

**PEMC MARKET ASSESSMENT HIGHLIGHTS**

- The average demand and the reserve schedule, recorded at 13,033 MW during the week of 08 - 14 Jul 2024, was higher than the previous week at 13,001 MW and higher than the same week last year at 11,702 MW.
- The average effective supply during the week was 13,593 MW, higher than the 13,583 MW of the previous week and higher than the 12,460 MW during the same week last year. Ramping limitations were considered in the calculation of the effective supply.
  - The capacity on outage averaged at 3,133 MW, higher than last week's 2,933 MW. In terms of capacity on outage by plant type, about 44% of the 3,133 MW involved Coal Plants, while in terms of category, about 51% were Forced Outages.
- As a result, an average supply margin of 560 MW was observed during the week, which is lower by about 3.761% relative to the previous week and lower by about 26.123% in comparison with the same week last year. The thinnest supply margin based on MMS solution was 7.47 MW on 14 July 2024 22:00h. The average supply margin was 527.82 MW at peak intervals and 585.43 MW at off-peak intervals.
- Correspondingly, average GWAP was recorded at PHP 5,835/MWh from PHP 6,220/MWh last week. This is higher than the PHP5,799/MWh during the same week last year.
  - No secondary price cap was imposed for this week.
- The top 5 participant groups accounted for about 79% 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 (100% of the time)
  3. MARIVELES CFTPP (about 99.45% of the time)
  4. STA RITA NGPP (about 99.01% of the time)
  5. SUAL CFTPP (about 98.76% of the time)
- Based on the MMS Solution, the top 5 congested equipment during the week were –
  1. 138kV Barotac-Dingle Line 2 (about 43.3% of the time)
  2. 138kV Barotac-Dingle Line 1 (about 31.5% of the time)
  3. 138kV Maasin-Ubay Line 1 (about 29.3% of the time)
  4. Calbayog\_Transformer 1 (about 3.2% of the time)
  5. PGP1\_Transformer 1 (0.1% of the time)

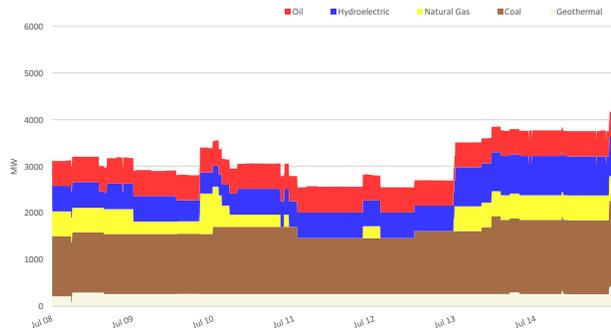
**OFFER PATTERN ANALYSIS**

- The offered capacity of the coal plant was lower than the previous week due to an increase in capacity on outage. Additionally, the multiple short drops from July 8 to 11 were caused by plant testing, scheduled through security limits imposed by the SO. The decrease in capacity on July 13 and 14 was due to an increase in outages.
- The offered capacity of the geothermal plants was comparable to the previous week due to a minimal increase in outages.
- The offered capacity of the hydro plants was lower than the previous week due to an increase in outages. In addition, the offered capacity during peak hours on the last three days of the week was lower due to plant testing, scheduled through security limits imposed by the SO.
- The offered capacity of natural gas was significantly lower between July 10 and 11 due to plant testing.
- The lowest solar plant nomination was recorded on July 10, while the highest was recorded on July 8.
- The lowest nomination by wind plants was recorded on July 12, while the highest was on July 14.

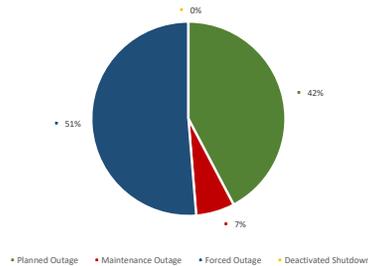
**IEMOP MARKET SYSTEMS ADVISORY**

- No IT-related issue was advised in IEMOP's market systems from 08 - 14 Jul 2024.

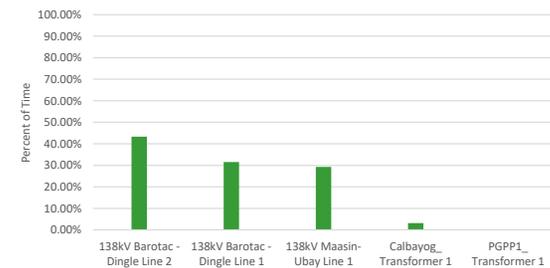
**CAPACITY ON OUTAGE BY PLANT TYPE**



**CAPACITY ON OUTAGE BY OUTAGE CATEGORY**



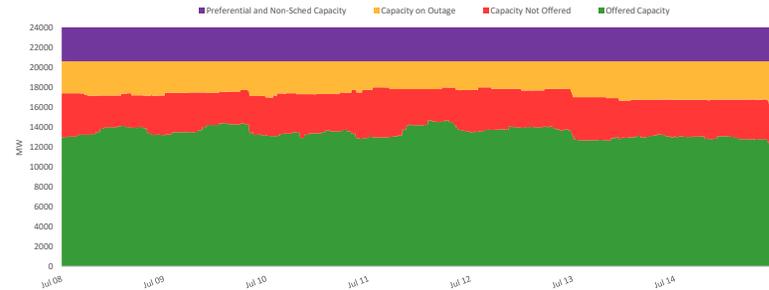
**RTD CONGESTION**



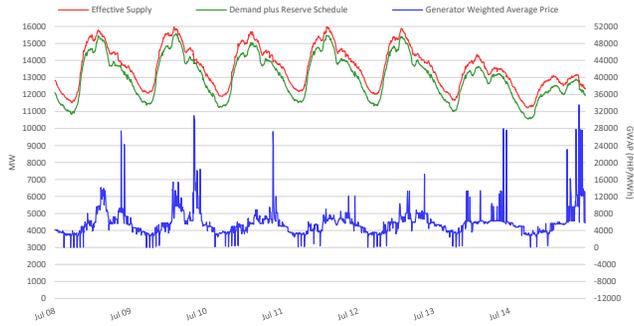
**SUMMARY (PRICE, SUPPLY, DEMAND AND RESERVE SCHEDULE)**

Particulars		08 - 14 Jul 2024	Previous Week (01 - 07 Jul 2024)	Same Week, Previous Year (10 - 16 Jul 2023)	Percent Change From	
					Previous Week	Same Week, Prev Year
GWAP (PHP/MWh)	max	33,555.294	32,324.329	33,921.588	3.808%	-1.080%
	min	-0.972	-543.195	-9,521.852	99.821%	99.990%
	ave	5,834.722	6,220.325	5,799.158	-6.199%	0.613%
Effective Supply (MW)	max	16,131.662	15,958.587	14,931.996	1.085%	8.034%
	min	11,215.395	11,348.266	9,917.210	-1.171%	13.090%
	ave	13,593.035	13,582.577	12,460.393	0.077%	9.090%
System Demand (MW)	max	14,937.760	15,009.940	14,551.690	-0.481%	2.653%
	min	9,811.080	9,850.450	8,531.940	-0.400%	14.992%
	ave	12,431.465	12,419.710	11,318.727	0.095%	9.831%
Demand + Reserve Schedule (MW)	max	15,568.500	15,504.000	14,882.650	0.416%	4.608%
	min	10,542.680	10,678.670	8,795.440	-1.273%	19.865%
	ave	13,032.980	13,000.636	11,702.298	0.249%	11.371%
Supply Margin (MW)	max	958.653	968.312	1,347.001	-0.998%	-28.831%
	min	7.471	-0.989	-0.878	855.410%	950.911%
	ave	560.055	581.941	758.095	-3.761%	-26.123%

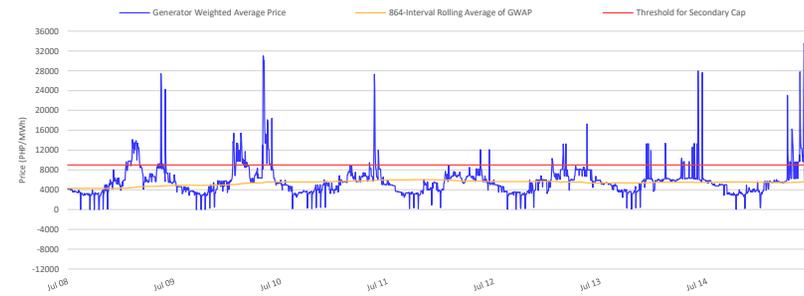
**CAPACITY PROFILE**



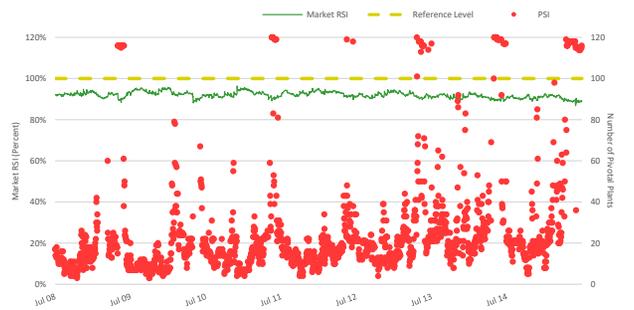
**SUPPLY, DEMAND AND PRICE**



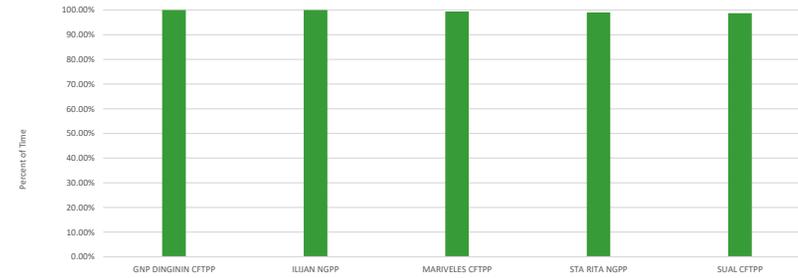
**GENERATOR WEIGHTED AVERAGE PRICE**



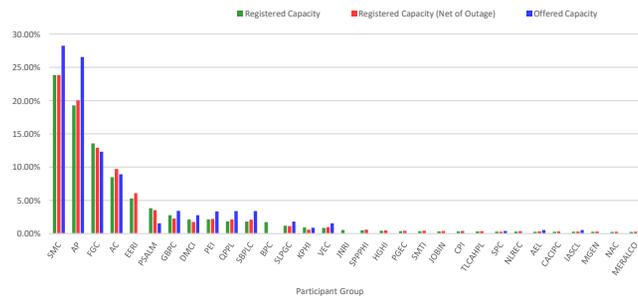
**MARKET RSI VS PIVOTAL PLANTS**



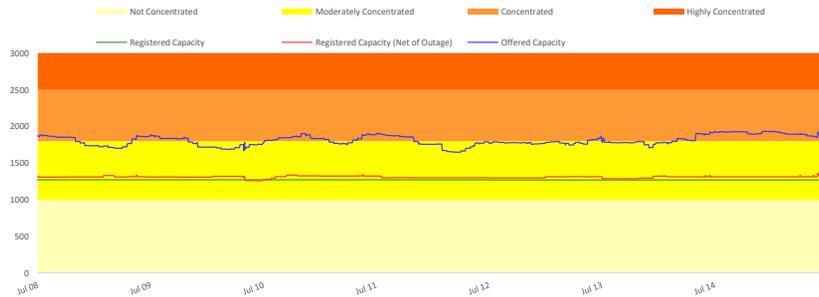
**PSI**



**MARKET SHARE**

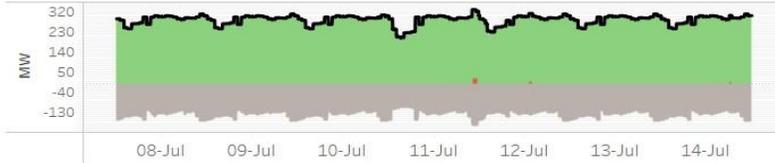


**HERFINDAHL-HIRSCHMAN INDEX**

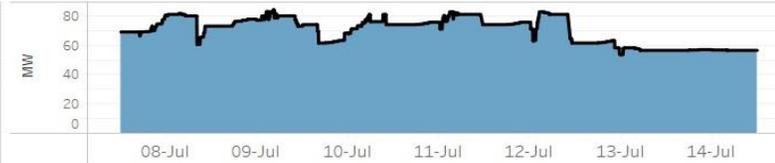


**OFFER PATTERN ANALYSIS**

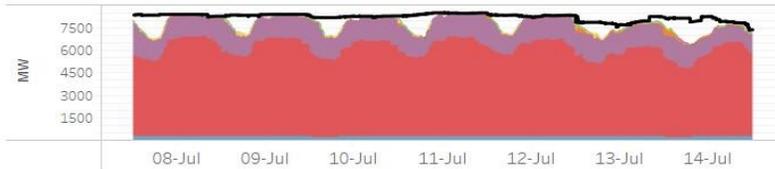
**BATTERY**



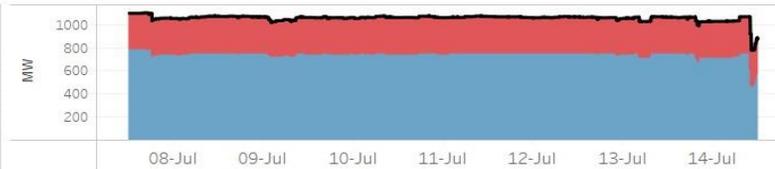
**BIOFUEL**



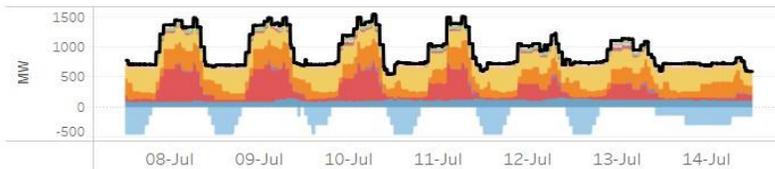
**COAL**



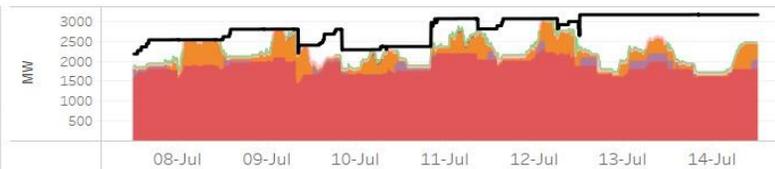
**GEOHERMAL**



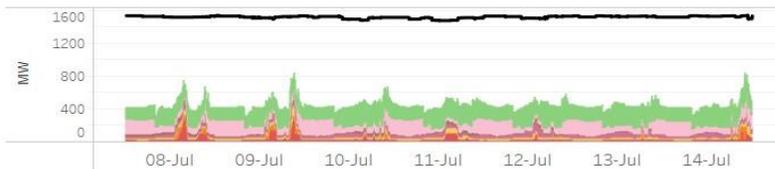
**HYDRO**



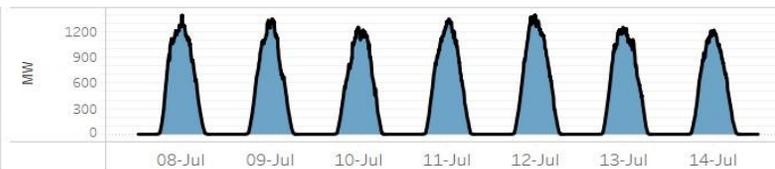
**NATURAL GAS**



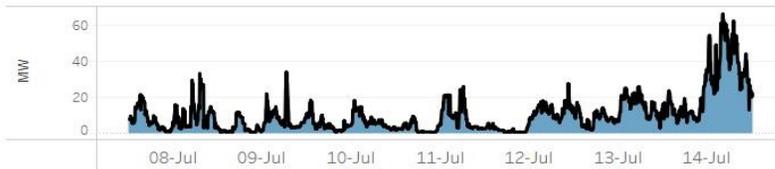
**OIL-BASED**



**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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