

PEMC MARKET ASSESSMENT HIGHLIGHTS

- The average demand and the reserve schedule, recorded at 14,056 MW during the week of 20 - 26 May 2024, was lower than the previous week at 14,486 MW and higher than the same week last year at 12,619 MW.

- The average effective supply during the week was 14,369 MW, lower than the 14,902 MW of the previous week and higher than the 13,191 MW during the same week last year. Ramping limitations were considered in the calculation of the effective supply.

- The capacity on outage averaged at 2,507 MW, higher than last week's 1,905 MW. In terms of capacity on outage by plant type, about 45% of the 2,507 MW involved Coal Plants, while in terms of category, about 95% were Forced Outages.

- As a result, an average supply margin of 313 MW was observed during the week, which is lower by about 23.592% relative to the previous week and lower by about 45.351% in comparison with the same week last year. The supply deficit based on MMS solution was 2.28 MW on 22 May 2024 13:40h. The average supply margin was 215.5 MW at peak intervals and 389.07 MW at off-peak intervals.

- Correspondingly, average GWAP was recorded at PHP 8,580/MWh from PHP 8,314/MWh last week. This is lower than the PHP8,804/MWh during the same week last year.

- The secondary price cap was imposed during 475 intervals out of the 2,016 intervals of the week (about 24% of the time).

- The top five (5) participant groups accounted for about 82% of the offered capacity. The Herfindahl-Hirschman Index (HHI) by participant group indicated mostly concentrated and moderately concentrated market based on the offered and registered capacities, respectively.

- The top five (5) pivotal plants during the week were –
 1. MASINLOC CFTPP (about 99.95% of the time)
 2. GNP DINGININ CFTPP (about 99.95% of the time)
 3. SUAL CFTPP (about 99.75% of the time)
 4. STA RITA NGPP (about 99.7% of the time)
 5. MARIVELES CFTPP (about 98.86% of the time)

- Based on the MMS Solution, the top five (5) congested equipment during the week were –

1. 138kV Maasin-Ubay Line 1 (about 30.3% of the time)
2. 230kV Bauang-BPPC Line1 (about 14.8% of the time)
3. 138kV Cebu-Mandaue Line 2 (about 6% of the time)
4. 138kV Barotac-Dingle Line 1 (about 1.3% of the time)
5. 138kV Barotac-Dingle Line 2 (about 1.2% of the time)

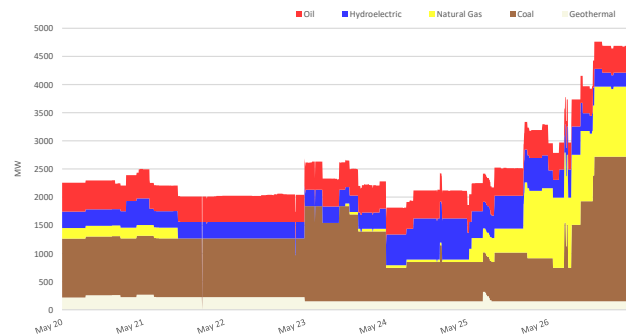
OFFER PATTERN ANALYSIS

- The offered capacity of coal plants was lower on May 23 and 26 due to an increase in capacity on outage.
- The offered capacity of the hydro plants was lower starting on May 23 due to an increase in capacity on outage. Moreover, observed capacities ranging from 100 to 400 MW were offered at prices ranging from Php 30,000/MWh to Php 32,000/MWh starting May 22.
- The lower offered capacity of natural gas plants on May 24 was caused by the commercial testing of a natural gas plant, scheduled thru the security limits imposed by SO. On May 25 and 26, the lower capacity was due to an increase in capacity on outage.
- The offered capacity of bio-fuel plants was lower starting on May 23 due to an increase in capacity on outage.
- The lowest solar plant nomination was recorded on May 26, while the highest was recorded on May 23.
- The lowest nomination by wind plants was recorded on May 20, while the highest was on May 22.

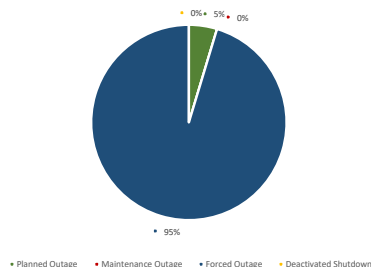
IEMOP MARKET SYSTEMS ADVISORY

- MO-initiated Market Intervention for Luzon, Visayas, and Mindanao at 17:35h on May 21, 2024, due to a failure to generate market results.
- SO-initiated market intervention for the Visayas Region from 13:35h to 14:05h, and from 16:35h to 16:50h on May 21, 2024, and from 11:55h to 12:10h, and from 12:45h to 15:45h on May 22, 2024, due to manual load dropping implementation to prevent overloading of the Cebu-Mandaue 138kV Line 2.
- ERC declared a market suspension in Luzon and Visayas during red alerts caused by generation deficiency from 13:05h of May 23, 2024 to 22:30h of May 24, 2024 in Visayas and to 00:50h of May 25, 2024 in Luzon.

CAPACITY ON OUTAGE BY PLANT TYPE



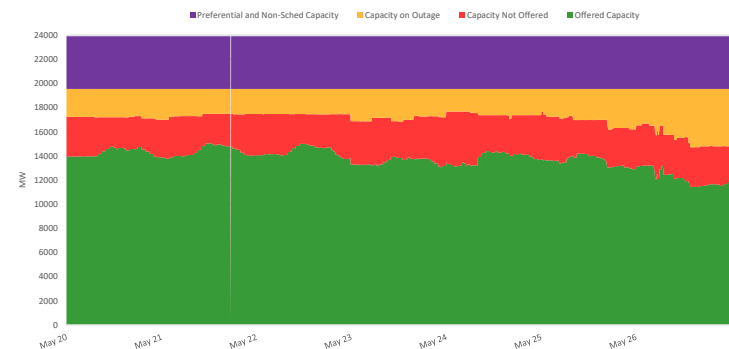
CAPACITY ON OUTAGE BY OUTAGE CATEGORY



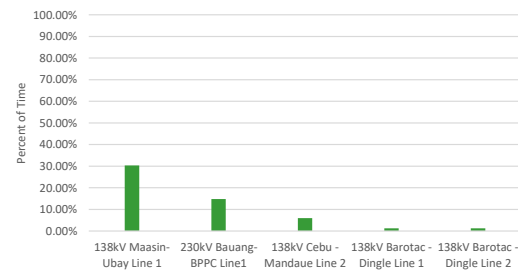
SUMMARY (PRICE, SUPPLY, DEMAND AND RESERVE SCHEDULE)

Particulars		20 - 26 May 2024	Previous Week (13 - 19 May 2024)	Same Week, Previous Year (22 - 28 May 2023)	Percent Change From	
					Previous Week	Same Week, Prev Year
GWAP (PHP/MWh)	max	47,076.676	47,414.562	34,029.833	-0.713%	38.339%
	min	-0.246	0.000	-987.381	-	99.975%
	ave	8,580.087	8,314.318	8,803.801	3.197%	-2.541%
Effective Supply (MW)	max	17,359.717	17,790.497	15,507.399	-2.421%	11.945%
	min	10,602.544	12,177.695	10,900.117	-12.935%	-2.730%
	ave	14,369.106	14,902.222	13,190.951	-3.577%	8.932%
System Demand (MW)	max	16,343.110	16,600.870	14,691.790	-1.553%	11.240%
	min	9,504.760	10,835.110	9,613.890	-12.278%	-1.135%
	ave	13,329.865	13,702.328	12,133.046	-2.718%	9.864%
Demand + Reserve Schedule (MW)	max	17,320.940	17,415.210	15,419.490	-0.541%	12.331%
	min	10,218.060	11,511.900	10,111.210	-11.239%	1.057%
	ave	14,056.334	14,492.880	12,618.617	-3.012%	11.394%
Supply Margin (MW)	max	961.715	942.009	1,227.744	2.092%	-21.668%
	min	-2.282	-1.298	-234.044	-75.809%	99.025%
	ave	312.772	409.342	572.334	-23.592%	-45.351%

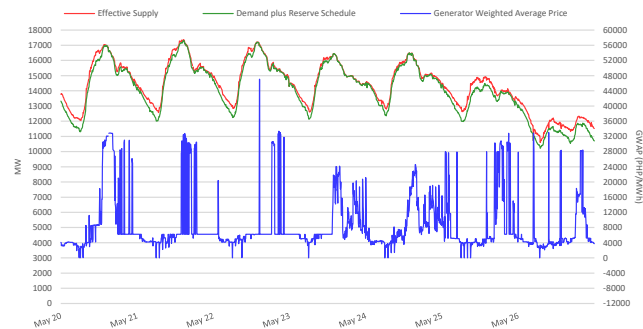
CAPACITY PROFILE



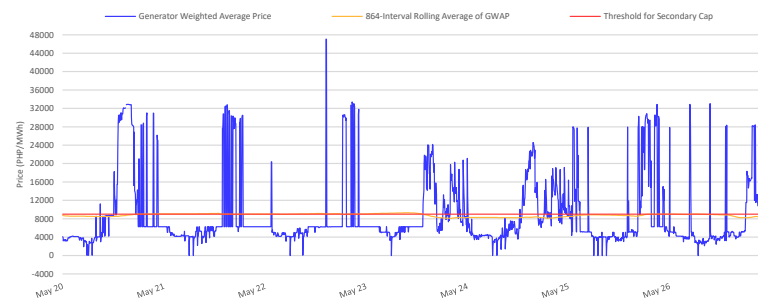
RTD CONGESTION



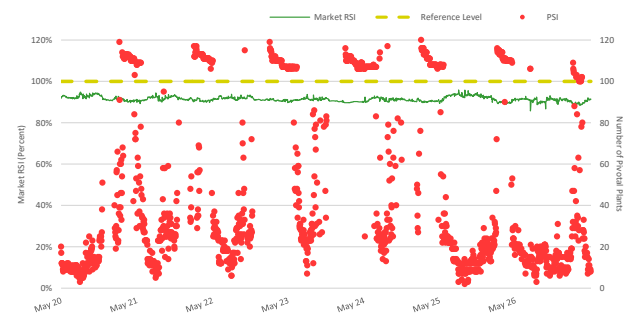
SUPPLY, DEMAND AND PRICE



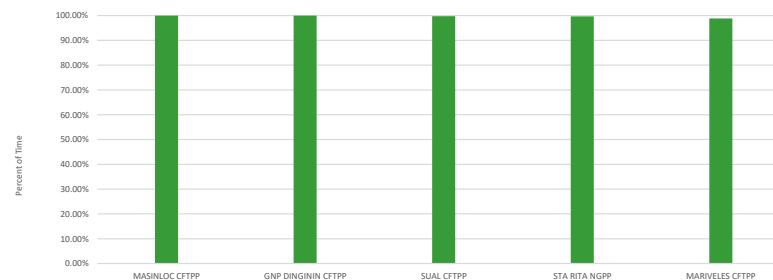
GENERATOR WEIGHTED AVERAGE PRICE



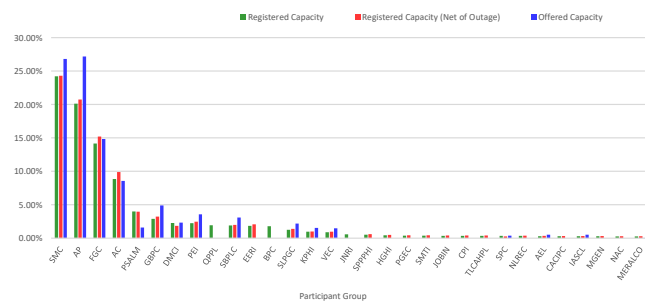
MARKET RSI VS PIVOTAL PLANTS



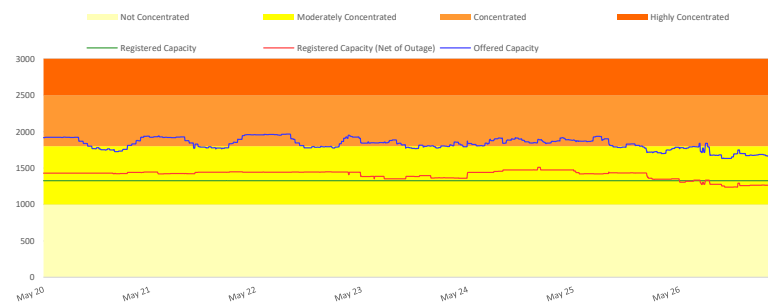
PSI



MARKET SHARE

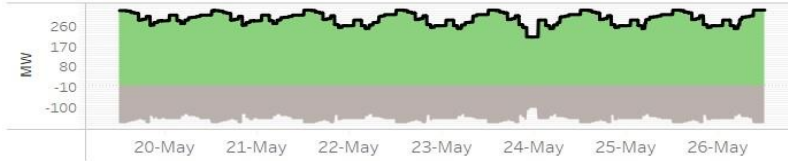


HERFINDAHL-HIRSCHMAN INDEX

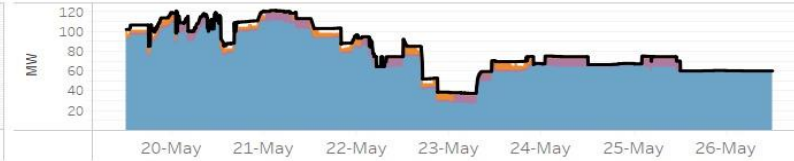


OFFER PATTERN ANALYSIS

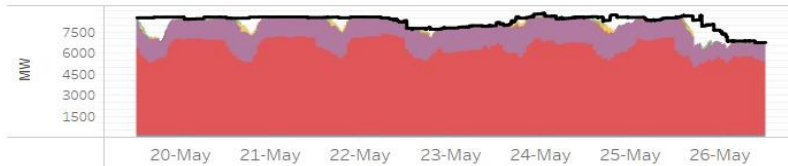
BATTERY



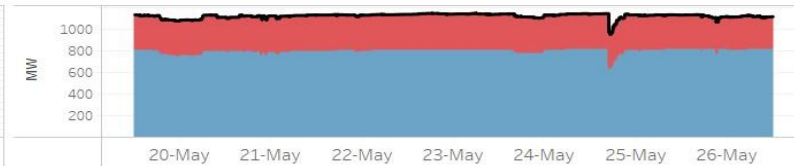
BIOFUEL



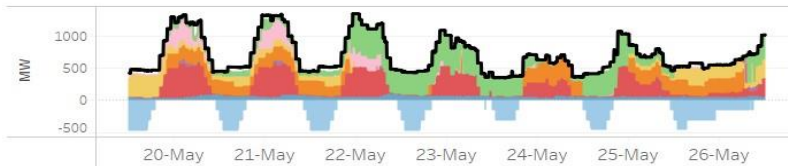
COAL



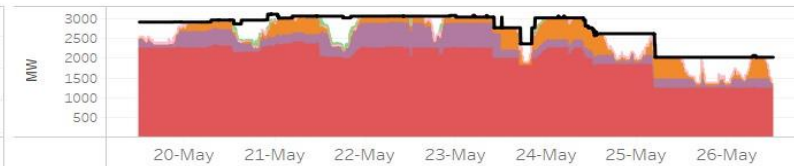
GEOTHERMAL



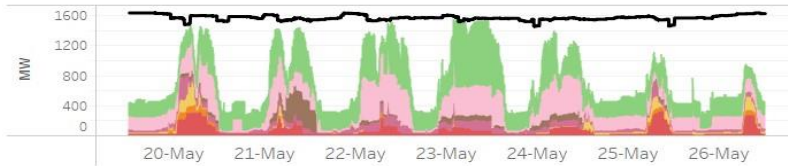
HYDRO



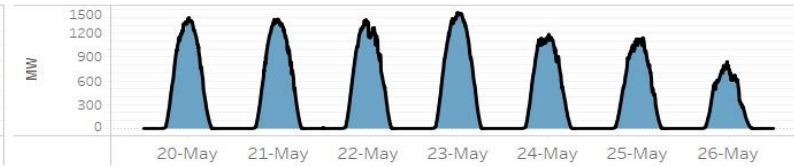
NATURAL GAS



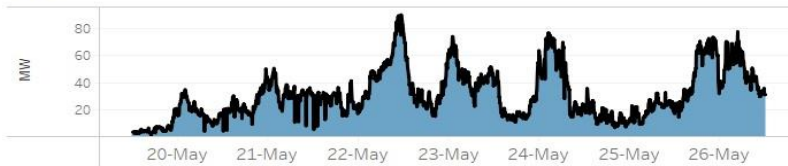
OIL-BASED



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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