

PEMC MARKET ASSESSMENT HIGHLIGHTS

- The average demand and the reserve schedule, recorded at 14,493 MW during the week of 13 - 19 May 2024, was higher than the previous week at 14,422 MW and higher than the same week last year at 12,925 MW.
- The average effective supply during the week was 14,902 MW, slightly lower than the 14,993 MW of the previous week and higher than the 13,579 MW during the same week last year. Ramping limitations were considered in the calculation of the effective supply.
 - The capacity on outage averaged at 1,903 MW, lower than last week's 2,243 MW. In terms of capacity on outage by plant type, about 45% of the 1,903 MW involved Coal Plants, while in terms of category, about 89% were Forced Outages.
- As a result, an average supply margin of 409 MW was observed during the week, which is lower by about 28.35% relative to the previous week and lower by about 36.756% compared with the same week last year. A 1.3 MW supply deficit was observed on 13 May 2024 at 14:25h. The average supply margin was 363.96 MW at peak intervals and 444.71 MW at off-peak intervals.
- Correspondingly, average GWAP was recorded at PHP 8,314/MWh from PHP 7,309/MWh last week. This is lower than the PHP8,717/MWh during the same week last year.
 - The secondary price cap was imposed to 381 intervals out of the 2,016 intervals of the week (about 19% of the time).
- The top 5 participant groups accounted for about 82% of the offered capacity. The Herfindahl-Hirschman Index (HHI) by participant group indicated a concentrated and moderately concentrated market based on the offered and registered capacities, respectively.
- The top 5 pivotal plants during the week were –
 1. GNP DINGININ CFTPP (about 99.95% of the time)
 2. ILIJAN NGPP (about 99.95% of the time)
 3. MASINLOC CFTPP (about 99.9% of the time)
 4. STA RITA NGPP (about 99.55% of the time)
 5. MARIVELES CFTPP (about 98.36% of the time)
- Based on the MMS Solution, the top 5 congested equipment during the week were –
 1. 138kV Maasin-Ubay Line 1 (about 37.9% of the time)
 2. 138kV Cebu-Mandaue Line 2 (about 14.1% of the time)
 3. 230kV Mexico-Hermosa Line2 (about 11.3% of the time)
 4. 230kV Bauang-BPPC Line1 (about 9.6% of the time)
 5. 138kV Barotac-Dingle Line 2 (about 5.7% of the time)

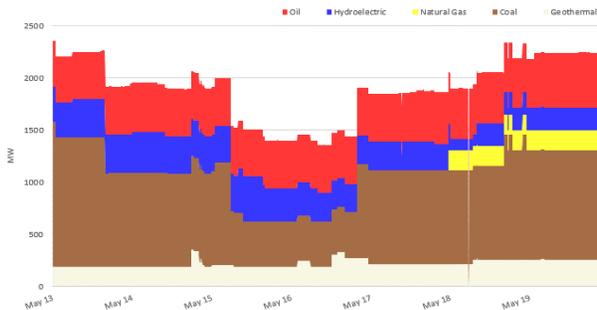
OFFER PATTERN ANALYSIS

- The offered capacity of coal plants was lower on May 13 and from May 17 to 19 due to an increase in capacity on outage. Meanwhile, the lower offer on May 14, 15, and 16 was caused by the testing of coal plants, scheduled through the security limits imposed by the System Operator (SO).
- The offered capacity of the hydro plants during peak hours starting May 16 was reduced due to resource constraints. Moreover, observed capacities ranging from 100 to 400 MW were offered at prices ranging from Php 30,000/MWh to Php 32,000/MWh from May 13 to 17.
- The lower offered capacity of natural gas plants on May 16, 17, and 18 was caused by the commercial testing of a natural gas plant, scheduled thru the security limits imposed by SO.
- The lowest solar plant nomination was recorded on May 19, while the highest was recorded on May 17.
- The lowest nomination by wind plants was recorded on May 19, while the highest was on May 16.

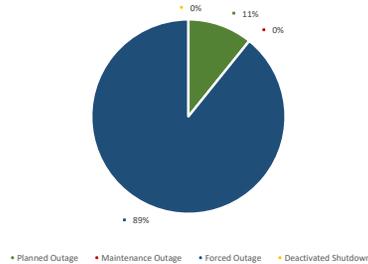
IEMOP MARKET SYSTEMS ADVISORY

- MO-initiated Market Intervention for Luzon, Visayas, and Mindanao from 18:10h to 18:40h on May 13, 2024 and 05:40h on May 18, 2024 due to failure to generate market results.
- SO-initiated Market Intervention for the Visayas Region from 08:55h to 16:00h on May 17, 2024 due to manual load dropping implementation to prevent overloading of Cebu-Mandaue 138kV Line 2.

CAPACITY ON OUTAGE BY PLANT TYPE



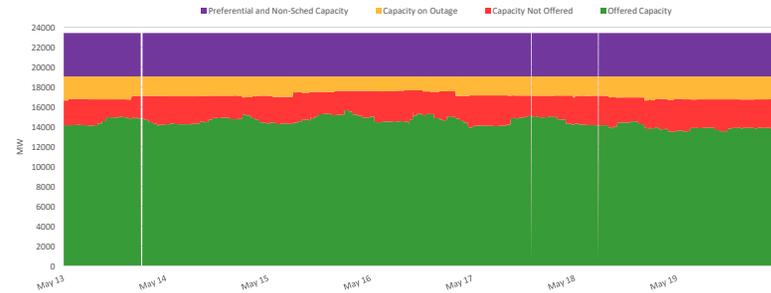
CAPACITY ON OUTAGE BY OUTAGE CATEGORY



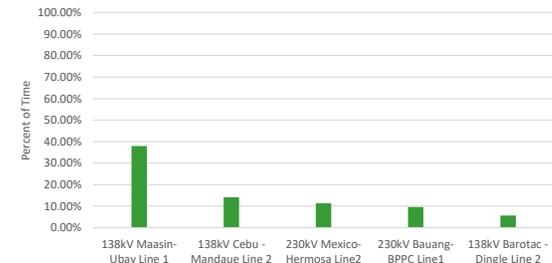
SUMMARY (PRICE, SUPPLY, DEMAND AND RESERVE SCHEDULE)

Particulars	13 - 19 May 2024	Previous Week (06 - 12 May 2024)	Same Week, Previous Year (15 - 21 May 2023)	Percent Change From		
				Previous Week	Same Week, Prev Year	
GWAP (PHP/MWh)	max	47,414.562	32,740.586	33,744.174	44.819%	40.512%
	min	0.000	0.000	-979.358	-	100.000%
	ave	8,314.318	7,309.472	8,717.240	13.747%	-4.622%
Effective Supply (MW)	max	17,790.497	17,821.817	15,902.338	-0.176%	11.873%
	min	12,177.695	11,966.882	11,104.919	1.762%	9.660%
	ave	14,902.222	14,993.150	13,578.744	-0.606%	9.747%
System Demand (MW)	max	16,600.870	16,479.320	14,732.250	0.738%	12.684%
	min	10,835.110	10,602.610	0.000	2.193%	-
	ave	13,702.328	13,733.967	12,356.061	-0.230%	10.896%
Demand + Reserve Schedule (MW)	max	17,415.210	17,415.380	15,423.340	-0.001%	12.915%
	min	11,511.900	11,193.020	0.000	2.849%	-
	ave	14,492.880	14,421.845	12,924.768	0.493%	12.133%
Supply Margin (MW)	max	942.009	978.375	1,253.162	-3.717%	-24.829%
	min	-1.298	4.861	-102.925	-126.702%	98.739%
	ave	409.342	571.306	647.241	-28.350%	-36.756%

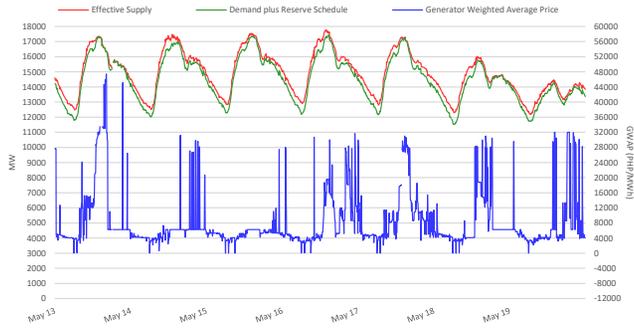
CAPACITY PROFILE



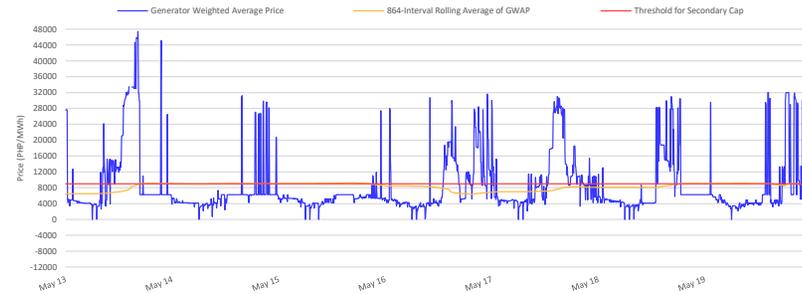
RTD CONGESTION



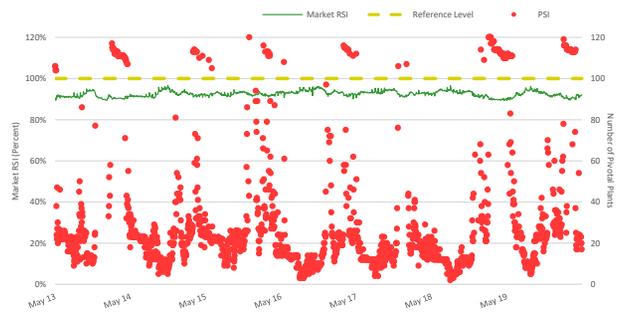
SUPPLY, DEMAND AND PRICE



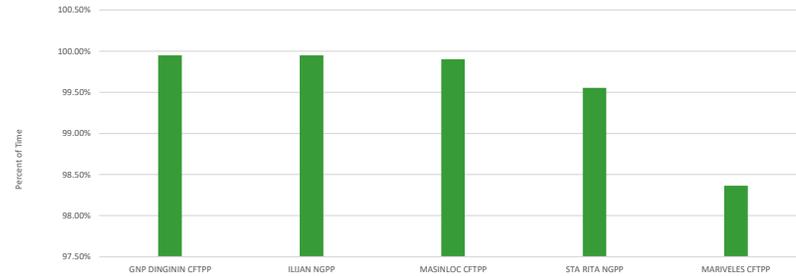
GENERATOR WEIGHTED AVERAGE PRICE



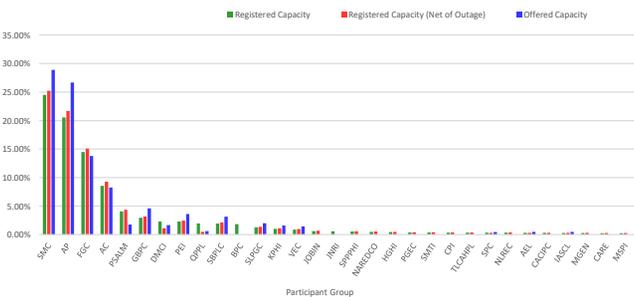
MARKET RSI VS PIVOTAL PLANTS



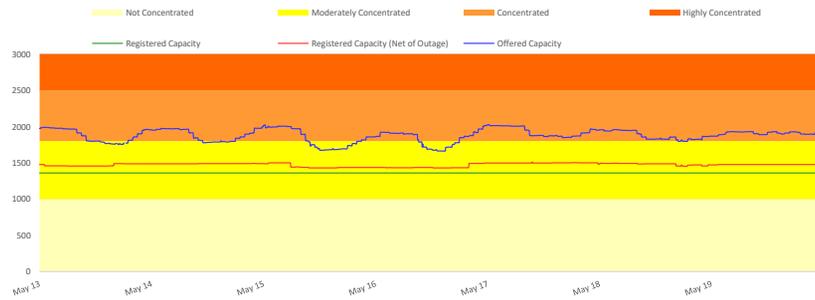
PSI



MARKET SHARE

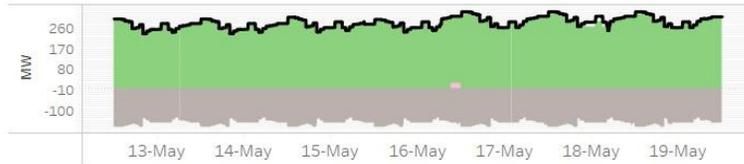


HERFINDAHL-HIRSCHMAN INDEX

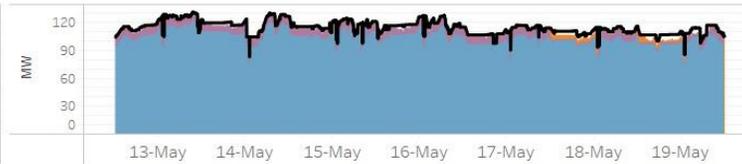


OFFER PATTERN ANALYSIS

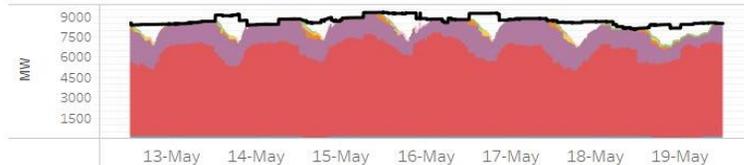
BATTERY



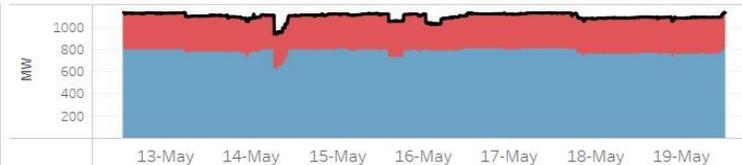
BIOFUEL



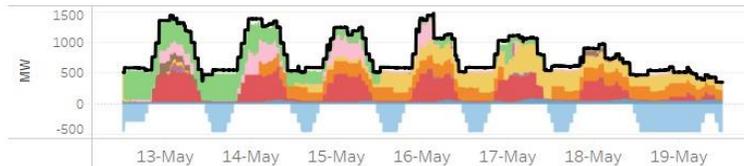
COAL



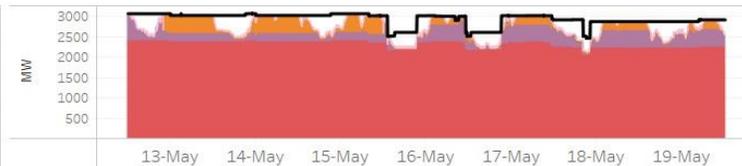
GEO THERMAL



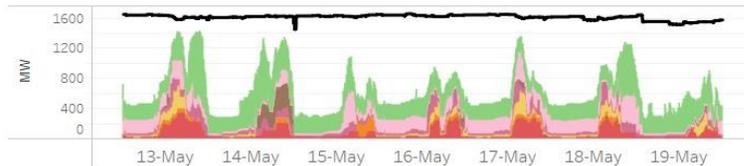
HYDRO



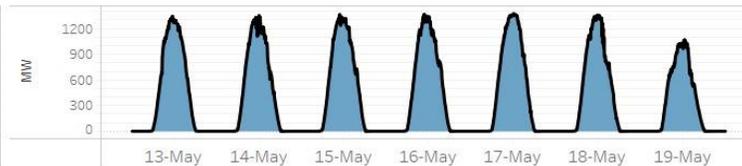
NATURAL GAS



OIL-BASED



SOLAR



WIND



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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