



Monthly Market Assessment Report

26 May to 25 June 2023

This Report is prepared by the
Philippine Electricity Market Corporation –
Market Assessment Group
and approved by the
Market Surveillance Committee

August 2023

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MONTHLY MARKET ASSESSMENT REPORT

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MONTHLY MARKET ASSESSMENT REPORT

ASSESSMENT OF THE MARKET

NOTABLE HIGHLIGHTS

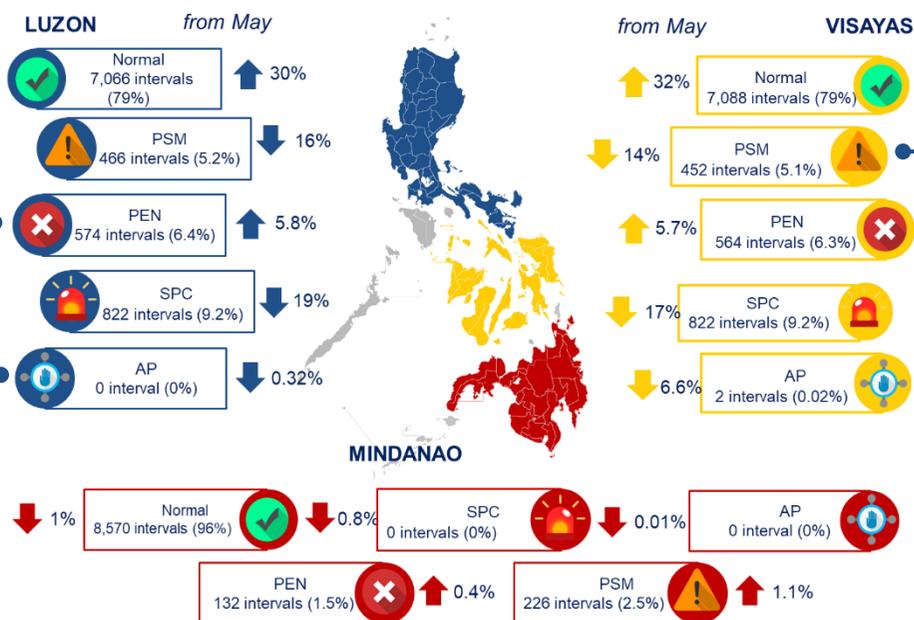
- Luzon Grid** was placed under **yellow alert level** due to generation deficiency from 1500h to 1600h of 07 June 2023.
- Luzon Grid** activated automatic load dropping (ALD) due to major generation inadequacy on 05 June 2023 from 1125h to 1150h.
- Tripping of Binan – Muntinlupa 230kV Line 3** resulting in ALD activation on June 7, 2023.
- Congestions in transmission lines and transformer equipment** resulted from the real-time situation affecting the transmission system, as well as the N-1 contingency impositions by the System Operator (SO). Some notable congestions were as follows:
 - Maasin-Ubay line 1** was congested for 4,413 intervals, or equivalent to 49% of the time, brought about by the **frequent maximization** of the line's capacity limit.
 - Mexico-Hermosa lines 1&2** were congested for 218 and 279 intervals, or equivalent to 2% and 3% of the time, respectively, aggravated by the **high demand situation**.
 - Bacolod-Barotac line 1** was congested for 464 intervals, or equivalent to 5% of the time.

SUMMARY OF PRICING CONDITIONS

Pricing Error Notice (PEN)

- Issuances were due to inappropriate input data which affected prices and schedules both for Luzon and Visayas.
- Regional issuances for 11 intervals in Luzon, 1 interval in Visayas, and 73 intervals in Mindanao were likewise due to inappropriate input data which also affected the resulting prices and schedules.

Market Intervention (MI) event in Visayas was declared by SO on 13 June 2023 which affected intervals **1355H-1400H** due to implementation of Manual Load Dropping (MLD) to prevent overloading of Cebu-Mandaue 138kV Line 1.



Price Substitution Methodology (PSM)

- Issuances of PSM were due to Network Congestions (**18 June 2023**)
- Regional issuances occurred when the inter-connection between the grids was unavailable (**13-14, 18-20 and 22 June 2023**)

Issuances of **Secondary Price Cap (SPC)** in Luzon and Visayas increased from last month due to high market prices on **27-31 May 2023** resulting from thin supply margin resulting.

MONTHLY MARKET ASSESSMENT REPORT

MARKET OUTCOME: LUZON AND VISAYAS

EFFECTIVE SUPPLY



↓ **13,205**
MW
(13,382MW in May)

DEMAND PLUS RESERVE SCHEDULE



↓ **12,429**
MW
(12,760MW in May)

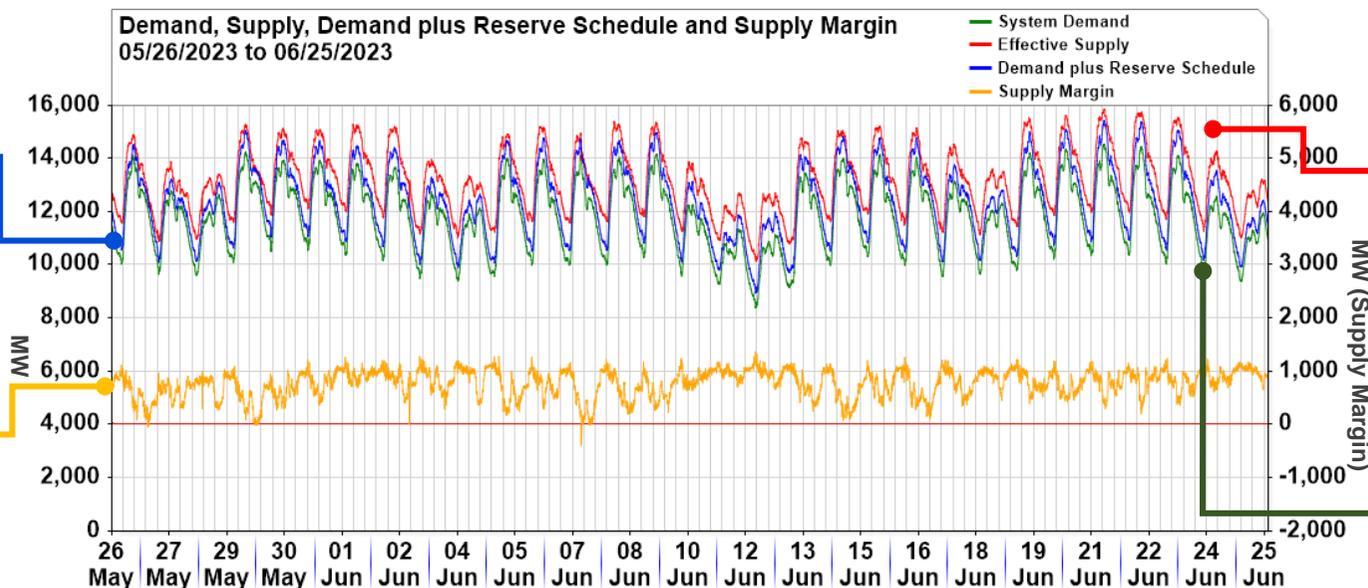
SUPPLY MARGIN



↑ **776**
MW
(623 MW in May)

Demand plus Reserve Schedules decreased by an average of 2.6% mainly caused by the onset of rainy season which influenced the electricity consumption for the month.

Supply Margin significantly increased by 24.7% considering the dynamics between the supply and demand. The significant plunge in supply margin on 07 June 2023 was mainly due to the major transmission line trippings that resulted in major plant outages.



Effective Supply slightly dipped by 1.3% which is highly related to the increase in the level of ramp limited capacities this billing period, as considered in the determination of the effective supply.

System Demand decreased by 3.4% also caused by the onset of rainy season.

MONTHLY MARKET ASSESSMENT REPORT

MARKET OUTCOME: MINDANAO

EFFECTIVE SUPPLY



↓
2,131
 MW
(2,194MW in May)

DEMAND PLUS RESERVE SCHEDULE



↓
1,918
 MW
(2,002MW in May)

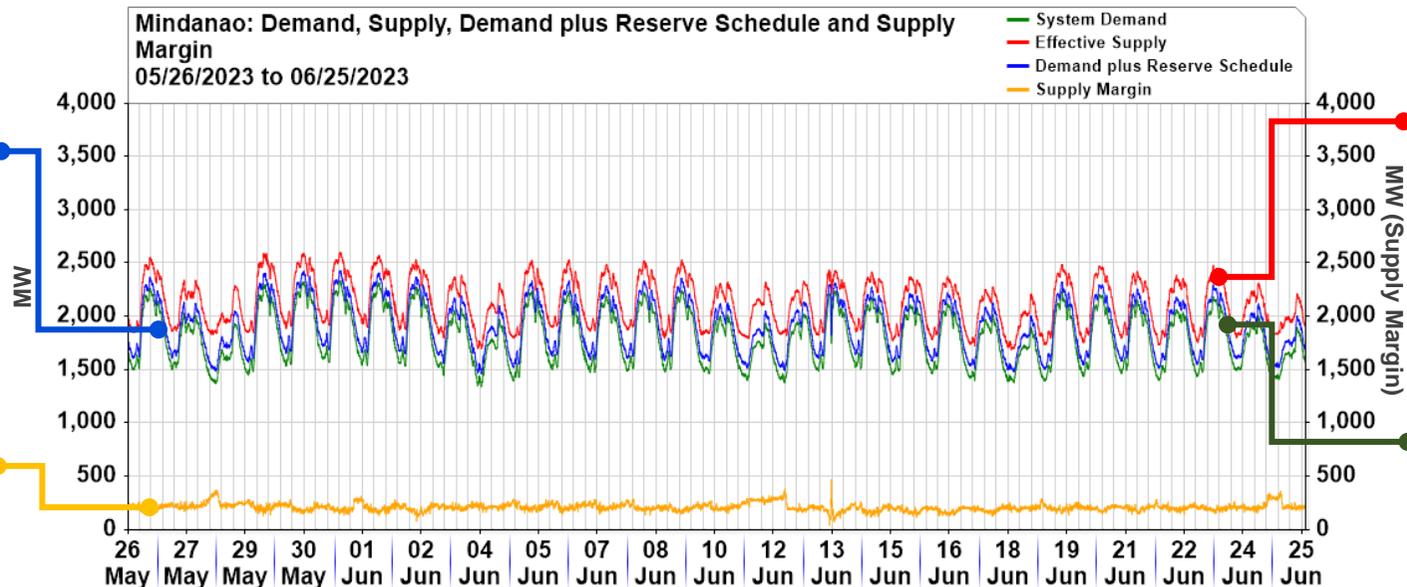
SUPPLY MARGIN



↑
213
 MW
(192MW in May)

Demand plus Reserve Schedules decreased by an average of 4.2%, attributed to the onset of rainy season which influenced the electricity consumption for the billing period. The sudden plunge in the demand on 13 June 2023 was due to the load drop in the region caused by the tripping of Bunawan Substation Bus 2.

Supply Margin increased by 10.9% considering the dynamics between the supply and demand. Episodes of thin supply margin was observed during instances of abrupt change in the supply level due to, among others, forced outages and other technical limitations experienced by the generator participants.



Effective Supply decreased by 2.8% which is highly related to the increase in the level of ramp limited capacities in the region this month.

System Demand slightly increased by an average of 0.4%

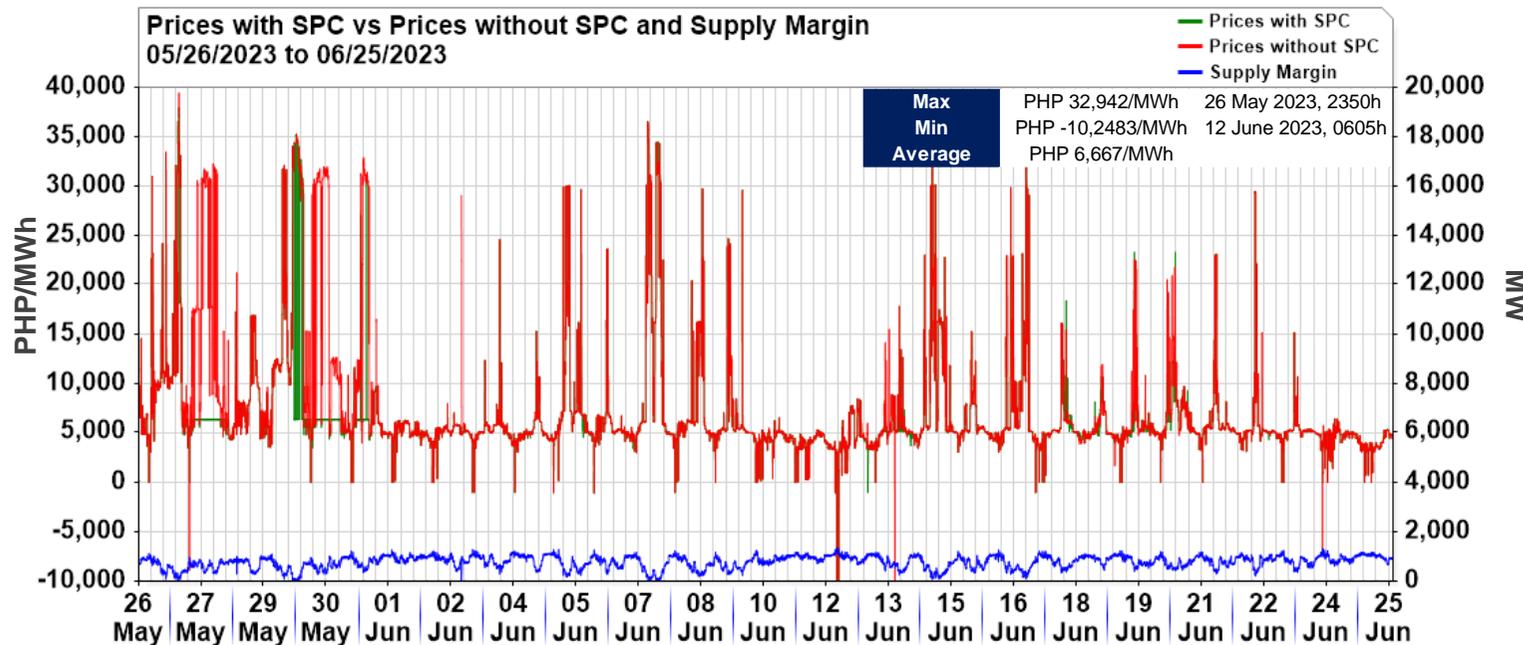
MONTHLY MARKET ASSESSMENT REPORT

MARKET OUTCOME: LUZON AND VISAYAS

Zone	Average LWAP (PHP/MWh)
NLUZON	6,499.94
MMANILA	6,620.53
SLUZON	6,507.66
LEYTE	7,284.01
CEBU	6,943.43
NEGROS	6,788.79
BOHOL	14,097.72
PANAY	6,772.27

Given the dynamics between the supply and demand, the level of market prices decreased by 25% or was noted to be at an average of PHP 6,667/MWh from PHP 8,837/MWh last billing period. The estimated monthly average price would have been at PHP 7,724/MWh if SPC was not issued to the relevant trading intervals. Based on a year-on-year comparison, the average market price likewise posted a 21.7% decrease from an average price of PHP 8,515/MWh last year, noting that outages were significantly lower by an average 33.8% this year.

Congestions in Leyte-Bohol interconnection were still persistent this billing month due to the tight supply situation in the Bohol grid which, in turn, continuously affected the power rates in the area causing the disparity, as depicted in the table of prices provided in this portion.



PRICE



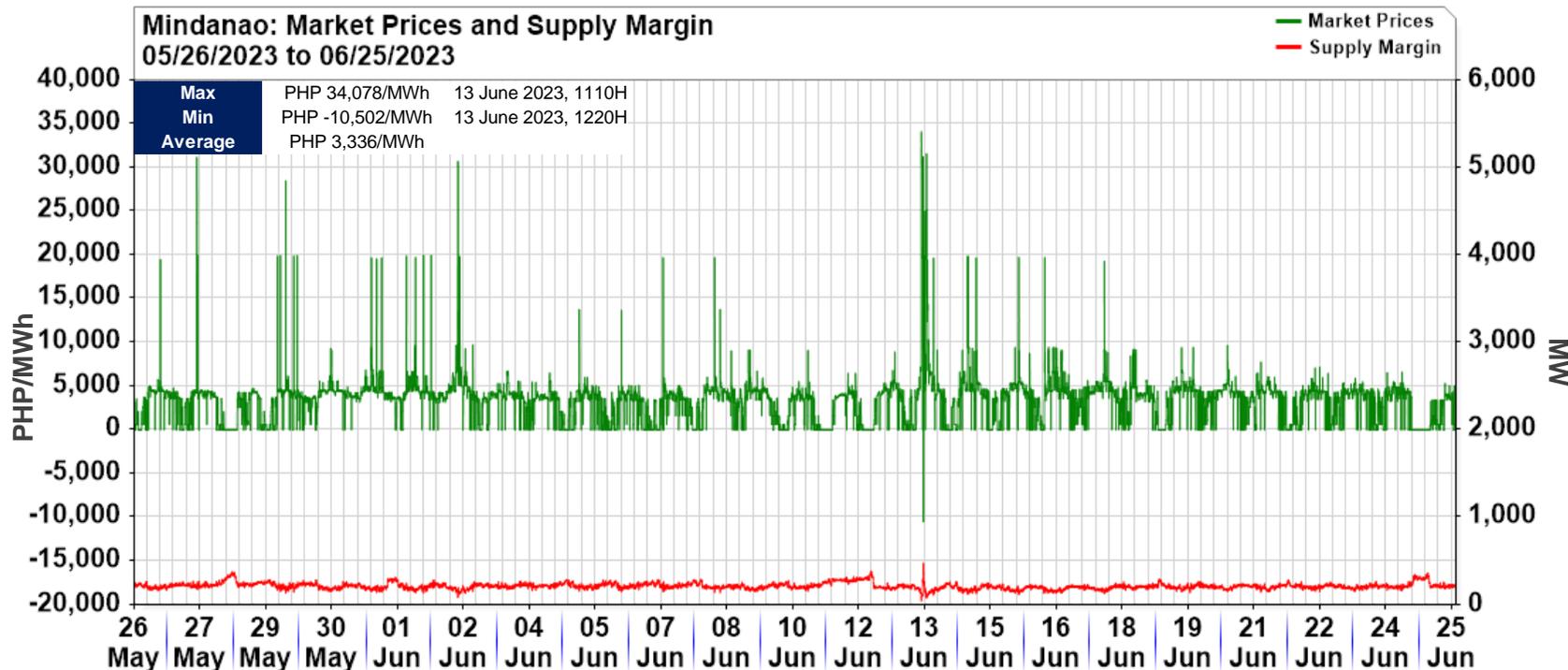
6,667
PHP/MWh
(PHP 8,837/MWh in May 2023)

MONTHLY MARKET ASSESSMENT REPORT

MARKET OUTCOME: MINDANAO

Zone	Average LWAP (PHP/MWh)
LANAO	2,451.95
NCENTMIN	2,462.90
NEASTMIN	2,506.97
NWESTMIN	2,527.64
SEASTMIN	2,489.71
SWESTMIN	2,502.22

For the Mindanao region, the level of market prices for June 2023 billing period was likewise noted to have significantly decreased, when compared to last month, by an average of 46.3%. Episodes of price spikes were mainly brought about by the abrupt changes in the supply due to forced outages of baseload power plants in the region which led for Oil-based power plants with higher offered prices to be dispatched in the WESM.



PRICE

3,336
PHP/MWh
(PHP6,209/MWh in May 2023)

MONTHLY MARKET ASSESSMENT REPORT

MARKET OUTCOME: LUZON AND VISAYAS

RAMP LIMITED CAPACITY

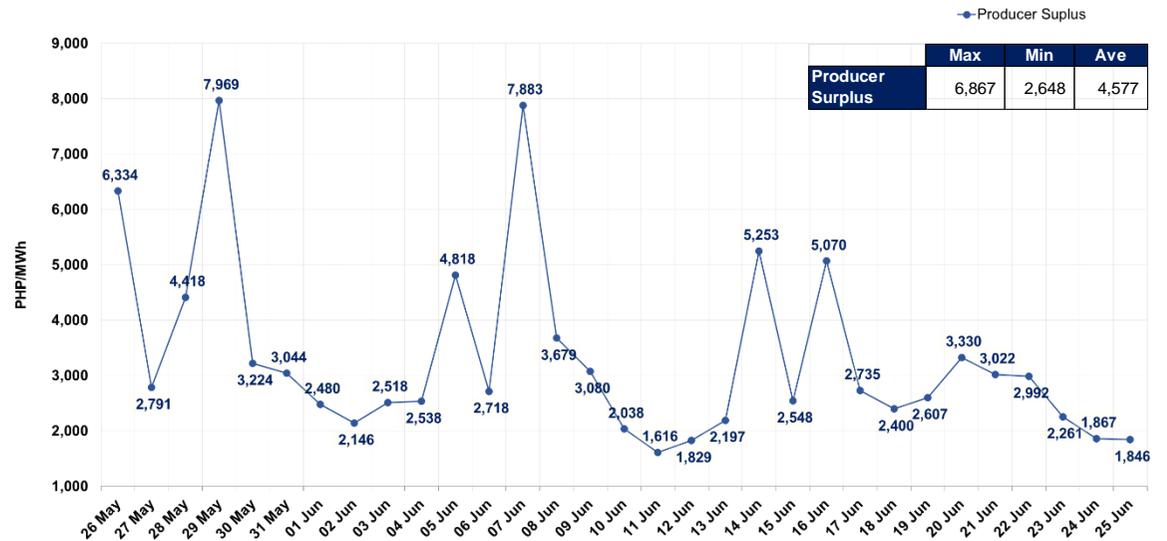


1,939 MW
(1,660MW in May 2023)

PRODUCER SURPLUS



3,215 PHP/MWh
(PHP4,577/MWh in May 2023)



Producer Surplus	Max	Min	Ave
	6,867	2,648	4,577



Ramp Limited Capacity	Max	Min	Ave
	3,270	1,091	1,939

Producer/generator surplus had a significant decrease of 30% as compared to May 2023 billing period which was affected by the changes in the offered and resulting prices in the market. Offers from Natural gas and Hydro power plants had the most significant changes in the offer pattern which likewise contributed to the noted changes.

For the month of June 2023, **ramp-limited capacities** increased, on average, by 17%, in consideration of the submitted ramp rates from the generators which were subsequently utilized in the optimization of the market.

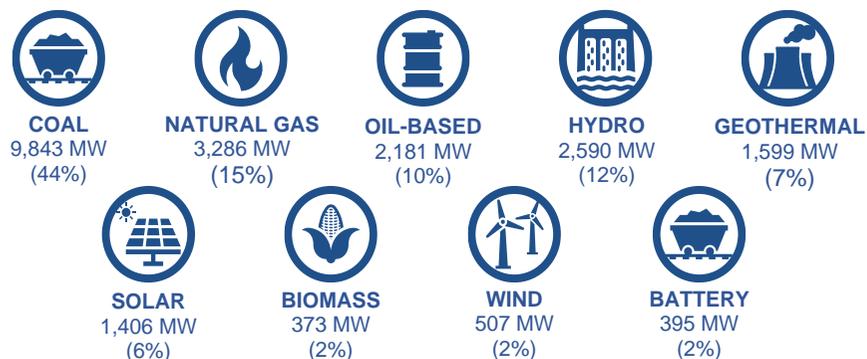
MONTHLY MARKET ASSESSMENT REPORT

CAPACITY PROFILE

Luzon-Visayas					
Status	Market Participant Name	Market Trading Node	Plant Type	Pmax (MW)	Change (MW)
				New	
New	Universal Power Solutions, Inc.	01MAGAT_BAT	Battery	24	24
	BEHMC Lower Labayat Hydropower Corp.	03LWERLAB_G01	Hydro	1.5	1.5
	Tibag Hydropower Corporation	03TIBAG_G01		5.8	5.8
	GT-Energy Corp.	04CLBYBNK_G01	Oil-based	11.2	11.2
Mindanao					
Increased	Euro Hydro Power (Asia) Holdings, Inc.	14ALMADA_G01	Hydro	2.6	(0.2)
Decreased		14MARBEL_U01		0.5	0.1
		Energy Development Corporation	14MTAPO_U03	Geothermal	3.6
TOTAL					42.5

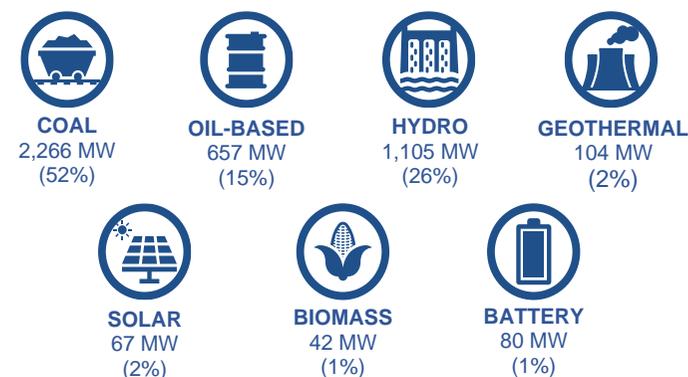
LUZON-VISAYAS

The WESM's registered capacity in Luzon and Visayas recorded changes for the June 2023 billing period from 22,137.2 MW to 22,179.7 MW due to the entry of 1 Battery, 2 Hydro, and 1 Oil-based power plants.



MINDANAO

The WESM's registered capacity in Mindanao for the June 2023 billing period decreased its level from 4,320.1 MW last month to 4,319.9 MW this month due to the changes in the registered capacity of Hydro and Geothermal power plants.



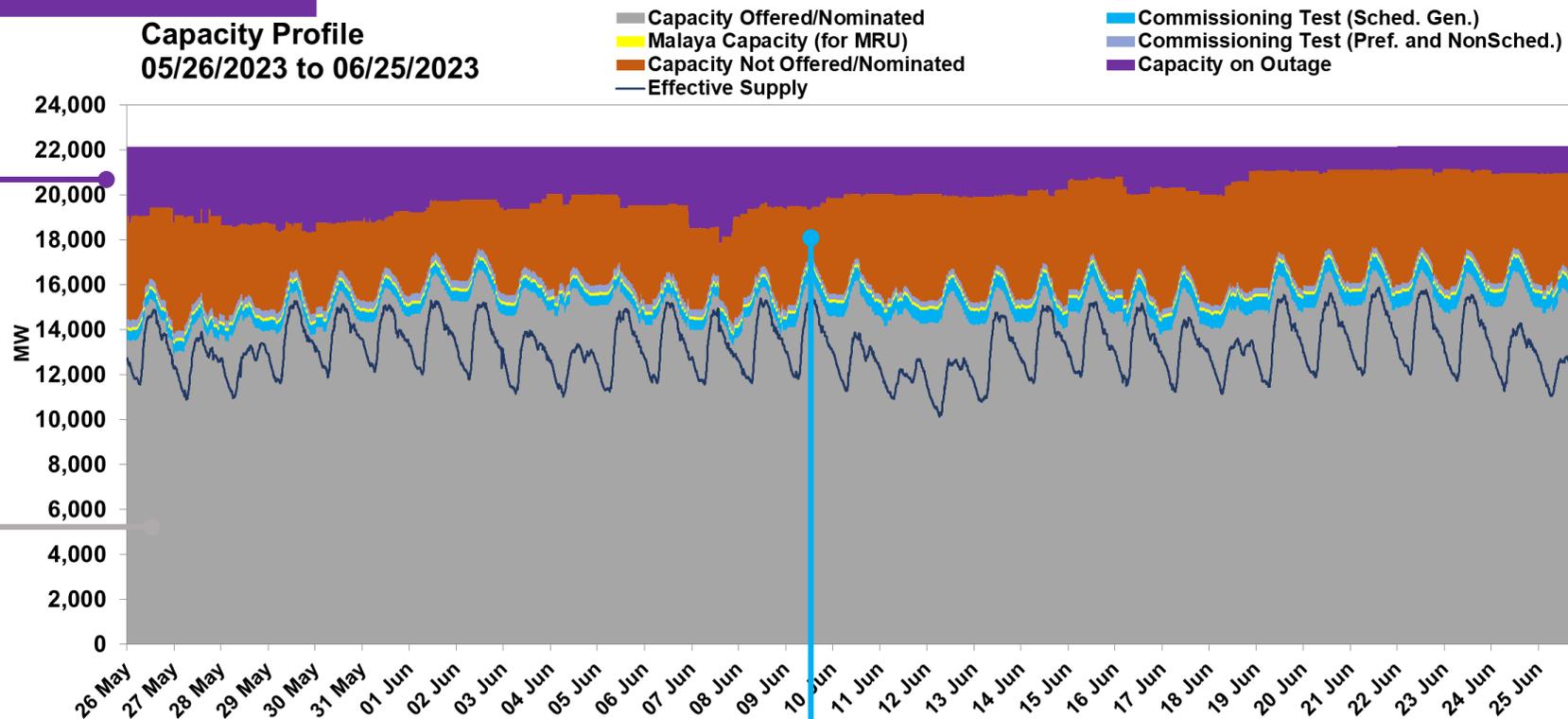
MONTHLY MARKET ASSESSMENT REPORT

CAPACITY PROFILE: LUZON-VISAYAS

Capacity on Outage (10% of Registered Capacity) decreased by 7.8%, which was mostly due to the resumption in operations from Natural gas power plants under maintenance and forced outage category.

Capacity NOT Offered/Nominated (18% of Registered Capacity) increased by 2.9% or from an average of 3,885 MW last billing period to 3,998 MW which is mostly attributable to resource constraints.

Capacity Profile
05/26/2023 to 06/25/2023



Note: Capacities not offered are further subject to validation and assessment of the PEMC-Enforcement and Compliance Office (ECO).

Capacities Offered/Nominated (68% of Registered Capacity) increased by 1% or was noted at an average of 14,975 MW as compared to last billing period's 14,821 MW.

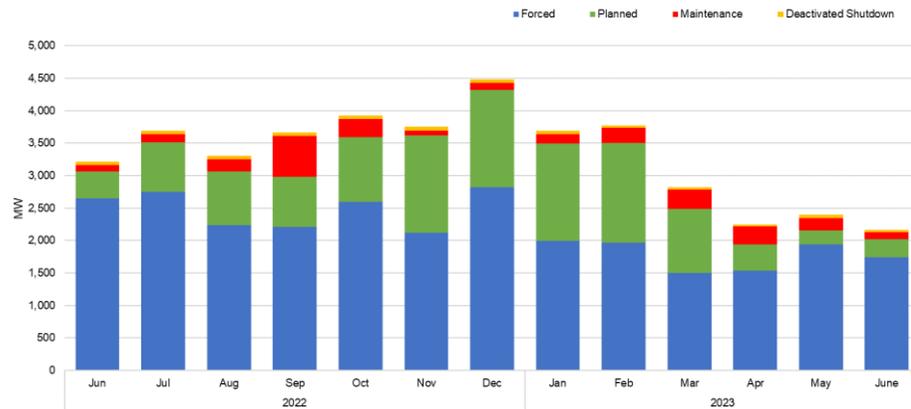
Capacities under Commissioning Test (4% of Registered Capacity) decreased from 907 MW to 833 MW this billing period. This period's tests were due to the extended and continuing activities undertaken by the generator participants.

Malaya Capacity as MRU (1% of Registered Capacity) retained its level at 130 MW.

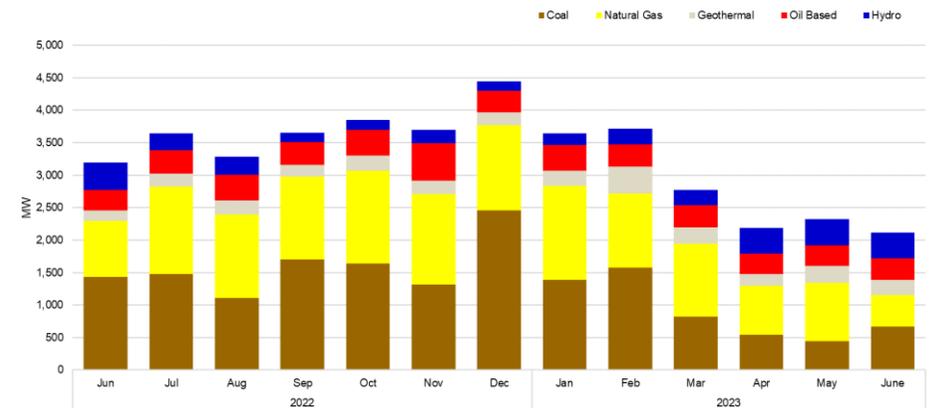
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CAPACITY PROFILE: LUZON-VISAYAS

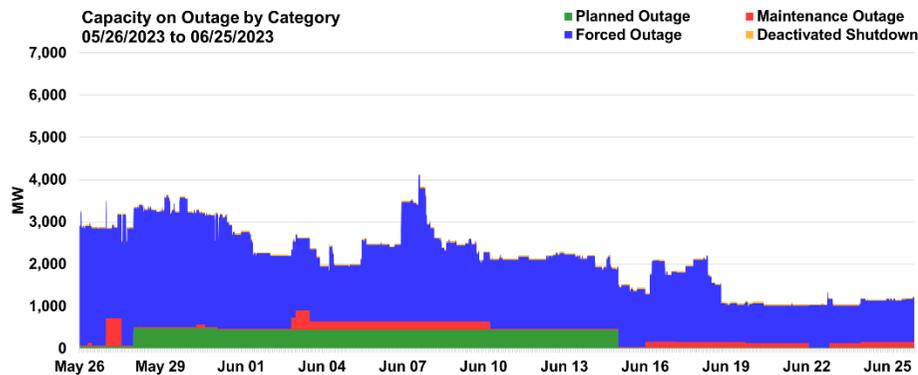
CAPACITY ON OUTAGE BY CATEGORY



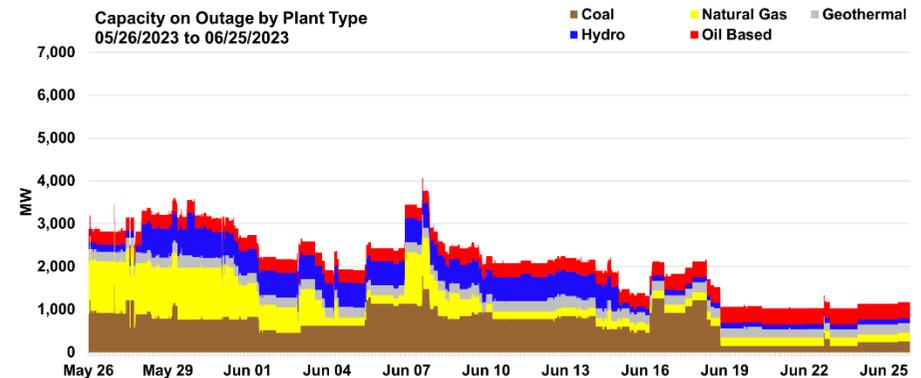
CAPACITY ON OUTAGE BY PLANT TYPE



Capacity on Outage by Category 05/26/2023 to 06/25/2023



Capacity on Outage by Plant Type 05/26/2023 to 06/25/2023



The June 2023 billing period opened with an average level of capacities on outage at around 2,900MW from Natural gas power plants. These levels eventually decreased during the latter part of the billing period due to the resumption of large Coal and Natural gas power plants. As the month ended, the outage level was much lower at an average of about 1,200 MW.

The recorded average capacities on outage were mainly attributed to forced outage category.

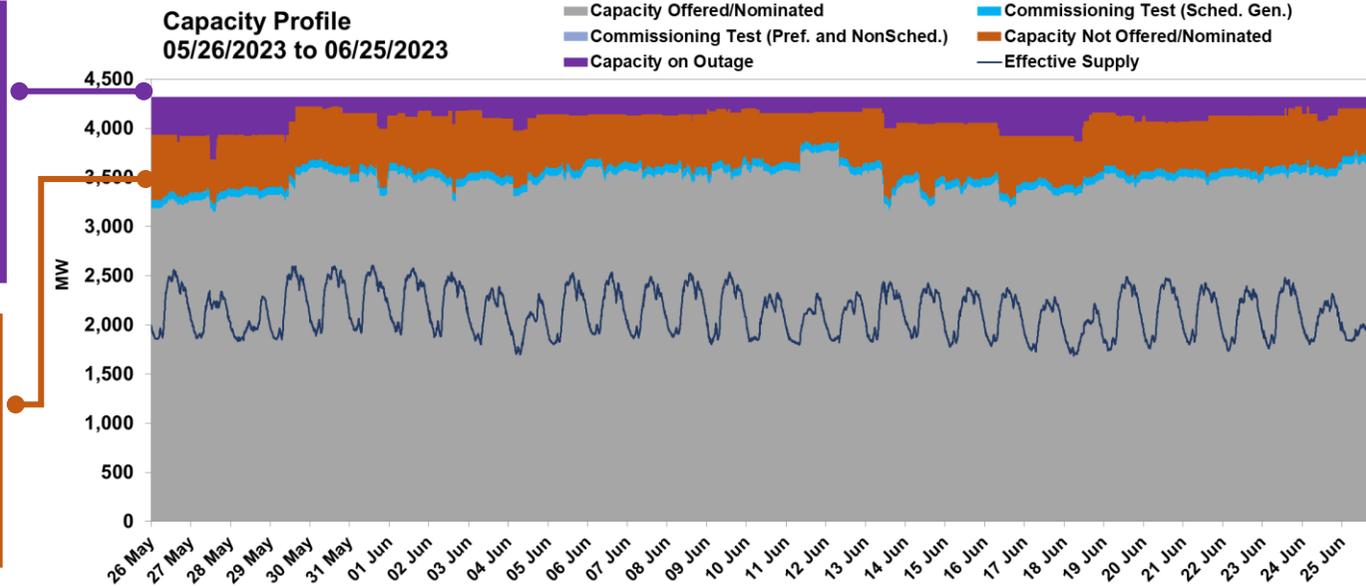
Note: The comprehensive information on plant outages in all categories is shown in Annex A, for convenience and reference.

MONTHLY MARKET ASSESSMENT REPORT

CAPACITY PROFILE: MINDANAO

Capacity on Outage (5% of Registered Capacity) decreased from an average of 387MW last month to 228MW this month due to the changes in the outage levels from Coal power plant.

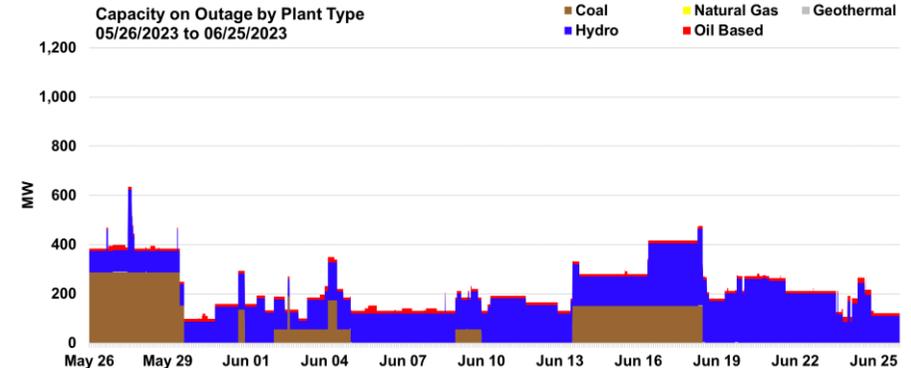
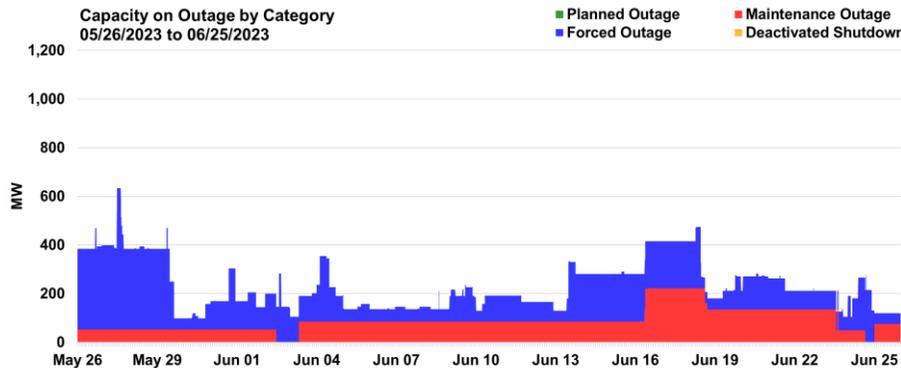
Capacity NOT Offered/Nominated (13% of Registered Capacity) decreased by 14.8% or from an average of 636 MW last billing period to 542 MW which was mainly attributable to resource constraints.



Capacities under Commissioning Test (2% of Registered Capacity) retained its level to 80MW.

Capacities Offered/Nominated (80% of Registered Capacity) increased by 1.1% or was noted at an average of 3,470 MW as compared to last billing period's 3,217 MW.

Note: Capacities not offered are further subject to validation and assessment of the PEMC-Enforcement and Compliance Office (ECO).



Capacities on outage in the Mindanao region for the June 2023 billing period opened with an average level of around 380MW from Coal and Hydro power plants under forced and maintenance outage categories. The abrupt increase in capacities on outage on 27 May 2023 was due to tripping of Agus2-Baloi 138 kV Lines 1 and 2 due to line fault which resulted in unavailability of plants in the area. As the month ended, capacities on outage reduced to an average of just 120 MW.

Note: The comprehensive information on plant outages in all categories is shown in Annex A, for convenience and reference.

MONTHLY MARKET ASSESSMENT REPORT

MARKET TRANSACTIONS

BILATERAL CONTRACT QUANTITIES



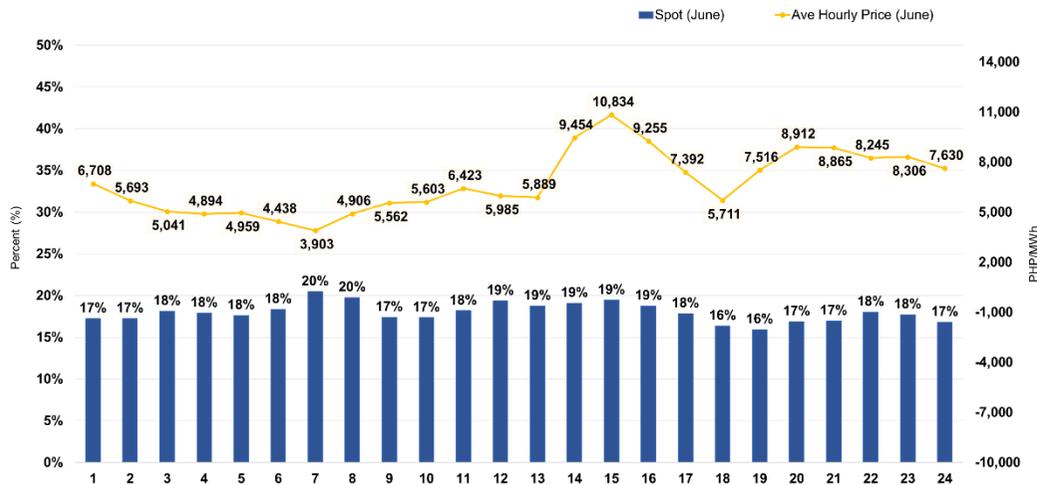
82%
(83% in May 2023)

SPOT EXPOSURES

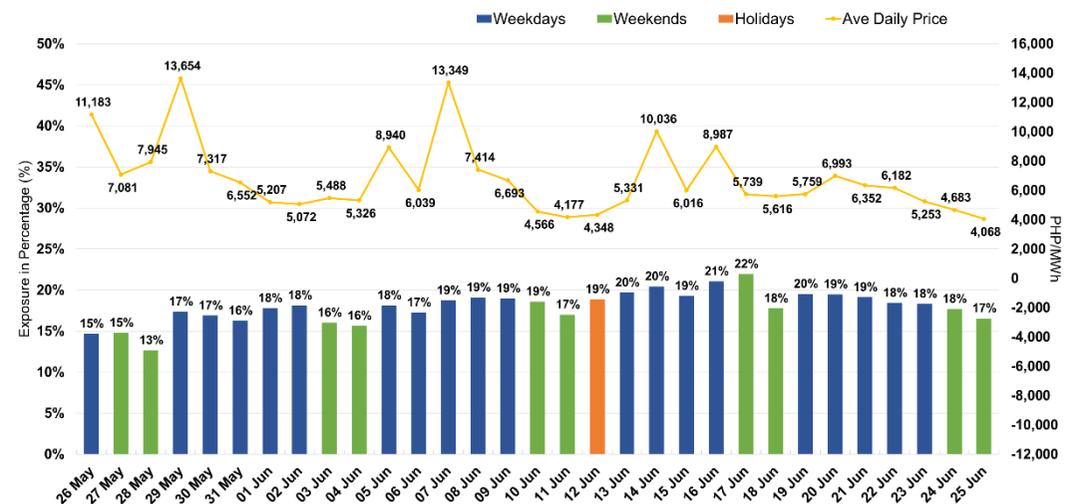


18%
(17% in May 2023)

HOURLY SPOT



DAILY SPOT

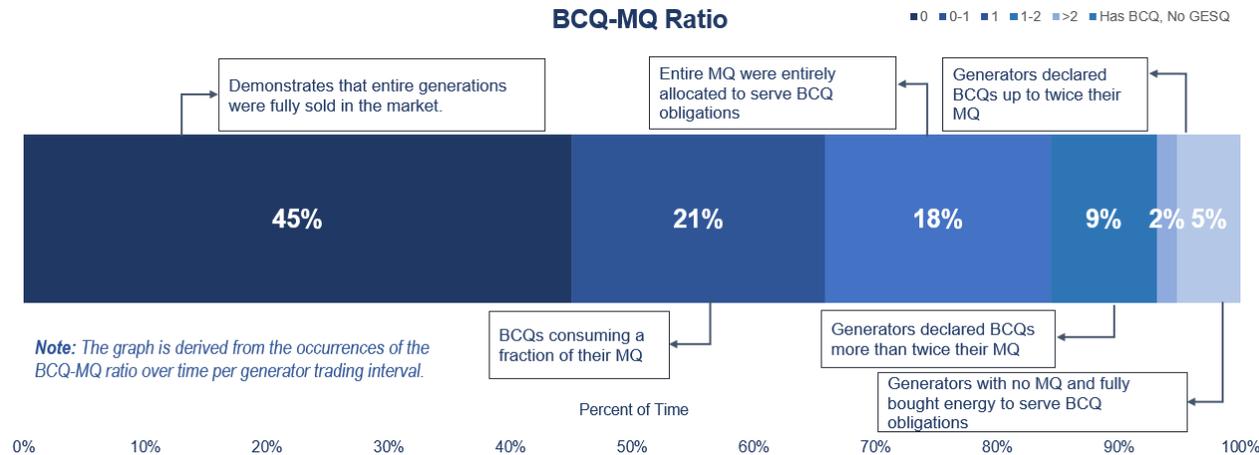


Total spot quantities of generator participants in the June billing period were at an average of 18% with an average price of PHP5,854/MWh during off-peak hours and 17.9% with an average price of PHP8,079/MWh during peak hours.

Spot exposures during weekdays averaged at 18.4% having an average price of PHP7,616/MWh while it was 16.9% during the weekends at an average price of PHP5,491/MWh.

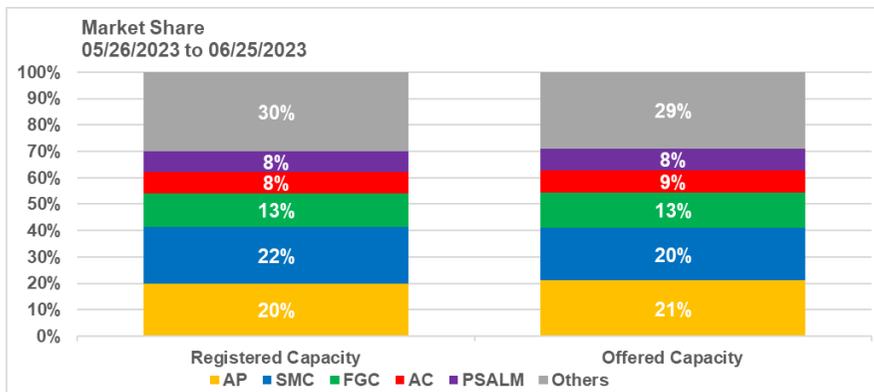
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MARKET TRANSACTIONS

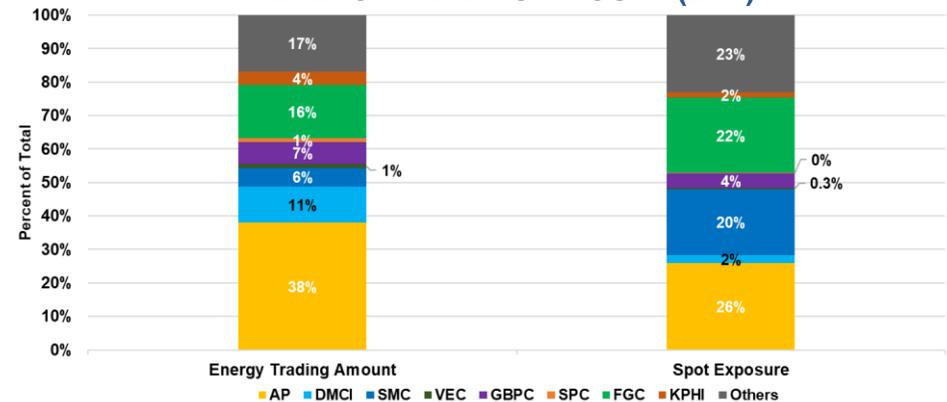


SYSTEM STRUCTURAL COMPETITION INDICES

MARKET SHARE



ENERGY TRADING AMOUNT (ETA)



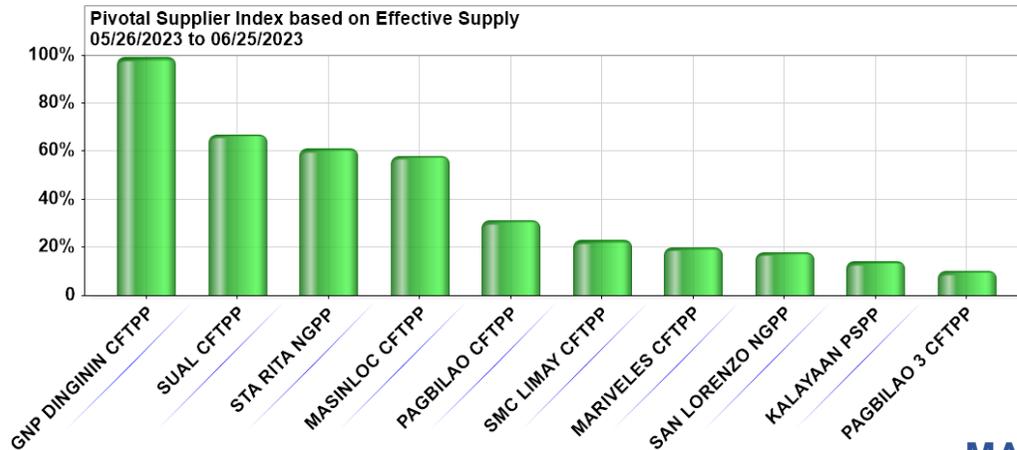
Aboitiz Power (AP), San Miguel Corporation (SMC), First Gen Corporation (FGC), and Ayala Corporation (AC) dominated the market with their combined market shares comprising 62% of the total registered capacities in the WESM. The shares of the major participants remained similarly close to previous billing period.

Aboitiz Power (AP), First Gen Corporation (FGC), DM Consunji Inc. (DMCI), Global Business Power Corp. (GBPC) were the top 4 participants with highest shares in terms of ETA and spot exposure comprised about 71% of the total shares in both measures, which denotes a concentrated market in terms of C4 values.

Note: The Major Participant Grouping information used in this report is consistent with the ERC's list.

MONTHLY MARKET ASSESSMENT REPORT

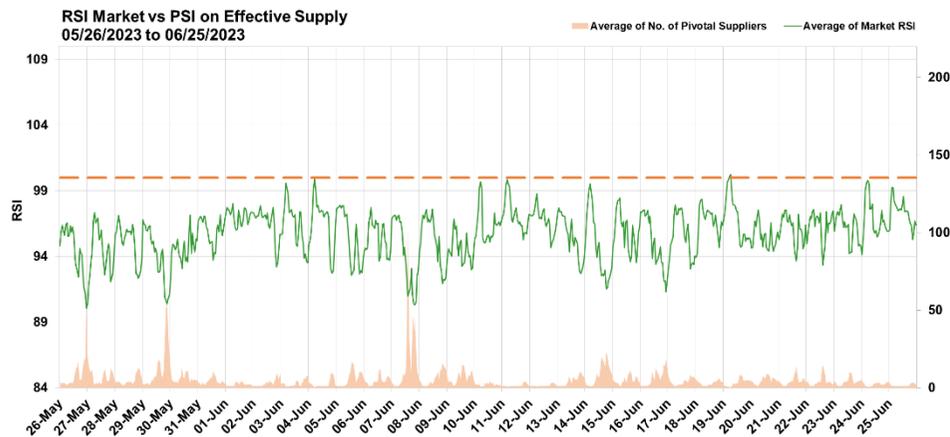
PIVOTAL PLANTS



- A total of 189 power plants were pivotal during the period, with 69% or 130 plants coming from Luzon and 59 plants from Visayas.
- The noted improvement in effective supply influenced the resulting RSI and the number of pivotal suppliers per dispatch interval.
- Out of 73 plants in the Mindanao region 14 were pivotal suppliers for the period, indicating higher RSI and low prices in the region.

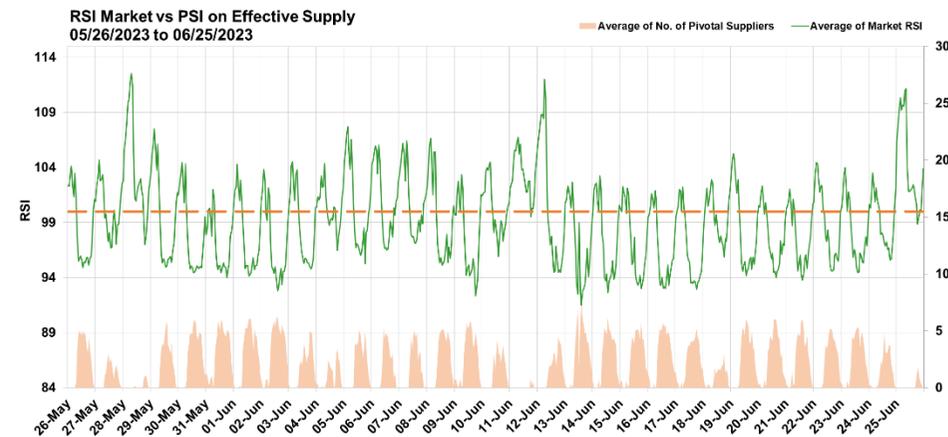
Note: The computed PSI as depicted in the graph is for Luzon and Visayas, as the Mindanao-Visayas Interconnection is still on testing.

LUZON-VISAYAS



MARKET RSI

MINDANAO

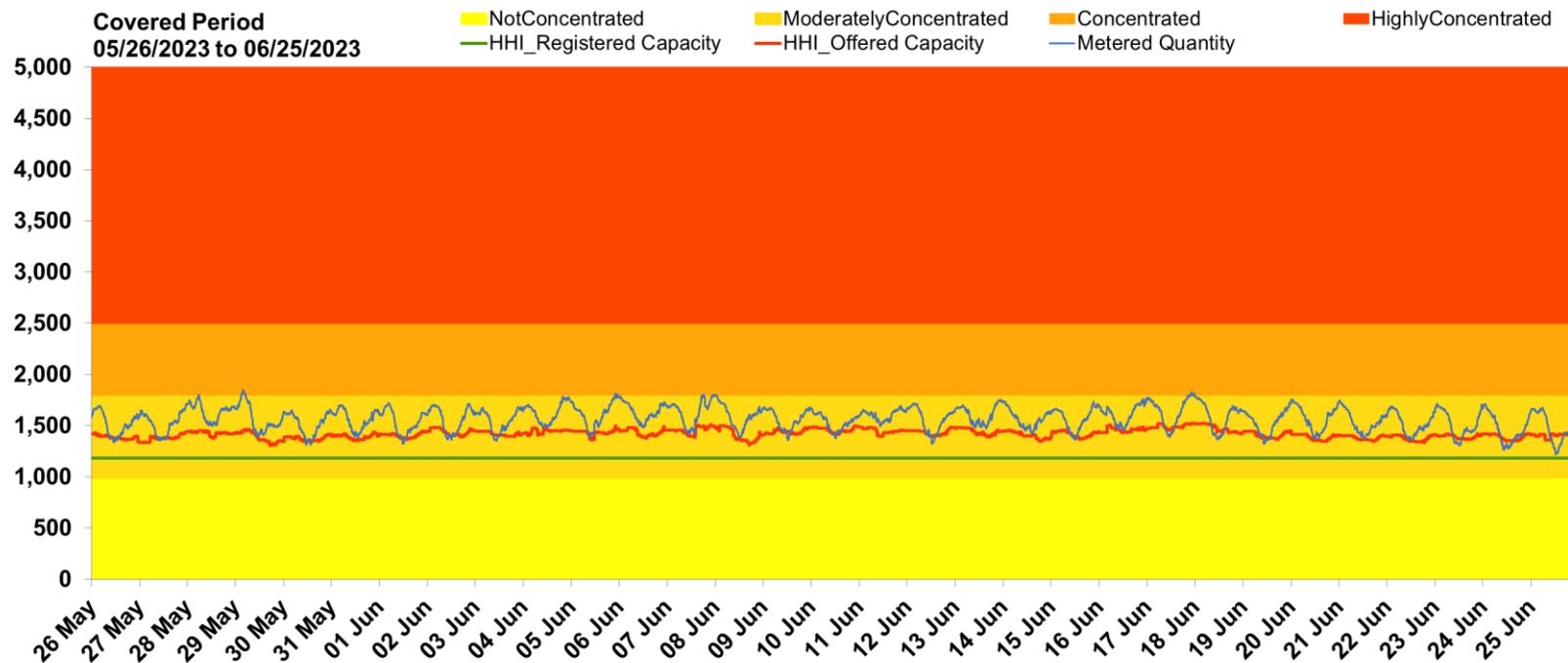


- The market Residual Supply Index (RSI) was below the 100% mark for about 99.4% of the time this billing period compared to 96.6% last billing period, signifying the presence of pivotal plants in Luzon and Visayas.
- During the period, the market resulted in RSIs ranging from 90.05% to 100.2% and averaged at 96.8%. The average market prices for intervals with RSI below 100% was PHP6,895/MWh, while those with RSIs above 100 was at PHP3,083/MWh.
- Meanwhile, the market RSI in the Mindanao region was below the 100% mark for about 58.6% of the time signifying relatively lower instances of pivotal plants' presence in the region.

MONTHLY MARKET ASSESSMENT REPORT

SYSTEM STRUCTURAL COMPETITION INDICES

MARKET HHI



Herfindahl-Hirschman Index (HHI) by major participant grouping

- Based on Offered Capacity, the market is **moderately concentrated** for 100% of the time (8,928 intervals).
 - o This was brought about by the effects of **changes in the availability of generators** which subsequently affected the resulting market shares.
- Based on Metered Quantities, the market is a **moderately concentrated market** 99% of the time (8,882 intervals) while it was concentrated for 46 intervals during the period.
 - o Three (3) major participant groups have consistently covered more than 50% of the MQ shares which were due to their frequent dispatch and subsequently affected the resulting market concentration.
- Based on Registered Capacity, the market is **moderately concentrated** for June 2023 billing period.

MONTHLY REPORT ON OVER-RIDING CONSTRAINTS

DEFINITIONS, REFERENCES, AND INTERPRETATION

- **Pricing Error Notice (PEN)**
 - a pricing algorithm in the market and are categorized according to cause, as either Network congestion pricing errors or non-congestion pricing errors. Pricing error notice shall be issued only for the market run where the pricing error is determined by the Market Operator to have occurred.
- **Secondary Price Cap (SPC)**
 - a preventive mitigating measure instituted by the ERC to avoid excessive high market prices through its imposition on succeeding intervals, upon breach of PHP9,000/MWh Rolling Average of the generator-weighted average price (GWAP) for a running period of 3 days or 864 5-minute intervals. In this case, market prices are capped at PHP6,245/MWh.
- **Administered Price (AP)**
 - administered price determination methodology which shall be implemented by the Market Operator to impose administered prices on dispatch intervals under market suspension or market intervention.
 - administered price shall be established by the Market Operator in accordance with guiding principles as set forth by the WESM rules.
- **Generator/Producer Surplus**
 - represents the difference between the price a generator receives and their willingness to sell for each quantity.
 - daily average price of the producer/generator surplus is derived from the daily weighted average price of all the generator trading participants during peak and off-peak hours. Increase and decrease in the daily weighted average price depend on the generator schedule per dispatch interval
- **Pivotal Suppliers**
 - The market measures how critical a particular generator is in meeting the total demand at a particular time, taking into consideration the variables that change dynamically, mainly demand (energy withdrawn), required spinning (or operational) reserve and generation availability.
- **Price Substitution Methodology (PSM)**
 - a pricing algorithm that shall be implemented in all the regions where the WESM is in operation. In cases where a region/s has no interconnection with other regions, or has no exchange of power with other regions, this region/s shall be separately assessed for the application of the price substitution methodology.
 - The price substitution methodology shall apply to a *dispatch interval* when the trigger factor exceeds the threshold, which shall be set at 0.2, subject to annual review.
 - The dispatch schedules arrived at in the original (constrained) market solution for the relevant dispatch interval will stand and will be the basis for dispatch by the System Operator irrespective of the results of the unconstrained solution. Redispatch of generation units will be implemented by the System Operator in accordance with relevant provisions of the WESM Rules and Market Manuals, the Philippine Grid Code and other relevant rules, regulations, issuances, guidelines, and procedures.
- **Ramp Limited Capacity**
 - generator restricted capacities due to the plants' intrinsic ramp rates.
 - Ramp rate is essentially the speed at which a generator can increase (ramp up) or decrease (ramp down) generation. Generating units have different characteristics, making some more suited to supplying certain needed functions.
- **Energy Trading Amount**
 - The energy trading amount for a trading participant and settlement interval shall be determined using the final energy dispatch prices for that node, the gross energy settlement quantities, and bilateral contract quantities for that node in the dispatch intervals within the same settlement interval.

MONTHLY MARKET ASSESSMENT REPORT

Annex A. List of Major Plant Outages

Plant Type	Plant/ Unit Name	Capacity (MW)	Date Out	Date In	Duration (Days)	Outage Type	Remarks
Luzon							
BIOF	IPower 1	10.8	06/25/2023 16:01		-45103	Forced Outage	To repair main de-ashing screw conveyor
COAL	SLPGC 1	150	06/17/2023 12:03		-45095	Forced Outage	Tripped from 90MW load. Turbine trip due to axial displacement high.
COAL	QPPL	460	06/16/2023 3:47	06/18/2023 20:07	3	Forced Outage	Tripped from 185MW. The cause of tripping is still under investigation.
COAL	SBPL	455	06/05/2023 11:23	06/18/2023 7:55	13	Forced Outage	Tripped due to high turbine vibration.
COAL	Calaca 2	300	05/29/2023 3:38	06/07/2023 15:23	9	Forced Outage	Emergency shutdown due to boiler tube leak.
COAL	GN Power 1	316	05/27/2023 9:49	06/01/2023 10:37	5	Forced Outage	Emergency shutdown due to suspected tube leak.
COAL	SLPGC 1	150	05/15/2023 2:20	06/14/2023 3:15	30	Forced Outage	Emergency shutdown due to suspected tube leak at heat recovery area.
COAL	MPGC U1	150	05/21/2023 8:05	06/09/2023 1:11	19	Maintenance Outage	Conducted Load Rejection Test
GEO	MGPP 2	12	06/23/2023 8:01		-45100	Maintenance Outage	Relocation of MGI s TL and stub poles affected by SLEX-TR4 construction.
GEO	MGPP 1	20	06/23/2023 8:01		-45100	Maintenance Outage	Relocation of MGI s TL and stub poles affected by SLEX-TR4 construction.
GEO	Tiwi 1	60	11/30/2021 18:32		-44531	Forced Outage	Steam supply diverted to Unit 2.
GEO	Maikban 6	30	04/11/2013 22:44		-41376	Deactivated Shutdown	Conducted Gas compressor test.
HYD	San Roque 3	145	05/28/2023 0:01	06/15/2023 0:00	18	Planned Outage	APM until June 16 2023.
HYD	San Roque 2	145	05/28/2023 0:01	06/15/2023 0:00	18	Planned Outage	APM until June 16 2023.
HYD	San Roque 1	145	05/28/2023 0:01	06/15/2023 0:00	18	Planned Outage	APM until June 16 2023.
HYD	Masiway	12	05/11/2023 0:00	06/17/2023 4:05	37	Maintenance Outage	Maintenance Outage
HYD	Botocan 2	10	05/11/2023 0:01		-45057	Planned Outage	Planned outage until June 29 2023.
HYD	Bingra 1	35	05/25/2023 12:00	05/29/2023 8:01	4	Forced Outage	Declared unavailable due to hydrological constraints.
HYD	Angat M 4	50	02/14/2022 0:00		-44606	Planned Outage	Planned outage.
HYD	Angat M 3	50	11/02/2021 8:15		-44502	Forced Outage	Draw-out of Main Unit 3 generator breaker.
HYD	Ambuklao 3	37.5	05/25/2023 8:01	05/31/2023 2:36	6	Planned Outage	Annual Preventive Maintenance.
NATG	Ilijan A2	190	06/08/2023 14:40		-45086	Forced Outage	Emergency shutdown due to Blade Path Temperature auto stop.
NATG	Ilijan A1	190	06/06/2023 22:20	06/09/2023 17:50	3	Forced Outage	Emergency shutdown due to low gas supply pressure.
NATG	Ilijan A3	220	06/06/2023 22:11	06/09/2023 20:25	3	Forced Outage	Emergency shutdown due to low gas supply pressure.
NATG	Ilijan A2	190	05/31/2023 3:53	06/08/2023 11:09	8	Forced Outage	Due to large variation of blade path temperature.
NATG	Ilijan B3	220	06/05/2022 0:00	05/31/2023 16:05	361	Forced Outage	Under (c) of 1.1.2.2.1.5 of Article II Section 1 (Unit State Classification) of ERC Resolution 17 s2013
NATG	Ilijan B2	190	06/05/2022 0:00	06/01/2023 8:36	361	Forced Outage	Under (c) of 1.1.2.2.1.5 of Article II Section 1 (Unit State Classification) of ERC Resolution 17 s2013.
NATG	Ilijan B1	190	05/02/2022 20:08	05/31/2023 11:31	394	Forced Outage	Under (c) of 1.1.2.2.1.5 of Article II Section 1 (Unit State Classification) of ERC Resolution 17 s2013.
NATG	Ilijan A3	220	02/13/2023 21:53	06/03/2023 22:10	110	Forced Outage	Under (c) of 1.1.2.2.1.5 of Article II Section 1 (Unit State Classification) of ERC Resolution 17 s2013
NATG	Ilijan A2	190	02/13/2023 21:56	05/31/2023 0:40	106	Forced Outage	Under (c) of 1.1.2.2.1.5 of Article II Section 1 (Unit State Classification) of ERC Resolution 17 s2013
NATG	Ilijan A1	190	02/11/2023 3:37	06/02/2023 20:42	112	Forced Outage	Under (c) of 1.1.2.2.1.5 of Article II Section 1 (Unit State Classification) of ERC Resolution 17 s2013.
OIL	BPPC 7	10	06/16/2023 23:10		-45094	Forced Outage	Differential trip/Earth Fault
OIL	BPPC 6	10	06/16/2023 23:10		-45094	Forced Outage	Differential trip/Earth Fault
OIL	BPPC 5	10	06/16/2023 23:10		-45094	Forced Outage	Differential trip/Earth Fault
OIL	BPPC 4	10	06/16/2023 23:10		-45094	Forced Outage	Differential trip/Earth Fault
OIL	BPPC 3	10	06/16/2023 23:10		-45094	Forced Outage	Differential trip/Earth Fault
OIL	BPPC 2	10	06/16/2023 23:10		-45094	Forced Outage	Differential trip/Earth Fault
OIL	BPPC 1	10	06/16/2023 23:10		-45094	Forced Outage	Differential trip/Earth Fault
OIL	SLPGC 4	25	02/10/2022 18:07		-44603	Forced Outage	Due to low turbine tube oil supply. IEMOP deregistration effective on August 25 2022.
OIL	SLPGC 3	25	01/22/2022 21:39		-44584	Forced Outage	Declared unavailable due to turbine tube oil sump metal chips detected. IEMOP deregistration effective on August 25 2022.
OIL	Malaya 1	300	05/03/2019 18:21		-43589	Forced Outage	Declared unavailable due to motorization of unit generator caused by the non-opening of phase B of PCB 8-05CB08MAL.
Visayas							
BAT	Kabankalan Bat	20	04/19/2023 15:26		-45036	Forced Outage	Damaged 13.8kv PCB
BAT	Kabankalan Bat	20	04/19/2023 15:26		-45036	Forced Outage	Auto-tripped due to Damaged 13.8kv PCB
BIOF	South Negros	25	12/12/2022 17:41	06/20/2023 12:26	190	Forced Outage	Offline due to unavailability of bagasse.
BIOF	SCBE	7.4	03/31/2023 10:35		-45016	Maintenance Outage	Offline ongoing plant testing.
BIOF	CABI 1	23.5	05/18/2023 1:19		-45062	Maintenance Outage	Offline end of milling.
COAL	TPC-Sangi 1	82	06/24/2023 0:03		-45101	Forced Outage	Cut-out to facilitate boiler tube leak problem
COAL	CEDC 1	82	06/12/2023 13:55	06/15/2023 10:09	3	Forced Outage	UNIT TRIPPED DUE TO DRUM LEVEL LOW
COAL	Keppco Salcon 1	103	06/09/2023 10:36	06/14/2023 3:33	5	Forced Outage	MANUALLY SHUTDOWN DUE TO BOILER TUBE LEAK
COAL	THVI 1	169	06/03/2023 0:22	06/10/2023 5:45	7	Maintenance Outage	RECTIFICATION AND REPLACEMENT ACTIVITIES BE DONE
COAL	TPC-Sangi 1	82	06/02/2023 1:58	06/05/2023 13:22	3	Forced Outage	Furnace Problem
COAL	TPC-Sangi 3	40.36	07/19/2022 5:40		-44761	Forced Outage	MANUALLY CUT-OUT TPC SANGI TG4 DUE TO INSUFFICIENT STEAM SUPPLY AFTER SYNCHRONIZATION OF TG5 AT 1510H
COAL	TPC-Sangi 2	20.38	07/19/2022 5:40		-44761	Forced Outage	MANUALLY CUT-OUT TPC SANGI TG4 DUE TO INSUFFICIENT STEAM SUPPLY AFTER SYNCHRONIZATION OF TG5 AT 1510H
COAL	Keppco Salcon 2	103	05/22/2023 19:17	05/28/2023 9:20	6	Forced Outage	suspected boiler tube leak
GEO	Upper Mahiao 2	32	04/28/2023 20:57	06/19/2023 7:08	51	Maintenance Outage	Due to reverse power
GEO	Mailitog 2	72	01/21/2023 0:13		-44947	Maintenance Outage	CUT OUT
GEO	Mahanangdong A1	5	05/05/2023 12:34	07/08/2023 5:59	64	Forced Outage	Due to over frequency
OIL	Isabel 6	10.2	06/08/2023 22:27	06/14/2023 13:41	6	Forced Outage	Reserved shutdown
OIL	TPVI 4	6.8	05/27/2023 0:28	05/29/2023 13:35	3	Forced Outage	Manually shutdown due to activation of engine overspeed alarm
WIND	PWind	36.7	04/29/2023 8:54		-45045	Forced Outage	Affected by system disturbance in Panay Grid
Mindanao							
BIOF	14TACUR	6	05/30/2023 16:50	06/02/2023 23:38	3	Forced Outage	Tripped due to turbine casing high temperature. Unplanned Outage.
BIOF	BFI BIOMASS U1	5.7	05/19/2023 14:21	06/10/2023 0:01	21	Forced Outage	FO due to induced draft fan problem. ETC June 10 2023
COAL	DCPP Unit 2	150	06/13/2023 11:28	06/18/2023 11:13	5	Forced Outage	Emergency shutdown. Forced Outage. Indication Boiler tube leak. ETI June 18 2023
COAL	MCC U1	55	06/02/2023 1:21	06/09/2023 0:22	7	Forced Outage	Emergency shutdown due to suspected boiler tube leak.
COAL	GNPK U3	151.3	05/23/2023 19:01	05/29/2023 15:07	6	Forced Outage	Tripped due to turbine exhaust steam pressure low-low sea water cooling pump No. 4 tripped.
COAL	FMP U2	135	05/19/2023 1:02	05/29/2023 11:12	10	Forced Outage	Emergency shutdown due to possible tube leak at boiler.
HYD	PG4 U3	75	06/24/2023 8:00		-45101	Maintenance Outage	PMS(Non-GOMP) starting 06/24/2023 0800H unit was on forced outage prior. ETC 06/28/2023.
HYD	PG4 U3	75	06/24/2023 8:00		-45101	Forced Outage	Forced outage. Indication high cold air temperature. No ETC.
HYD	AG6 U2	31.1	06/19/2023 7:06	06/23/2023 19:42	5	Forced Outage	Emergency shutdown due to Servo Cylinder Leak. Forced Outage.
HYD	AG6 U5	43.8	06/16/2023 9:02	06/24/2023 15:49	8	Maintenance Outage	PMS(GOMP). ETC June 25 2023
HYD	AG1 U2	35	06/10/2023 8:07	06/12/2023 22:05	3	Forced Outage	PMS (NON-GOMP)
HYD	PG4 U2	75	06/03/2023 8:01	06/23/2023 13:22	20	Maintenance Outage	PMS (GOMP). ETC June 25 2023
HYD	AG1 U1	35	06/01/2023 9:30	06/04/2023 17:14	3	Forced Outage	Tripped due to low pressure of cooling water system. Gen Loss of 21.0MW. Unplanned Outage.
HYD	AG6 U1	31.5	05/24/2023 16:50		-45071	Forced Outage	Emergency shutdown due to governor oil pump failure. Unplanned Outage
HYD	AG4 U3	62.7	05/23/2023 8:07	06/02/2023 11:10	10	Maintenance Outage	PMS(GOMP). ETC June 7 2023.
OIL	WMPC Unit 4	10.7	05/01/2023 21:59		-45048	Forced Outage	Tripped due to generator earth fault. Unplanned Outage. ETC July 24 2023.