



Indonesia: Java-Bali 500kV Power Transmission Crossing

Project Name	Java-Bali 500kV Power Transmission Crossing		
Project Number	42362-012		
Country / Economy	Indonesia		
Project Status	Closed		
Project Type / Modality of Assistance	Technical Assistance		
Source of Funding / Amount	<div>TA 7325-INO: Java-Bali 500kV Power Transmission Crossing</div> <div>Japan Special FundUS\$ 1.00 million</div>		
Strategic Agendas	Environmentally sustainable growth		
Drivers of Change	Knowledge solutions		
Sector / Subsector	Energy / Electricity transmission and distribution - Energy efficiency and conservation		
Gender			
Description	<p>The PPTA consists in carrying out feasibility study for improvement of power supply in Bali and preparation of ensuing project. The study includes feasibility study of different options including (i) power generation in Bali, (ii) transmission of power from Java at 150 kilovolt (kV) level and (iii) transmission of power from Java at 500 kV level. The study also includes two sub options in case of transmission from Java to Bali to cross the Bali Strait by undersea cables or overhead transmission lines. The PPTA final report was submitted and proposed option was transmission of power from Java to Bali at 500 kV level with overhead crossing at the Bali Strait. This enables strengthening Java-Bali power transmission grid and meeting power demand growth in Bali Island.</p>		
Project Rationale and Linkage to Country/Regional Strategy	<p>Infrastructure development is a key component of Indonesia's National Medium-term Development Plan 2010-2014 (RPJMN). With the aim of transforming Indonesia into a developed country by 2025, the government in May 2011 launched a 14-year master plan for accelerating economic development throughout the archipelago. Infrastructure development, especially the power infrastructure is essential in supporting the connectivity required in the development activities of all the sectors identified in the RPJMN.</p> <p>Peak power demand in Indonesia averaged 28,000 MW in 2011 and is expected to grow at an average rate of 9.4% up to 2019. The average electrification ratio in 2011 was around 67% and the government's target is to achieve 90% electrification by 2020. Power shortage has been a critical infrastructure bottleneck throughout the country and fast track generation programs are being implemented to improve the power generation capacity.</p> <p>Bali is an internationally renowned tourist and cultural destination that contributes 6% of the national gross domestic product. Tourism generates 67% of Bali's gross regional domestic product and about 70% of the Bali residents are directly or indirectly dependent on the tourist industry. Commercial sector accounts for about 46% of the total energy consumption in Bali which includes the hotel industry and the associated services. The Bali power system also suffers from outages and blackouts due to low reserve margin and transmission bottleneck.</p> <p>The peak demand in Bali Island in 2011 was 614 Megawatt (MW). The existing supply capacity in Bali is 633 MW with a reserve margin of only 19 MW (3%). The demand is projected to grow at 9.5% over the next decade and reach 2,100 MW by 2025. The above demand is served by (i) 150 kV undersea transmission interconnection between Java and Bali, and (ii) diesel generators (526 MW) installed in Bali. The transmission interconnection between Java and Bali is presently used to its full capacity, constraining the supply of lower cost coal-fired generation from Java to Bali. The two existing undersea cables and the two additional cables being installed will provide a combined maximum transfer capacity of 400 MW (286 MW with the outage of a single cable). Therefore, once the on-going undersea 150 kV cable installation is completed by end 2012, the total installed capacity to Bali will be 926 MW until 2015. The 526 MW of diesel generators will be retired in 2015, as a consequence of a policy decision by the Bali administration to phase out diesel generating plants on Bali Island to avoid emissions and noise on the island. In addition, diesel generators are significantly more expensive to operate than other forms of generation and PLN is in the process of phasing out oil /diesel based generation. Therefore, investments are required to strengthen the power supply to the Bali Island by (i) strengthening the transmission capacity from Java to Bali; and/or (ii) installing more economical, less polluting generating plants in Bali.</p>		
Impact	Reduce energy subsidy and CO2 emissions.		
Project Outcome			
Description of Outcome	PLN's efficiency of power distribution improved.		
Progress Toward Outcome	--		
Implementation Progress			
Description of Project Outputs	1. Distribution network is optimized in all five regions. 2. Efficient Project Management System in Place		
Status of Implementation Progress (Outputs, Activities, and Issues)			
Geographical Location			
Safeguard Categories			
Environment			A
Involuntary Resettlement			A
Indigenous Peoples			C
Summary of Environmental and Social Aspects			
Environmental Aspects			
Involuntary Resettlement			

Stakeholder Communication, Participation, and Consultation

During Project Design	<p>PLN consulted with stakeholders, including affected communities and government officials, during the design and project preparation stage. Local communities are consulted as part of the social and resettlement study to gather their views on the project. All affected people have been consulted on a one-to-one basis through questionnaire surveys. Additionally, focus group discussions are conducted within the project influence areas. Consultations will continue during the entire project cycle according to a stakeholder participation plan. Detailed information on participation and consultation process during project design is given below.</p> <p>Social assessment and focus group discussion were undertaken to address and ensure social concerns in project designing and selection of options for interconnection. As an integral part of safeguard assessment, affected communities and affected people were directly involved in the consultation. All stakeholders and affected people were informed about the project, its potential impacts and benefits. Information dissemination will continue during project implementation. Consultations were also held to ensure participation and minimization of the negative impacts. Given lack of reliable electricity supply public opinion makers were asked whether power interconnection would be a viable alternative to improve existing electricity supply in Bali.</p> <p>In addition to consultation meetings with affected people and communities through survey and focused group discussion (FGD), PLN conducted interactive meetings with various parties including provincial authorities and Ministry of Forestry and Ministry of Environment, to discuss the salient features of the project and its impacts on two National Parks and Coastal area along with its projected benefits to the community of Java and Bali regions. Meetings with district/sub district leaders and religious groups in Bali were also held to find discuss social issues and approval on the project has been obtained from this groups. On the basis of deliberations, a consensus emerged from the survey of affected families, FGD and interactive meetings that the power interconnection project implementation would result in a better alternate to increase access to secured electricity supply with a wide range of benefits to the community. Additionally, consultations will be continued during project implementation period for smooth land acquisition, implementation of environmental management plan and implementation of project.</p>
During Project Implementation	<p>Consultation and Participation was considered as a part of the more extensive land acquisition and resettlement planning exercise. The process will continue during the implementation of the project where views and concerns of all stakeholders will be taken into consideration and addressed. Local customs, religious practices, and traditional activities have been considered as a fully integrated part of the preparation process to avoid discrimination and/or disruption of activities. PLN will ensure that essential participation process will be continued throughout the project implementation.</p> <p>A participation strategy is streamlined throughout the project cycle and incorporated in the social safeguard documents to ensure that different stakeholders will continue to participate during project implementation. A detailed communication strategy for the project during implementation is being prepared which will be completed by June 2014.</p>

Business Opportunities

Consulting Services	<p>45 person-months of consulting services (22 person-months of international consulting inputs and 23 person-months of domestic consulting inputs): (i) HVAC Power Planning Specialist (3 person-months international - 3 person-months national); (ii) HVAC Transmission Specialist and Team Leader (5 person-months international - 5 person-months national); (iii) Submarine Cable Specialist (3 person-months international); (iv) Economist (2 person-months international - 2 person-months national); (v) Financial Analyst (3 person-months international - 3 person-months national); (vi) Environmental Specialist (3 person-months international and 4 person-months national); (vii) Social Specialist (3 person-months international and 4 person-months national).</p> <p>Subsequent to the above firm, Eight additional individual consultants of different expertise were recruited to conduct further due diligence to design the ensuing project.</p>
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Timetable

Concept Clearance	23 Apr 2009
Fact Finding	26 Feb 2009 to 27 Feb 2009
MRM	-
Approval	03 Aug 2009
Last Review Mission	-
PDS Creation Date	13 Jul 2009
Last PDS Update	20 Mar 2014

TA 7325-INO

Milestones						
Approval	Signing Date	Effectivity Date	Closing			
			Original	Revised	Actual	
03 Aug 2009	01 Sep 2009	01 Sep 2009	31 May 2010	31 Dec 2013	21 Mar 2014	

Financing Plan/TA Utilization							Cumulative Disbursements	
ADB	Cofinancing	Counterpart				Total	Date	Amount
		Gov	Beneficiaries	Project Sponsor	Others			
1,000,000.00	0.00	300,000.00	0.00	0.00	0.00	1,300,000.00	17 Jun 2022	998,205.05

Project Page	https://www.adb.org/projects/42362-012/main
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