

PEMC MARKET ASSESSMENT HIGHLIGHTS

- The average demand and the reserve schedule, recorded at 12,520 MW during the week of 04 - 10 Dec 2023, was higher than the previous week at 12,275 MW and higher than the same week last year at 11,475 MW.
- The average effective supply during the week was 13,018 MW, higher than the 12,839 MW of the previous week and higher than the 11,726 MW during the same week last year. Ramping limitations were considered in the calculation of the effective supply.
 - The capacity on outage averaged at 2,658 MW, higher than last week's 2,410 MW. In terms of capacity on outage by plant type, about 51% of the 2,658 MW involved Coal Plants, while in terms of category, about 55% were Planned Outages.
- As a result, an average supply margin of 499 MW was observed during the week, which is lower by about 11.65% relative to the previous week and higher by about 98% in comparison with the same week last year. The supply deficit based on MMS solution was 2.15 MW on 05 December 2023 21:05h. The average supply margin was 489.34 MW at peak intervals and 504.17 MW at off-peak intervals.
- Correspondingly, average GWAP was recorded at PHP 4,130/MWh from PHP 3,700/MWh last week. This is lower than the PHP8,663/MWh during the same week last year.
 - No secondary price cap was imposed for this week.
- The top 5 participant groups accounted for about 79% of the offered capacity. The Herfindahl-Hirschman Index (HHI) by participant group indicated partially concentrated and moderately concentrated market based on the offered and registered capacities respectively.
- The top 5 pivotal plants during the week were –
 1. STA RITA NGPP (about 99.95% of the time)
 2. GNP DINGININ CFTPP (about 99.95% of the time)
 3. MASINLOC CFTPP (about 97.27% of the time)
 4. MARIVELES CFTPP (about 83.18% of the time)
 5. SAN LORENZO NGPP (about 79.37% of the time)
- Based on the MMS Solution, the top 5 congested equipment during the week were –
 1. 138kV Cebu -Mandaue Line 2 (about 16.4% of the time)
 2. 138kV Samboan-Amlan Line1 (about 3.8% of the time)
 3. 138kV Mandaue_Lapu-Lapu (about 2.1% of the time)
 4. Compostela_Transformer 3 (about 1.2% of the time)
 5. Compostela_Transformer 4 (0.3% of the time)

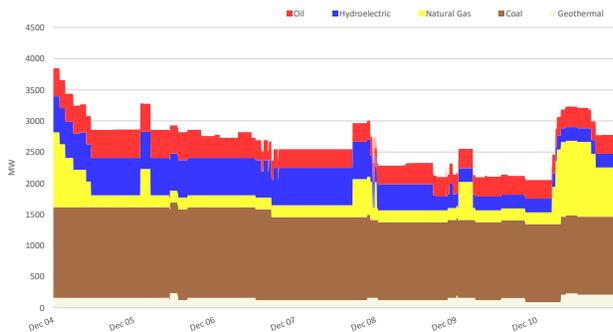
OPA_ANALYSIS

- Coal plants offered lower capacity compared to the previous week due to outages.
- On December 29, hydro plants offered a capacity of 260MW at a price range of Php 25,000/MWh to Php 30,000/MWh.
- For most of the week, natural gas plants (Sta. Rita and San Gabriel) did not submit generation offers. However, they were scheduled in the market through the security limits imposed by the System Operator for the conduct of plant performance tests.
- The significant drop in offered capacity starting December 10 was due to the forced outage of Ilijan.
- The highest nomination for solar plants was recorded on December 5, while the lowest was on December 6.
- The lowest nomination for wind plants was recorded on December 5, and the highest was on December 7.

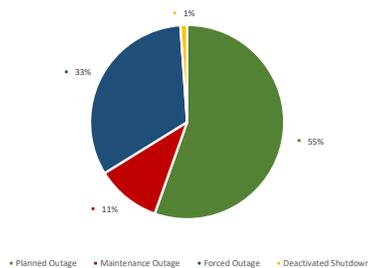
IEMOP MARKET SYSTEMS ADVISORY

- No IT-related issue was advised in IEMOP's market systems from 04 - 10 Dec 2023.

CAPACITY ON OUTAGE BY PLANT TYPE



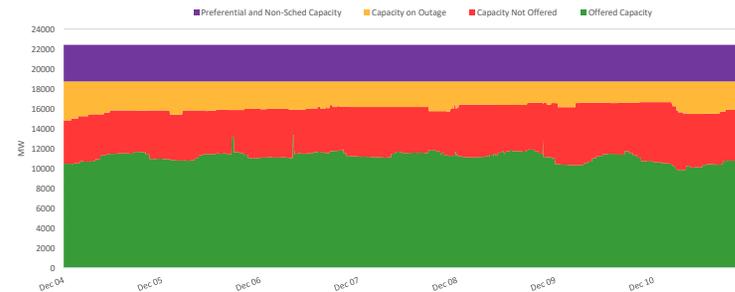
CAPACITY ON OUTAGE BY OUTAGE CATEGORY



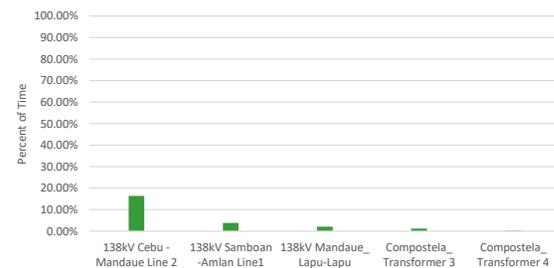
SUMMARY (PRICE, SUPPLY, DEMAND AND RESERVE SCHEDULE)

Particulars		04 - 10 Dec 2023	Previous Week (27 Nov - 03 Dec 2023)	Same Week, Previous Year (05 - 11 Dec 2022)	Percent Change From	
					Previous Week	Same Week, Prev Year
GWAP (PHP/MWh)	max	32,960.91	32,831.82	40,578.37	0.39%	-18.77%
	min	-148.84	-9,947.94	0.00	98.50%	-
	ave	4,130.33	3,699.90	8,663.46	11.63%	-52.32%
Effective Supply (MW)	max	15,027.68	15,238.22	13,362.31	-1.38%	12.46%
	min	10,489.55	10,053.98	10,074.89	4.33%	4.12%
	ave	13,018.31	12,839.45	11,726.37	1.39%	11.02%
System Demand (MW)	max	13,767.35	13,601.89	12,681.85	1.22%	8.56%
	min	8,723.65	8,361.08	8,551.82	4.34%	2.01%
	ave	11,458.67	11,221.63	10,583.87	2.11%	8.27%
Demand + Reserve Schedule (MW)	max	14,753.53	14,732.63	13,334.40	0.14%	10.64%
	min	9,841.71	9,542.94	9,539.43	3.13%	3.17%
	ave	12,519.79	12,275.22	11,475.05	1.99%	9.10%
Supply Margin (MW)	max	1,288.75	1,713.82	950.10	-24.80%	35.64%
	min	-2.15	-1.01	-124.23	-111.85%	98.27%
	ave	498.52	564.22	251.32	-11.65%	98.36%

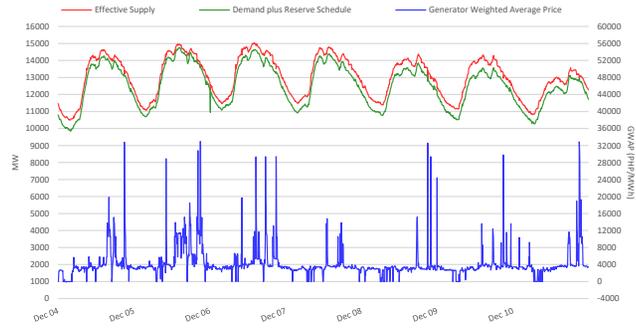
CAPACITY PROFILE



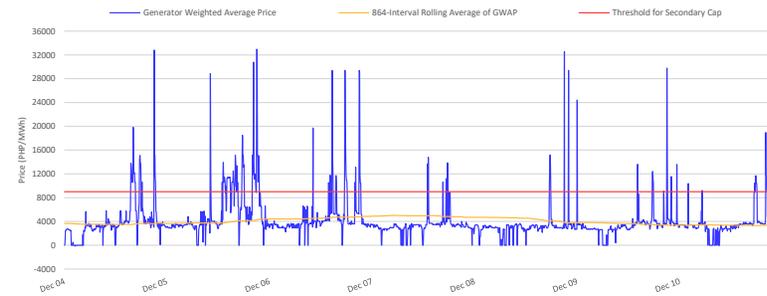
RTD CONGESTION



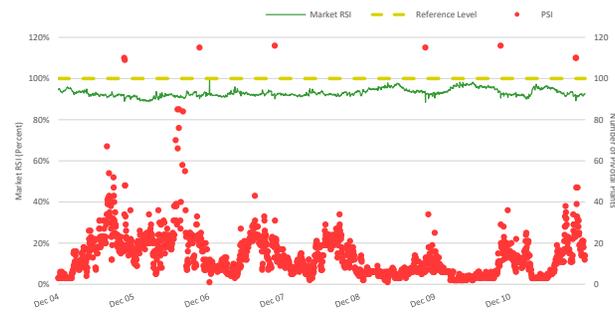
SUPPLY, DEMAND AND PRICE



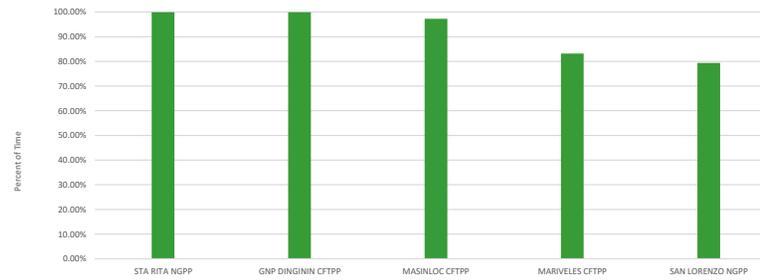
GENERATOR WEIGHTED AVERAGE PRICE



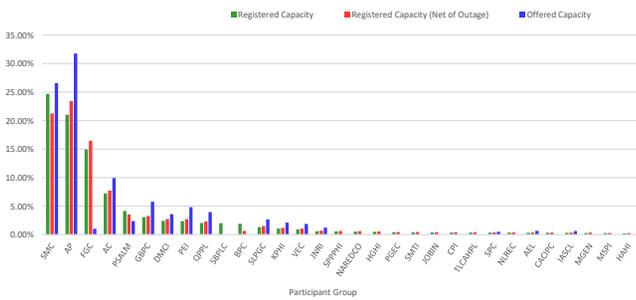
MARKET RSI VS PIVOTAL PLANTS



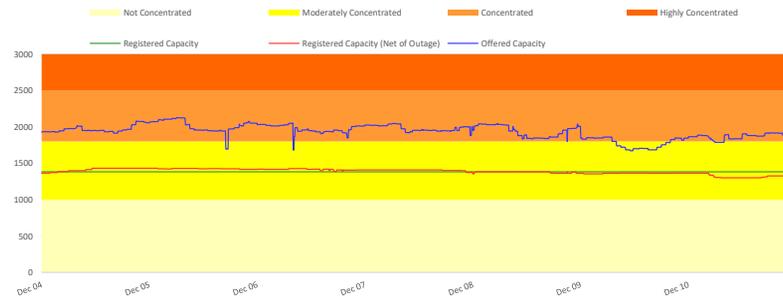
PSI



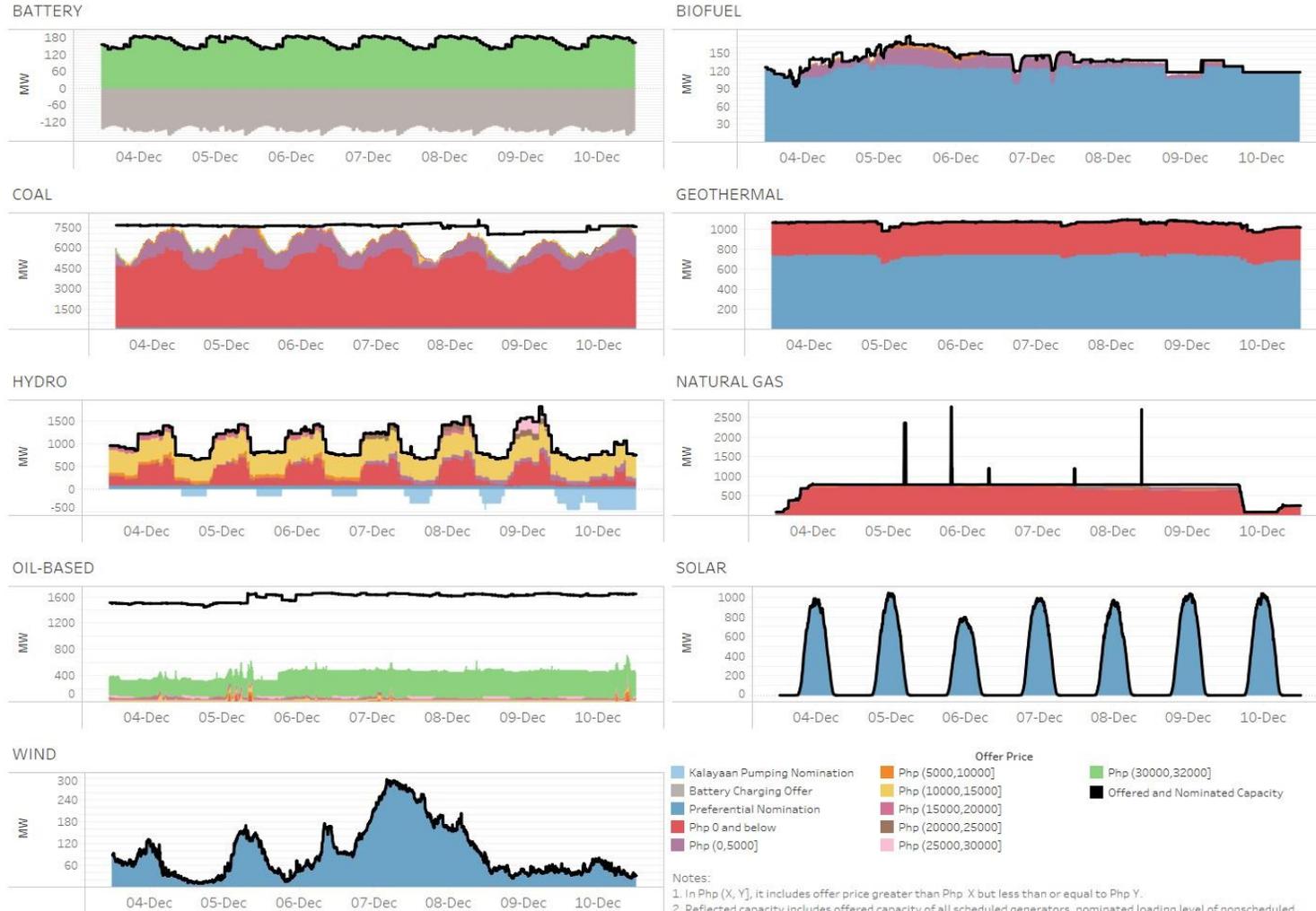
MARKET SHARE



HERFINDAHL-HIRSCHMAN INDEX



OFFER PATTERN ANALYSIS



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.

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