

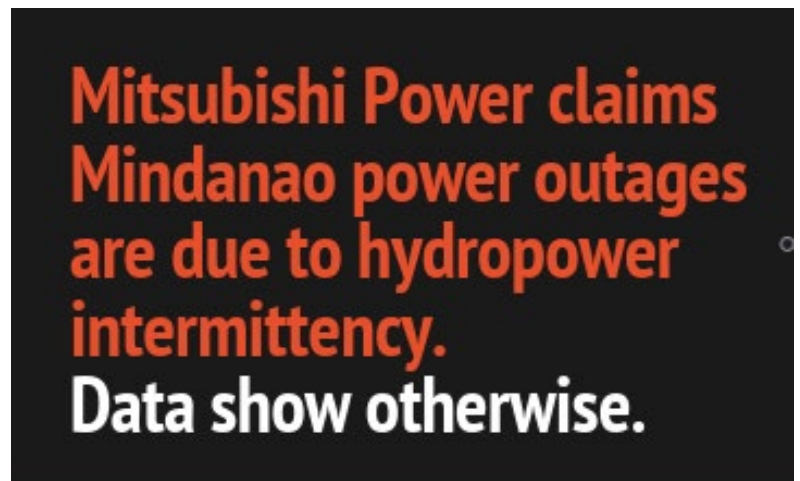
Who is profiting from the power outages?

by **Alberto Dalusung III and Jephraim Manansala** | September 4, 2021
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Power outages are back with a vengeance. Those of us in Luzon remember the rotating brownouts last May 31 to June 1. More recently, there was a blackout that affected the whole of Eastern Visayas, Bohol, Cebu and Negros last August 20.

Department of Energy (DOE) Visayas Field Office Director Russ Mark Gamallo told The Freeman that the transmission line of the National Grid Corporation that runs from Quiot, Pardo in Cebu City to Colon, Naga tripped late Friday night and caused a blackout in areas covered by the Cebu-Leyte-Samar-Bohol portion of the Visayas grid which started at 11:56pm. The Negros and Panay portions of the grid were spared.

Mindanao has not been spared from the power outages if we are to believe Mitsubishi Power Asia Pacific's news headline from their webpage: "Mitsubishi Power Secures Three-Year Agreement to Maintain Boilers Crucial for Reliable Energy Access in Mindanao." Mitsubishi Power states, "Therma South Inc. is a wholly owned subsidiary of AboitizPower and supplements power generation required to meet the region's baseload requirements to reduce the frequency and duration of power shortages in Mindanao, due to hydropower intermittency." On the company's LinkedIn page, Mitsubishi repeated the strange claim, but with a broader brush: "Mindanao, Philippines has experienced power shortages due to the intermittency of renewable energy."



NEWS

Mitsubishi Power Secures Three-Year Agreement to Maintain Boilers Crucial for Reliable Energy Access in Mindanao

2021-08-05

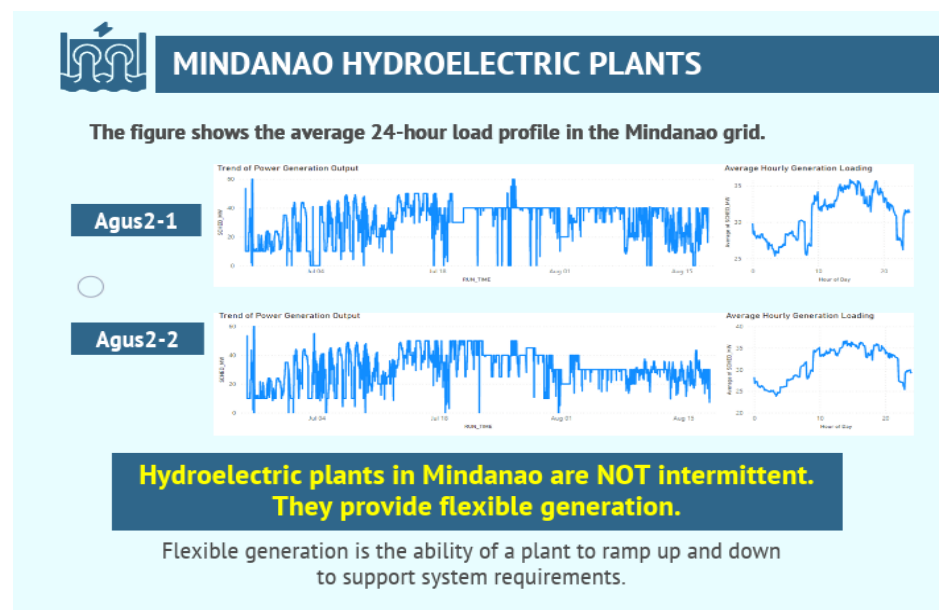
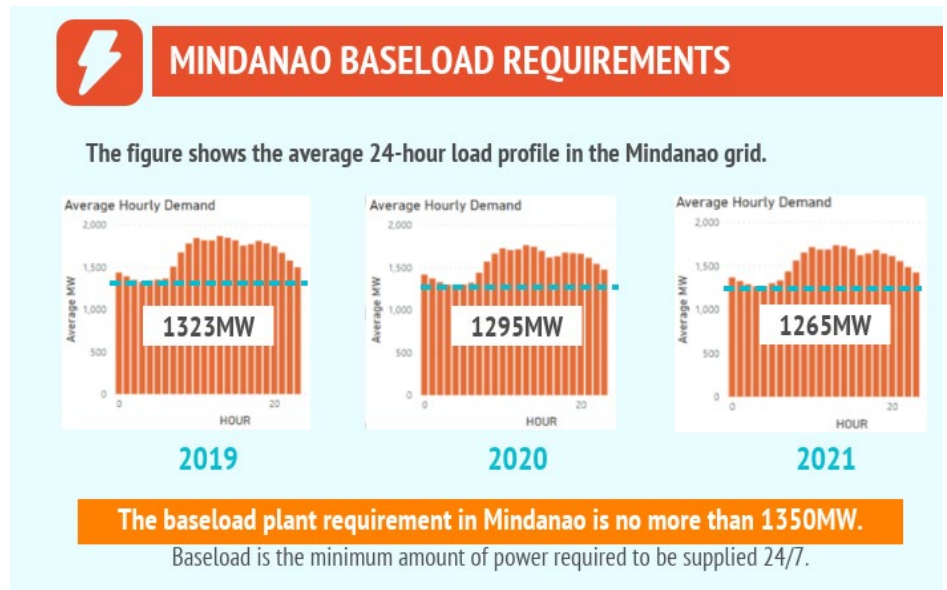
- Maintenance work at Therma South, Inc. to enhance boiler reliability and support the power generation needs of Mindanao
- Steady track record of over 90 risk-based maintenance projects servicing 3.6 GW in the Philippines pivotal to awarding of contract



Unfortunately, Mitsubishi made two crucial errors in their statement. Firstly, Mindanao has more than enough baseload capacity because its requirement is no more than 1,350 megawatts (MW) while coal dependable capacity in Mindanao alone is 2,041 MW according to the DOE. Geothermal will add another 104 MW to Mindanao's baseload capacity. Moreover, a quick look at June to August 2021 hydropower operations in Mindanao do not show the intermittency claimed by Mitsubishi. Hydropower is known to be seasonal – but not intermittent.

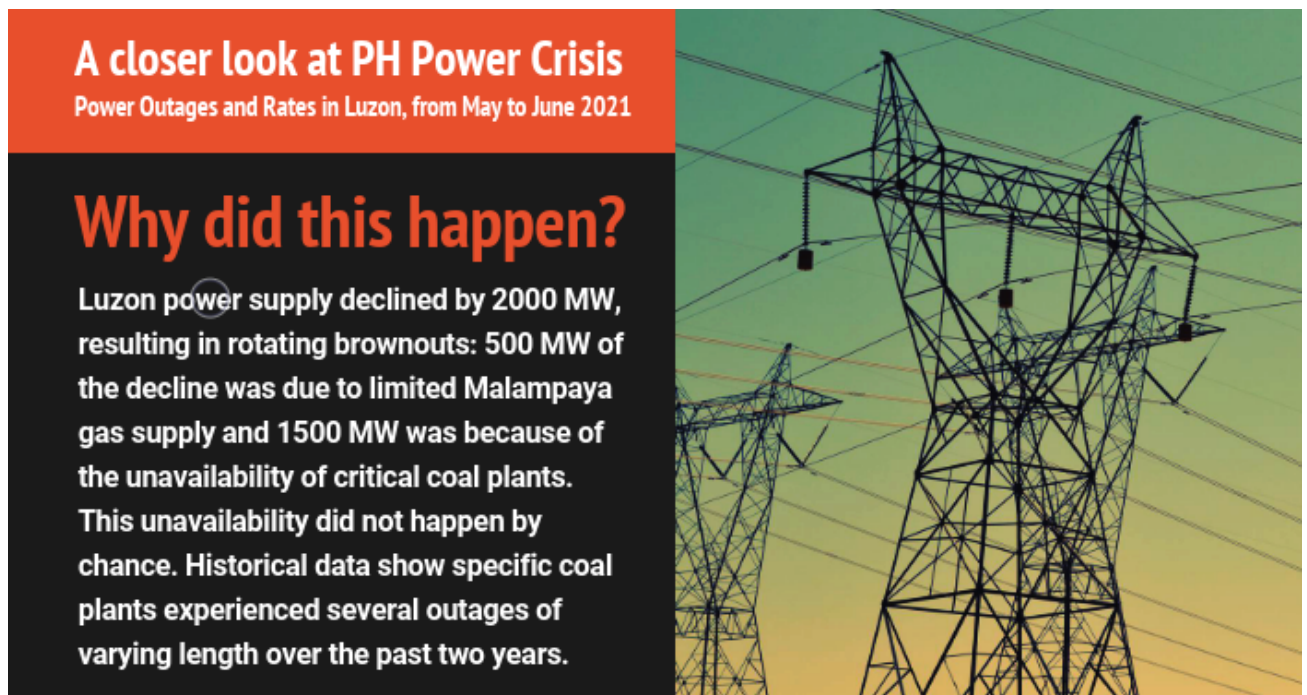
The Oxford dictionary defines "intermittent" as "stopping and starting often over a period of time, but not regularly." The Mitsubishi webpage report attributes intermittency to renewable energy, specifically to hydropower. However, hydropower is not intended to be a source of baseload power. It is incorrect to claim it is the cause of power outages experienced today in Mindanao.

In reality, Wholesale Electricity Spot Market (WESM) data shows that the normal operation of hydropower in Mindanao provides flexible generation to balance real-time supply and demand. The company also cannot extend the absurd claim to blame variable renewable energy sources such as wind power, whose supply to Mindanao is zero, or solar power, a huge source of affordable flexible power generation which Mindanao should drastically grow, but which comprises only a miniscule 83.87 MW of the island's supply today. In fact if we examine the WESM data on solar and wind power plants in Luzon and Visayas, we find their performance to be in line with their expected variable generation.



In the normal course of business, lower demand combined with lower supply subject to price caps mean lower revenue and even losses. However, despite extended outages experienced by coal power plants and lower demand due to the pandemic, many power companies with coal portfolios managed to perform extremely well. A power company reported its income leaped by 171 percent to more than Php 10 billion, while another reported a 270 percent increase of Php 4 billion consolidated net income for the second quarter versus 2020. Other generation companies reported similar marked improvements in their financial performance this year. All of which was attributed by power companies to high WESM sales and favorable market conditions.

And yet, consumers had to pay higher electricity bills due to the spikes in spot market prices. The coal plant outages have coincided with very high prices at the spot market. Because of their size, when any large coal plant fails, other more expensive power plants have to fill the gap. Based on the volume of spot transactions from WESM during the outages and the previous month's average cost, the additional cost to consumers was a hefty one billion pesos in just two days of outages.



A closer look at PH Power Crisis
Power Outages and Rates in Luzon, from May to June 2021

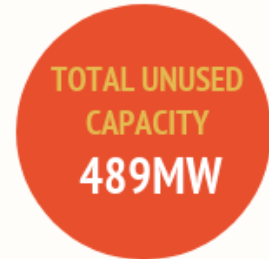
Why did this happen?

Luzon power supply declined by 2000 MW, resulting in rotating brownouts: 500 MW of the decline was due to limited Malampaya gas supply and 1500 MW was because of the unavailability of critical coal plants. This unavailability did not happen by chance. Historical data show specific coal plants experienced several outages of varying length over the past two years.

But here's the reality government officials need to confront. Four coal power plants were down from May 31 to June 1 this year while two Ilijan gas power plants were running at 60 percent capacity due to restricted Malampaya gas supply. Luzon power supply also declined by 2,000 MW resulting in rotating brownouts. The operating histories of these coal plants show each of these plants registered 14 to 25 outages of varying duration since March 2019.



COAL PLANTS WITH DERATED* CAPACITY

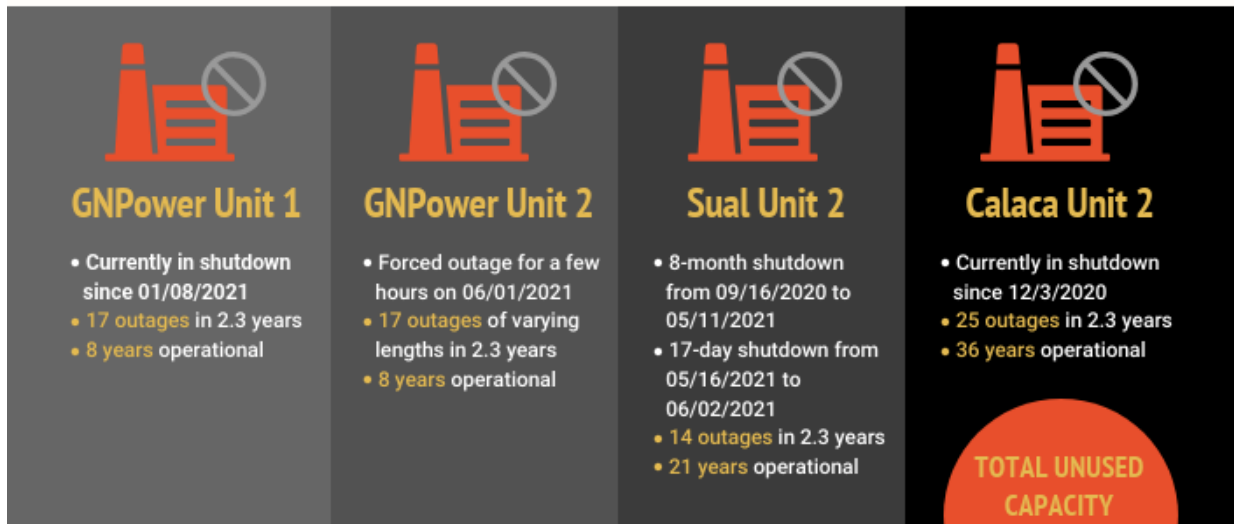


Source: WESM Market Prices and Schedules; WESM SO Advisories

*lowered rated capability because of deterioration or inadequacy



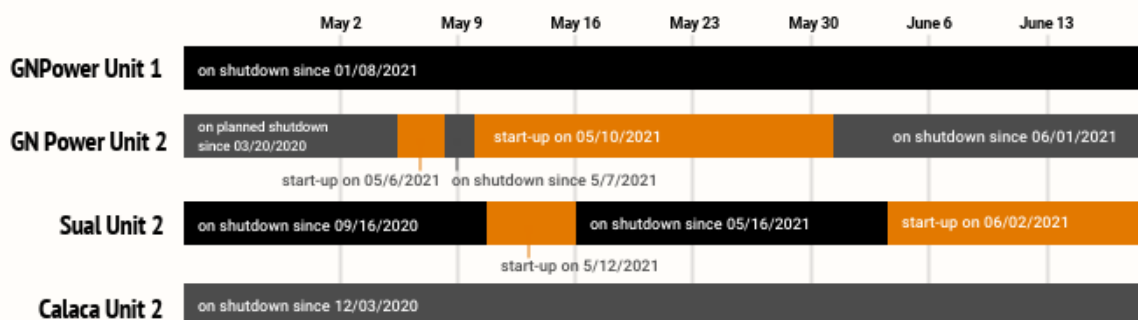
COAL PLANTS ON SHUTDOWN



Source: WESM Market Prices and Schedules; WESM SO Advisories



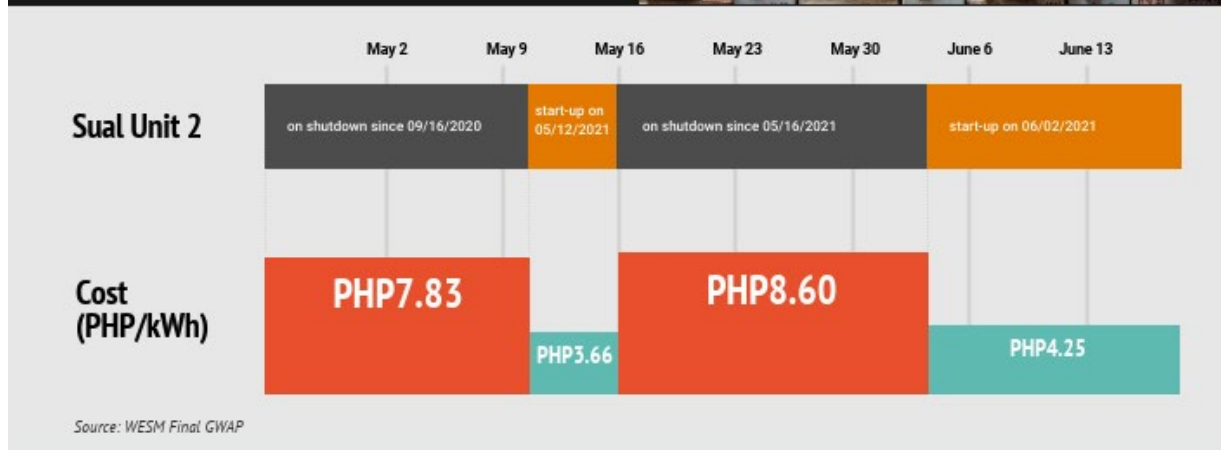
TIMELINE OF SHUTDOWNS



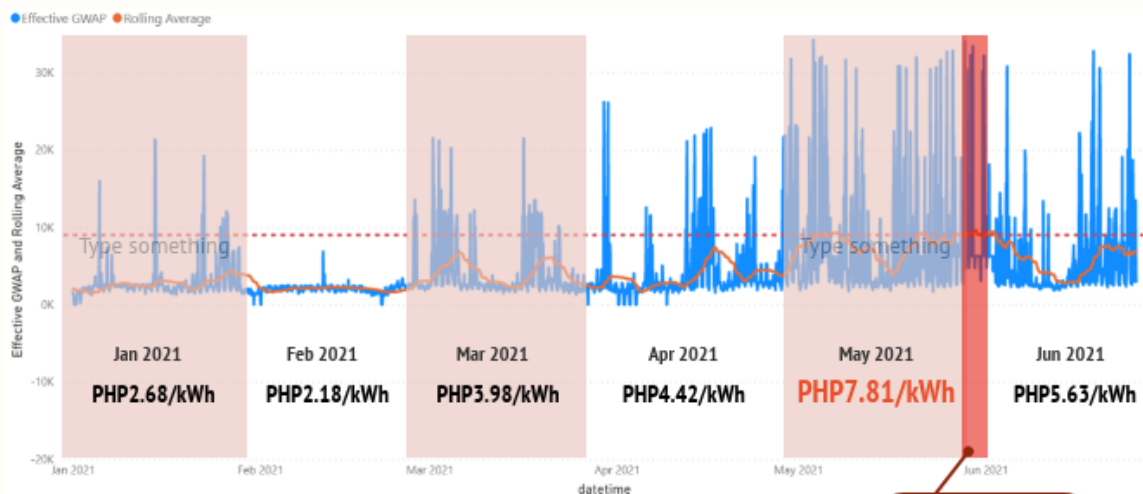
Source: WESM Market Prices and Schedules; WESM SO Advisories

Why do power rates soar during outages and shutdowns?

The graph below shows electricity price doubled when the Sual power plant (the largest power station in the Luzon grid) experienced an unplanned shutdown in the summer of 2021. Due to the deficiency of Sual, other more expensive power plants were needed to meet power demand in real time.



GENERATOR WEIGHTED AVERAGE PRICE (GWAP)



- The Secondary Price Cap Mechanism by the ERC (9000 level, indicated by the dashed line) was triggered multiple times – indicating an abnormally high pricing in the power market.
- GWAP during Summer 2021 is significantly higher than previous GWAP
- GWAP during the May 31- June 1 outage is significantly higher than previous GWAP

Even more disturbing – short duration unplanned outages still occurred even after planned and extended outages in all four coal power plants. A 36-year-old coal plant had cumulative outages of 14 months during the period. The same plant has actually been down for nine months since December 2020 up to this very day. What is surprising is that a new plant – only eight years old and utilizing the latest technology – has been down and offline for eight months since January 2021 up to this day. The operating data of these coal plants provide the empirical evidence to support the claim that coal power plants are unreliable and behind the high price of electricity. Therefore, based on empirical evidence from WESM, it is the coal power plants that are intermittent while the same data show that variable renewables are not.

Since consumers are paying billions more, who is profiting from the power outages? It is bad enough that families in lockdown have to suffer brownouts during the pandemic. It is worse when companies possibly made a windfall from their suffering. While generation companies with outages suffered from lower revenues, did their parent companies, subsidiaries or sister companies somehow profit from the higher WESM prices? Considering that electricity is a major expense for most Filipinos, we enjoin the DOE, Energy Regulatory Commission and other regulatory agencies to alleviate the burden caused by the prolonged outages and ensure that nobody is unduly profiting from this inopportune situation.

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Infographics by ***Joseph Manalo and Jephraim Manansala***. Datasets include: WESM Market Prices & Schedule; WESM Market Bids and Offers; WESM Final GWAP; WESM System Operator Advisories; DOE List of Existing Power Plants

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