

With ADB Support, Reliable and Cheaper Power is Within Reach in the Philippines
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The Philippines has among the highest electricity rates in Asia, in the company of highly urbanized cities like Japan and Hong Kong. Part of it is due to the country being an archipelago of at least 7,107 islands at high tide, where transmission lines would have to cross bodies of water to be inter-connected to a grid. Another reason would be its high dependence on imported oil, making it vulnerable to price fluctuations and supply problems.

Cross-Country Comparison of Electricity Indicators for Asia and the Pacific (2000-2002)

Country	Installed Capacity Per Capita (kW)	New and Renewable Energy Share of Capacity (%)	Ratio Between Maximum Demand and Installed Capacity	Electricity Consumption Per Capita (kWh)	Electricity Intensity in GDP (kWh/\$)	Electricity Loss^a Per Generated Unit (%)	Electrification Rate (%)^b	Household Electricity Tariff (US cents/kWh)
Australia	2.16	21	81	9,652	0.40	7	100	6.97
Bhutan	0.17	1	25	222	0.41	3	5	1.03
Hong Kong,	1.69	—	80	5,612	0.22	12	100	13.99
China	0.11	—	—	357	0.73	26	88	3.54
India	0.11	16	—	382	0.64	—	82	—
Indonesia	2	8	67	6,479	0.14	4	100	17.33
Japan	0.64	14	66	2,693	0.79	10	97	6.58
Malaysia	0.32	0	—	785	1.87	18	24	4.62
Mongolia	0.11	67	67	310	0.60	24	59	5.18
Pakistan	0.11	38	—	147	0.18	0	45	5.35
Papua New Guinea	0.18	32	54	488	0.40	16	78	13.05
Philippines	1.7	0	—	7,454	0.27	3	100	8.34
Singapore	0.1	63	76	276	0.34	21	68	5.35
Sri Lanka	0.45	17	62	1,589	0.34	7	99	6.38
Thailand	0.08	55	74	269	0.73	16	80	5.87
Vietnam								

Data in Italics are for the year 2002.

— = not available, kW = kilowatt, kWh = kilowatt-hour,

^a Electricity loss is the ration of transmission and distribution losses to the total electricity generation.

^b Electrification rate is calculated as the ratio of total urban and rural population with access to electricity to total rural and urban population of the country.

Source: ADB OED Sector Assistance Program Evaluation of ADB Assistance to Philippines Power Sector.

ADB's Extensive Role in the Philippine Energy Sector

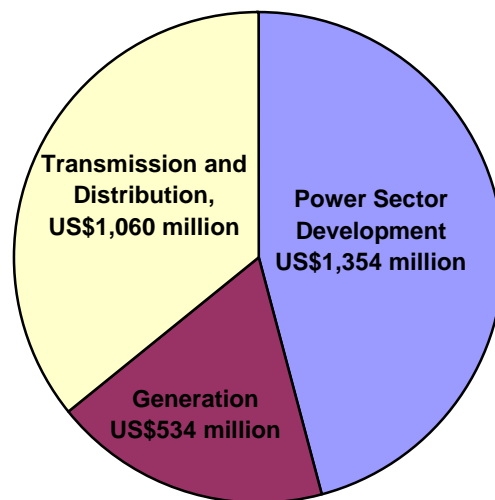
ADB, being the lead financing agency in the Philippine power sector, has provided to the sector nearly a third of its total cumulative lending to the country of over US\$9 billion spanning 37 years.

ADB's involvement in the power sector has been extensive, to say the least, ranging from generation, transmission, distribution, and sector development support.

Asian Development Bank Lending

Loan No.	Date	Borrower	Project/Main Component	\$ million
77	02/11/71	NPC	Agus VI Expansion and Associated Transmission	23.4
96	13/07/72	NPC	Agus III (Mindanao) Hydroelectric Station Engineering	21.0
196	07/11/74	NPC	Agus III (Mindanao) Hydroelectric Station Engineering	1.0
223	27/05/75	NPC	Supplementary Loan - Agus II and Agus VI	22.7
291	21/12/76	NPC	Agus IV (Mindanao) Hydroelectric Station	52.0
326	09/12/77	NPC	Agus V (Mindanao) Hydroelectric Station	29.0
421	19/11/79	PNOC	Malangas Coal Development	14.0
427	27/11/79	NPC	Pulangi IV (Mindanao) Hydroelectric Station	60.7
482	18/11/80	NPC	Negros & Mindanao Transmission	60.5
542	17/11/81	NEA	Rural Electrification	87.5
607	07/12/82	NPC	Power Systems Development	32.8
666	12/12/83	NPC	Negros-Panay Interconnection	43.8
726	20/12/84	PNOC	Philippine National Oil Company Energy Loan	85.0
728	10/12/84	NPC	Second Power System Development	33.0
823	18/12/86	NPC	Third Power System Development	92.0
914	27/10/88	NPC	Fourteenth Power (Sector)	120.0
985	14/11/89	NPC	Fifteenth Power (Sector)	160.0
991	23/11/89	Hopewell	Navotas 200 MW Gas Turbine	10.0
1042	13/10/90	NPC	Masinloc Thermal Power Station (Stage I)	200.0
1207	10/12/92	MERALCO	MERALCO Distribution	138.0
1230	18/05/93	Hopewell	Pagbilao 700 MW Coal-fired Power Station	40.0
1231	18/05/93	NPC	Pinamucan 123 MW Oil-fired Power Station	26.5
1288	14/12/93	NPC	Power Transmission on Luzon & Mindanao	164.0
1398	02/11/95	NPC	Northern Luzon Transmission & Generation	244.0
1474	30/09/96	NPC	Leyte-Mindanao Interconnection Engineering	5.3
1590	16/12/97	NPC	Power Transmission Reinforcement	191.4
1662	16/12/98	DOF	Power Sector Restructuring Program	300.0
1984	19/12/02	NPC	Electricity Market and Transmission Development	40.0
2282	19/12/06	DOF	Power Sector Development Program	450
2405	15/01/08	MPPC	Masinloc Power Partners Company Limited	200.0
Total				2,947.6

DOF=Department of Finance, MERALCO=Manila Electric Company, NEA=National Electrification Administration, NPC=National Power Corporation, PNOC=Philippine National Oil Company.
Source: Asian Development Bank.

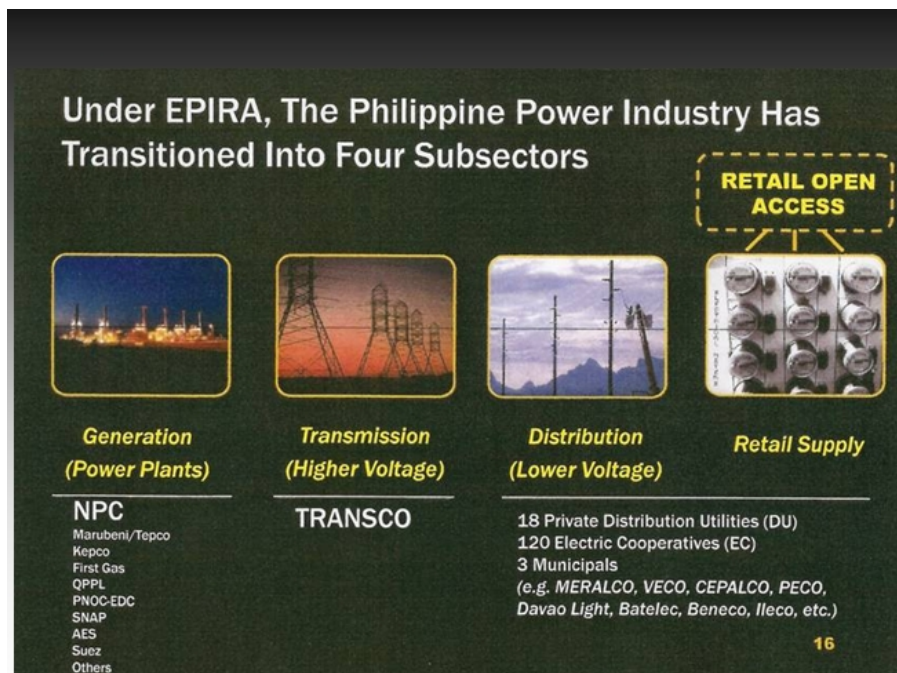


Snapshot of ADB Support in Power Sector Development

The fate of the power sector has been dependent on policy changes of the government. There was a gap between the Marcos administration and the Aquino administration in the late 1980s with the abolition of the Ministry of Energy, which put the country's energy program in limbo despite increasing annual demand. With the shortfall, and no new investments in place, the country eventually suffered a crippling power crisis in the early 1990s that forced the Ramos administration to enter into power supply contracts with independent power producers (IPPs) through power purchase agreements (PPAs) in a record two years' time. These PPAs contained minimum offtake provisions, fuel cost pass-through and foreign exchange adjustments in favor of the IPPs. Hence, when the Asian financial crisis of 1997 occurred, and the projected demand for power did not materialize, the oversupply of electricity in the country resulted in the rise in electricity rates. The situation was further aggravated by the sharp depreciation of the Philippine peso. NPC obligations, which were guaranteed by the government, therefore ballooned and seriously affected its financial health such that it posted a record net loss of P13 billion in 2000.

In 1998, ADB approved a US\$300-million power sector restructuring program loan that prepared the NPC for privatization, separating ownership of generation from transmission, and making it more competitive and more efficient to reduce power costs. The loan was to finance some of the adjustment costs of the restructuring, including its huge debt burden, the incorporation of long-term take-or-pay contracts with IPPs into the competitive framework, and employees' separate pay. This was later complemented by a US\$500-million partial credit guarantee in 2002.

By 2001, the current administration decided to embark on market-oriented reforms through the Energy Power Industry Reform Act or EPIRA Law, in what was to be the centerpiece of the restructuring of the power industry. It signaled a radical change in the Philippine power sector by reducing public debt, improving the sector's efficiency, and promoting competition to bring down the cost of electricity. The key features of the EPIRA law were the unbundling of the industry into generation, transmission, distribution and supply sectors.



This resulted in the transfer of the generation and transmission assets of NPC to the Power Sector Assets and Liabilities Management Corporation (PSALM) and the creation of a wholesale electricity spot market (WESM) which would spur competition in the retail supply of electricity. The Energy Regulatory Commission (ERC) was also created to regulate the industry.

In 2001, ADB provided a US\$990,000 technical assistance grant that enabled the ERC to enforce a performance-based rate-making methodology of the Transmission Sector, which replaced the traditional rate-of-return, based pricing methodology.

In 2002, ADB provided a US\$40 million investment loan to establish WESM, one of the first in developing member countries (DMCs).



EPIRA law relegated the role of NPC to being the operator of the Small Power Utilities Group and other non-privatized assets, responsible for providing power generation and its associated power delivery systems in areas that are not connected to the transmission system. PSALM, principally as liquidator, takes possession of all existing NPC generation assets, liabilities, IPP contracts, real estate and other disposable assets. PSALM takes the responsibility of repaying all existing NPC debts. The transmission and sub-transmission assets of NPC would be transferred to the National Transmission Corporation (TRANSCO), which is wholly owned by PSALM. ADB's consent, as well as other NPC creditors, was obtained for this major change.

From 2001 to 2005, however, privatization attempts delayed. First, there were the 2 failed biddings to operate TRANSCO's transmission assets, mainly due to the unpalatable investment climate and complexities from the congressional and judicial branches of government. The target to sell 70% of NPC's eligible capacity in Luzon and Visayas by June 2004 also fell short. The government's first successful attempt at privatization occurred only in March 2004 with the sale of the 3.5 megawatt Taolomo hydroelectric plant near Davao City.

In December 2006, ADB provided a US\$450 million policy-based loan for the Power Sector Development Program (PSDP) to consolidate the reform process and accelerate the

privatization program. In particular, PDSP aims to restore the financial viability of the power sector, by helping the government absorb the NPC's long-term liabilities, averting a major fiscal crises and improving the country's fiscal imbalance and investment climate. The PDSP assists the government's privatization of generation systems, introduces a competitive electricity market, and reduces unsustainable government subsidies to the power sector. The Program loan came in at the critical time as the country would have faced power outages had the reforms not been undertaken.

Lessons Learned

There are a number of factors that have affected the ongoing privatization program. First, since the adoption of EPIRA law and the start of the privatization program in the Philippines, many traditional US and European investors in the power sector encountered serious financial difficulties, some of them filing bankruptcy while others scaled down their investments particularly in the developing countries. The commercial lenders that suffered losses from their earlier investments in the 1990s also cut their exposure in the power sector. On top of these external factors, there are also perceptions of high country and regulatory risks associated with the political events and judicial interventions in the Philippines. Specifically, for the privatization of NPC's generation assets, there are some inherent flaws in the EPIRA law that contributed to the slow pace of privatization. In those countries that have successfully implemented the privatization of publicly owned generation assets, bilateral supply contracts were generally attached to the generating assets for privatization since this would offer a viable market for investors and a bankable project for lenders. Without such contracts, investors are unable to mobilize long term financing from commercial banks.

ADB's New Assistance to Power Sector

In December 2007, ADB's Japan Special Fund provided a US\$550,000 grant to prepare the Rural Electric Cooperatives Development Project to help the country achieve a 100% rural electrification coverage by 2009. At the end of 2007, about 97% of the nearly 42,000 villages in the Philippines had access to electricity.

In January 2008, ADB provided a US\$200 million private sector loan to the winning bidder in the privatized 600-megawatt Masinloc coal-fired power plant, the largest power plant being privatized by the government so far.

Similarly, the ADB is also providing a \$120 million private sector loan and a guarantee of up to US\$90 million to Emerald Energy Corporation, which won the bidding of the 600-megawatt Calaca coal-fired thermal power plant. These twin loans will result in the rehabilitation and expansion of the privatized plants' present capacities that will encourage more competition and thereby bring down power rates. It will also ease the debt burden of the National Power Corporation (NPC).

The Way Ahead: Challenges and Opportunities

"It's a long process and the design of policy reforms should recognize the need for a steady approach with a phased and realistic implementation schedule," says Yongping Zhai, ADB principal energy specialist. A reliable supply of secure, affordable electricity is particularly important to promote sustainable growth in the country.

The recent Philippine Energy Summit discussed options with all stakeholders on how to mitigate the impact of high-energy prices on the general public. The Summit noted that while the introduction of competition through open access¹ can reduce electricity tariffs in the short term, a more effective solution would be through a combination of increased use of indigenous renewable energy generation (such as geothermal, biomass, wind and hydropower) and the promotion of energy efficiency. The government plans to develop a range of legislative measures that will reduce import dependence by promoting increased use of indigenous energy resources, accelerating competition in the energy sector, building awareness and incentives for energy efficiency at all levels, and exploring alternative fuel options for the transport sector.

To support the government's initiative, ADB is considering provide assistance in developing a financing scheme that will support these energy efficiency and conservation programs. It aims to (i) identify and finance projects that can easily be replicated in the other parts of the country, (ii) encourage market-based financing mechanisms, and (iii) support projects that could claim carbon credits.

ADB is also considering to provide a standby facility to the winning bidder of the TRANSCO concession.

As generation and transmission will be operated by the private sector when the restructuring is complete, ADB will consider providing support to strengthen the distribution sector in the rural areas to support the government's rural electrification program.

As the privatization goes underway, and more and more power plants are rehabilitated and capacities are expanded or at least doubled by their new owners, ADB sees power rates in the country finally coming down to more reasonable levels and at more reliable supply.

ADB is committed to seeing the whole process through.



¹ Open Access. Open Access gives a customer the choice to shop around for a "cheaper" source of electricity from an alternative source. Open Access gives a customer the choice to shop around for a "cheaper" source of electricity and "bypass" the incumbent utility's average cost of generation, switch directly to the cheaper alternative, and pay the incumbent only for regulated transmission and distribution charges.