

INCREASING ACCESS TO ELECTRICITY FOR THE POOR

1. Indonesia's rate of electrification is only about 60%, one of the lowest in the region. Some 70 million people still do not have access to electricity. About two-thirds of the population without electricity lives in the rural areas and 65% of this is outside of Java- Bali. The Government's development agenda, supported by Asian Development Bank, places high priority on making service delivery responsive to the needs of the poor to alleviate poverty and improve standards of living and has launched Energy for All Initiative to increase access to modern forms of energy in Asia. In this context, the GOI has set a target to electrify 90% of the households by the year 2020. Over the past three decades, GOI has allocated considerable resources to its rural electrification programs mainly through the state owned power utility – Perusahaan Listrik Negara (PLN). However, in a country with roughly 17,500 islands and a length and width of 5,000 and 1,800 kilometers, extending access is an increasingly difficult task and providing access to rural areas needs not only creative solutions but extra assistance as well.

2. Rural areas pose a challenge for expanding electrification. Since most of these areas are sparsely populated, the cost of connecting customers is likely to be higher. Furthermore, the levels of income of these customers may also be low that they cannot afford to be connected without outside assistance. Also PLN's supply capacity may not be enough to cover all the rural areas. Such is the situation in a community in West Kalimantan.

3. In 2008, more than 52,000 potential customers from this community applied for connections to PLN's supply system but due to insufficient energy supply, PLN could not carry out these connections. In 2009, this queue had grown to 56,000 customers. These customers, without additional capacity from PLN and without outside support will have little chance to be connected to the grid in the near future and will continue using the most inefficient source of lighting—kerosene or oil lamps affecting their health and will continue to be deprived of economic opportunities to improve their livelihood.

4. In 2000, while Indonesia's energy consumption per capita was about one thirteenth of Japan, the energy intensity was five times that of Japan¹. Nationally, the energy intensity, which is fuelled by low tariff and subsidies, is driving energy demand. The energy intensity of Indonesia in 2006 was 618 TOE per million USD of GDP, while the world average energy intensity was 284 TOE per million USD GDP and the Asia average energy intensity was 330 TOE per million USD GDP. The industry experts suggest that this gap has grown since. Making consumers aware of energy efficiency is a priority, especially those who still do not access to grid connected power.

5. Increasing access to energy and energy efficiency are key priorities under key pillars of ADB's Energy Sector Policy. ADB has significant experience in this area: it has recently completed a piggy-backed technical assistance, the Power Welfare Scheme², which supported customers for connection to the grid, and created income generation activities for the community using electricity when electricity was made available from a hydropower financed by ADB. The project also encouraged consumers to switch to efficient appliances including compact fluorescent lamps. The current proposal will take this approach to the next phase where the assistance will also establish relationship with world's best practice energy efficient communities and schools.

¹ 470 tons of oil equivalent (TOE) per million US\$, price 1995 and energy consumption per capita 0.321 TOE.

² Power Welfare Scheme, piggybacked technical assistance, with Loan INO: 1982 Renewable Energy Development

6. The project will also establish a link between the West Kalimantan people who will have access to electricity for the first time for school children. During implementation of this component, project team will work closely with the local partners in Indonesia to establish suitable partners to help West Kalimantan population to reach out to learn energy efficient lifestyle.

7. This proposal is also consistent at the Macro Level, with the Low Carbon and Resilient Development Program Cluster, Loan Program to Indonesia proposed to be financed jointly by ADB, World Bank, AFD and JBIC. The principal objective of the Program Cluster is to improve climate change mitigation and adaptation in Indonesia. The scope of Subprogram 1m financed by ADB, includes (i) cross sectoral and institutional issues to mainstream climate change in national development strategies; (ii) mitigation policy actions related to forestry, land use, energy, and transport; and (iii) adaptation measures in climate science, water resources, food security, and marine and coastal resources.

8. The proposed grant project of \$4 million (\$2 million from the multidonor Clean Energy Fund under CEFPF and \$2 million from PLN) will provide access to electricity to about 16,000 households and other community centers such as hospitals and schools from the grid in the West Kalimantan area, especially in the area between Bengkayang and Sarawak border area. This will also support households to use low cost house wiring systems (or solar powered WLED systems kit if very far from the grid), energy efficient lamps, as well as electricity for income generating activities. The implementation will cover the 20 kV distribution lines, 20/0.4 kV distribution transformers, 0.4 distribution system, connection to the households. It will also support introduction of connection charge payment (around \$50 – 100) to PLN in instalment especially for poor households who cannot pay full connection charge upfront at once. The appropriate level of household and community contribution will be determined during the implementation. ADB will implement the CEFPF financed component, while PLN will implement the low voltage distribution side of this component. ADB team will work closely with PLN to establish the selected criteria for first round of beneficiaries. The greater community involvement in the planning and construction of these electricity distribution systems will ensure greater ownership of the project and sustainability.

9. It will be implemented over a period of 18 months from the start of the project. PLN will implement the 20 kV distribution lines, 20/0.4 kV distribution transformers, 400 Volt distribution system; and ADB will manage the connection to the households and support for connection charge payment (around \$50–100) to PLN in installment especially for poor households who cannot pay full connection charge upfront at once. The appropriate level of household and community contribution will be determined during the implementation. The greater community involvement in the planning and construction of these electricity distribution systems that will ensure greater ownership of the project and sustainability. Separate Bank accounts will be set up under the project for the revolving fund working close with the PLN's Corporate Social Responsibility team. Once successful, such a model can also be replicated in other parts of Indonesia.

10. The potential for replication is great as there are still about 12 million people in the rural areas without access to electricity.

**Cost Estimates for the Grant Financed Component
(cofinanced by multidonor CEF under CEFPP^a)**

Item	Unit Price	Quantity	Total Amount	CEFPP	PLN
20 kV and 0.4 kV distribution line for affected people			1,760,000		1,760,000
20/0.4 kV distribution transformers	5,000	40	200,000		200,000
Electricity connection support to households	60	16,000	960,000	960,000	
Public lighting systems	500	50	25,000	25,000	
Support for community centers	10,000	20	200,000	200,000	
CFL distribution to affected households	2.5	16,000	40,000	40,000	
Training, awareness to households	5,000	10	50,000	50,000	
Implementation support			200,000	200,000	
Contingency			565,000	525,000	40,000
Total (US\$)			4,000,000	2,000,000	2,000,000

^a Clean Energy Financing Partnership Facility.
Source: Asian Development Bank estimates.