

PEMC MARKET ASSESSMENT HIGHLIGHTS

- The average demand and the reserve schedule, recorded at 12,202 MW during the week of 25 Sep -01 Oct 2023, was lower than the previous week at 12,421 MW and higher than the same week last year at 11,286 MW.
- The average effective supply during the week was 12,841 MW, lower than the 13,065 MW of the previous week and higher than the 11,578 MW during the same week last year. Ramping limitations were considered in the calculation of the effective supply.
- The capacity on outage averaged at 2,711 MW, higher than last week's 2,378 MW. About 59% of the 2,711 MW involved Coal plants, while in terms of category, about 49% were Planned Outages.
- As a result, an average supply margin of 639 MW was observed during the week, which is lower by about 0.774% relative to the previous week and higher by about 119% in comparison with the same week last year. The supply deficit based on MMS solution was 647.16 MW on 01 October 2023 19:00. The average supply margin was 508.97 MW at peak intervals and 741 MW at off-peak intervals.
- Correspondingly, average GWAP was recorded at PHP 6,457/MWh from PHP 6,556/MWh last week. This is lower than the PHP8,742/MWh during the same week last year. Administered Prices will be used in SO initiated market intervention last 1 October 2023 (19:15 -19:40) in Luzon.
 - No secondary price cap was imposed for this week
- The top 5 participant groups accounted for about 80% of the offered capacity. The Herfindahl-Hirschman Index (HHI) by participant group indicated partially concentrated and moderately concentrated market based on the offered and registered capacities respectively.
- The top 5 pivotal plants during the week were –
 1. STA RITA NGPP (about 79.91% of the time)
 2. ILJUAN NGPP (about 74.5% of the time)
 3. MASINLOC CFTPP (about 72.07% of the time)
 4. PAGBILAO CFTPP (about 55.51% of the time)
 5. SUAL CFTPP (about 46.88% of the time)

- Based on the MMS Solution, the top 5 congested equipment during the week were –

1. 138kV Maasin-Ubay Line 1 (about 27.9% of the time)
2. 138kV Samboan-Amlan Line1 (about 11.6% of the time)
3. San Jose (EHV)_Transformer (about 20.4% of the time)
4. Calbayog_Transformer 1 (0.3% of the time)
5. Calamba_Transformer2 (0.3% of the time)

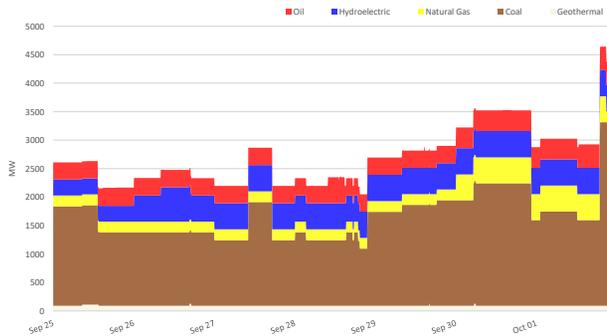
OPA_ANALYSIS

- Battery had some capacity offered at price range of Php 0/MWh and below on afternoon peak of September 25, 27-29 and offered lower capacity on September 30.
- Biofuel were purely on preferential nomination starting September 29 wherein no more offers at PHP0/MWh to PHP10,000/MWh were recorded.
- Coal plants had lower offered capacity starting from the evening of October 01 due to plant outage.
- Hydro plants had observed lower offer prices on September 28.
- Solar plants' highest peak nomination was recorded on September 29 and lowest on September 25
- Wind plants' lowest nomination was recorded on September 26 and highest on October 01.

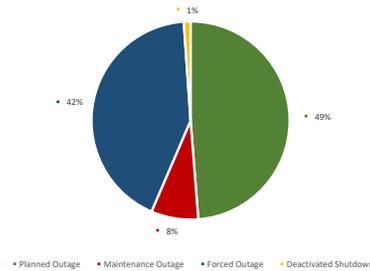
IEMOP MARKET SYSTEMS ADVISORY

- SO initiated Market Intervention for LUZON due to multiple tripping of plants and lines on 01 October 2023 (19:15-19:40).

CAPACITY ON OUTAGE BY PLANT TYPE



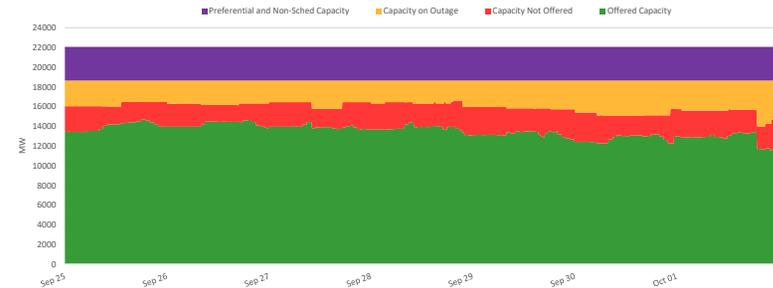
CAPACITY ON OUTAGE BY OUTAGE CATEGORY



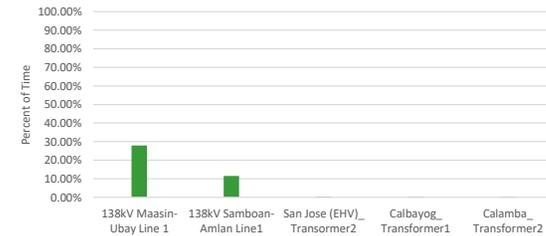
SUMMARY (PRICE, SUPPLY, DEMAND AND RESERVE SCHEDULE)

Particulars	25 Sep -01 Oct 2023	Previous Week (18 - 24 Sep 2023)	Same Week, Previous Year (26 Sep 02 Oct 2022)	Percent Change From		
				Previous Week	Same Week, Prev Year	
GWAP (PHP/MWh)	max	34,063.075	27,818.724	34,191.638	22.447%	-0.376%
	min	2,696.181	0.000	-7,961.414	-	133.866%
	ave	6,457.137	6,555.691	8,742.155	-1.503%	-26.138%
Effective Supply (MW)	max	14,966.500	15,528.375	13,967.343	-3.618%	7.154%
	min	10,827.031	10,815.084	8,805.783	0.110%	22.954%
	ave	12,840.694	13,064.552	11,577.994	-1.713%	10.906%
System Demand (MW)	max	13,970.240	14,318.430	12,744.220	-2.432%	9.620%
	min	9,462.500	9,158.830	6,853.720	3.316%	38.064%
	ave	11,665.962	11,743.798	10,442.056	-0.663%	11.721%
Demand + Reserve Schedule (MW)	max	14,608.599	15,158.910	13,797.747	-3.630%	5.877%
	min	9,972.020	9,819.430	7,754.220	1.554%	28.601%
	ave	12,201.894	12,420.771	11,286.313	-1.762%	8.112%
Supply Margin (MW)	max	1,133.146	1,333.913	1,071.939	-15.051%	5.710%
	min	-647.158	95.775	-175.775	-775.707%	-268.174%
	ave	638.800	643.782	291.682	-0.774%	119.006%

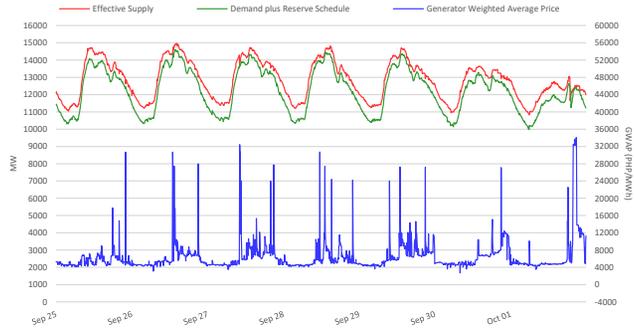
CAPACITY PROFILE



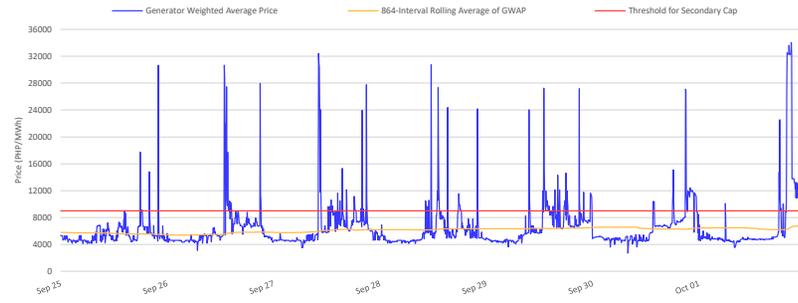
RTD CONGESTION



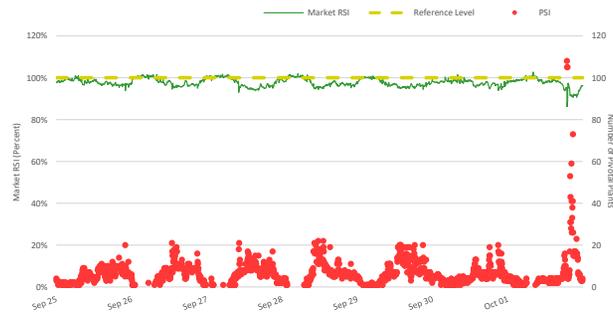
SUPPLY, DEMAND AND PRICE



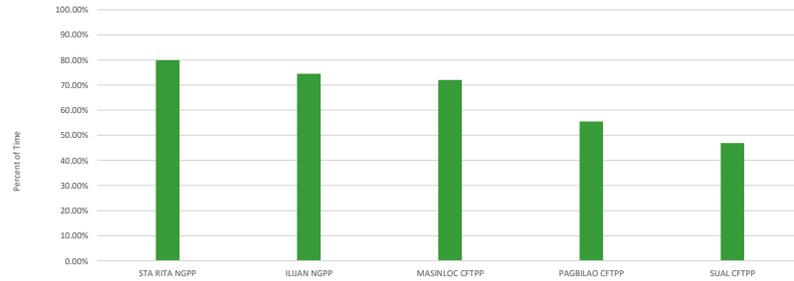
GENERATOR WEIGHTED AVERAGE PRICE



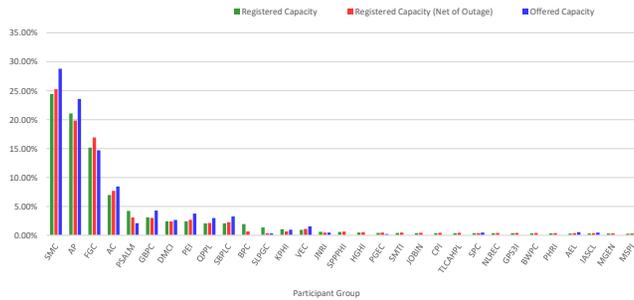
MARKET RSI VS PIVOTAL PLANTS



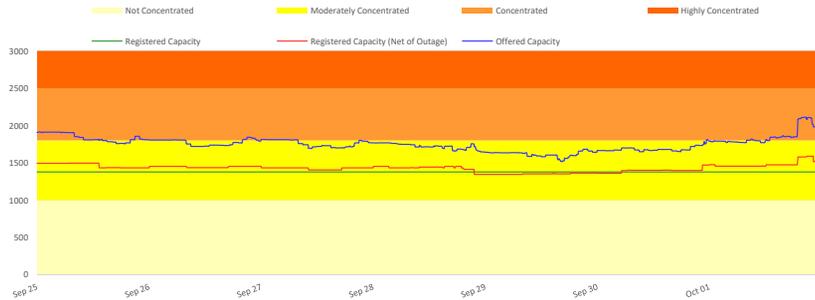
PSI



MARKET SHARE



HERFINDAHL-HIRSCHMAN INDEX

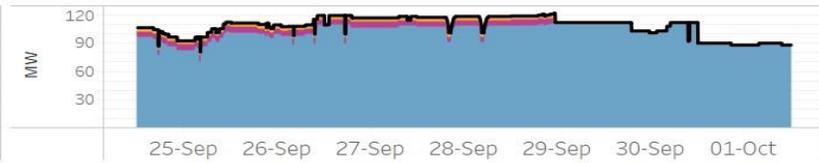


OFFER PATTERN ANALYSIS

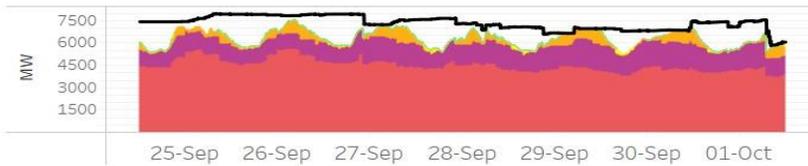
BATTERY



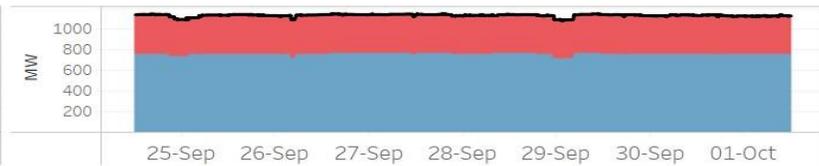
BIOFUEL



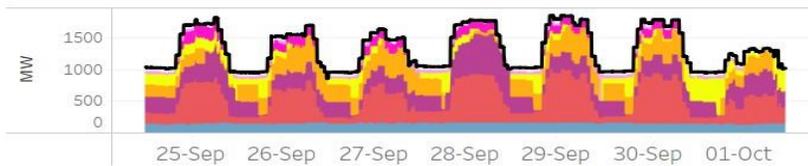
COAL



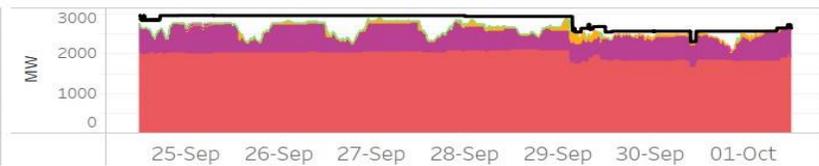
GEOHERMAL



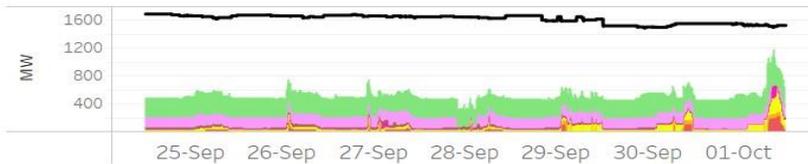
HYDRO



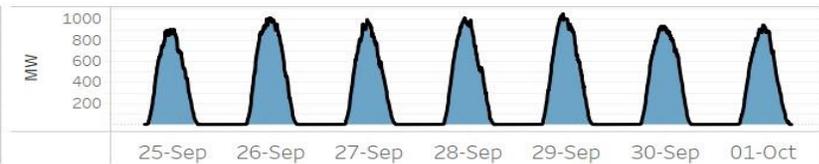
NATURAL GAS



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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