Institute for Energy Economics and Financial Analysis
IEEFA.org

River's Edge
3430 Rocky River Drive
Cleveland, OH 44111
216-688-3433
staff@ieefa.org

Now Is The Time To Restructure The Philippines Electricity Sector

Prudent Change Would Give Cheaper Renewables and Natural Gas A Level Playing Field

Sara Ahmed IEEFA Energy Finance Analyst

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Electricity rates in the Philippines are among the highest in the AESEAN region, due in large part to the nation's dependence on expensive imported fossil fuels, both diesel oil and coal.

But it doesn't have to stay this way. There are economically sensible options that can help lower electricity prices across the Philippines—provided the government is willing to take the necessary steps to plan for a sustainable future rather than opting to live in the past.

High electricity prices hurt the entire Philippine economy by slowing industrialization efforts, limiting overall competitiveness, worsening the current account deficit, and undermining the country's ability to attract foreign direct investment. Access to dependable and fairly priced electricity is the top constraint for Philippine businesses, according to a recent World Bank Group survey[1].

The country's electricity issues are an outgrowth of the nation's geography: the Philippines consists of more than 7,000 islands, many of which are small and have been served traditionally by generators relying on imported diesel. These islands frequently experience rolling blackouts and unplanned power outages because of grid instability, inadequate generation capacity, and lack of affordable fuel. In many cases, weak daytime demand does not justify 24/7 service. But perhaps worse, even

[1] 'The Big Business of Small Enterprises. Evaluation of the World Bank Group experience with targeted support to small and medium-size enterprises, 2006-12', March 2014, Independent Evaluation Group. https://openknowledge.worldbank.org/handle/10986/21191

unreliable service is heavily subsidized through what is known as the Universal Charge for Missionary Electrification (UCME), with rates being set by the Philippines Energy Regulatory Commission (ERC).

As a result, ratepayers—whether residential, commercial or industrial—on the nation's main islands and in the principal population centers generally served by central-station coal-fired power plants (see below for a discussion of those problems) are being forced to subsidize failing grids.

Below is an overview of electricity costs and the subsidies involved:

Table 1: Small Islands Diesel Cross-Subsidy

NPC SPUG Area	Municipality	True Cost of Diesel (Php per kWh)	Effective Selling Rate (Php per kWh)	Difference paid for by UCME (cross-subsidy paid by all Philippine industry and the public)
ROMBLON	Alad	28.03	6.59	21.44
CANTANDUANES	Palumbanes	21.56	6.59	14.97
MINDORO	Cabra	19.80	5.75	14.05
LEYTE	Caluya	18.89	6.84	12.05
TAWI	Manuk Mankaw	17.60	6.27	11.33
KALINGA	Lubuagan	16.52	5.76	10.76
DAVAO DEL NORTE	Talicud	16.87	6.27	10.6
SIQUIJOR	Siquijor	15.49	6.07	9.42
CEBU	Camotes	15.35	6.07	9.28
PALAWAN	El Nido	14.93	6.59	8.34
BATANES	Basco	14.04	6.59	7.45
QUEZON	Polilio	13.92	6.59	7.33
BASILAN	Basilan	13.70	6.58	7.12

Source: IEEFA Report - "Electricity-Sector Opportunity in the Philippines – The Case for Wind- and Solar-Powered Small Island Grids"; GIZ, SPUG-NPC (2012)

Table 2: Main Grid Electricity Cost Comparisons

Technology and Company	Price (Php per kWh)
Coal – Panay Energy Development Corporation	5.41
Coal – Masinloc Power Partners Corporation	4.98
Coal – Thermal Luzon Inc.	4.85
Geothermal – Energy Development Corporation	4.06
Geothermal – Energy Development Corporation	3.91
Solar – Solar Philippines	2.99

Source: IEEFA Report - "Carving out Coal in the Philippines: Stranded Coal Plant Assets and the Energy Transition"; Meralco; ERC; Solar Philippines as of August 2017

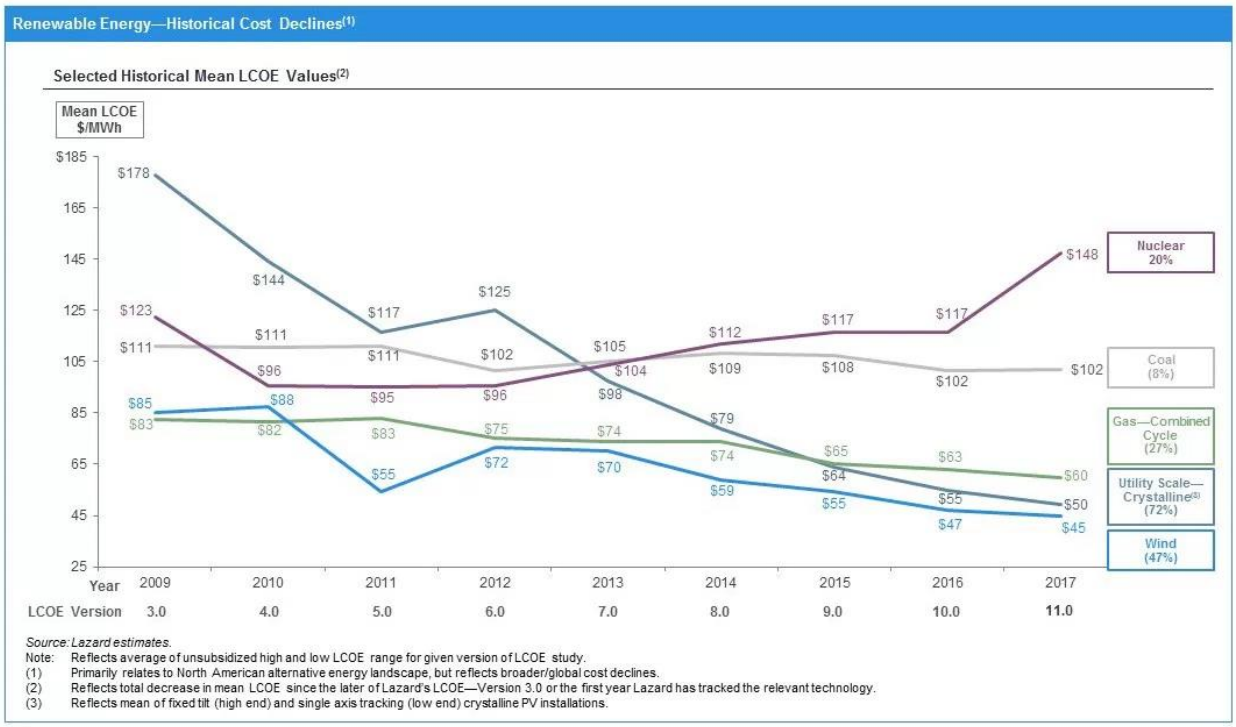
The policy question that urgently needs answering is whether it makes sense for the national government to continue to subsidize expensive imported diesel fuel or look instead to diversify and modernize small electric power grids to ensure that affordable and reliable supplies are available to all?

Replacing imported diesel generation, which is currently subsidized to the tune of Php13 to Php28 per kilowatt hour (kWh) just for fuel costs, with renewable energy generation – especially from run-of-river hydro, solar, and wind – would save an estimated Php10 billion per year.

A similar question holds for larger islands' coal-dominated generation mix. The Philippines has bet big on coal, with 7,419 megawatts of existing coal-fired generation and another 10,423 MW in the development pipeline approved by the Aquino administration. But in the face of rapidly declining costs and technological advances in renewable energy, liquefied natural gas (LNG), and storage, reliance on coal makes less and less sense.

Lazard, one of the world's leading financial advisory firms, states in its latest annual Levelized Cost of Energy Analysis (LCOE 11.0) that it is more expensive to operate conventional fossil fuel energy sources in developing countries like the Philippines than in developed countries. The chart below shows how new wind and solar generation is cheaper now even than new gas-fired plants.

Figure 1: Energy Cost Comparison



Source: Lazard's latest annual Levelized Cost of Energy Analysis (LCOE 11.0), 2017

Like its diesel problem, the Philippines' growing dependence on imported coal can be tied directly to government subsidies that perpetuate market distortions.

For example, the power supply agreement (PSA) of the Panay Energy Development Corporation, a Meralco power supplier, dictates a delivered rate of Php3.96 per kWh. But because the company is allowed to pass through fuel costs and foreign exchanges fluctuations directly to consumers, the actual generation rate for August 2017 was 37% higher, at Php5.41 per kWh. This PSA, like others approved by the ERC, unfairly penalizes consumers who have no bargaining power. As the system is currently structured, ratepayers absorb all the risk while utilities and power generators remain insulated from ongoing market changes and, as a result, have no incentive to transition away from coal or hedge against price-change and currency risks.

The Stranded-Cost Issue

While the concept of stranded costs may seem obscure, in truth it is straightforward: Costs become stranded when a company is unable to charge enough for its product to recover the investment it made to produce the product. In the Philippines coal generation sector, this means utilities and other producers will need to be able to recover Php 1 trillion (almost US$21 billion) if they continue with the plans of the Aquino Administration to build 10,423 MW of the coal capacity currently in the development pipeline.

Given the sharp and sustained declines in renewable energy costs over the past few years, as well as projections for continued declines in the years ahead, the country's coal backers should no longer assume they can recover all those costs. In fact, more than likely, most, if not all, of this new coal-fired capacity is going to end up stranded.

Coal, in short, is no longer competitive, and acceptance of this fact is gaining currency.

Meralco, for example, is currently underwriting an 85 MW solar power supply deal for Php 2.99 per kWh. Geothermal runs from Php3.5 to Php4.5 per kWh. Run-of-river hydro costs range from Php3 and Php6.5 per kWh, and removing the permitting red tape, which currently takes about five years, could drive that price even lower. These prices, coupled with the recent success and sharp price reduction in offshore wind, point to continued renewable energy cost deflation and raise serious questions about the economics of new coal generation.

Stranded costs are already showing up In Mindanao, even without retail competition enabled by the presence of a wholesale electricity spot market. A surplus of coal-fired generation on the island has pushed utilization rates down compared to developers' initial expectations, leading to Php 3 billion (US$60 million) in unrecovered or stranded costs from 2014-2016.

While generators and developers ultimately may back away from coal, the market's current structure, pushing most of the risk to consumers, needs to change to ensure that this transition takes place now, not later. And that will require action by regulators and legislators alike, as is discussed below.

Solutions

Removal of the Automatic Pass-Through

Removing the ability for generators to automatically pass-through fuel and foreign exchange fluctuations would help level the playing field among differing energy resources. This change has been suggested by both the Department of Energy (DoE) and ERC, who have backed competitive bidding for **fixed** price delivery for all customers. If this were the case, the Panay Energy Development Corporation PSA with Meralco would be locked at the PSA price of Php3.96 per kWh, **not** Php5.41 per kWh, which was the generation rate for August 2017.

Automatic Carve-Out Provision

A carve-out clause can reduce the amount of power a utility must buy from a power generator and exempt distribution utilities from the consequences of coal-plant overbuilding and high coal costs. This could protect captive Philippine industry and other ratepayers from having to foot the bill for generator costs when other companies, under the country's retail competition and open access program, turn to

cheaper suppliers.

Meralco, which has lost 20% of its energy sales as a result of defecting customers, says it had the foresight to put a carve-out clause in its new power supply agreements, recognizing the need to protect ratepayers from stranded coal plants by shifting the risks back on to the independent power providers and their investors.

Though Meralco claims that all its new coal contracts have it, the carve-out clause needs to become mandatory policy to protect all consumers and industry.

Power Supply Agreements can be Structured to Force Operators to Take On and / or Hedge Market Risk

Going forward, PSAs need to be structured to force operators to take more market risk.

Least-Cost Mechanism

Enforcement of a competitive selection process with transparent bidding would put an end to self-negotiated generation rates and be a significant step toward open competition for the procurement of the lowest-cost option for power capacity. Procurement also must be done on a technology-neutral basis.

In the case of coal and diesel, future PSAs can be awarded based on how much a power generator is willing to step back from the traditional automatic cost pass-through model and shoulder more fuel-price risk.

For example, many such deals in India now have power generators agreeing to limit fuel-price pass-throughs to 30% instead of 100%. In some cases, power generator proposals are also being presented now with fuel hedge contracts, which reduce exposure to fuel-cost volatility. Such contracts are already widely used by airlines, cruise lines and trucking companies, and can certainly be tapped by the electric power industry.

Conclusion

The ERC clearly has failed to protect consumers and industry. Legislation to remove automatic cost pass-through, along with the implementation of carve-out provisions, will reduce moral hazard, correct market distortions, and level the playing field.

Banks in the Philippines do not incorporate stranded-asset risk in project finance underwriting, either by negligence or by design, based on policies ensuring risks are transferred to Philippine industry and the public instead. It is time for the government to equitably redistribute such risk.

Solar tenders have dropped by more than 50% in under two years to just US$18/MWh

as seen in Mexico and US$21/MWh in Chile, while India is now installing 15-18 gigawatts annually at tariffs as low as US$38 per MWh, with zero inflation indexation over the 25-year contract life. Solar in the Philippines is approximately US$60 per MWh (assuming Php2.99 per kWh). The outcomes in Mexico, Chile and India are being driven by financial markets, but have been realized because of clear, transparent, long-term government energy policies. The above solutions, coupled with an increase in the coal tax (to internalize some pollution costs) will send the right policy signals to investors, pushing them to back affordable and reliable power infrastructure.

IEEFA's report on "Carving out Coal in the Philippines: Stranded Coal Plant Assets and the Energy Transition" can be found at:

http://ieefa.org/ieefa-report-philippine-banking-sector-risk-ill-advised-us21-expansion-coal-fleet/

Contact: Sara Jane Ahmed, IEEFA Energy Finance Analyst, sahmed@ieefa.org