



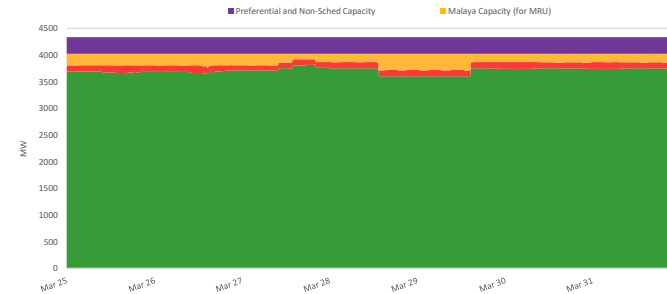
PEMCO MARKET ASSESSMENT HIGHLIGHTS

- The average demand and the reserve schedule, recorded at 2,371 MW during the week of 25 - 31 Mar 2024, was lower than the previous week at 2,561 MW.
 - The average effective supply during the week was 2,763 MW, lower than the 2,916 MW of the previous week. Ramping limitations were considered in the calculation of the effective supply.
 - The capacity on outage averaged at 198 MW, lower than last week's 277 MW. In terms of capacity on outage by plant type, about 89% of the 198 MW involved Hydroelectric Plants, while in terms of outage by category, about 96% were Forced Outages.
 - As a result, an average supply margin of 392 MW was observed during the week, which is higher by about 10% relative to the previous week. The minimum supply margin based on MMS solution was 112.1 MW on 26 March 2024 18:50. The average supply margin was 340.05 MW at peak intervals and 408.43 MW at off-peak intervals.
 - Correspondingly, average GWAP was recorded at PHP 3,597/MWh from PHP 3,668/MWh last week. Administered Prices were used in all regions during the Market Operator (MO) initiated market intervention for the following intervals: March 26 (19:30h - 19:40h), March 27 (21:35h), and March 28 (16:35h)
 - No secondary price cap was imposed for this week
 - The top 5 participant groups accounted for about 76% of the offered capacity. The Herfindahl-Hirschman Index (HHI) by participant group indicated moderately concentrated market based on the offered and registered capacities.
 - The top 5 pivotal plants during the week were –
 1. GN POWER KAUSWAGAN CFTPP (about 35.96% of the time)
 2. FDC MISAMIS CFTPP (about 22.67% of the time)
 3. THERMA SOUTH CFTPP (about 5.65% of the time)
 4. MALITA CFTPP (about 1.29% of the time)
 5. SARANGANI CFTPP (about 0.35% of the time)
 - Based on the MMS Solution, the congested equipment during the week was NAGA_Transformer 2 (0.1% of the time)
 - OPA_ANALYSIS
 - The increase in offered capacity from coal plants compared to the previous week was due to fewer outages. However, there was a notable decrease in offered capacity observed from March 28-29, attributed to outages.
 - The capacity offered by the geothermal plants was comparable to the previous week as there were no observed outages. Additionally, throughout the entire week, it was noted that prices were offered at Php 0/MWh and below.
 - The capacity offered by hydro plants was lower than the previous week.
 - Solar plants recorded their lowest nomination on 29 March 2024 and their highest nomination on 26 March 2024.
- IEMOP MARKET SYSTEMS ADVISORY
- Market Operator (MO) initiated Market Intervention across all regions for Real-Time Data (RTD) due to RTD's failure to publish results for the following intervals: March 26 (19:30h - 19:40h), March 27 (21:35h), and March 28 (16:35h).

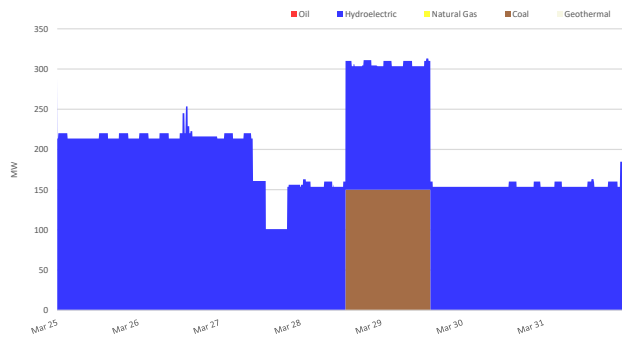
SUMMARY (PRICE, SUPPLY, DEMAND AND RESERVE SCHEDULE)

| Particulars | | 25 - 31 Mar 2024 | Previous Week (18 - 24 Mar 2024) | Percent Change |
|--------------------------------|-----|------------------|----------------------------------|----------------|
| GWAP (PHP/MWh) | max | 25,503.561 | 25,330.179 | 0.684% |
| | min | -10,067.096 | -97.787 | -10k% |
| | ave | 3,597.229 | 3,667.726 | -1.922% |
| Effective Supply (MW) | max | 3,474.509 | 3,343.400 | 3.921% |
| | min | 2,232.852 | 2,364.197 | -5.556% |
| | ave | 2,763.187 | 2,915.804 | -5.234% |
| System Demand (MW) | max | 2,532.860 | 2,507.460 | 1.013% |
| | min | 1,384.340 | 1,502.190 | -7.845% |
| | ave | 1,894.081 | 2,006.970 | -5.625% |
| Demand + Reserve Schedule (MW) | max | 3,160.950 | 3,059.720 | 3.308% |
| | min | 1,740.520 | 1,897.520 | -8.274% |
| | ave | 2,371.111 | 2,560.562 | -7.399% |
| Supply Margin (MW) | max | 619.261 | 532.904 | 16.205% |
| | min | 112.098 | 231.651 | -51.609% |
| | ave | 392.076 | 355.241 | 10.369% |

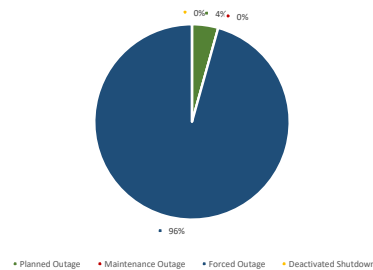
CAPACITY PROFILE



CAPACITY ON OUTAGE BY PLANT TYPE



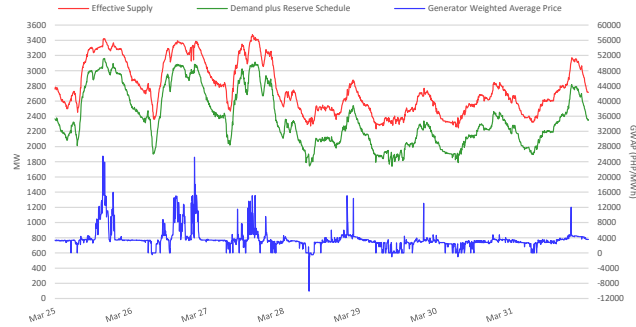
CAPACITY ON OUTAGE BY OUTAGE CATEGORY



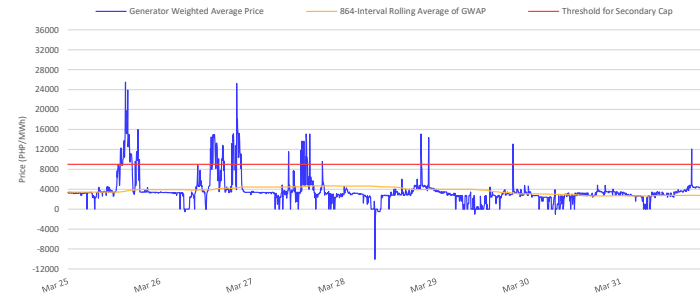
RTD CONGESTION



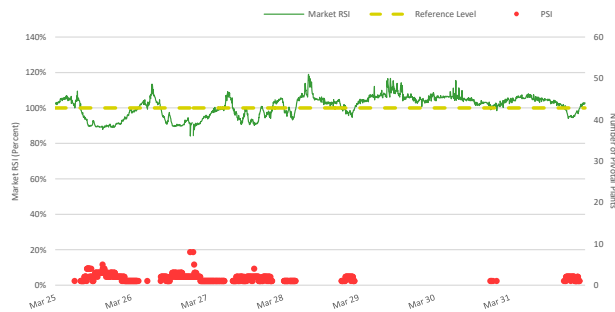
SUPPLY, DEMAND AND PRICE



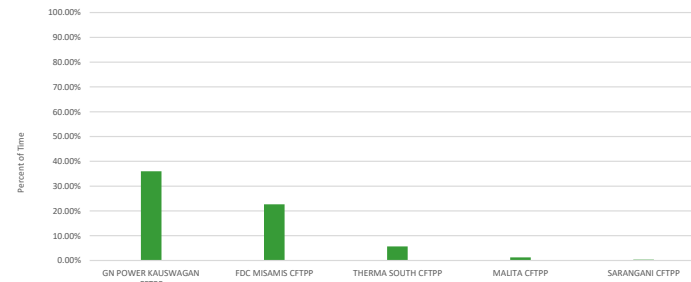
GENERATOR WEIGHTED AVERAGE PRICE



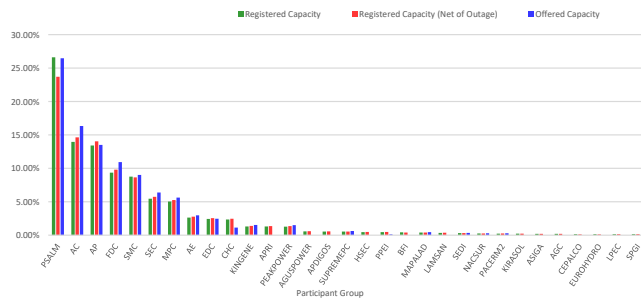
MARKET RSI VS PIVOTAL PLANTS



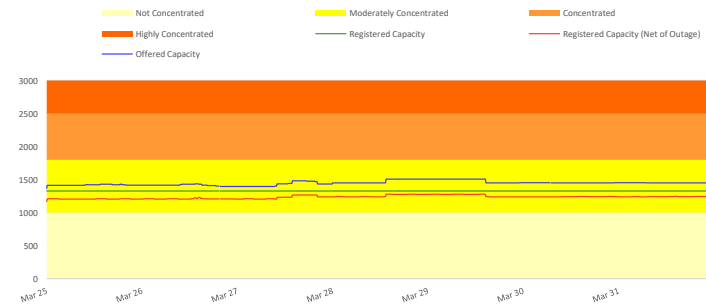
PSI



MARKET SHARE

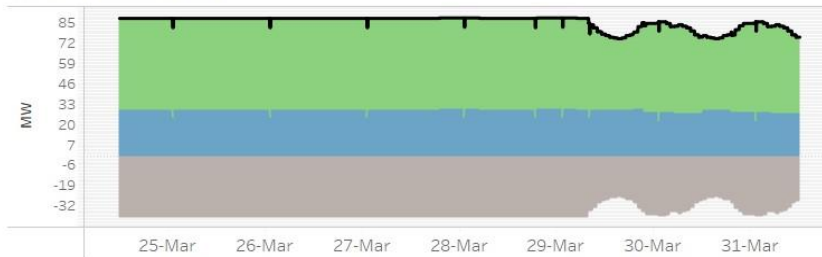


HERFINDAHL-HIRSCHMAN INDEX

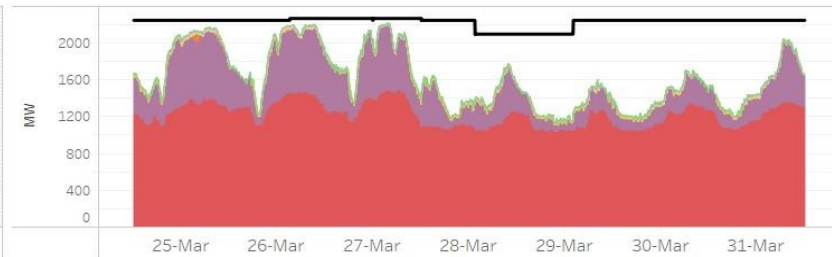


OFFER PATTERN ANALYSIS

BATTERY AND BIOFUEL



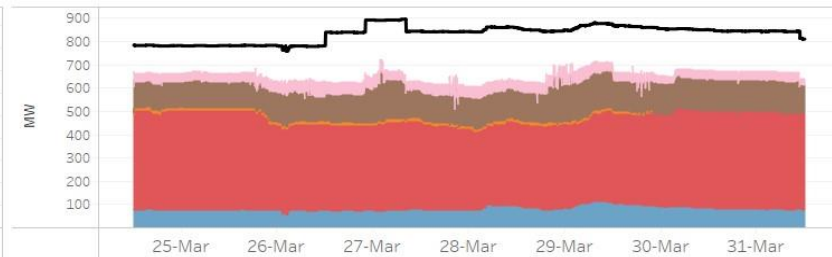
COAL



GEOTHERMAL



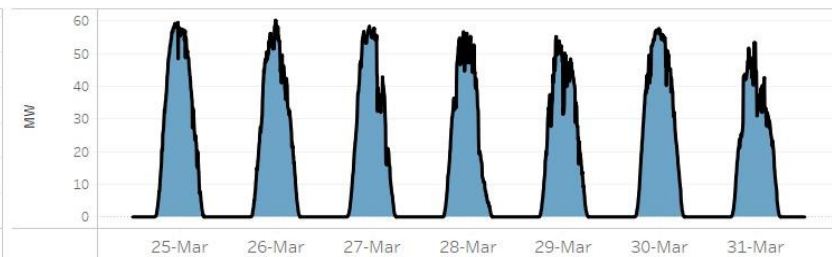
HYDRO



OIL-BASED



SOLAR



Offer Price



Offered and Nominated Capacity

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.