

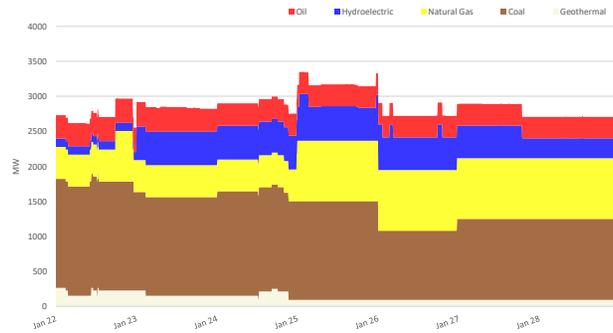
PEMC MARKET ASSESSMENT HIGHLIGHTS

- The average demand and the reserve schedule, recorded at 11,617 MW during the week of 22 - 28 Jan 2024, was higher than the previous week at 11,381 MW and higher than the same week last year at 10,839 MW.
- The average effective supply during the week was 12,225 MW, higher than the 11,952 MW of the previous week and higher than the 11,397 MW during the same week last year. Ramping limitations were considered in the calculation of the effective supply.
 - The capacity on outage averaged at 2,855 MW, lower than last week's 2,929 MW. In terms of capacity on outage by plant type, about 46% of the 2,855 MW involved Coal Plants, while in terms of category, about 58% were Planned Outages.
- As a result, an average supply margin of 609 MW was observed during the week, which is higher by about 7% relative to the previous week and higher by about 9% in comparison with the same week last year. The thinnest supply margin based on MMS solution was 216.11 MW on 22 January 2024 21:05 . The average supply margin was 593.43 MW at peak intervals and 620.49 MW at off-peak intervals.
- Correspondingly, average GWAP was recorded at PHP 3,346/MWh from PHP 4,029/MWh last week. This is lower than the PHP6,557/MWh during the same week last year.
 - No secondary price cap was imposed for this week
- The top 5 participant groups accounted for about 77% 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 93.01% of the time)
 3. STA RITA NGPP (about 92.16% of the time)
 4. ILIJAN NGPP (about 87.2% of the time)
 5. SUAL CFTPP (about 72.17% of the time)
- Based on the MMS Solution, the top 5 congested equipment during the week were –
 1. 138kV Samboan-Amlan Line1 (about 8.9% of the time)
 2. 230kV Bauang-Latrinidad Line1 (about 1.4% of the time)
 3. 230kV Bauang-Latrinidad Line2 (about 1.3% of the time)
 4. 230 kV Tabango_Daan Bantayan (about 1.1% of the time)
 5. Kabankalan_Transformer 1 (0.35% of the time)
- OPA_ANALYSIS
 - Coal Plants increase the offered capacity compared to the preceding week, attributed to reduced outages.
 - Hydro Plants experienced a decline in offered capacity starting January 23 due to additional planned outages of Kalayaan Unit 1 and 2 on top of the existing outages. Notably, on January 22, during the afternoon peak hours, there was an observed offered capacity of approximately 183 MW, with prices ranging from Php 25,000/MWh to Php 30,000/MWh.
 - Natural Gas (NatGas) experienced a reduction in offered capacity starting January 25, attributed to additional planned outages of Ilijan B1 and Ilijan B3 on top of the existing outages.
 - The lowest Solar Plants nomination was recorded on January 28 while the highest was recorded on January 25.
 - The lowest nomination for Wind Plants was recorded on January 27, and the highest was on January 24.

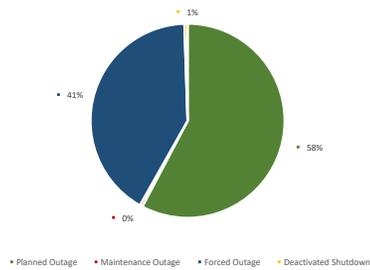
IEMOP MARKET SYSTEMS ADVISORY

- No IT-related issue was advised in IEMOP's market systems from 22 - 28 Jan 2024.

CAPACITY ON OUTAGE BY PLANT TYPE



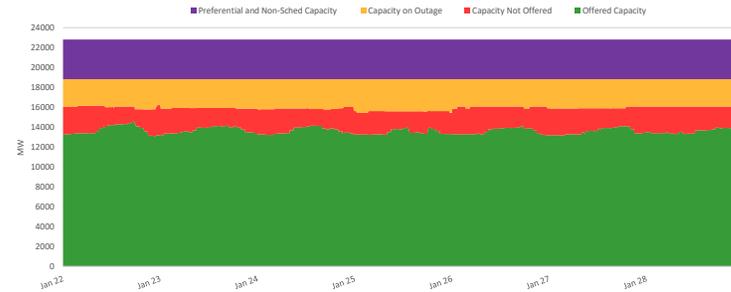
CAPACITY ON OUTAGE BY OUTAGE CATEGORY



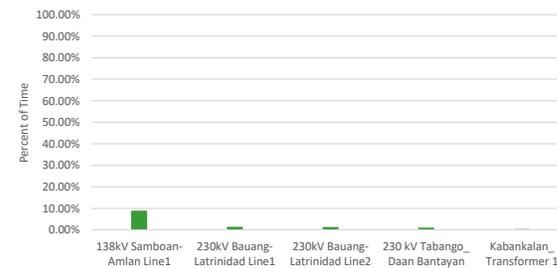
SUMMARY (PRICE, SUPPLY, DEMAND AND RESERVE SCHEDULE)

Particulars		22 - 28 Jan 2024	Previous Week (15 - 21 Jan 2024)	Same Week, Previous Year (23 - 29 Jan 2023)	Percent Change From	
					Previous Week	Same Week, Prev Year
GWAP (PHP/MWh)	max	30,218.194	33,263.102	24,175.384	-9.15%	25.00%
	min	-993.210	-1,043.500	0.000	4.82%	-
	ave	3,346.389	4,029.387	6,556.568	-16.95%	-48.96%
Effective Supply (MW)	max	14,398.271	13,909.671	13,503.109	3.51%	6.63%
	min	9,826.570	10,057.550	9,166.050	-2.30%	7.21%
	ave	12,225.428	11,951.981	11,397.310	2.29%	7.27%
System Demand (MW)	max	12,819.450	12,316.910	11,695.930	4.08%	9.61%
	min	8,029.330	8,449.990	7,697.100	-4.98%	4.32%
	ave	10,394.163	10,538.428	9,704.720	-1.37%	7.10%
Demand + Reserve Schedule (MW)	max	13,918.370	13,512.140	12,903.630	3.01%	7.86%
	min	9,081.530	9,299.090	8,561.240	-2.34%	6.08%
	ave	11,616.857	11,381.117	10,838.594	2.07%	7.18%
Supply Margin (MW)	max	1,143.967	1,154.491	948.378	-0.91%	20.62%
	min	216.110	72.047	165.528	199.96%	30.56%
	ave	608.571	570.864	558.716	6.61%	8.92%

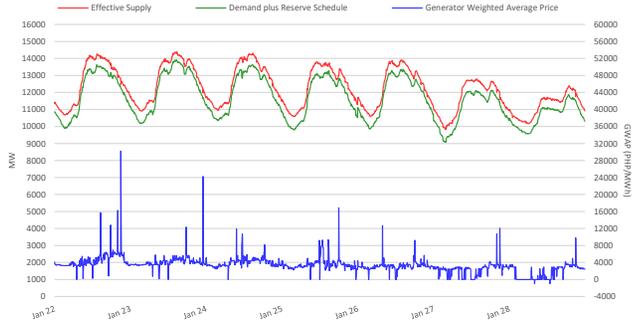
CAPACITY PROFILE



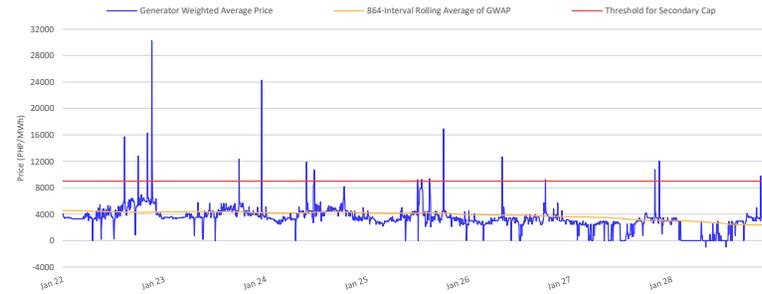
RTD CONGESTION



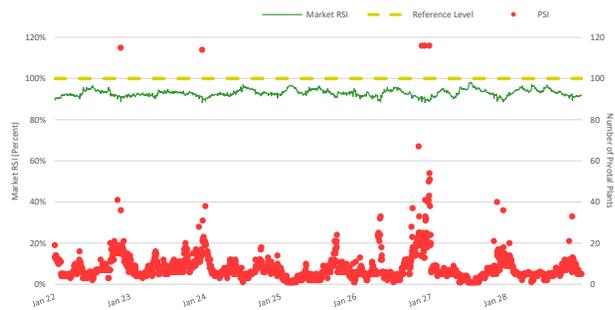
SUPPLY, DEMAND AND PRICE



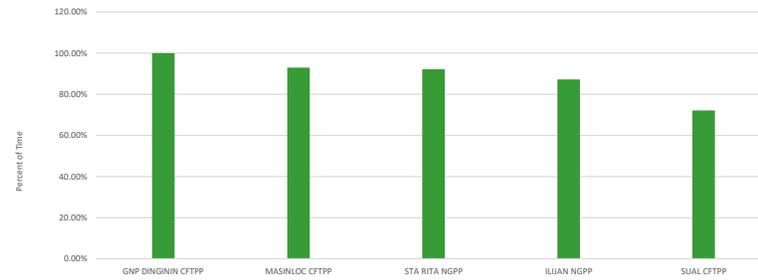
GENERATOR WEIGHTED AVERAGE PRICE



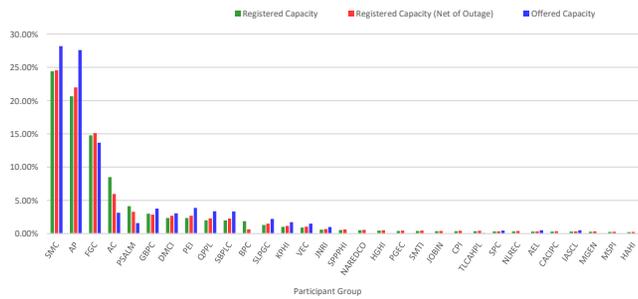
MARKET RSI VS PIVOTAL PLANTS



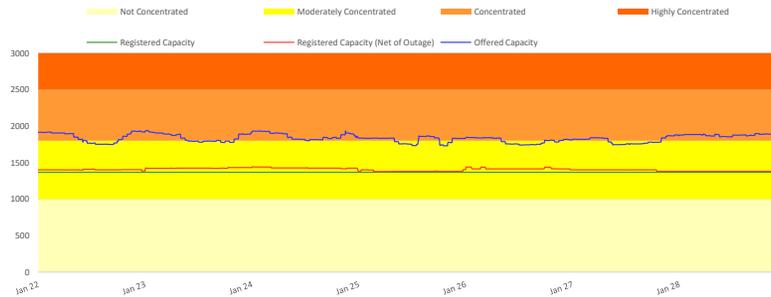
PSI



MARKET SHARE

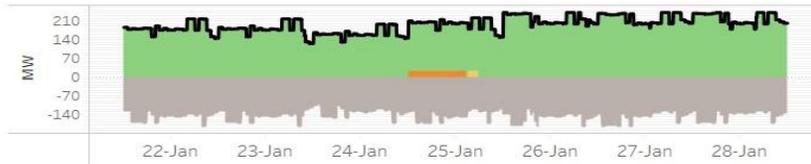


HERFINDAHL-HIRSCHMAN INDEX

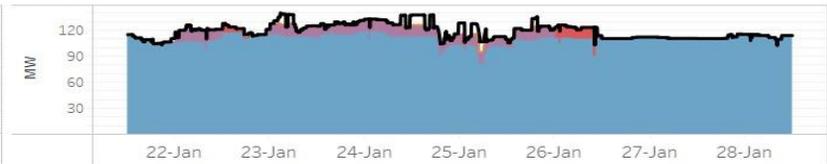


OFFER PATTERN ANALYSIS

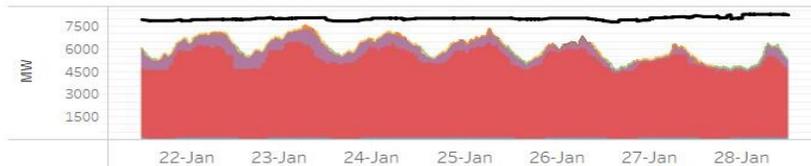
BATTERY



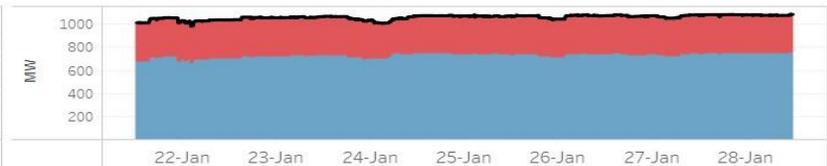
BIOFUEL



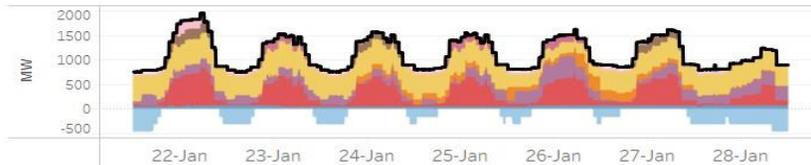
COAL



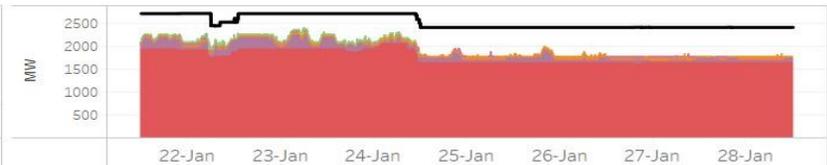
GEOTHERMAL



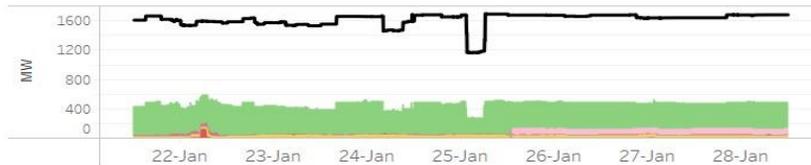
HYDRO



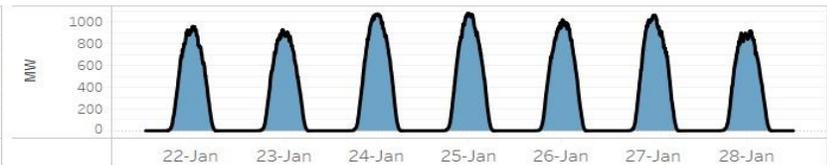
NATURAL GAS



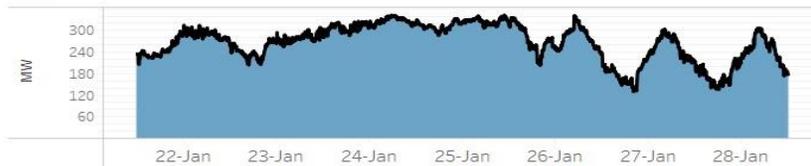
OIL-BASED



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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