

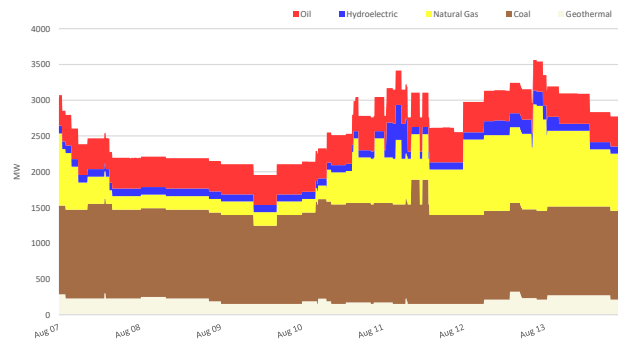
## PEMC MARKET ASSESSMENT HIGHLIGHTS

- The average demand and the reserve schedule, recorded at 12,464 MW during the week of 07 - 13 Aug 2023, was higher than the previous week at 11,448 MW and higher than the same week last year at 11,579 MW.
- The average effective supply during the week was 13,097 MW, higher than the 12,261 MW of the previous week and higher than the 12,182 MW during the same week last year. Ramping limitations were considered in the calculation of the effective supply.
- The capacity on outage averaged at 2,614 MW, higher than last week's 2,131 MW. About 49% of the 2,614 MW involved Coal plants, while in terms of category, about 58% were Forced Outages.
- As a result, an average supply margin of 633 MW was observed during the week, which is lower by about 16.1 % relative to the previous week and higher by about 6% in comparison with the same week last year. The supply deficit reached 0.17 MW based on MMS solution on 10 August 2023 15:35. The average supply margin was 518.98 MW at peak intervals and 723.57 MW at off-peak intervals.
- Correspondingly, average GWAP was recorded at PHP 6,951/MWh from PHP 4,185/MWh last week. This is higher than the PHP6,426/MWh during the same week last year.
- 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 moderately concentrated market based on the offered and registered capacities.
- The top 5 pivotal plants during the week were –
  1. GNP DINGININ CFTPP (about 99.85% of the time)
  2. STA RITA NGPP (about 87.35% of the time)
  3. SUAL CFTPP (about 70.29% of the time)
  4. MARIVELES CFTPP (about 65.38% of the time)
  5. SAN LORENZO NGPP (about 51.39% of the time)
- Based on the MMS Solution, the top 5 congested equipment during the week were –
  1. 138kV Maasin-Ubay Line 1 (about 36.8% of the time)
  2. Hermosa-Duhat Line 1 (about 1.2% of the time)
  3. 138kV Samboan-Amlan Line1 (about 1.1% of the time)
  4. Kabankalan\_Transformer 1 (0.74% of the time)
  5. PGPP1\_Transformer 2(0.64% of the time)
- OPA\_ANALYSIS
  - Biofuel has started to offer (aside from the nomination) starting August 9.
  - Coal has varying offered capacity due to outage within the week. Lowest effective supply on peak hours was recorded on August 7.
  - Geothermal plants recorded lower nomination starting August 12 due to outage.
  - Aside from Sunday, hydro plants recorded lowest capacity on August 12 (Saturday) while the highest set of offered price was observed on August 7 (Monday).
  - Natural Gas plants observed lower offered capacity starting August 10 due to outage of Sta. Rita NGPP Unit 1 and San Lorenzo NGPP Unit 2 and deration of Ilijan A1.
  - Oil-based plants recorded highest effective supply on August 10.
  - Solar plants recorded highest peak nomination on August 12 and lowest on August 13.

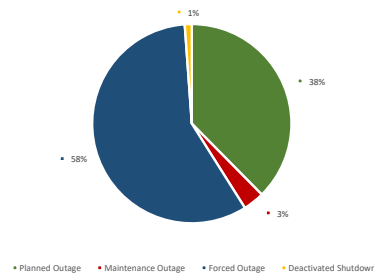
## IEMOP MARKET SYSTEMS ADVISORY

- No IT-related issue was advised in IEMOP's market systems from 07 - 13 Aug 2023.

## CAPACITY ON OUTAGE BY PLANT TYPE



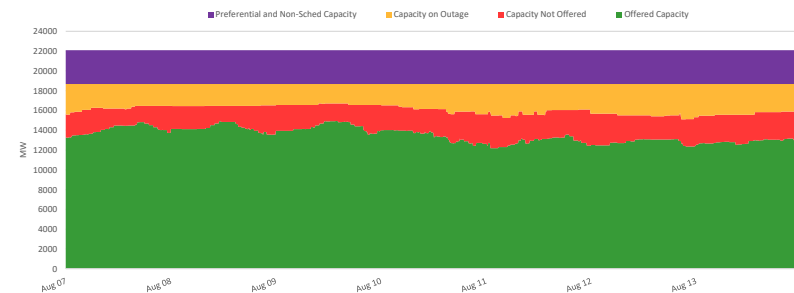
## CAPACITY ON OUTAGE BY OUTAGE CATEGORY



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

Particulars		07 - 13 Aug 2023	Previous Week (31 Jul - 06 Aug 2023 )	Same Week, Previous Year (08 - 14 Aug 2022)	Percent Change From	
					Previous Week	Same Week, Prev Year
GWAP (PHP/MWh)	max	33,271.264	31,324.711	26,688.716	6.214%	24.664%
	min	0.000	0.000	-970.968	-	100.000%
	ave	6,951.294	4,185.182	6,425.811	66.093%	8.178%
Effective Supply (MW)	max	15,345.493	14,215.680	14,588.294	7.948%	5.190%
	min	10,933.661	10,065.449	9,595.033	8.626%	13.951%
	ave	13,097.110	12,261.159	12,182.201	6.818%	7.510%
System Demand (MW)	max	14,439.800	13,124.860	12,867.190	10.019%	12.222%
	min	9,613.080	8,542.210	7,876.140	12.536%	22.053%
	ave	12,131.773	11,048.973	10,541.467	9.800%	15.086%
Demand + Reserve Schedule (MW)	max	14,947.393	13,612.370	13,934.392	9.807%	7.270%
	min	9,895.140	8,901.730	8,743.140	11.160%	13.176%
	ave	12,463.659	11,447.561	11,578.540	8.876%	7.644%
Supply Margin (MW)	max	1,329.370	1,344.310	1,068.041	-1.111%	24.468%
	min	-0.166	4.911	0.000	-103.380%	-
	ave	633.451	754.584	597.672	-16.053%	5.986%

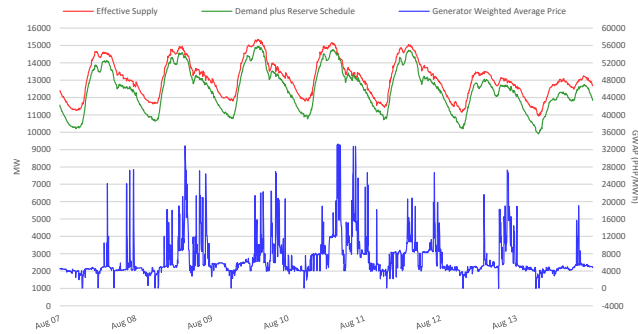
## CAPACITY PROFILE



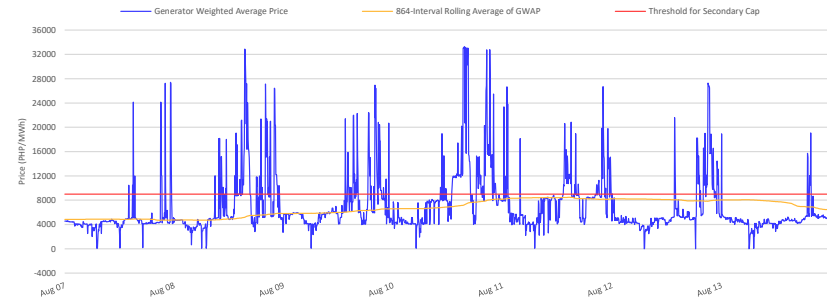
## RTD CONGESTION



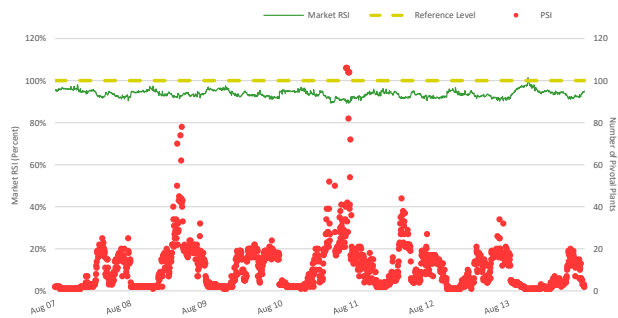
## SUPPLY, DEMAND AND PRICE



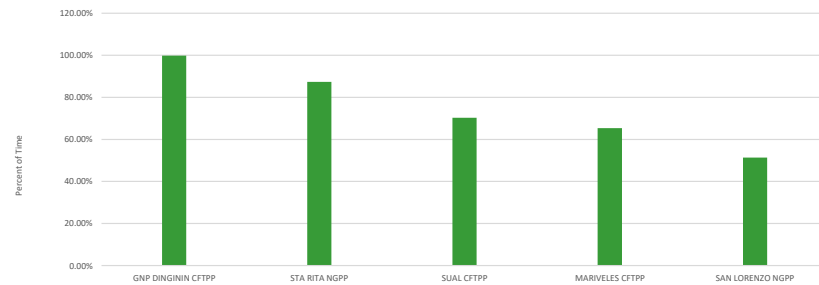
## GENERATOR WEIGHTED AVERAGE PRICE



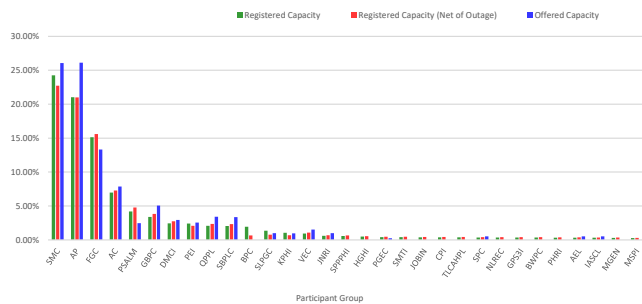
## MARKET RSI VS PIVOTAL PLANTS



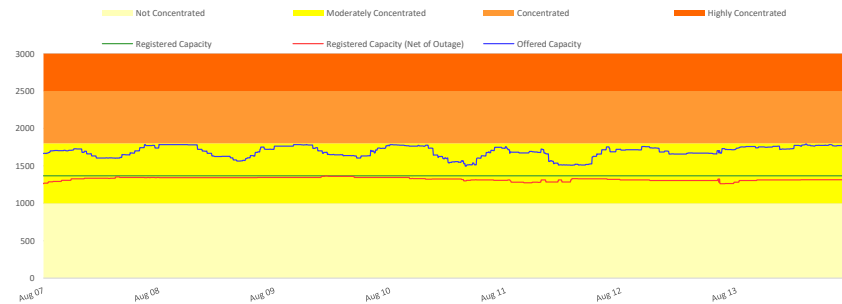
## PSI



## MARKET SHARE

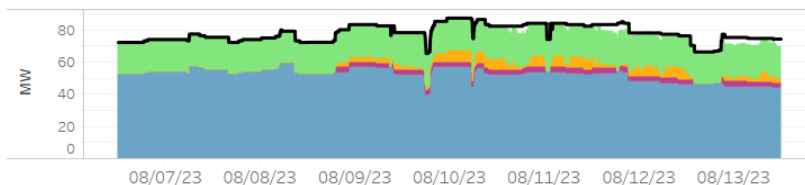


## HERFINDAHL-HIRSCHMAN INDEX

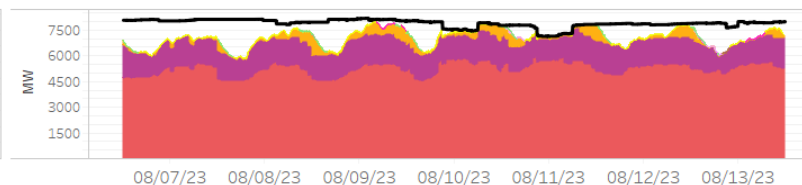


## OFFER PATTERN ANALYSIS

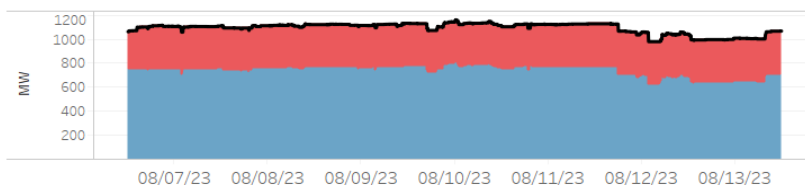
BATTERY AND BIOFUEL



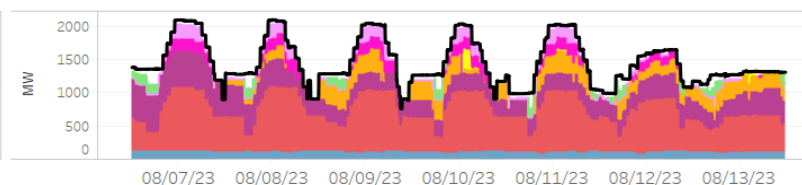
COAL



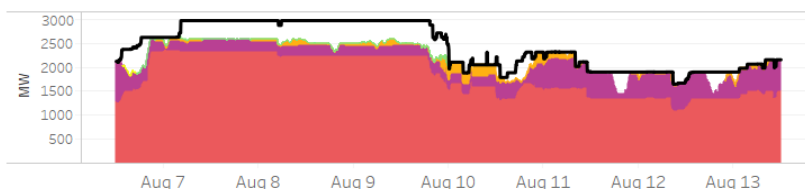
GEOTHERMAL



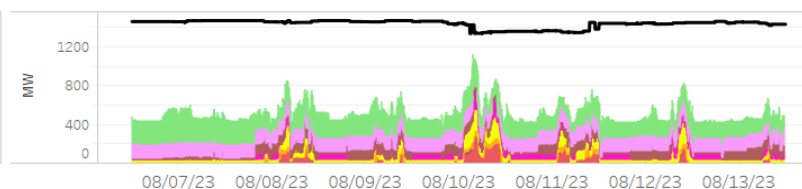
HYDRO



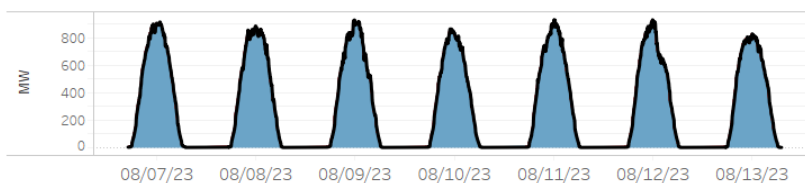
NATURAL GAS



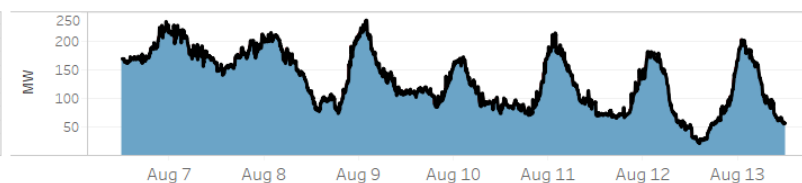
OIL-BASED



SOLAR



WIND



■ Preferential Nomination  
■ Php 0 and below

■ Php (0,5000]  
■ Php (5000,10000]

■ Php (10000,15000]  
■ Php (15000,20000]

■ Php (20000,25000]  
■ Php (25000,30000]

■ Php (30000,32000]  
■ Offered and Nominated Capacity

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.

Offer Price

**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.

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.