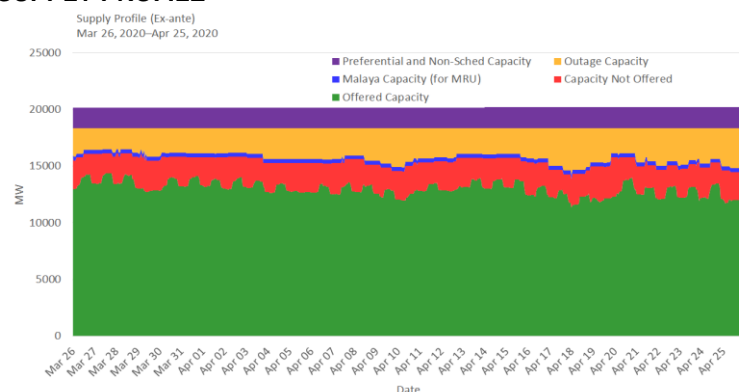


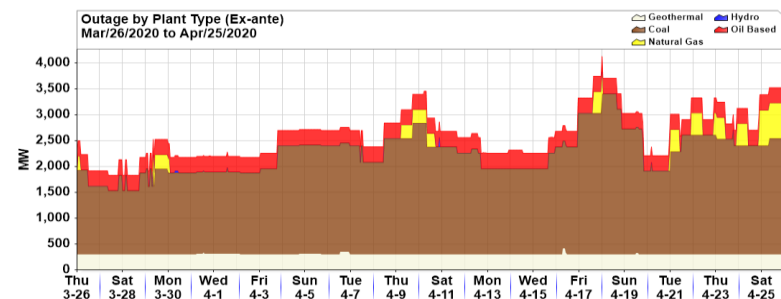
## HIGHLIGHTS

- The average demand and reserve schedule of 9,259 MW in the April 2020 billing month was lower than last billing month's 10,800 MW. This was attributable to the Enhanced Community Quarantine in Luzon that started on 17 March to contain the spread of the coronavirus disease. This month's average was likewise lower compared to 11,205 MW in the April 2019 billing month.
- A wide supply margin averaging 3,402 MW was observed in the April 2020 billing month. This was the highest monthly average supply margin since 2014. This was higher by about 11 percent than March 2020 figures and higher by about 194 percent than April 2019 figures.
- The WESM registered capacity stood at 20,190 MW by the end of the billing month.
- The outage capacity averaged 2,628 MW. About 74% of which involved coal plants while about 84% were forced outages.
- The average effective supply was lower this month at 12,662 MW from 13,857 MW in the previous month but it was higher compared to 12,363 MW in the previous year.
- Driven by the low demand due to the limited economic activity during this quarantine period, the average GWAP in the April 2020 billing month was PhP 1,456/MWh, which was lower than PhP 2,386/MWh in March 2020 and lower than PhP 7,080/MWh in April 2019.
- The secondary price cap was not imposed during the April 2020 billing month.
- The top 5 major participant groups accounted for about 78% of the average offered capacity. The Herfindahl-Hirschman Index (HHI) by major participant grouping indicated a moderately concentrated market based on the registered capacity.
- Based on the effective supply, Sual Coal-Fired Thermal Power Plant was a pivotal plant on 25 April (hour 22).

## SUPPLY PROFILE



## OUTAGE CAPACITY BY PLANT TYPE



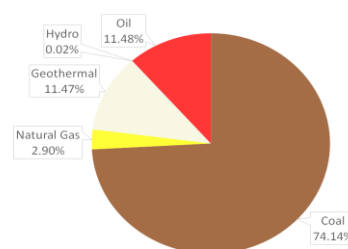
## SUMMARY (PRICE, SUPPLY, DEMAND AND RESERVE SCHEDULE)

Particulars		April 2020 Billing Month	Previous Billing Month (March 2020)	Same Billing Month, Prev. Year (April 2019)	Percent Change From	
					Prev. Billing Month	Same Billing Month, Prev. Year
GWAP (PhP/MWh)	max	5,232.14	13,548.87	34,583.91	-61.38%	-84.87%
	min.	0.00	0.00	1,011.55	-	-100.00%
	w. ave.	1,456.03	2,386.42	7,080.26	-38.99%	-79.44%
Effective Supply (MW)	max	13,941.75	15,837.22	14,063.71	-11.97%	-0.87%
	min.	11,069.88	12,181.15	10,736.37	-9.12%	3.11%
	ave.	12,661.60	13,857.14	12,363.21	-8.63%	2.41%
System Demand (MW)	max	10,043.53	13,162.35	12,845.94	-23.70%	-21.82%
	min.	6,638.31	6,899.68	6,986.05	-3.79%	-4.98%
	ave.	8,256.35	9,758.80	10,293.93	-15.40%	-19.79%
Demand + Reserve Schedule (MW)	max	11,305.53	14,502.45	13,793.84	-22.04%	-18.04%
	min.	7,394.09	7,632.65	7,854.85	-3.13%	-5.87%
	ave.	9,259.48	10,799.84	11,204.53	-14.26%	-17.36%
Supply Margin (MW)	max	4,844.24	5,107.51	3,389.10	-5.15%	42.94%
	min.	1,161.10	326.91	0.35	255.17%	331,642.86%
	ave.	3,402.11	3,057.30	1,158.68	11.28%	193.62%

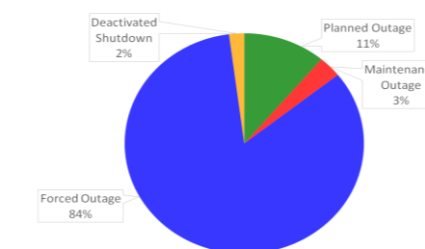
## SUPPLY, DEMAND AND PRICE



## OUTAGE CAPACITY BY PLANT TYPE

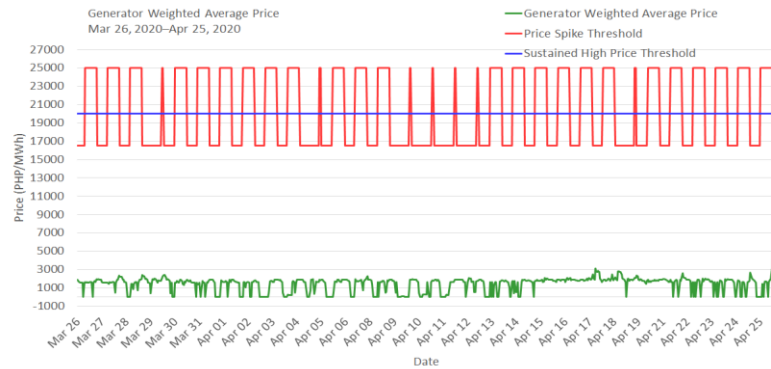


## OUTAGE CAPACITY BY OUTAGE CATEGORY

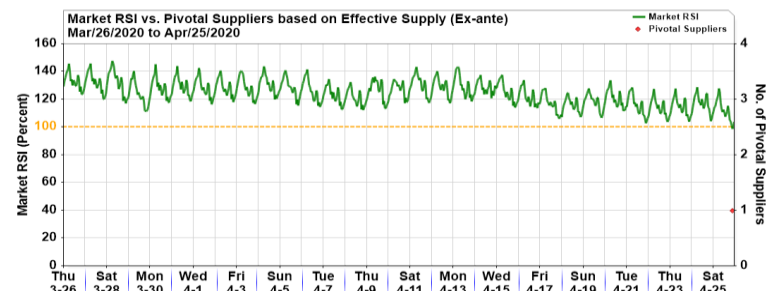




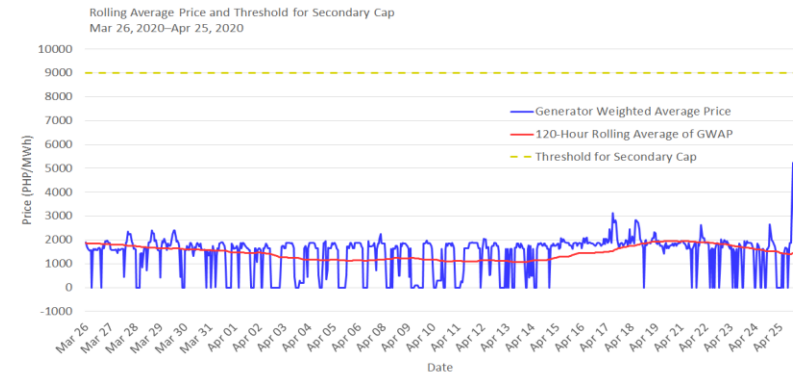
## GENERATOR WEIGHTED AVERAGE PRICE



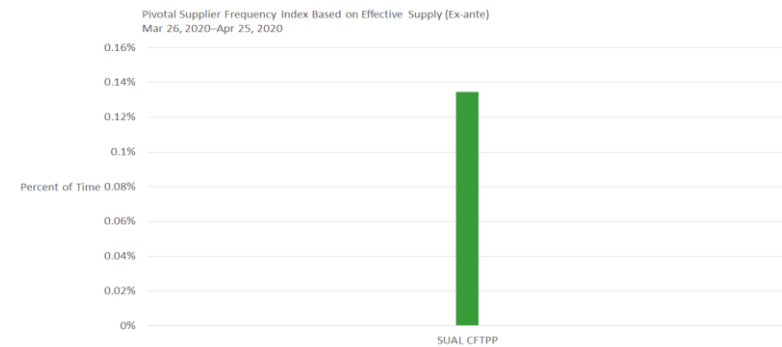
## MARKET RSI VS PIVOTAL PLANTS



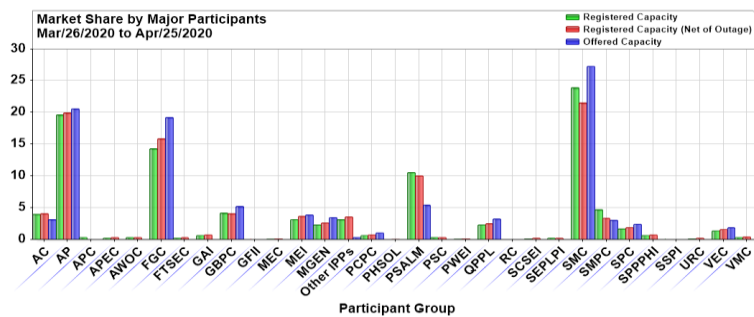
## SECONDARY CAP



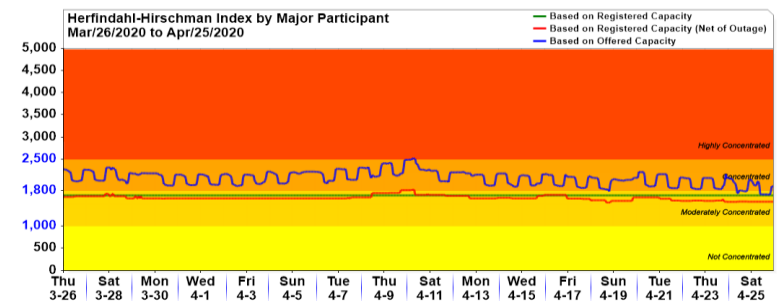
## PSI



## MARKET SHARE



## HERFINDAHL-HIRSCHMAN INDEX





**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 FREQUENCY INDEX (PSI)** - The pivotal supply 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 bilateral 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 hourly 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.

**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.