

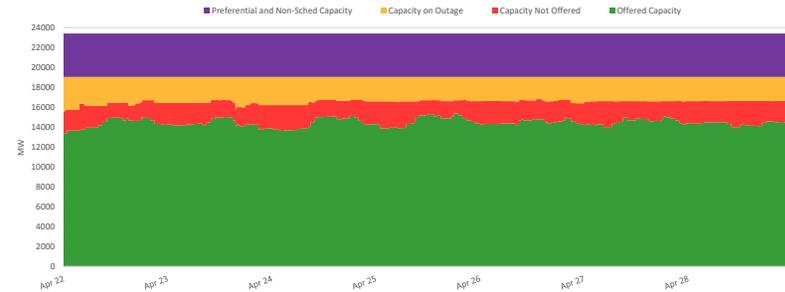
PEMC MARKET ASSESSMENT HIGHLIGHTS

- The average demand and the reserve schedule, recorded at 14,521 MW during the week of 22 - 28 Apr 2024, was higher than the previous week at 13,604 MW and higher than the same week last year at 12,555 MW.
- The average effective supply during the week was 14,883 MW, higher than the 13,955 MW of the previous week and higher than the 13,216 MW during the same week last year. Ramping limitations were considered in the calculation of the effective supply.
 - The capacity on outage averaged at 2,467 MW, lower than last week's 3,507 MW. In terms of capacity on outage by plant type, about 36% of the 2,467 MW involved Hydroelectric Plants, while in terms of category, about 73% were Forced Outages.
- As a result, an average supply margin of 362 MW was observed during the week, which is higher by about 14% relative to the previous week and lower by about 45.167% in comparison with the same week last year. The supply deficit based on MMS solution was 226.01 MW on 23 April 2024 15:45h. The average supply margin was 341.25 MW at peak intervals and 378.7 MW at off-peak intervals.
- Correspondingly, average GWAP was recorded at PHP 8,704/MWh from PHP 8,510/MWh last week. This is higher than the PHP8,367/MWh during the same week last year.
 - The secondary price cap was imposed during 311 intervals out of the 2,016 intervals of the week (about 15% of the time).
- The top 5 participant groups accounted for about 80% 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 5 pivotal plants during the week were –
 1. GNP DINGININ CFTPP (100 % of the time)
 2. ILJAN NGPP (about 99.9% of the time)
 3. STA RITA NGPP (about 98.66% of the time)
 4. PAGBILAO CFTPP (about 97.47% of the time)
 5. MASINLOC CFTPP (about 97.37% of the time)
- Based on the MMS Solution, the top 5 congested equipment during the week were –
 1. 138kV Maasin-Ubay Line 1 (about 32.3% of the time)
 2. Balingueo_Transformer 1 (about 21.6% of the time)
 3. 230kV Bauang-BPPC Line1 (about 16.1% of the time)
 4. 230kV Mexico-Hermosa Line2 (about 5.8% of the time)
 5. 230kV Mexico-Hermosa Line1 (about 5.7% of the time)
- OFFER PATTERN ANALYSIS
 - The offered capacity of coal plants was higher than the previous week on the average due to a decrease in outages. However, lower offered capacity on April 23, 26, 27, and 28 was attributed to testing of coal plants, scheduled through security limits imposed by the System Operator
 - The offered capacity of the hydro plants was higher than the previous week due to a decrease in outages. Moreover, from April 22 to 27, observed capacities ranging from 100 to 300 MW were offered at prices ranging from Php 30,000/MWh to Php 32,000/MWh
 - The offered capacity in Natural gas plants was higher than the previous week due to the resumption of generation; however, a sudden decrease in offered capacity on April 25 was caused by testing of natgas plants, scheduled through security limits imposed by the SO.
 - The lowest Solar Plant nomination was recorded on April 22, while the highest was recorded on April 27.
 - The lowest nomination for Wind Plants was recorded on April 27, while the highest was on April 22
- IEMOP MARKET SYSTEMS ADVISORY
 - SO initiated Market Intervention for Luzon Region on April 23,2024 from 15:40h to 16:50h due to the implementation of Manual Load Dropping (MLD) caused by generation deficiency.

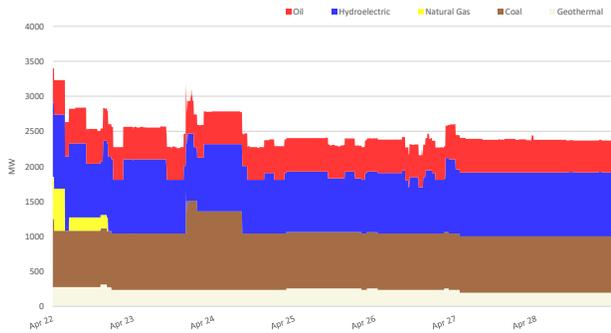
SUMMARY (PRICE, SUPPLY, DEMAND AND RESERVE SCHEDULE)

Particulars	22 - 28 Apr 2024	Previous Week (15 - 21 Apr 2024)	Same Week, Previous Year (24 - 30 Apr 2023)	Percent Change From		
				Previous Week	Same Week, Prev Year	
GWAP (PHP/MWh)	max	32,000.010	38,812.765	32,000.000	-17.553%	0.000%
	min	-0.993	-840.166	-977.365	99.882%	99.898%
	ave	8,704.238	8,510.036	8,366.656	2.282%	4.035%
Effective Supply (MW)	max	17,622.670	16,509.968	15,464.741	6.740%	13.954%
	min	11,951.152	11,275.874	10,796.796	5.989%	10.692%
	ave	14,883.202	13,955.347	13,215.543	6.649%	12.619%
System Demand (MW)	max	16,637.480	15,717.060	14,407.180	5.856%	15.480%
	min	10,703.020	10,506.100	9,531.640	1.874%	12.289%
	ave	13,895.859	13,215.508	12,078.237	5.148%	15.049%
Demand + Reserve Schedule (MW)	max	17,410.550	16,300.250	14,798.940	6.812%	17.647%
	min	11,325.150	11,096.050	10,020.220	2.065%	13.023%
	ave	14,520.999	13,637.980	12,554.990	6.475%	15.659%
Supply Margin (MW)	max	970.052	858.462	1,140.764	12.999%	-14.965%
	min	-226.006	-53.991	-133.560	-318.599%	-69.217%
	ave	362.203	317.368	660.552	14.127%	-45.167%

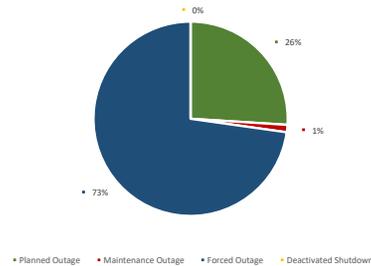
CAPACITY PROFILE



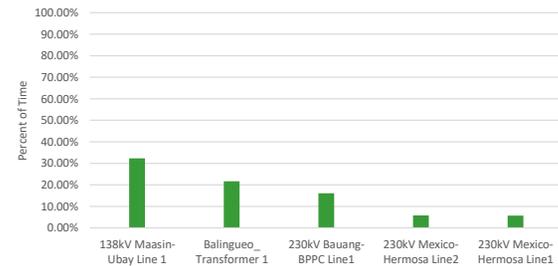
CAPACITY ON OUTAGE BY PLANT TYPE



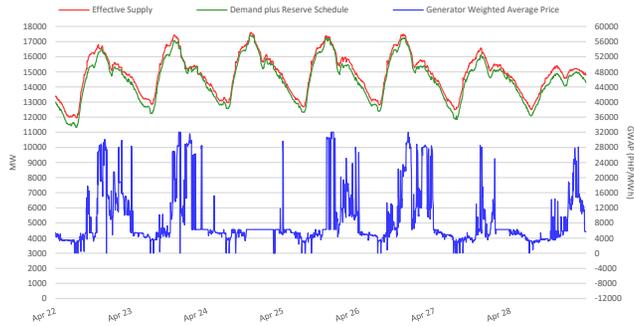
CAPACITY ON OUTAGE BY OUTAGE CATEGORY



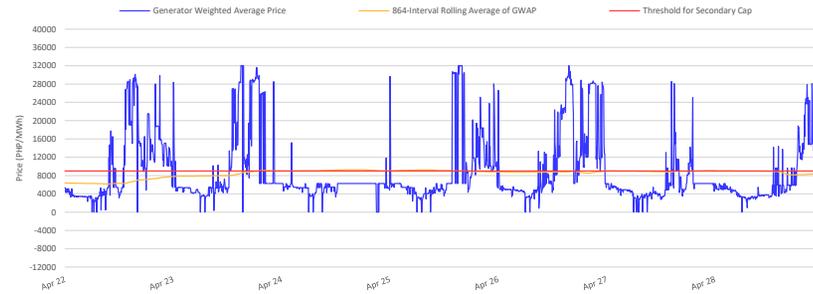
RTD CONGESTION



SUPPLY, DEMAND AND PRICE



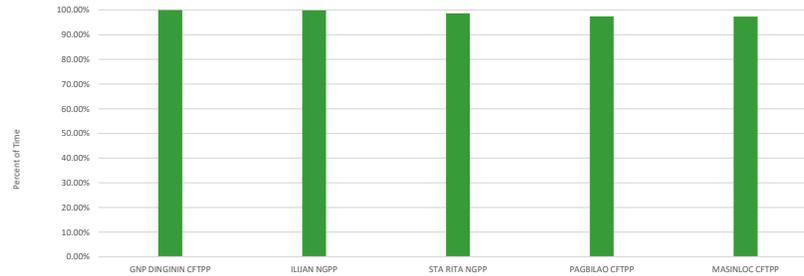
GENERATOR WEIGHTED AVERAGE PRICE



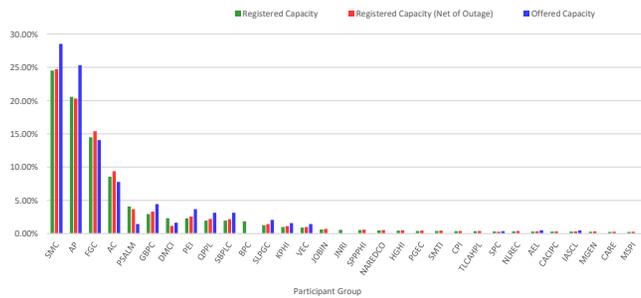
MARKET RSI VS PIVOTAL PLANTS



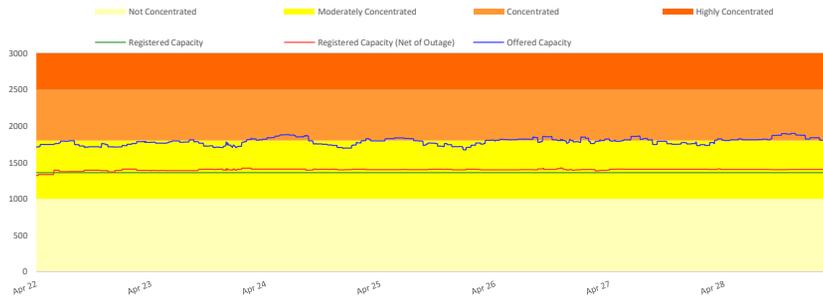
PSI



MARKET SHARE

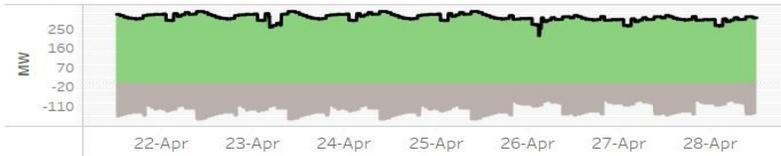


HERFINDAHL-HIRSCHMAN INDEX

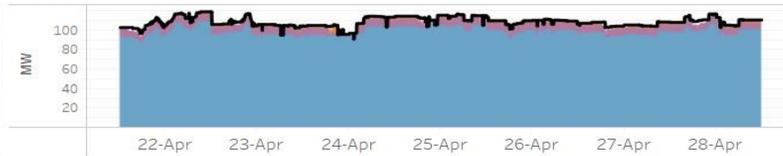


OFFER PATTERN ANALYSIS

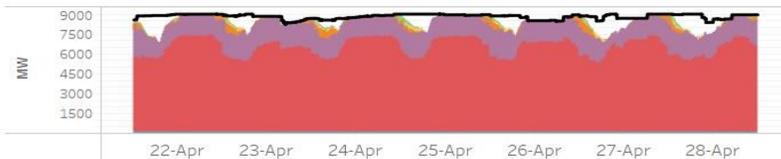
BATTERY



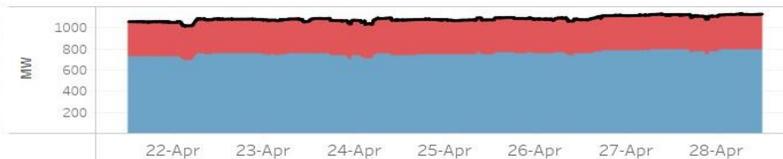
BIOFUEL



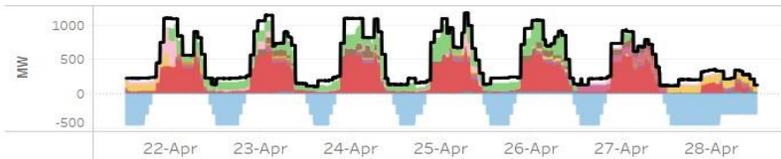
COAL



GEOHERMAL



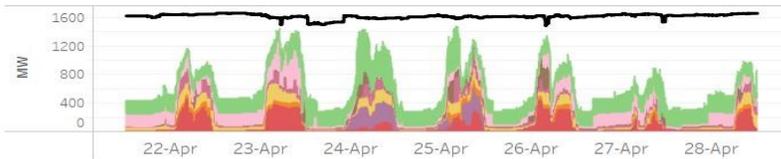
HYDRO



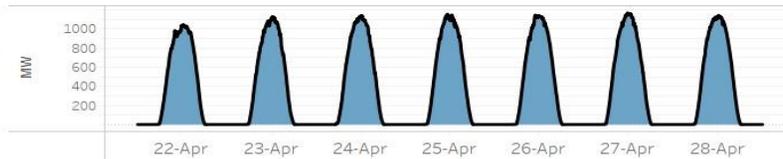
NATURAL GAS



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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