Philippine Electricity Market Corporation

WEEKLY MARKET WATCH
30 Aug -05 Sep 2021

PEMC MARKET ASSESSMENT HIGHLIGHTS

· The average demand and reserve schedule, recorded at 10,939 MW during the week of 30 Aug -05 Sep 2021, was lower than the previous week at 10,982 MW, as well as the same week last year at 11,399 MW.Various areas were under the ECQ, MECQ or the GCQ.[1]

·The WESM registered capacity stood at 21,356 MW at the end of the week.

· An average supply margin of 618 MW was observed during the subject period which is higher by about 7% relative to the previous week and drastically lower by about 62% in comparison with the same week last year.The supply margin of 19.847 MW observed on 02 September 2021 11:00 was the tightest during the week . The average supply margin was 510.55 MW at peak intervals and 650.27 MW at off-peak intervals.

· The outage capacity averaged at 2,524 MW, lower than last week's 2,774 MW. About 70% of this involved Coal plants, while in terms of category, about 47% were Forced Outages.

· The average effective supply during the week was 11,557 MW, about the same as the previous week but significantly lower than the 13,031 MW during the same week last year. Ramping limitations in generators' offers persisted which caused the lowering of the effective supply. The capacity not offered also increased by 4% compared to the previous week.

· Average GWAP was recorded at PHP 2,922/MWh from PHP 3,187/MWh last week. This is lower than the PHP 3,382/MWh during the same week last year. Administered prices were used in the Market Operator-initiated market intervention for Luzon and Visayas that occurred on 04 September at 23:45.

· No secondary price cap was imposed for this week

· The top 5 participant groups accounted for about 78% of the offered capacity. The Herfindahl-Hirschman Index (HHI) by participant group indicated a moderately concentrated market based on the registered and offered capacities.

· Based on the effective supply, the top 5 pivotal plants during the week were –

1. ILIJAN NGPP (about 83.63% of the time)
2. STA RITA NGPP (about 82.69% of the time)
3. SUAL CFTPP (about 66.22% of the time)
4. MASINLOC CFTPP (about 48.21% of the time)
5. SMC LIMAY CFTPP (about 32.69% of the time)

· The offer pattern analysis showed decrease in coal plants offered capacity. Further, average offer price demonstrated increase in hydro plants in contrast with the decrease in coal and natural gas plants.

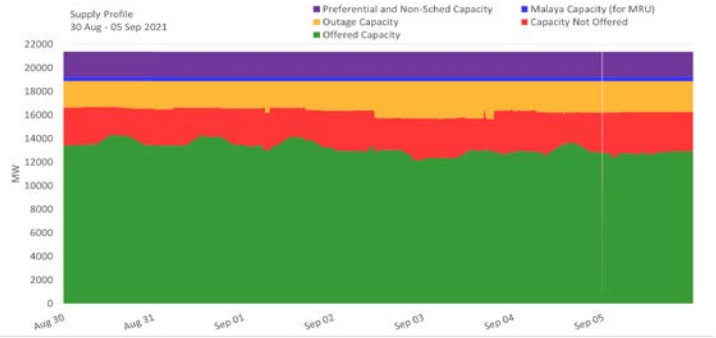
IEMOP MARKET SYSTEMS ADVISORY

·Market Operator initiated market intervention for Luzon and Visayas for 04 September 23:45 due to non-generation of RTD schedule.

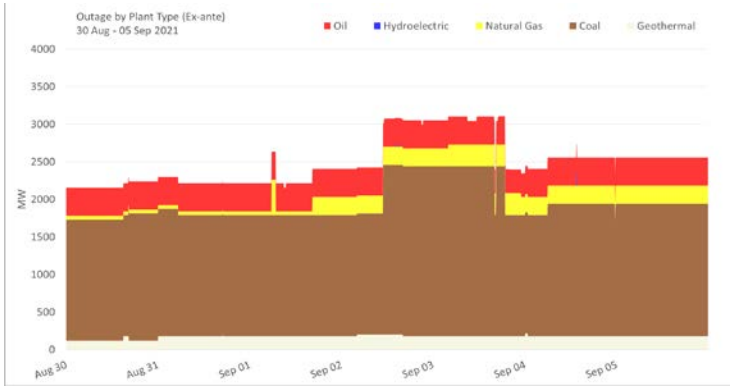
SUMMARY (PRICE, SUPPLY, DEMAND AND RESERVE SCHEDULE)

Particulars		30 Aug -05 Sep 2021	Prev Week (23 - 29 Aug 2021)	Same Wk, Prev Yr (24 - 30 Aug 2020)	Percent Change From	
					Prev Wk	Same Wk, Prev Yr
GWAP (PHP/MWh)	max	29,979.80	31,743.91	19,085.39	-5.56%	57.08%
	min.	-8,188.76	-9,898.00	1,630.92	17.27%	-602.09%
	w. ave.	2,921.84	3,186.89	3,381.57	-8.32%	-13.60%
Effective Supply (MW)	max	13,492.06	13,484.32	14,993.77	0.06%	-10.02%
	min.	9,803.75	9,949.40	10,874.60	-1.46%	-9.85%
	ave.	11,556.56	11,558.97	13,031.20	-0.02%	-11.32%
System Demand (MW)	max	12,105.90	12,149.15	12,253.98	-0.36%	-1.21%
	min.	7,925.76	8,270.57	8,229.89	-4.17%	-3.70%
	ave.	10,035.23	10,016.62	10,276.84	0.19%	-2.35%
Demand +Reserve Schedule (MW)	max	13,158.52	13,152.40	13,661.60	0.05%	-3.68%
	min.	8,729.26	9,109.98	9,253.09	-4.18%	-5.66%
	ave.	10,938.98	10,981.86	11,398.81	-0.39%	-4.03%
Supply Margin (MW)	max	1,248.72	1,145.60	3,453.45	9.00%	-63.84%
	min.	19.85	0.00	470.39	-	-95.78%
	ave.	617.58	577.11	1,632.38	7.01%	-62.17%

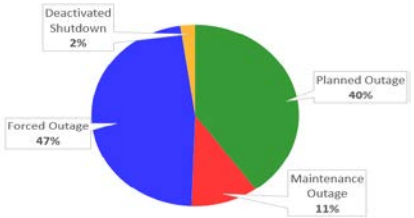
SUPPLY PROFILE



OUTAGE CAPACITY BY PLANT TYPE



OUTAGE CAPACITY BY OUTAGE CATEGORY



[1] Laguna, Iloilo City, and Cagayan de Oro City will ease from a hard lockdown to a modified enhanced community quarantine from Aug. 16 to 31.The following areas also under MECQ from Aug. 16 to 31: Apayao; Ilocos Norte; Bulacan; Cavite, Lucena City, and Rizal in Region 4-A for Luzon; and Aklan, and Iloilo Province in Region 6, and Lapu-Lapu City, Mandaue City, and Cebu City in Region 7 for the Visayas.Meanwhile, placed under GCQ with heightened restrictions from August 16 to August 31 are Ilocos Sur; Cagayan; Quezon and Batangas in Region 4-A and Naga City for Luzon; Antique, Bacolod City and Capiz in Region 6; and Negros Oriental and Cebu for the Visayas; Zamboanga del Sur; Misamis Oriental; Davao City, Davao del Norte, Davao Occidental and Davao de Oro in Region 11 and Butuan City for Mindanao.Tarlac will shift from MGCQ to GCQ from Aug. 13 to 31. Also placed under GCQ from August 16 to August 31, 2021 are Baguio City in the Cordillera Administrative Region; Santiago City, Quirino, Isabela and Nueva Vizcaya in Region 2; Batangas and Quezon in Region 4-A and Puerto Princesa for Luzon; Guimaras and Negros Occidental in Region 6; Zamboanga Sibugay, Zamboanga City and Zamboanga del Norte in Region 9; Davao Oriental and Davao del Sur in Region 11; General Santos City, Sultan Kudarat, Sarangani, North Cotabato and South Cotabato in Region 12; Agusan del Norte, Agusan del Sur, Surigao del Norte, Surigao del Sur and Dinagat Islands in CARAGA and Cotabato City in the Bangsamoro Autonomous Region in Muslim Mindanao.Metro Manila will stay under ECQ until Aug. 20, while Bataan will remain under the strictest lockdown until Aug. 22. Other areas not included in the list are under the MGCQ classification from August 16 to 31. Metro Manila retains GCQ status, Iligan City to be placed under stricter MECQ starting Sept. 1

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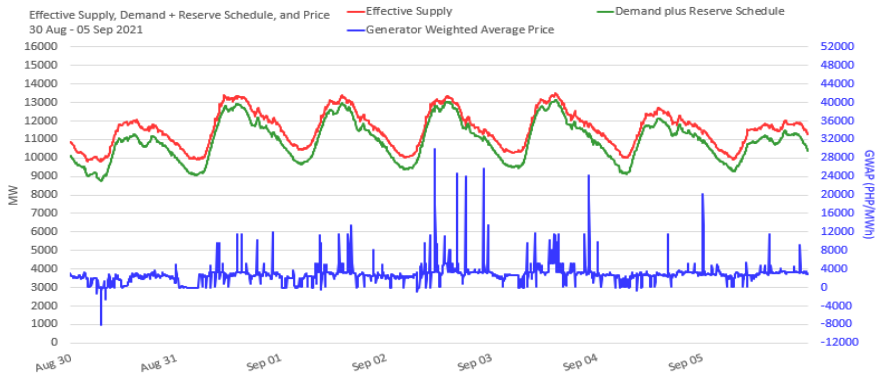
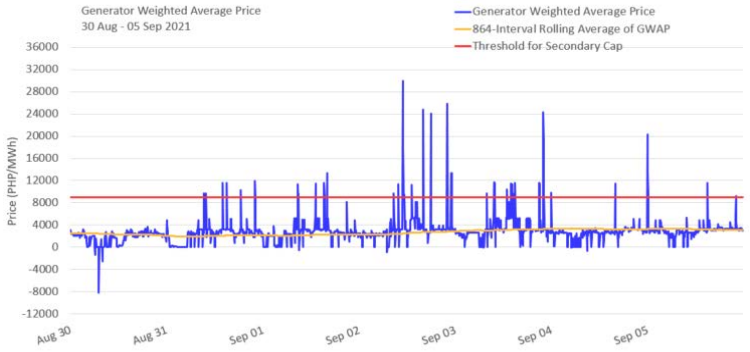
SUPPLY, DEMAND AND PRICE

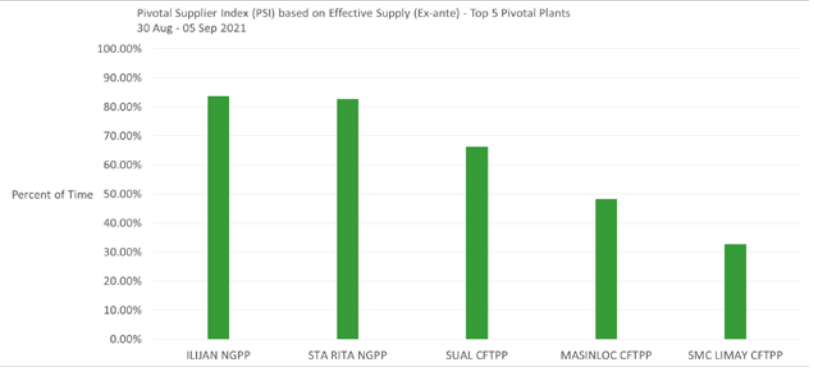


GENERATOR WEIGHTED AVERAGE PRICE

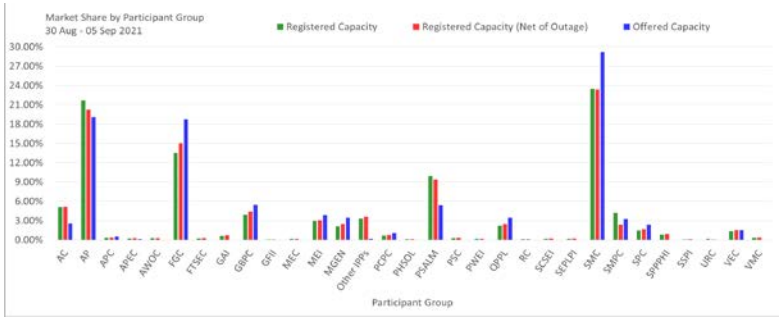


MARKET RSI VS PIVOTAL PLANTS

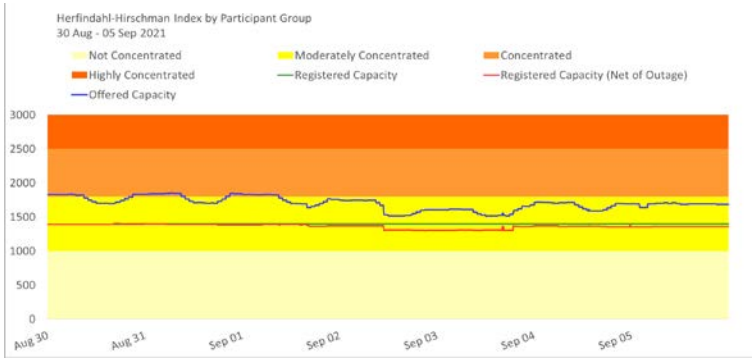
PSI



MARKET SHARE



HERFINDAHL-HIRSCHMAN INDEX



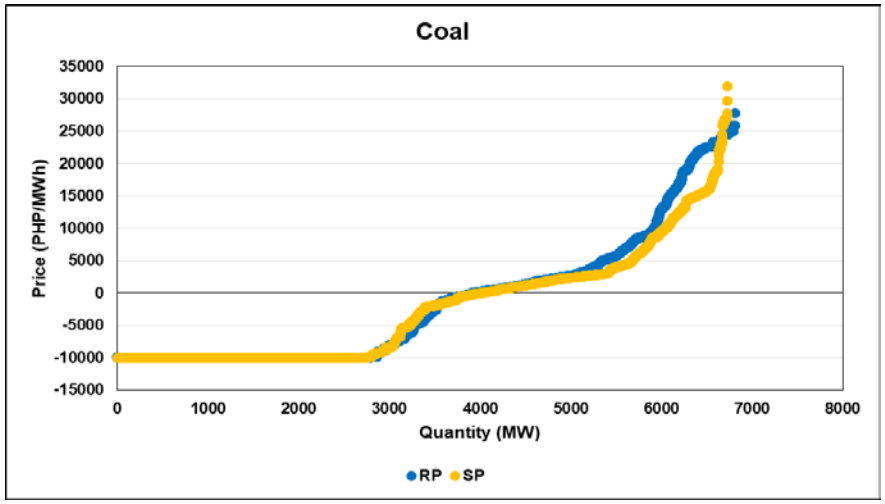
OFFER PATTERN ANALYSIS

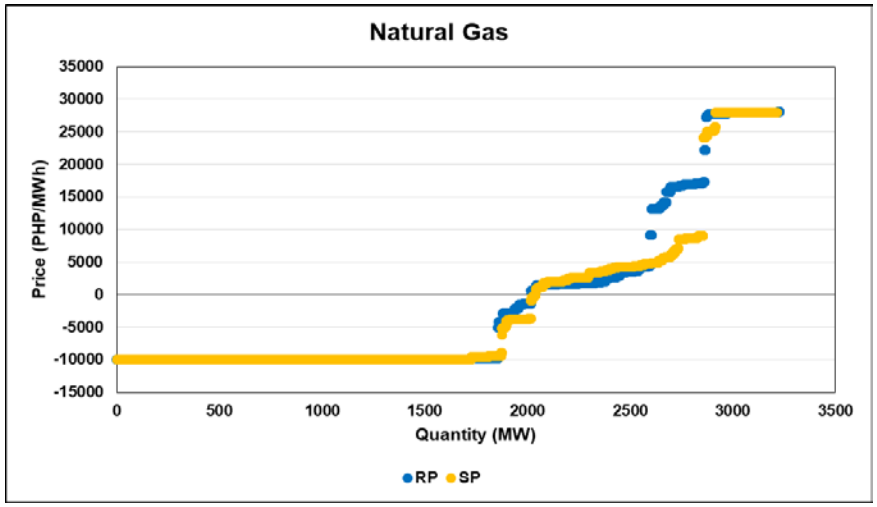
Legend

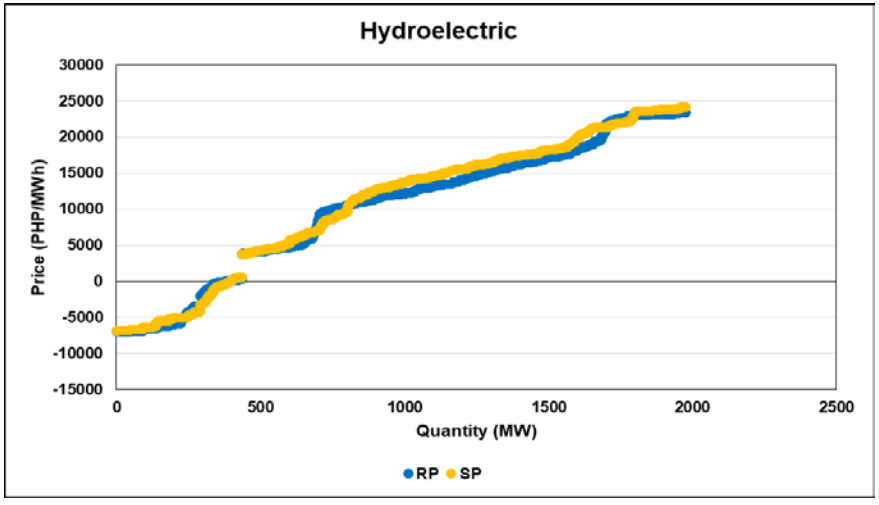
RP: Reference Offer Price – the week of 23-29 Aug 2021 was used as a control for the comparison with the subject price

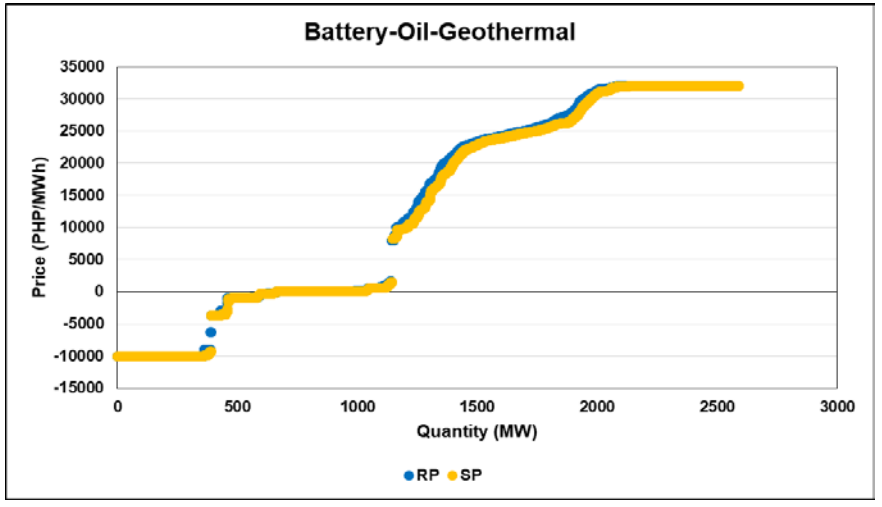
SP: Subject Offer Price – the week of 30 Aug-05 Sep 2021

Note: Pmin capacities were excluded in this Offer Pattern Analysis.









GLOSSARY OF TERMS

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.

The HHI is calculated using the (i) registered capacity, (ii) registered capacity net of outage, (iii) offered capacity, (iv) metered quantity, and (v) spot transaction (metered quantity net of bilateral contract declarations).

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.

PRICE SETTING FREQUENCY INDEX (PSFI) - A generator trading node is considered as a price setter when its last accepted offer price is between 95% to 100% of its nodal price. A generating plant is considered as price setter if at least one of its trading nodes was price setter in a given trading hour.The price setters are determined from: (i) ex-ante for trading intervals without pricing error during ex-ante, (ii) ex-post with pricing error during ex-ante but without pricing error during ex-post, (iii) market re-run results for trading intervals with pricing error both in ex-ante and ex-post, and (iv) trading intervals where the price substitution methodology (PSM) was applied. For trading intervals affected by PSM, the unconstrained marginal plants are considered price setters. Further, in instances of regional price separation, price setters are determined separately for each region.

MARKET SHARE - The fraction of the total capacity or energy that a company or related group owns or controls in the market.

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).

CAPACITY FACTOR - The index assesses the performance of the generators in the market. A high capacity factor indicates the high utilization of the generators.

CAPACITY PROFILE - The hourly factors affecting supply, which include, among others, the offered capacity, outage capacity and ancillary services schedule.

MAJOR PARTICIPANT GROUP - The grouping of generators by ownership or control.

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 hourly offer to supply electricity submitted by a generator.

METERED QUANTITY - The hourly quantity of electricity generated by a generator.

SPOT TRANSACTION - The hourly quantity of electricity sold to the market by a generator net of bilateal contract declaration accounted for in the settlement.

ANCILLARY SERVICES SCHEDULES - The hourly quantity scheduled by the System Operator to provide regulating, contingency and dispatchable reserves.

EFFECTIVE SUPPLY - The houly 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.