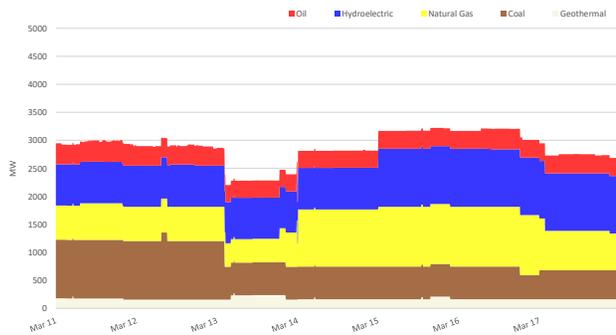


PEMC MARKET ASSESSMENT HIGHLIGHTS

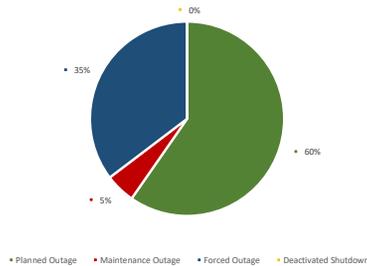
- The average demand and the reserve schedule, recorded at 12,725 MW during the week of 11 - 17 Mar 2024, was lower than the previous week at 12,860 MW and higher than the same week last year at 11,511 MW.
- The average effective supply during the week was 13,267 MW, higher than the 13,247 MW of the previous week and higher than the 12,179 MW during the same week last year. Ramping limitations were considered in the calculation of the effective supply.
 - The capacity on outage averaged at 2,875 MW, lower than last week's 3,329 MW. In terms of capacity on outage by plant type, about 30% of the 2,875 MW involved Hydroelectric Plants, while in terms of category, about 60% were Planned Outages.
- As a result, an average supply margin of 542 MW was observed during the week, which is higher by about 40% relative to the previous week and lower by about 18.952% in comparison with the same week last year. The minimum supply margin based on MMS solution was 202.73 MW on 15 March 2024 at 18:25h. The average supply margin was 495 MW at peak intervals and 578.28 MW at off-peak intervals.
- Correspondingly, average GWAP was recorded at PHP 4,333/MWh from PHP 5,428/MWh last week. This is lower than the PHP5,632/MWh during the same week last year. The coupling of energy and reserve is evident in the co-optimized solution of the MMS, resulting in the presence of opportunity costs in both energy and reserve prices.
 - No secondary price cap was imposed for this week.
- The top 5 participant groups accounted for about 81% 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 (about 100 % of the time)
 2. MASINLOC CFTPP (about 99.9% of the time)
 3. ILJAN NGPP (about 99.85% of the time)
 4. STA RITA NGPP (about 99.85% of the time)
 5. MARIVELES CFTPP (about 97.27% of the time)
- Based on the MMS Solution, the top 5 congested equipment during the week were –
 1. 138kV Samboan-Amlan Line1 (about 35.3% of the time)
 2. 138kV Maasin-Ubay Line 1 (about 19.0% of the time)
 3. Sta.Barbara Transformer 1 (about 13.0% of the time)
 4. 230kV Bauang-Latrinidad Line1 (about 2.0% of the time)
 5. 230kV Bauang-Latrinidad Line2 (about 1.5% of the time)
- OPA ANALYSIS
 - The offered capacity of coal plants was higher than the previous week due to fewer outages. However, there was a lower observed offered capacity on 11 and 12 March 2024 due to outages. Additionally, on 14 to 16 March 2024, decreases in offered capacity was attributed to commercial testing of plants but scheduled through security limits imposed by the Systems Operator
 - The capacity offered by the hydro plants was lower than the previous week due to increased outages; however, the prices offered were at a lower range compared to the previous week
 - Natural gas plants experienced a decrease in offered capacity compared to the previous week due to outages. Between March 14 and 16, the offered capacity decreased further due to an increase in forced outages.
 - The lowest Solar Plant nomination was recorded on March 12, while the highest was recorded on March 11.
 - The lowest nomination for Wind Plants was recorded on March 12, while the highest was on March 13.

EMOP MARKET SYSTEMS ADVISORY
 - No IT-related issue was advised in EMOP's market systems from 11 - 17 Mar 2024.

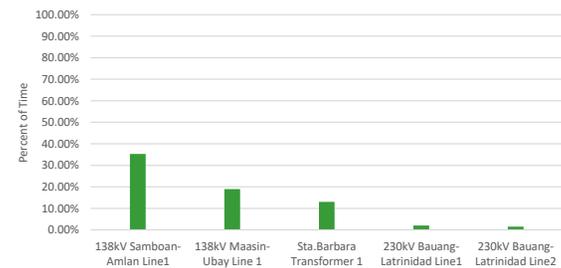
CAPACITY ON OUTAGE BY PLANT TYPE



CAPACITY ON OUTAGE BY OUTAGE CATEGORY



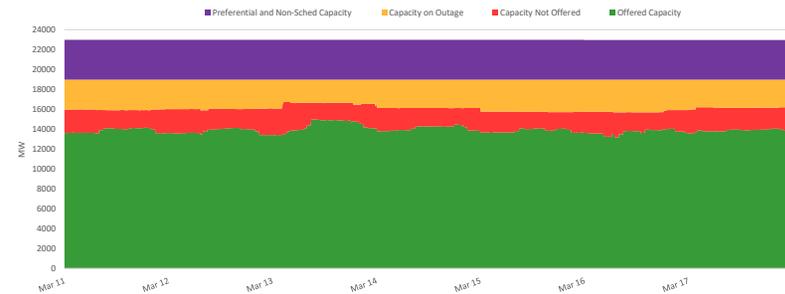
RTD CONGESTION



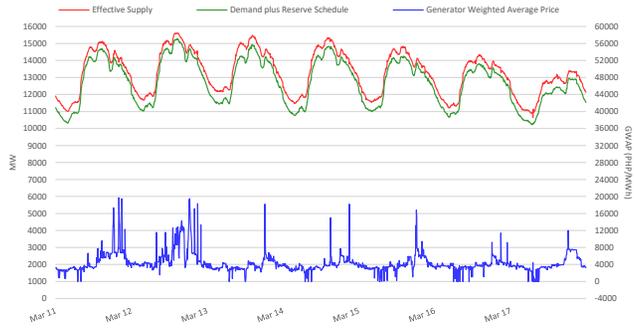
SUMMARY (PRICE, SUPPLY, DEMAND AND RESERVE SCHEDULE)

Particulars	11 - 17 Mar 2024	Previous Week (04 - 10 Mar 2024)	Same Week, Previous Year (13 - 19 Mar 2023)	Percent Change From		
				Previous Week	Same Week, Prev Year	
GWAP (PHP/MWh)	max	19,708.419	62,771.939	21,900.090	-68.60%	-10.01%
	min	-36.421	-0.997	-1,600.579	-3%	97.72%
	ave	4,333.197	5,428.238	5,632.337	-20.17%	-23.07%
Effective Supply (MW)	max	15,617.619	15,764.856	14,392.132	-0.93%	8.51%
	min	10,642.287	10,769.135	9,978.288	-1.18%	6.65%
	ave	13,266.531	13,247.407	12,179.048	0.14%	8.93%
System Demand (MW)	max	13,636.090	13,869.300	12,534.090	-1.68%	8.79%
	min	9,037.390	9,018.670	8,327.750	0.21%	8.52%
	ave	11,469.674	11,533.917	10,492.492	-0.56%	9.31%
Demand + Reserve Schedule (MW)	max	15,269.020	15,429.360	13,733.370	-1.04%	11.18%
	min	10,218.310	10,273.940	9,215.250	-0.54%	10.88%
	ave	12,724.937	12,859.950	11,510.808	-1.05%	10.55%
Supply Margin (MW)	max	1,006.181	787.569	1,054.363	27.76%	-4.57%
	min	202.733	-2.162	270.372	9,477.10%	-25.02%
	ave	541.594	387.457	668.240	39.78%	-18.95%

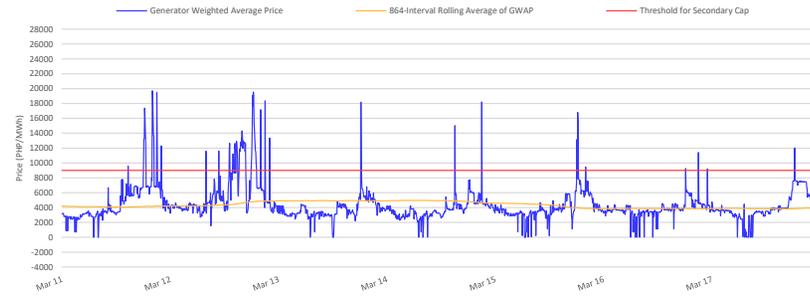
CAPACITY PROFILE



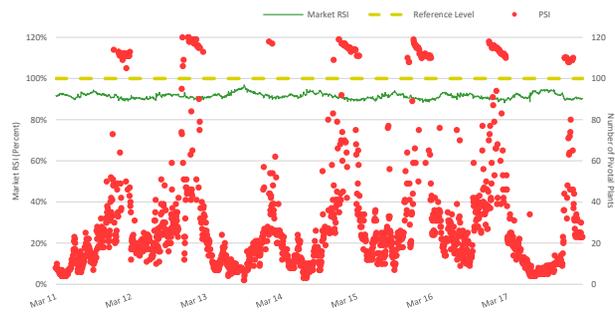
SUPPLY, DEMAND AND PRICE



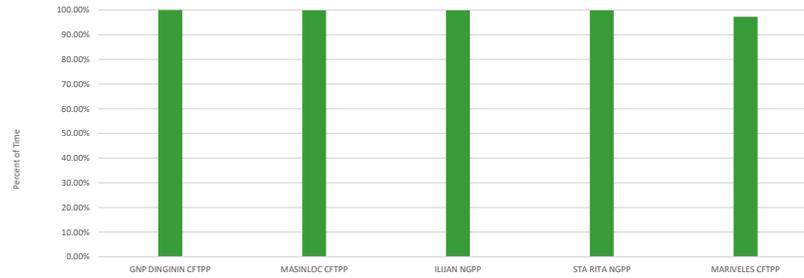
GENERATOR WEIGHTED AVERAGE PRICE



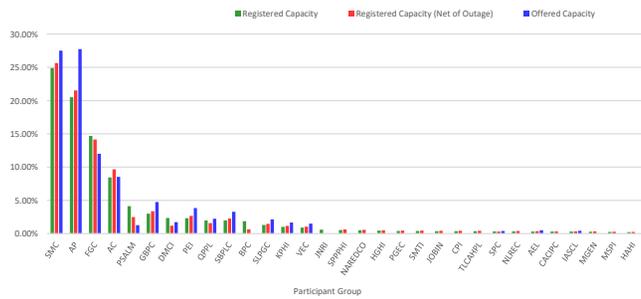
MARKET RSI VS PIVOTAL PLANTS



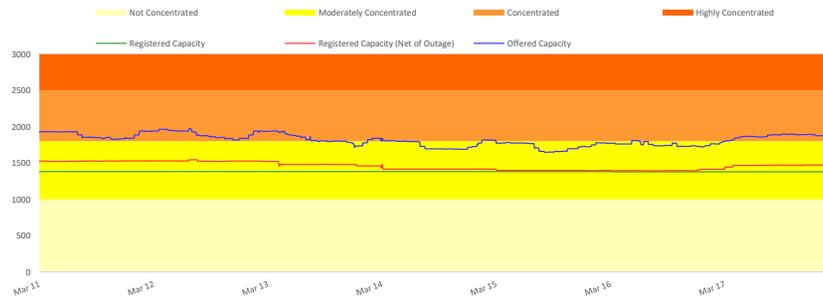
PSI



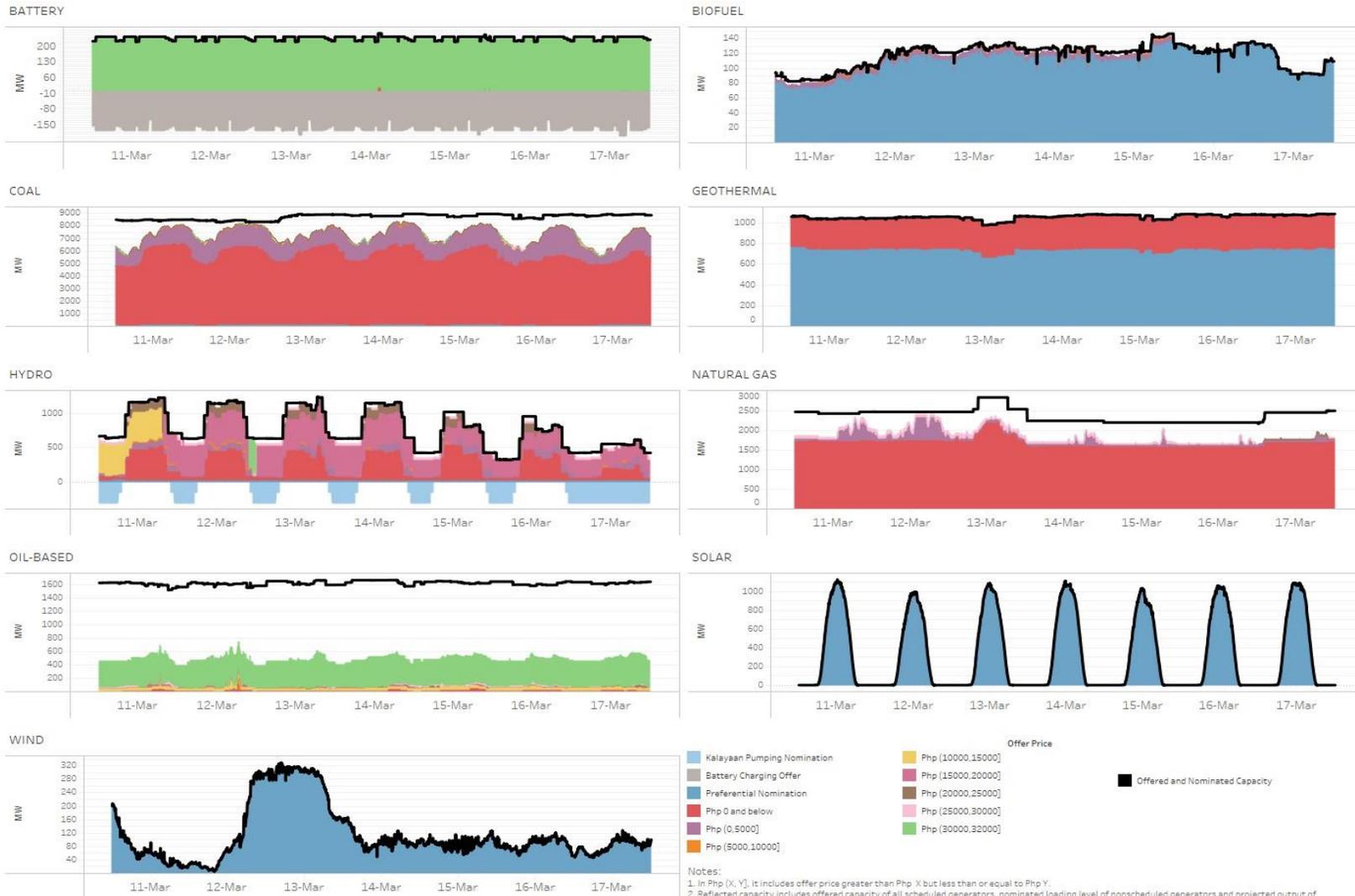
MARKET SHARE



HERFINDAHL-HIRSCHMAN INDEX



OFFER PATTERN ANALYSIS



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.