary resettlement and indigenous peoples.

4. **Output 2: Innovation and institutional capacity enhanced.** The TA will support the implementation of loan components on technological innovation, institutional strengthening, and knowledge sharing. These will include technical experts to support the development of smart grid guidelines and design pilot projects under EGDP. Safeguards specialists will be tasked to improve waste management and stakeholder consultation practices under EGDP for Sulawesi and Nusa Tenggara. Experts will also provide technical support for the Eastern Indonesia Power Generation Sector Project to accelerate the implementation of subprojects and provide technical inputs for the solar–gas hybrid pilot projects. Under PTSP due diligence will be conducted to introduce advanced and high-level technologies and strengthen PLN's capacity to conduct efficient operations and maintenance based on global good practices. The TA will also support knowledge development and sharing between PLN, government ministries, and other key stakeholders for policy and regulatory development and energy sector planning, particularly related to increasing natural gas and renewable energy use in Eastern Indonesia.

5. **Resources under the technical assistance facility.** The consultants' inputs allocation from the TA facility for the PTSP has been updated and presented in Table A3.1. It is confirmed that (i) the TA facility has adequate resources and (ii) the existing terms of reference for consultants are sufficient to undertake the activities required to deliver the outputs for the ensuing Eastern Indonesia Power Transmission Sector Project.

[1] ADB. *Report and Recommendation of the President to the Board of Directors: Proposed Results-Based Loan to Perusahaan Listrik Negara for Sustainable Energy Access in Eastern Indonesia—Electricity Grid Development Program.* Manila. (Loan 3560-INO).

Table A3.1: Updated Consultants' Inputs Allocation for Eastern Indonesia Power Transmission Sector Project

International Experts	Person-months	National Experts	Person-months
Team Leader	4.0	Power System Engineer	4.0
Power Transmission Engineer	5.0	Environmental Safeguards Specialist	4.0
Energy Economist	2.5	Procurement Specialist	2.0
Financial Analyst	2.0	Social Development and Resettlement, Gender, Indigenous People Expert	8.0
Procurement Specialist	3.0		
Environmental Safeguards Specialist	4.0		
Social Development and Resettlement, Gender, Indigenous People Expert	4.0		
Total person-months	**24.5**		**18.0**

Source: Asian Development Bank staff estimates.

INITIAL POVERTY AND SOCIAL ANALYSIS

Country:	Indonesia	Project Title:	Sustainable Energy Access in Eastern Indonesia—Power Transmission Sector Project
Lending/Financing Modality:	Sector Project	Department/ Division:	Southeast Asia Department Energy Division

I. POVERTY IMPACT AND SOCIAL DIMENSIONS

A. Links to the National Poverty Reduction Strategy and Country Partnership Strategy

Indonesia's ability to harness and manage sustainable energy sources is a critical prerequisite for the country to continue its growth trajectory. The Government of Indonesia's National Medium-Term Development Plan (RPJMN) 2015–2019 promotes inclusive economic growth through growing the economy and reducing poverty rates to 7%–8% by 2019. In the energy sector, the RPJMN enhances domestic energy security by expanding energy infrastructure, increasing energy efficiency and accessibility, and diversifying the energy mix with new and renewable sources.[1] The program is aligned with ADB's country partnership strategy 2016–2019 for Indonesia, the Indonesia Energy Sector Assessment, Strategy and Road Map (ADB, 2016),[2] and the Energy Sector White Paper supporting the RPJMN.[3] The project is also aligned with ADB's strategy 2030. The project contributes to increasing employment and reduce poverty by increasing economic growth and, access to electricity.

B. Poverty Targeting

☒General Intervention ☐Individual or Household (TI-H) ☒Geographic (TI-G) ☐Non-Income MDGs (TI-M1, M2, etc.) The project focus includes geographic areas (Kalimantan, Nusa Tenggara, Maluku, Papua, and Sulawesi) that are poor, remote, under developed, and lacking access to basic energy services. The project contributes by providing adequate, reliable and quality electricity supply and it also fosters the country's efforts to provide sustainable energy for all which is a key service necessary for sustainable economic growth and poverty alleviation.

C. Poverty and Social Analysis

1. **Key issues and potential beneficiaries.** Eastern Indonesia's provinces lag behind many other provinces in key determinants of well-being, such as access to services, human development, and environmentally sustainable growth. Indonesian national statistic indicates that in March 2018, the poverty levels in Eastern Indonesia is higher than other regions. The proportion of poverty in North Sulawesi — 7.80%, Central Sulawesi is 14.01%, Southeast Sulawesi —11.63%, Gorontalo — 16.81%, West Sulawesi —11.25%, South Sulawesi — 9.06%, Maluku — 18.12%, North Maluku— 6.64%, West Papua —23.01%, Papua —27.74%, NTB —14.75% and in NTT— 21.35%.[4] Most of these percentages are among the highest in the country (average 9.82%). In small islands and other remote areas with low population density and high poverty incidence, it is challenging to provide equitable access to modern energy services. The electrification ratios are very low in some provinces of Eastern Indonesia—Nusa Tenggara West 83%, Nusa Tenggara East 53%, Papua 40%, and Central Sulawesi 78% against a national average rate of 93% as of 2017.[5] Lack of access to energy constrains growth in high-value agriculture, fisheries, small and medium-sized enterprises, and tourism, all of which rely on a stable energy supply. Uneven development across provinces has contributed toward widening income disparities, with several provinces in Eastern Indonesia lagging significantly behind Java and Bali. The project will provide the regional population with new and improved supply of stable and high- quality electricity at an affordable price. The primary beneficiaries of the project will be the population in Eastern Indonesia who will benefit from an adequate and improved supply of electricity.

2. **Impact channels and expected systemic changes.** The project does not deal with the higher costs arising from the expansion of generation, transmission, and distribution capacities—which will necessitate gradual increases in electricity tariffs—as most households do not consider tariffs to be the major issue. It is rather the inadequate and unreliable supply of power that worries them because it hampers household-based and income-generating activities. Poor and vulnerable groups will benefit from improved electricity supply because it will boost economic activity and in turn create more systematic and better income-generating opportunities for these groups, given that higher-value income generation hinges on the use of electricity.

3**. Focus of (and resources allocated in) the project design TA and due diligence.** The TA team will comprise specialists who will analyze the benefits of the project and identify concerns and needs specific to various community stakeholders (including poor, customary communities, and the socially excluded) to further improve project design. Assessments will include: (i) project technical soundness; (ii) financial and economic feasibility; (iii) environmental and social safeguards systems and preparation of required safeguards frameworks and plans; (iv) fiduciary aspects, including funds flow, project reporting, and monitoring of progress towards achieving performance targets; (v) PLN's procurement systems; and (vi) social and gender assessments.

II. GENDER AND DEVELOPMENT

1**. What are the key gender issues in the sector/subsector that are likely to be relevant to this project?**

Against the national Gender Development Index (GDI) of 90,82,[6] the province with both the highest and lowest GDI lie in the eastern Indonesia. North Sulawesi Province has the highest GDI (95,04) that exceeds national index. Significant improvement in expected years of schooling for females and mean years of schooling in North Sulawesi for females contributed to this achievement. Meanwhile five provinces with the lowest GDI are Papua (79,09), West Papua (82,34), East Kalimantan (85,60), West Kalimantan (85,77), and Gorontalo (86,12) all which are located in eastern Indonesia. Disparity in mean years of schooling and net income are considered the major factors in the gender gap in these provinces. If huge gap in net income between males and females is evident particularly in East Kalimantan and Papua where mining is the main business sector, providing high income and dominated by males. Remote geographic conditions and inadequate infrastructure also have a strong correlation to gender disparity. Around 1,271,128 poor households in eastern Indonesia have no access to electricity[7], and generally place burdens on women as the main household managers responsible for collecting water, washing, cleaning, and food preparation aside from taking care of children. Availability of reliable electricity has inherent gender benefits in improving women's welfare and time-burden, as well as opportunities in job creation that benefits both men and women.

2. Does the proposed project have the potential to make a contribution to the promotion of gender equity and/or empowerment of women by providing women's access to and use of opportunities, services, resources, assets, and participation in decision making? ☐ Yes ☒ No

Reliable, sustainable, and affordable electricity will significantly reduce the time and effort spent by women on domestic activities by reducing the labor required to collect water, and obtain and use other fuels, thereby increasing time for income-generating activities, family, and leisure. Energy provision is a critical input for women's empowerment and improved status. Electrification globally has lead to time savings and improved time use by women for productive and educational activities, and an enhanced women's role. In Bhutan, women acquired a more significant role in household decisions relating to education and health. Moreover, women in Viet Nam and Bhutan acquired increased self-confidence, in part due to increased time for productive and educational activities (such as educational TV project for women) made possible by electrification.[8]

3. Could the proposed program have an adverse impact on women and/or girls or widen gender inequality?
☐ Yes ☒ No

The project will impact positively on the whole population and will not widen gender inequality. On the contrary, it is expected to reduce the gaps between men and women in terms of time use, time poverty, and income.

4. Indicate the intended gender mainstreaming category:

☐ GEN (gender equity) ☐ EGM (effective gender mainstreaming)

☒ SGE (some gender elements) ☐ NGE (no gender elements)

III. PARTICIPATION AND EMPOWERMENT

1. **Who are the main stakeholders of the project, including beneficiaries and negatively affected people? Identify how they will participate in the project design**.

Main stakeholders are the State Electricity Corporation (PLN) as the executing agency and PLN regional offices (UIPs), as the implementing agency of the project, the national government, local governments facilitating land acquisition process for the project, independent power producers, as well as industrial and commercial establishments, customary and community leaders, affected persons/households, and civil society organizations having concerns on electricity and social. They are all potential beneficiaries resulting from a strengthened power grid in Eastern Indonesia.

2**. How can the project contribute (in a systemic way) to engaging and empowering stakeholders and beneficiaries**, **particularly, the poor, vulnerable and excluded groups? What issues in the project design require participation of the poor and excluded?**

The stakeholders will be consulted through meetings, interviews and surveys to increase awareness about the project and seek their inputs. A particular focus will be placed on the needs of poor and other vulnerable groups (including women, elderly, women and children, indigenous people, landless, and those without legal title to land) to ensure their participation in consultations. The consultations will focus on social issues that affect them, such as affordability of electricity connection and issues associated with environment and involuntary resettlement.

3. What are the key, active, and relevant civil society organizations (CSOs) in the project area? What is the level of CSO participation in the project design?

☒ Information gathering and sharing ☒ Consultation ☐ Collaboration ☐ Partnership

Because the social benefits of the project are primarily indirect, CSOs relevant to social impact and development will have a limited role in the project; if any such CSOs express interest in being involved, the project will ensure that information flows are fully transparent and will seek their advice as appropriate.

4. Are there issues during project design for which participation of the poor and excluded is important? What are they and how will they be addressed? ☐ Yes ☒ No

All affected people and communities including the poor, indigenous peoples/customary groups, and other vulnerable groups will be intensively consulted, especially during preparation and implementation of resettlement plans. No specific capacity building program will be conducted to strengthen the participation of poor and other vulnerable groups.

IV. SOCIAL SAFEGUARDS

A. Involuntary Resettlement Category ☐ A ☒ B ☐ C

1. Does the project have the potential to involve involuntary land acquisition resulting in physical and economic displacement?
☒ Yes ☐ No

The expansion of the transmission networks usually involves (i) the installation of towers and (ii) the stringing of conductors requiring the cutting/trimming of trees. Impacts of involuntary resettlement will be identified during project processing for core subprojects and during implementation for non- core subprojects.

2. What actions are required to address involuntary resettlement as part of the PPTA or due diligence process?
☒ Resettlement plan ☒ Resettlement framework ☐ Social impact matrix
☐ Environmental and social management system arrangement ☐ None

B. Indigenous Peoples Category ☐ A ☒ B ☐ C

1. Does the proposed project have the potential to directly or indirectly affect the dignity, human rights, livelihood systems, or culture of indigenous peoples? ☒ Yes ☐ No

While the general areas are known, the sites for subprojects and the expansion of the transmission network have not been selected and will be determined only during project implementation. The project will not specifically target activities in areas (land or territory) occupied, owned, or used by indigenous peoples, and/or claimed as ancestral domain.

2. Does it affect the territories or natural and cultural resources indigenous peoples own, use, occupy, or claim, as their ancestral domain? ☐ Yes ☒ No
The project may affect the indigenous peoples living in or near a subproject areas. No indigenous peoples are expected to be affected in other regions however further due diligence will be conducted and explorations on alternative project designs to avoid physical displacement will be carried out by the project assessment team.

3. Will the project require broad community support of affected indigenous communities? ☒ Yes ☐ No

Broad community support of affected indigenous communities will be sought if any subprojects in Papua may affect the dignity, human rights, livelihood systems, or culture of indigenous peoples, or affect the territories or natural or cultural resources that indigenous peoples own, use, occupy, or claim as an ancestral domain or asset. So far, this seems not to be the case, but will be verified during the project assessment under the TA.

4. What actions are required to address risks to indigenous peoples as part of the PPTA or the due diligence process?
☒ Indigenous peoples plan ☒ Indigenous peoples planning framework ☐ Social Impact matrix
☐ Environmental and social management system arrangement ☐ None.

V. OTHER SOCIAL ISSUES AND RISKS

1. What other social issues and risks should be considered in the project design?

☒ Creating decent jobs and employment ☐ Adhering to core labor standards ☐ Labor retrenchment

☐ Spread of communicable diseases, including HIV/AIDS ☐ Increase in human trafficking ☒ Affordability
☐ Increase in unplanned migration ☐ Increase in vulnerability to natural disasters ☐ Creating political instability
☐ Creating internal social conflicts ☐ Others, please specify _____

1. How are these additional social issues and risks going to be addressed in the project design?

Social impact including key issues related to core labor standards will be assessed during the project preparation and it will be included in the provisions of civil works contract.

VI. PPTA OR ASSESSMENT RESOURCE REQUIREMENT

1. Do the terms of reference for the PPTA (or project assessments) contain key information needed to be gathered during PPTA or the program assessment process to better analyze (i) poverty and social impact; (ii) gender impact, (iii) participation dimensions; (iv) social safeguards; and (v) other social risks. Are the relevant specialists identified?
☒ Yes ☐ No

2. What resources (e.g., consultants, survey budget, and budget for workshop(s)) are allocated for conducting poverty, social and/or gender analyses, and participation plan during the PPTA or due diligence?

The project assessment team will include a social impacts and resettlement specialist (and indigenous peoples specialist, if required) who will conduct a poverty and social impact assessment including gender and community participation issues.

[1] Table 9.2. 2015 – 2019 RPJMN Targets in Infrastructure. RPJMN 2015 - 2018 Book II: Field development Agenda.
[2] https://www.adb.org/sites/default/files/institutional-document/189713/ino-energy-asr.pdf
[3] ADB and Bappenas, 2015. https://www.adb.org/sites/default/files/project-document/176267/ino-energy-white-paper.pdf
[4] Indonesia Statistic Bureau. March 2018; https://www.bps.go.id/site/resultTab
[5] PLN Statistic, 2017
[6] GDI measures life expectancies, expected and mean years of schooling and income per capita. GEM measures women in parliamentary representation, female share of managerial, professional, administrative & technical positions, and women's share of earned income. Ministry of Women's Empowerment & Child Protection and BPS, 2016. *Pembangunan Manusia Berbasis Gender 2017*. Jakarta
[7] Unified Database (UDB) http://bdt.tnp2k.go.id/sebaran/
[8] See footnote 7 for reference.
Source: Asian Development Bank