

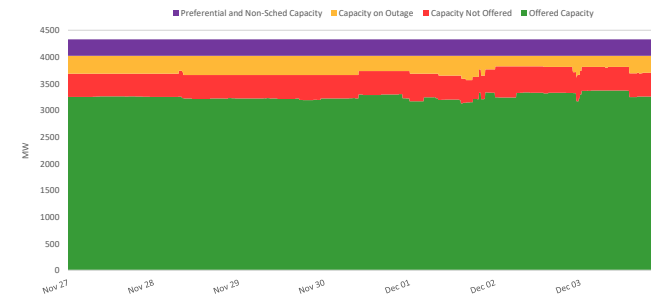
PEMC MARKET ASSESSMENT HIGHLIGHTS

- The average demand and the reserve schedule, recorded at 2,202 MW during the week of 27 Nov -03 Dec 2023, was higher than the previous week at 2,182 MW.
- The average effective supply during the week was 2,543 MW, higher than the 2,496 MW of the previous week. Ramping limitations were considered in the calculation of the effective supply.
 - The capacity on outage averaged at 293 MW, lower than last week's 394 MW. In terms of capacity on outage by plant type, about 44% of the 293 MW involved Coal Plants, while in terms of outage by category, about 50% were Forced Outages.
- As a result, an average supply margin of 342 MW was observed during the week, which is higher by about 9% relative to the previous week. The thinnest supply margin based on MMS solution was 223.36 MW on 29 November 2023 17:30. The average supply margin was 308.69 MW at peak intervals and 362.28 MW at off-peak intervals.
- Correspondingly, average GWAP was recorded at PHP 3,118/MWh from PHP 3,155/MWh last week.
 - No secondary price cap was imposed for this week
- The top 5 participant groups accounted for about 78% of the offered capacity. The Herfindahl-Hirschman Index (HHI) by participant group indicated moderately concentrated market based on the offered and registered capacities.
- The pivotal plants during the week were –
 1. FDC MISAMIS CFTPP (about 39.98% of the time)
 2. MALITA CFTPP (about 11.95% of the time)
 3. THERMA SOUTH CFTPP (about 11.31% of the time)
 4. GN POWER KAUSWAGAN CFTPP (about 3.03% of the time)
- Based on the MMS Solution, the congested equipment during the week was Naga_Transformer 1 (about 0.84% of the time)
- OPA_ANALYSIS
 - Battery plants nominated higher capacity compared to previous week.
 - Hydro plants offered lower capacity compared to previous week due to outages.
 - Coal plants offered higher capacity due to lower outages relative to the previous week.
 - Solar plants recorded highest on November 28 and lowest nomination on November 30.
- IEMOP MARKET SYSTEMS ADVISORY
 - No IT-related issue was advised in IEMOP's market systems from 27 Nov -03 Dec 2023.

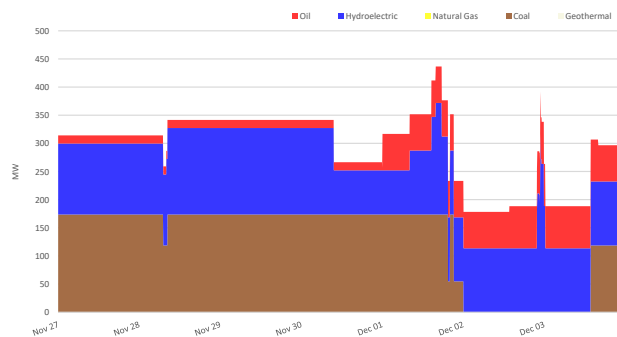
SUMMARY (PRICE, SUPPLY, DEMAND AND RESERVE SCHEDULE)

Particulars		27 Nov -03 Dec 2023	Previous Week (20 - 26 Nov 2023)	Percent Change
GWAP (PHP/MWh)	max	24,870.784	25,493.861	-2.44%
	min	-9,692.472	-10,133.024	4.35%
	ave	3,118.240	3,155.274	-1.17%
Effective Supply (MW)	max	2,972.200	2,996.749	-0.82%
	min	2,115.201	1,956.250	8.13%
	ave	2,543.474	2,495.535	1.92%
System Demand (MW)	max	2,380.960	2,407.660	-1.11%
	min	1,398.370	1,402.430	-0.29%
	ave	1,889.681	1,909.561	-1.04%
Demand + Reserve Schedule (MW)	max	2,732.580	2,729.430	0.12%
	min	1,587.290	1,502.930	5.61%
	ave	2,201.606	2,182.095	0.89%
Supply Margin (MW)	max	630.112	645.859	-2.44%
	min	223.356	165.871	34.66%
	ave	341.868	313.439	9.07%

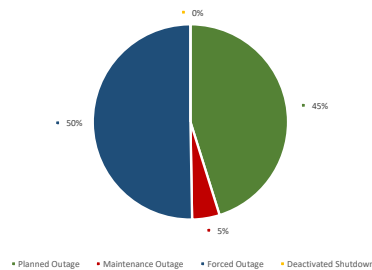
CAPACITY PROFILE



CAPACITY ON OUTAGE BY PLANT TYPE



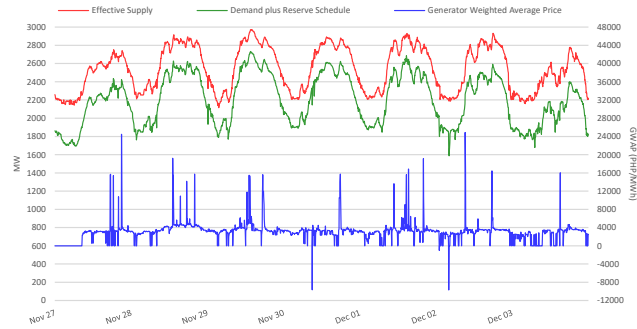
CAPACITY ON OUTAGE BY OUTAGE CATEGORY



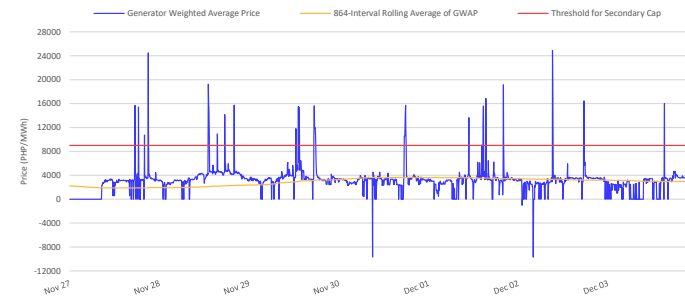
RTD CONGESTION



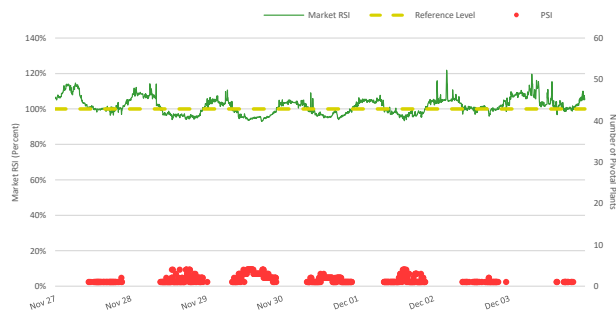
SUPPLY, DEMAND AND PRICE



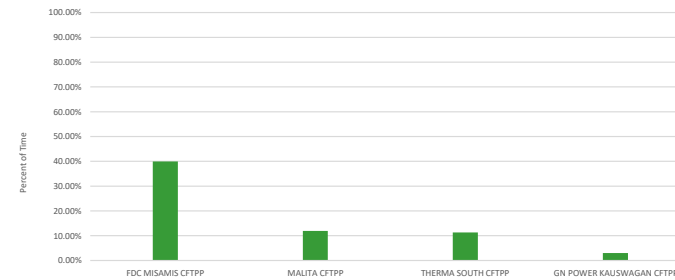
GENERATOR WEIGHTED AVERAGE PRICE



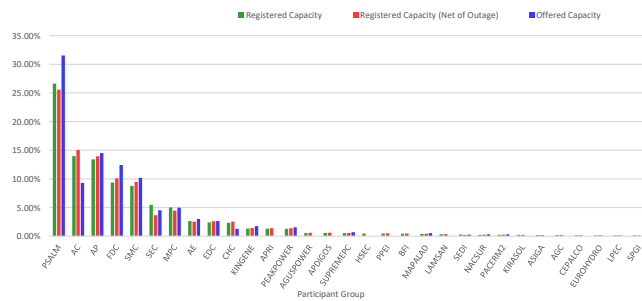
MARKET RSI VS PIVOTAL PLANTS



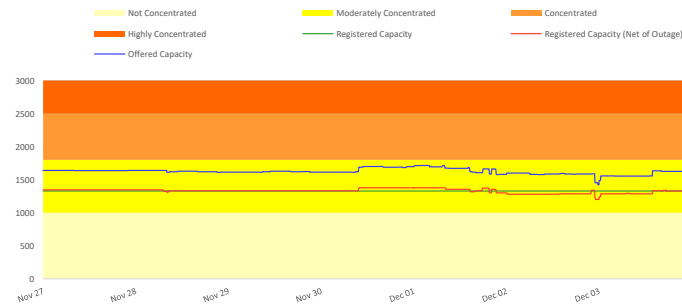
PSI



MARKET SHARE

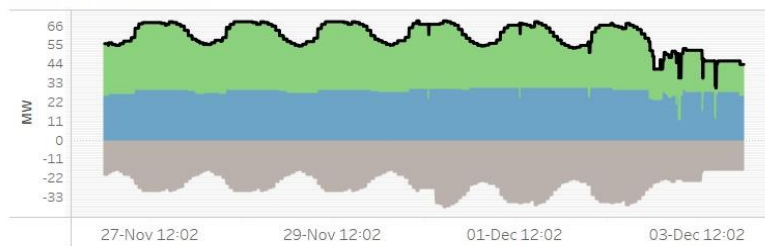


HERFINDAHL-HIRSCHMAN INDEX

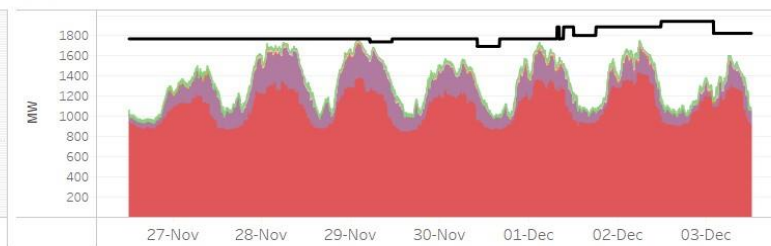


OFFER PATTERN ANALYSIS

BATTERY AND BIOFUEL



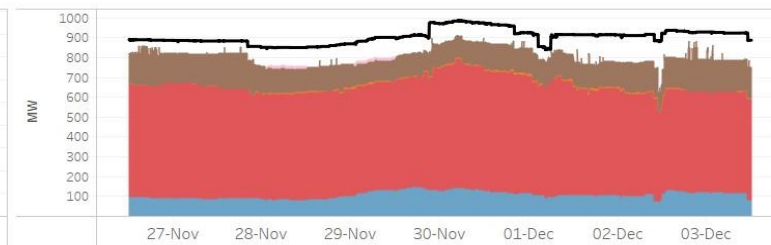
COAL



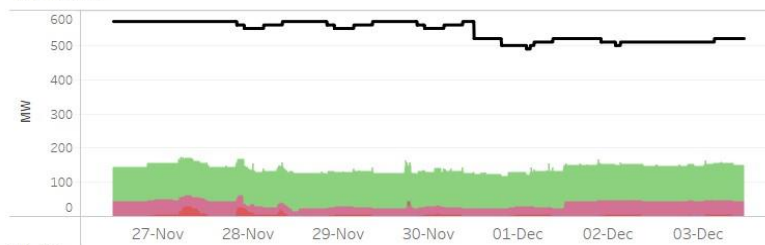
GEOTHERMAL



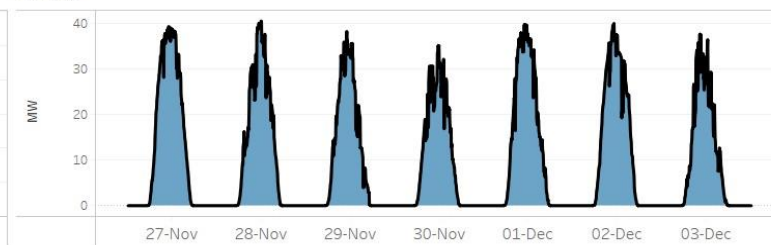
HYDRO



OIL-BASED



SOLAR



Offer Price



Notes:

1. In Php [X, Y], it includes offer price greater than Php X but less than or equal to Php Y.
2. Reflected capacity includes offered capacity of all scheduled generators, nominated loading level of nonscheduled generators and projected output of preferential dispatch generators, adjusted based on submitted ramp rate limitations.

GLOSSARY OF TERMS

EFFECTIVE SUPPLY - The effective supply is equal to the offered capacity of all scheduled generator resources, nominated loading level of non-scheduled generating units and projected output of preferential dispatch generating units, adjusted for any security limit provided by the System Operator and other constraints considered during MMS simulation such as generator offered ramp rates. Scheduled output of plants on testing and commissioning through the imposition of security limit by SO and scheduled output of Malaya plant when it is called to run as Must Run Unit (MRU) are likewise accounted for in the effective supply.

MARKET RESIDUAL SUPPLY INDEX (Market RSI) - The RSI is a dynamic continuous index measured as ratio of the available generation without a generator to the total generation required to supply the demand. The RSI is measured for each generator. The greater the RSI of a generator, the less will be its potential ability to exercise market power and manipulate prices, as there will be sufficient capacity from the other generators. In contrary, the lower the RSI, the greater the market power of a generator (and its potential benefit of exercising market power), as the market is strongly dependent on its availability to be able to fully supply the demand. In particular, a RSI greater than 100% for a generator means that the remaining generators can cover the demand, and in principle that generator cannot manipulate market price. On the other hand, a RSI less than 100% means that the generator is pivotal in supplying the demand.

The RSI for the whole market (Market RSI) is measured as the lowest RSI among all the generators in the market. A Market RSI less than 100% indicates the presence of pivotal generator/s.

MARKET SHARE - The fraction of the total capacity or energy that a company or related group owns or controls in the market.

MAJOR PARTICIPANT GROUP - The grouping of generators by ownership or control.

PIVOTAL SUPPLIER INDEX (PSI) - The pivotal supplier index is a binary variable (1 for pivotal and 0 for not pivotal) for each generator. The index identifies whether a generator is pivotal in supplying the demand. The PSI is calculated as the percentage of time that a generator is pivotal in a period (i.e. monthly).

HERFINDAHL-HIRSCHMAN INDEX (HHI) - is a commonly accepted measure of market concentration that takes into account the relative size and distribution of participants in the market. The HHI is a number between 0 and 10,000, which is calculated as the sum of squares of the participant's market share. The HHI approaches zero when the market has very large number of participants with each having a relatively small market share. In contrary, the HHI increases as the number of participants in the market decreases, and the disparity in the market shares among the participants increases. The following are the widely used HHI screening numbers: (1) less than 1,000 - not concentrated; (2) 1,000 to 1,800 - moderately concentrated; (3) greater than 1,800 - concentrated; and (4) greater than 2,500 - highly concentrated.

REGISTERED CAPACITY - The capacity registered by a generator with WESM.

REGISTERED CAPACITY (NET OF OUTAGE) - The capacity registered by a generator with WESM less capacity on outage.

OFFERED CAPACITY - The offer to supply electricity submitted by a generator.

DISCLAIMER: The information contained in this document is based on the available electricity spot market data. The same information is subject to change as updated figures come in. As such, the PEMC does not make any representation or warranty as to the completeness of this information. The PEMC likewise accepts no responsibility or liability whatsoever for any loss or cost incurred by a reader arising from, or in relation to, any conclusion or assumption derived from the information found herein.