Indonesia: West Kalimantan Power Grid Strengthening Project

Project Name: West Kalimantan Power Grid Strengthening Project
Project Number: 41074-013
Country: Indonesia
Project Status: Active
Project Type / Modality of Assistance:
- Grant
- Loan
Source of Funding / Amount:
- Grant 0354-INO: West Kalimantan Power Grid Strengthening Project
  Clean Energy Fund under the Clean Energy Financing Partnership Facility
  US$ 2.00 million
- Loan 3015-INO: West Kalimantan Power Grid Strengthening Project
  Ordinary capital resources
  US$ 49.50 million
- Loan 8272-INO: West Kalimantan Power Grid Strengthening Project
  Agence Francaise de Developpement
  US$ 49.50 million

Strategic Agendas:
- Environmentally sustainable growth
- Inclusive economic growth
- Regional integration

Drivers of Change:
- Governance and capacity development

Partnerships

Sector / Subsector:
- Energy - Electricity transmission and distribution

Gender Equity and Mainstreaming:
- Some gender elements

Description:
The proposed project is perfectly aligned with ADB’s Energy Sector Assessment Strategy and Roadmap, which supports investment in strategic transmission assets that connects regions or countries across seas or international boundaries to optimize power networks by reducing the overall need for reserve capacity, improving system reliability, removing transmission bottlenecks, and transmitting cheaper power from one area to the other, addressing overall regional socio-economic and environmental improvement.

Project Rationale and Linkage to Country/Regional Strategy:
In West Kalimantan, Sumatera and the other outer islands of Indonesia, most of the power generation is either oil or diesel based, and, as a result, cost of power generation is more than 25 cents/kWh. Large numbers of customers also do not have access to grid connected power supply in those areas, and the power grid will need strengthening to accommodate new customer connection. In addition to strengthened network, supply to new customers will need new generation capacity, especially low cost power generation to reduce the overall cost of power generation. The proposed project will address all these issues in West Kalimantan.

PLN, the state owned power utility in Indonesia, plans to reduce its cost of power generation in West Kalimantan by importing hydropower generated electricity from neighboring Sarawak, Malaysia by building about 83 km 275 kV transmission line from its Bengkayang substation to the border with Sarawak, Malaysia. On the other side of the border, in Sarawak, PLN’s counterpart, SESCO, the state owned power utility in Sarawak will build about 42 km 275 kV transmission line from Mambong substation to the border with West Kalimantan. Together, these transmission lines in the two countries will form the first regional BIMP-EAGA flagship project and the first leg of the Trans Borneo Power Grid that aims to connect West Kalimantan across Sarawak, and Brunei, to Sabah (Malaysia) enabling power trading between the BIMP-EAGA countries.

PLN’s investment in West Kalimantan is part of its nationwide plan to connect about 10 million new customers between 2011 and 2015 to support Government’s commitment to 90% electrification by 2030 from about 62% in 2009. This national plan will need large investments and PLN will have to increase its operational income for it. Currently, PLN’s income from its operation is insufficient to cover its cost of operation as the tariffs have been set low by the Government (average of 6.9 cents/kWh) for social reasons. As the cost of generation is much higher than the average tariff, PLN’s operations are subsidized by the Government through a public service obligation (PSO) program that is approved by the Parliament each year. For 2011 PLN subsidy, the Government has allocated about $7.3 billion from the 2010 level of $6.46 billion ($82 million for West Kalimantan). PLN’s cost reduction will reduce the need for larger subsidy by PLN.

The proposed strengthening of the 150 kV distribution network, and PLN’s import of cheaper power will also avoid emissions of about 400,000 tons of CO2 that would have been generated by the old rental oil fired that PLN currently uses in West Kalimantan.

This is a priority project for strengthening distribution network in rural areas and for regional cooperation. It is consistent with ADB’s country strategy and program for 2006-2009 and country operations business plan 2009-2011 that support the Government’s economic growth target rate of 6.3%-6.8% per annum in 2010-2014 to reach at least 7% by 2014. They highlight the importance of removing infrastructure bottlenecks and promoting regional cooperation.

Impact:
Sustainable power supply in West Kalimantan

Project Outcome

Description of Outcome:
Cost of operating West Kalimantan power system reduced

Progress Toward Outcome:
As of March 2019, West Kalimantan (Khatulistiwa System, interconnected with SESCO) average cost of generation is IDR 1,448/kWh (equivalent of $0.102/kWh, with 1 USD = IDR 14,254, as of 29 March 2019). This is a decrease from IDR 1,524/kWh in Sept 2018 as the costly diesel power plants are no longer operational by end of 2018. Average actual power import in February 2019 is 201.9MW during off-peak hours and 244.4MW during peak hours.
Stakeholders meetings were conducted in West Kalimantan; near the border area in Bengkayang and in other areas along the proposed route of the 275 kV transmission line Bengkayang-Ngabang-Tayan. The construction of 150/20kV Bengkayang SS financed by PLN completed in April 2016. The construction of 150 kV transmission line Bengkayang-Ngabang-Tayan (Package 3) completed and energized. CC and OAC issued, except OAC for Ngabang-Tayan section (Section 2), awaiting for finalization of extra cost contract amendment (for verification by BPKP/Finance and Development Supervision Body). Construction of Ngabang SS and extension of Tayan SS (Package 4) completed and energized. CC and OAC issued. Construction of 52.973 km Medium Voltage (MV) and 46.760 km Low Voltage (LV) with 21 unit of distribution transformers have been completed. As of March 2019, 1,489 households in 11 villages under 3 districts (Bengkayang, Landak and Sanggau) have been connected to the lines. Grant was financially closed on 18 December 2017. To increase the number of household connections, PLN will carry out Pemasaran Kelling/Field Marketing together with the provincial-level association of the certification companies to ensure reasonable connection charges that is in-line with the applicable regulations. Contract for extension of Tayan, new Sanggau and new Sekadau substations (Package 5) was awarded in December 2017. Construction is ongoing. Contracts for Tayan-Sanggau (Packages 6) and Sanggau-Sekadau (Package 7) transmission lines were awarded in August 2017. Construction is ongoing.

Geographical Location
Bengkayang, Kabupaten Bengkayang, Kabupaten Landak, Kabupaten Sanggau, Kabupaten Sekadau, Ngabang, Tayan, West Kalimantan

Safeguard Categories

| Environment | B |
| Involuntary Resettlement | B |
| Indigenous Peoples | B |

Summary of Environmental and Social Aspects

Environmental Aspects
This is classified as a Category B project for environment. The projects poses no significant environmental risks. The draft IEE prepared shows the proposed 275 kV transmission line: (i) passing through flat to hilly country, with scattered villages and associated small farms and gardens mainly along the roads including shifting cultivation and re-growth; (ii) does not pass through any protected areas, areas with rare or endangered species, or areas of high ecological diversity; (iii) requires 9.04ha land in West Kalimantan area for tower sites; and (iv) requires tall trees to be cleared on land of 30m width, from the centre line, in West Kalimantan. In the project area, the vegetation is already highly modified by human activity through shifting and permanent cultivation. The area involves no protected areas, no primary forest, no cultural heritage sites, 30% of land occupied by crops and grassland, 68% is high canopy vegetation such as plantations and forest, and only 2% other land use. Update Initial Environmental Examination (IEE) has been approved for the 150 kV section from Tayan-Sanggau and Sanggau-Sekadau.

Involuntary Resettlement
- Resettlement and Customary Communities Plan (RCCP) for 275 kV section of Jagoibabang-Bengkayang and 150 kV section of Bengkayang-Ngabang-Tayan were approved by ADB in September 2016. The summary of RCCP in the form of leaflets has been posted on all affected village office boards. Additional RCCP has been approved for the 150 kV section from Tayan-Sanggau and Sanggau-Sekadau. The updated RCCP has been approved by ADB on 29 January 2019 and disclosed on ADB’s website and to the APs and stakeholders in the form of leaflet in May 2019.

Indigenous Peoples
The ethnic minority plans are incorporated in the RCCPs.

Stakeholder Communication, Participation, and Consultation
During Project Design
Stakeholders meetings were conducted in West Kalimantan; near the border area in Bengkayang and in other areas along the proposed route of the transmission line.

During Project Implementation
PLN and ADB confirmed that internal monitoring are conducted semi-annually, and external monitoring has been conducted twice (three months after compensation payment for 50% of towers, and once 30% of ROW compensation has been provided, for 275 kV TL and 150 kV TL each), according to the updated RCCP for 275 kV and draft RCCP for 150 kV. All the monitoring reports have been submitted to ADB for web posting. During construction, PLN is required to submit the progress of EMP implementation and monitoring twice a year which to be uploaded on ADB website.

Business Opportunities
Consulting Services
The PIC is already contracted and mobilized: a joint Venture of Tractebel Engineering GDF Suez (TE) (Thailand) and Powergrid International Limited (Thailand) in subconsultancy with PT Caturbina Guna Persada (Indonesia).

Procurement
Four ICB packages have been bidded out in August 2012 and were awarded in 2013:
- Package 2: Design, Supply, Installation, Testing and Commissioning of 275/150kV Bengkayang Substation
- Package 4: Design, Supply, Installation, Testing and Commissioning of 150/20kV Substation at Ngabang and Tayan;

Grant component: Connection to Households in West Kalimantan through Extension of MV and LV Network

Responsible ADB Officer
Ira Palupi

Responsible ADB Department
Southeast Asia Department

Responsible ADB Division
Indonesia Resident Mission

Executing Agencies
- P.T. Perusahaan Listrik Negara
- Jalan Trunojoyo Blok M1/135
- Keboyoran Baru, Jakarta 12150
- Indonesia

Timetable
- Concept Clearance: 28 Aug 2010
- Fact Finding: 14 Feb 2011 to 17 Feb 2011
- MRM: 09 Aug 2011
- Approval: 27 Aug 2013
- Last Review Mission: -
- Last PDS Update: 29 Mar 2019
Grant 0354-INO

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Loan 3015-INO

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Project Page: https://www.adb.org/projects/41074-013/main
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