

Executive Summary

This study compares the electricity supply costs in the Philippines with that in three ASEAN member countries: Indonesia, Malaysia, and Thailand. The comparative analyses found the following differences in each cost component:

Table 1. Summary of Factors of Electricity Cost in Philippines

Electricity demand increase		<ul style="list-style-type: none"> Compared with other countries, the Philippines has room to expand its power demand; this may require larger investments and can make cost reduction relatively difficult to achieve.
Power generation	Power generation mix	<ul style="list-style-type: none"> Use of coal (thermal) power is already high. Power generation cost can be reduced by using more coal (thermal) power. Careful consideration over the environmental impact is required, however. Renewable energy could be a cheaper option in remote areas where residents predominantly use diesel generators.
	Fuel cost	<ul style="list-style-type: none"> Prices of coal and natural gas for power generation are relatively high. Coal and gas are respectively 6%-23% and 8%-43% higher than comparator countries in the study. There is room to further drive fuel cost down.
	Thermal efficiency	<ul style="list-style-type: none"> The efficiency of gas thermal power is extremely high, but that of coal (thermal) power is very low. If one assumes 10 percentage points higher thermal efficiency for CPP, Meralco could have reduced its coal consumption by US\$235 million (in 2015). A 60% efficient gas power plant with US\$9.06/MMBtu gas can compete with a 32% efficient coal power plant with US\$105/ton coal.
Transmission and distribution	T&D loss	<ul style="list-style-type: none"> The Philippines' T&D loss is 2.61% points larger than Thailand's. If T&D loss was 4% points lower, per-unit electricity supply cost could be 4% less.
	Demand density	<ul style="list-style-type: none"> Compared with Thailand's MEA, Meralco has a demand density that is 40% higher; this presents a good environment for the company to operate efficiently.
	Electrification rate	<ul style="list-style-type: none"> Electrification rate is lower in the Philippines. Larger investment requirements for electrification would

		make cost reduction more difficult in the Philippines.
Cost of capital	WACC	<ul style="list-style-type: none"> WACC in the Philippines is 3 percentage points–8 percentage points higher than the others. Cost reduction is possible by lowering WACC.
Tax and levy	VAT	<ul style="list-style-type: none"> Fixed-rate multiplier (i.e. sum of WACC and VAT) to electricity cost is 9 percentage points–11 percentage points larger than those in other countries.
	Others	<ul style="list-style-type: none"> The Philippines has specific surcharges not observed in other countries (3% of universal charge, 1% of other subsidies in 2016) As the total electricity rate goes down, the proportion of surcharges becomes bigger.

CPP = coal power plant; GPP = gas power plant; T&D = transmission and distribution; MEA = Metropolitan Electricity Authority; Meralco = Manila Electric Company; VAT = Value-added tax; WACC = weighted average cost of capital.

Source: Author.

The study presents seven recommendations pertaining to the Philippines' electricity supply chain, ranging from fuel supply to electricity distribution.

Table 2. Recommendations to Reduce Electricity Cost in the Philippines

	Effect to Reduce Cost
1 Coordinate open tender for power plant development	
2 Shift back to economic dispatch	✓
3 Reduce fuel cost	
4 Adopt thermal efficiency standard for power generation	✓
5 Consider renewable electricity as an economically feasible option	
6 Reduce transmission and distribution loss	
7 Create good business environment to reduce WACC	✓

WACC = Weighted average cost of capital.

Source: Author.

Recommendations to 'shift back to market-based load dispatch', 'adopt thermal efficiency standards for power generation', and 'create good business environment to reduce WACC' could have larger effects on cost reduction than the other recommendations. Thus, it is suggested that promotions should focus on the most impactful policy recommendations.