Market Surveillance Committee Monthly Market Assessment Report

26 July to 25 August 2021

JULY 2022

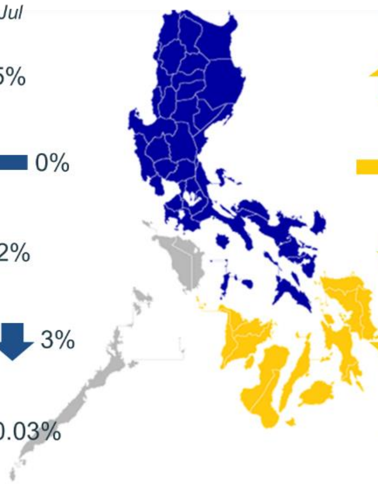
This Report is prepared by the
Philippine Electricity Market Corporation –
Market Assessment for the
Market Surveillance Committee

ASSESSMENT OF THE MARKET

SUMMARY OF PRICING CONDITIONS

LUZON (from Jul)

- Normal: 8,530 intervals (96%) — up 5%
- PSM: 0 interval (0%) — 0%
- PEN: 91 intervals (1%) — down 2%
- SEC: 303 intervals (3%) — down 3%
- AP: 4 intervals (0.04%) — up 0.03%



VISAYAS (from Jul)

- Normal: 8,451 intervals (95%) — up 4%
- PSM: 0 interval (0%) — 0%
- PEN: 91 intervals (1%) — down 2%
- SEC: 303 intervals (3%) — down 3%
- AP: 83 intervals (1%) — up 1%

- The absence of intervals imposed with Price Substitution Methodology (PSM), despite having recurring congestion events in Visayas radial lines leading to price separation which resulted from the amendment of the Price Determination Methodology (PDM) excluding radial lines as PSM criteria upon commercial operations of the Enhanced WESM Design and Operations (EWDO).
- Intervals with pricing error notices mainly resulted from inappropriate input data, affecting Luzon and Visayas prices and schedules.
- Secondary price cap at PHP6,245/MWh resulted from the presence of high generator prices breaching the cumulative price threshold of PHP9,000/MWh
- Partial system blackout in Visayas caused by lightning strike hitting transmission lines, and non-generation of RTD schedule in the MMS, triggered the imposition of Market Intervention by SO and MO, respectively.

NOTABLE HIGHLIGHTS

1. Deration in available capacity of Ilijan and San Gabriel NGPP
   - Caused by SPEX Malampaya gas supply restriction since 22 March 2021, 2200H
2. Partial system blackout affecting parts of Cebu, Leyte-Samar, and Bohol
   - The SO issued market intervention for seventy-nine (79) intervals on 21 August 2021
3. Drop in effective supply and abrupt price changes in the market
   - Owing to the behavioral adjustment and management of ramp limitations of generating trading participants in the 5-min market
4. Extreme nodal price separation of Negros, Bohol, and Panay Trading Participants (TPs) from the rest of the grid
   - Samboan-Amlan 138-kV line (Cebu-Negros) was damaged, resulting to frequent congestions as line capacity was cut in half (from 180 MW to 90 MW)
   - Maasin-Ubay 138-kV (Leyte-Bohol) line was also frequently congested at around 20 percent of the time

The ERC ordered the following measures that mitigated the impact of extreme nodal price separation caused by Samboan-Amlan line incident in the affected areas until such time that a new order is released by the ERC:

- **Halt the collection from customers**, of congestion charges, and other applicable charges, including but not limited to line rentals attributable to the incident
- Congestion charges and other applicable charges attributable to the incident which were already collected **shall be refunded to the customers**
- **Defer the payment of congestion** and other related charges to generation companies affected by the incident

MARKET OUTCOME

SUPPLY MARGIN

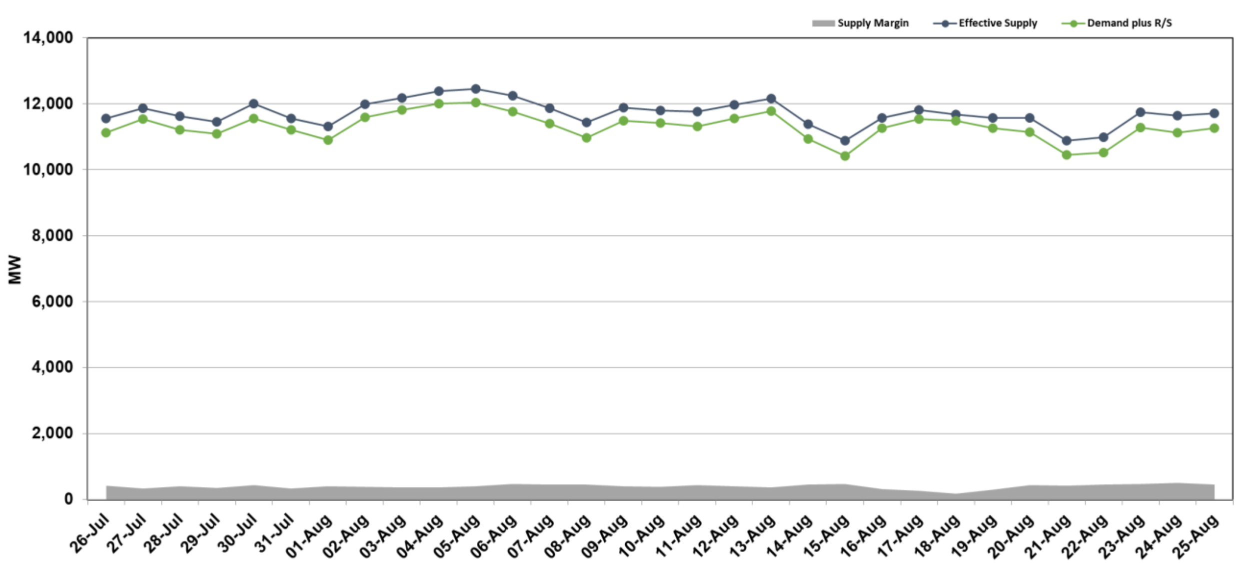
402
MW
(311 MW in July)

EFFECTIVE SUPPLY

11,707
MW
(11,649 MW in July)

DEMAND PLUS RESERVE SCHEDULE

11,305
MW
(11,338 MW in July)



- Electricity demand with consideration of reserve schedules decreased by an average of 0.3 percent, or from an average of 11,305 MW last month to 11,338 MW this month following the observance of Rainy season.
- Effective supply retained its level even due to high level of outage capacity brought about by forced outages from large coal power plants.
- Average Supply Margin is generally observed to have improved and increased by 29 percent or an average of 402 MW from 311 MW last July billing.

18F Robinsons Equitable Tower, ADB Avenue, Ortigas Center, Pasig City 1600, Philippines
pemc.info@wesm.ph   +63 2 8631 8734   +63 2 8636 0802   www.wesm.ph

PEMC Go

MONTHLY MARKET ASSESSMENT REPORT

(26 July – 25 August 2021)

MARKET SURVEILLANCE COMMITTEE
MMAR-2021-08

MARKET OUTCOME

PRICE

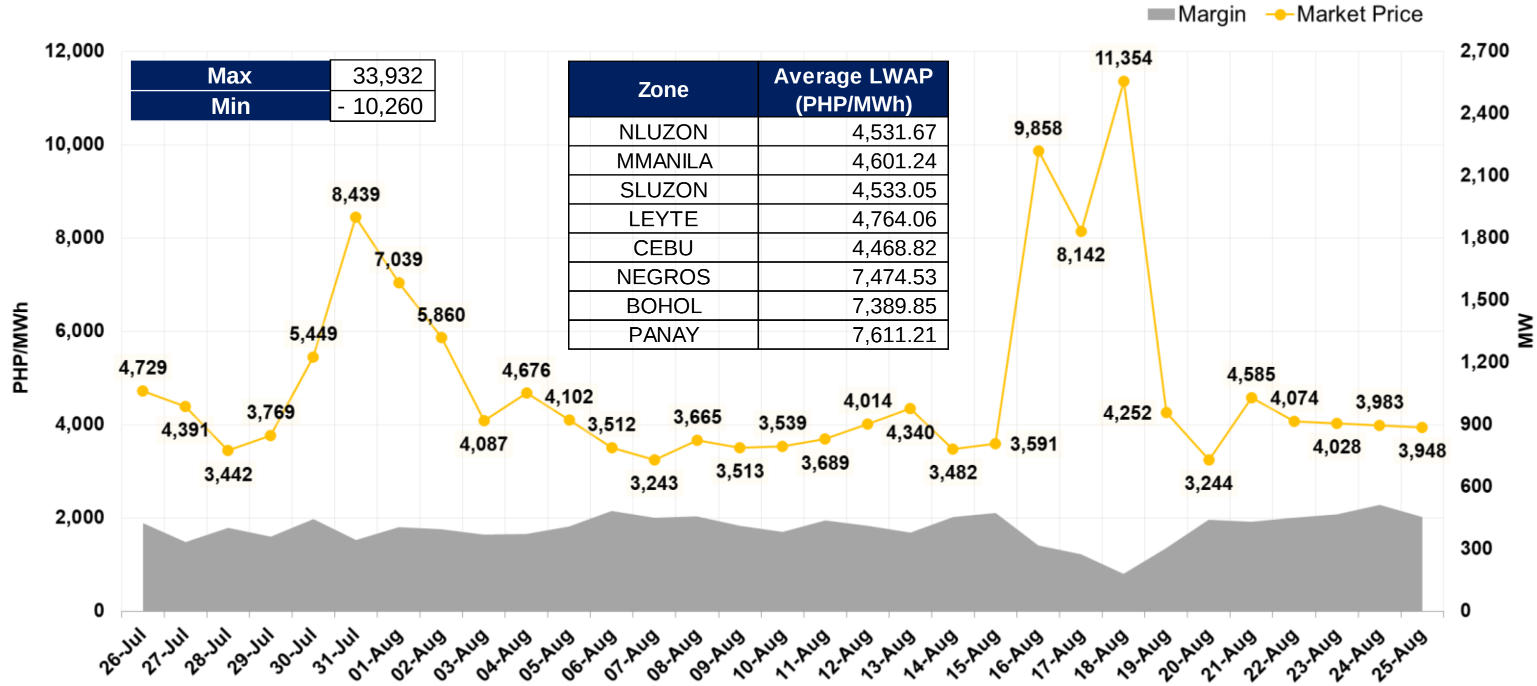
4,853

PHP/MWh

(PHP6,963/MWh in July)

Max	33,932
Min	- 10,260

Zone	Average LWAP (PHP/MWh)
NLUZON	4,531.67
MMANILA	4,601.24
SLUZON	4,533.05
LEYTE	4,764.06
CEBU	4,468.82
NEGROS	7,474.53
BOHOL	7,389.85
PANAY	7,611.21



With the interaction of supply and demand, the August 2021 billing month opened with relatively low level of market prices which is highly attributable to the improvement in supply margin brought about by the increased in the offered/nominated capacity. Consequently, the resulting market price posted a decline which constituted to an average of PHP4,853/MWh from previous month's PHP6,963/MWh. However, episodes of price spikes were also observed on days when the demand was notably high which caused the supply margin to plunge.

On another note, with the persistent high prices of electricity in the spot market in 18-19 August, the secondary price cap was imposed for a total of 303 intervals in Luzon and Visayas this month as the 72-hour rolling average generator-weighted average price (GWAP) breached the cumulative price threshold of PHP9,000/MWh, effectively capping the market price at PHP6,245/MWh.

The 15 June 2021 incident involving the underwater drilling operations of DPWH that damaged one of the submarine cables of NGCP connecting the Cebu-Negros islands, affected the power rates in some areas of the Visayas region and subsequently led to the notable price discrepancy between Bohol and the rest of the grid.

18F Robinsons Equitable Tower, ADB Avenue, Ortigas Center, Pasig City 1600, Philippines
pemc.info@wesm.ph +63 2 8631 8734 +63 2 8636 0802 www.wesm.ph

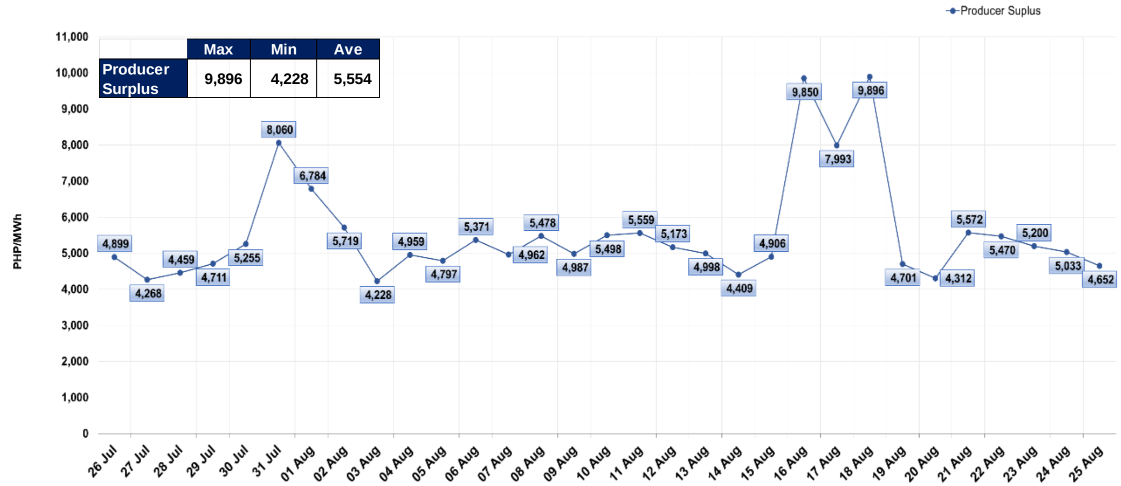
MARKET OUTCOME

RAMP LIMITED CAPACITY

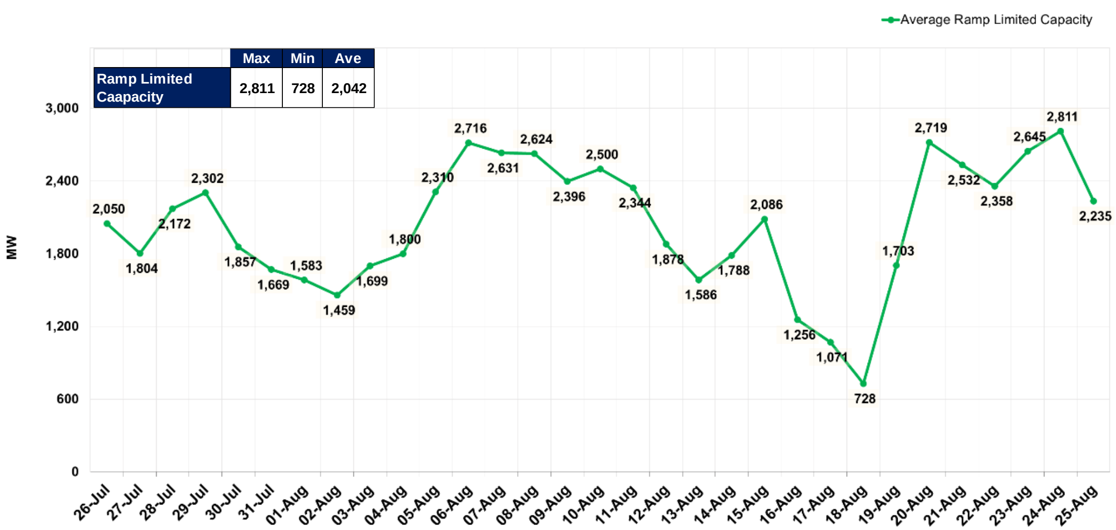
2,042
MW
(1,396MW in July)

PRODUCER SURPLUS

5,554
PHP
(7,016PHP in July)



	Max	Min	Ave
Producer Surplus	9,896	4,228	5,554



	Max	Min	Ave
Ramp Limited Caapacity	2,811	728	2,042

Ramp limited capacities for the month of August increased by 46 percent. Occurrences of ramp limited capacities were more evident in the new market regime due to shorter intervals requiring for faster delivery of scheduled generations. Notwithstanding, capacities offered/nominated went up and the outage level remained high, while the system demand level declined.

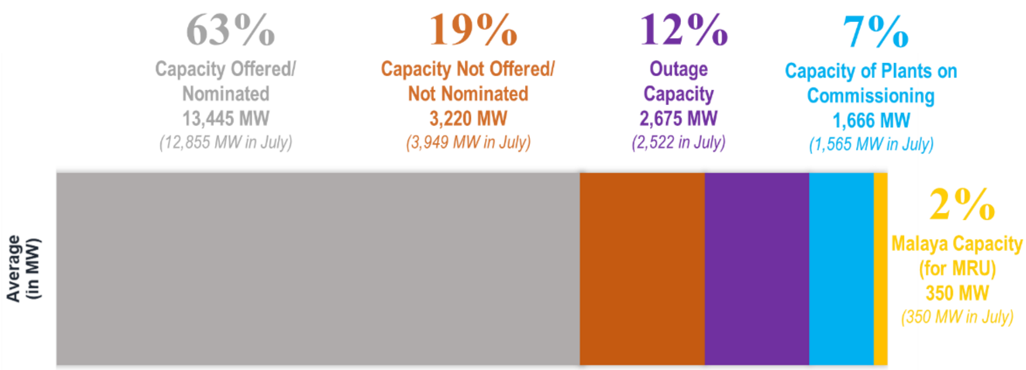
Producer/generator surplus is derived from the difference between market price and offer price, it averaged at PHP5,554/MWh across all generators during the month.

- Daily average price of the producer/generator surplus was derived from the daily weighted average price of all generator TPs during peak and off-peak hours. Increase and decrease in the daily weighted average price depend on the generator schedule per dispatch interval.

MONTHLY MARKET ASSESSMENT REPORT

(26 July – 25 August 2021)

CAPACITY PROFILE



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

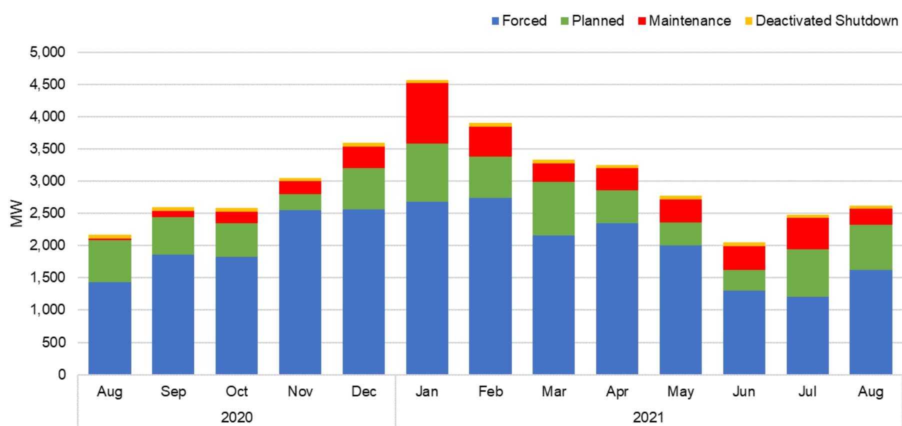
COAL	NATURAL GAS	OIL-BASED	HYDRO	GEOTHERMAL
9,060 MW (43%)	3,290 MW (15%)	2,642 MW (12%)	2,538 MW (12%)	1,754 MW (8%)

SOLAR	BIOMASS	WIND	BATTERY
1,053 MW (5%)	472 MW (2%)	427 MW (2%)	130 MW (1%)

Generators on testing and commissioning (T&C) for a prolonged period of more than 2 months were additionally provided a maximum of 2 months to conduct T&C upon effectivity of the DOE DC No. 2021-06-0013.

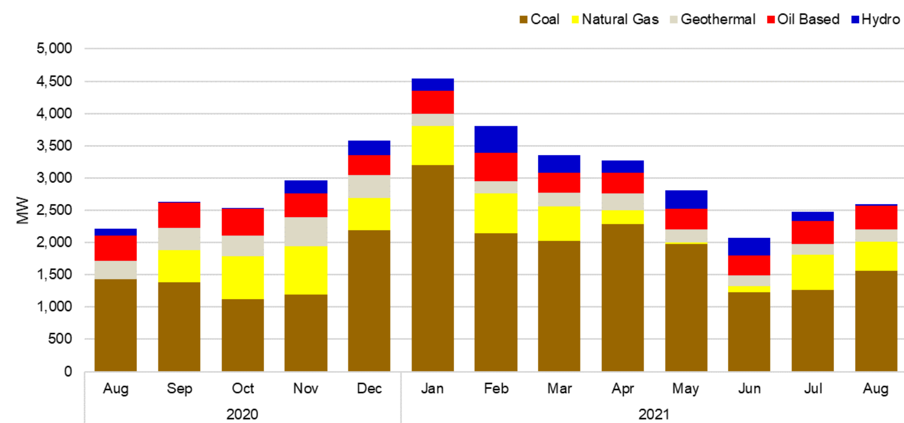
- The WESM registered capacity effectively decreased by 0.6 MW from a total of 21,366.6 MW to 21,366 MW
  - Total net decrease in maximum capacity (Pmax) of plants amounted to 52.3 MW while the total net increase in maximum capacity of plants amounted to 31.7 MW
  - Newly registered capacity was recorded at 20 MW
- Plants that decreased their capacities are unit 2 of Toledo Power and unit 1 of SEM Calaca Coal power plant
- Universal power solutions, Inc. battery power plant were added to the capacity mix this month

OUTAGE CAPACITY BY OUTAGE CATEGORY



Average outage capacity in August continued to increase following the observance of higher forced and planned outage capacities while declining level of maintenance outage was observed. For ease of reference, Annex A shows the detailed information on plant outages in both categories.

OUTAGE CAPACITY BY PLANT TYPE



All plant types recorded increases in their averages except for natural gas and hydro plants. The most common reason for the forced outages of Coal power plants were due to emergency shutdown due to technical issues.

MARKET TRANSACTIONS

BCQ

89%

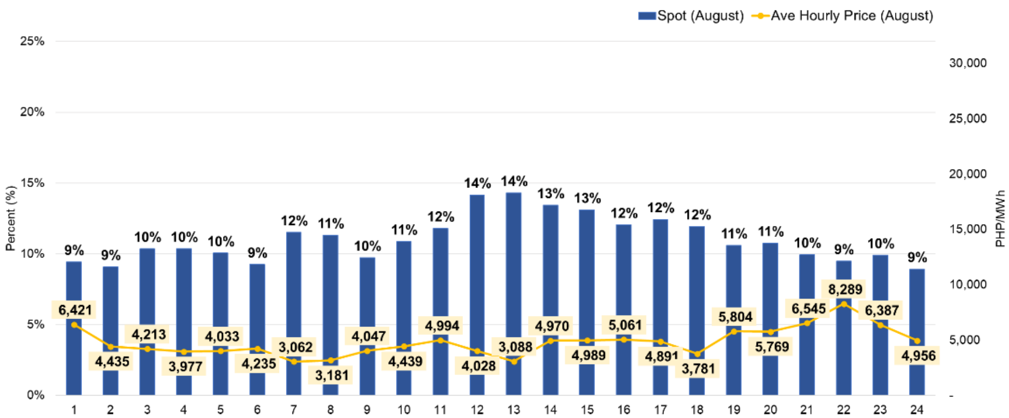
(82.0% in July)

SPOT

11%

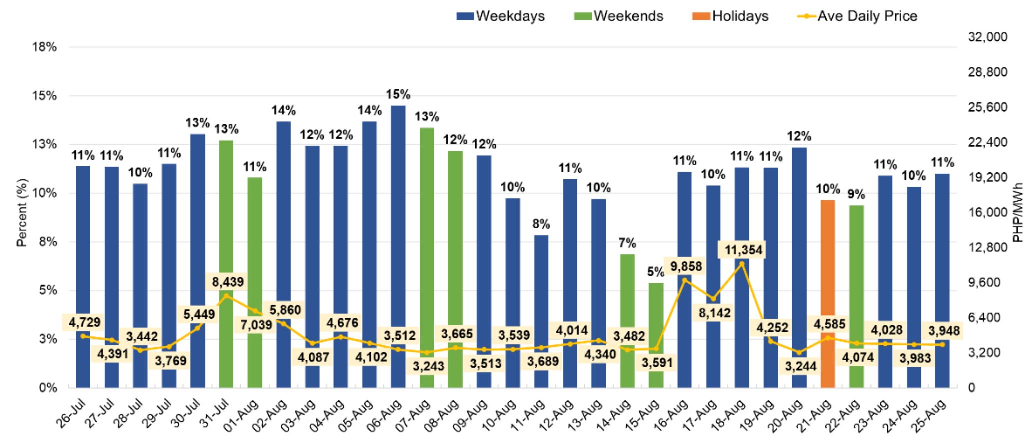
(18.0% in July)

HOURLY SPOT

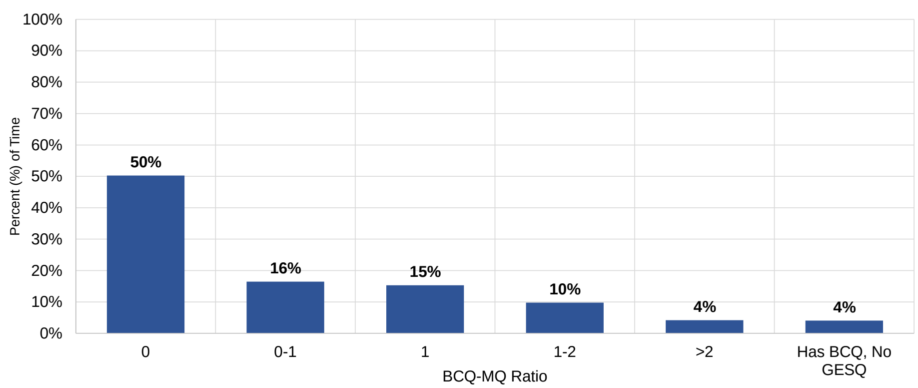


Total spot quantities of generator participants in July stood at an average of 12.1 percent during peak and 9.9 percent during off-peak hours, indicating less quantities exposed in the market during high prices.

DAILY SPOT



Spot share during weekdays averaged at 11.5 percent while it was 10.1 percent during weekends. Generally, the spot exposures during weekends were noted to be high due to lower demands which necessarily results to lower prices in the market

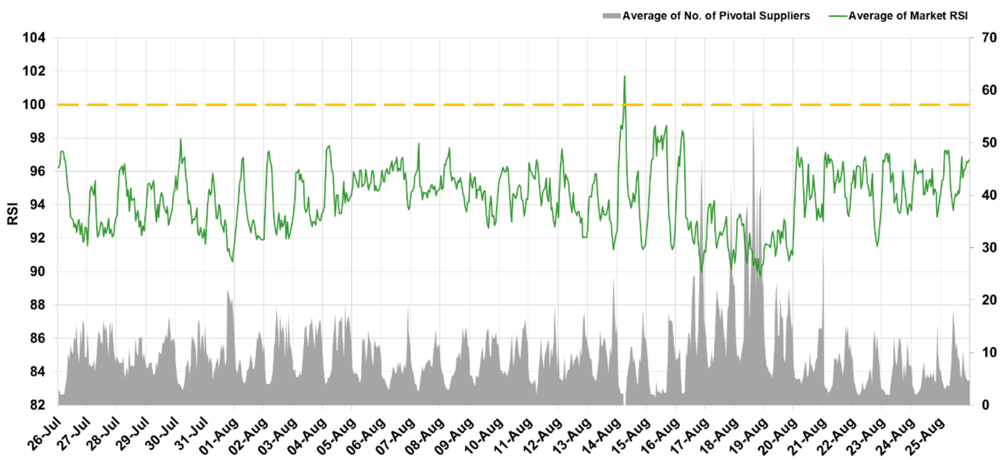


BCQ-MQ RATIO

- The resulting BCQ to MQ ratio of 0 demonstrates that the entire capacity of generators was fully sold in the market at half of the time.
- Roughly 15 percent had a BCQ to MQ ratio of 1 which resulted from all metered quantities being allocated to serve bilateral contract obligations
- About 4 percent were accounted for by generators which fully bought energy in the market to serve their bilateral contract obligations due to their non-generation of the same
- The remaining 30 percent accounted for BCQs consuming a fraction of their MQ (16 percent), declared BCQs up to twice their MQ (10 percent), and declared BCQs more than twice their MQ (4 percent)

STRUCTURAL COMPETITION INDICES

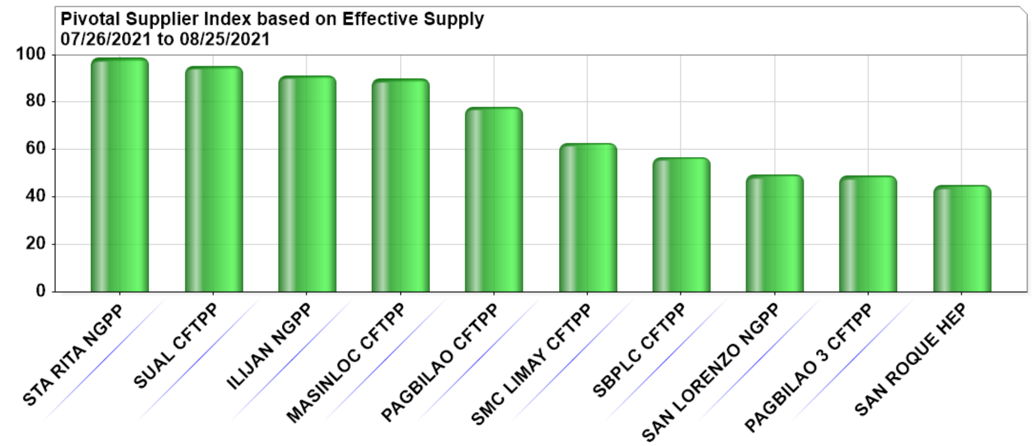
MARKET RSI



Out of the 8,928 trading intervals in August 2021 billing month, almost all or 8,907 intervals had a Residual Supply Index (RSI) below the 100 percent mark, indicating the presence of pivotal suppliers all throughout the month.

The average market prices for intervals with RSI below 100 percent was PHP4,860/MWh while those with RSI above 100 was PHP-359/MWh.

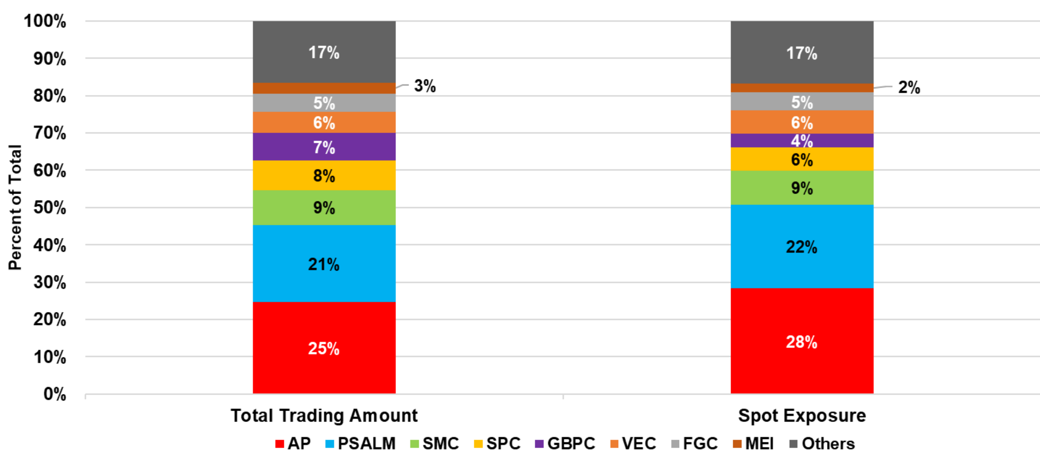
PIVOTAL PLANTS



A total of 136 power plants were pivotal during the period with 94 coming from Luzon and 42 from Visayas.

The relatively low level of effective supply due to ramp limitations translated to a low RSI and high number of pivotal suppliers per 5-min dispatch interval

TTA AND SPOT SHARE



- Aboitiz Power Corporation (AP) overtook Power Sector Assets and Liabilities and Management (PSALM) as the entity with the highest TTA share of sellers in the spot market with approximately 25 percent.
- PSALM declined in rank and recorded the second highest TTA share of around 21 percent.
- San Miguel Corporation (SMC) entered the list this month at third place, ending with a 9 percent of TTA share.
- The top 3 highest TTA shares corresponded to high spot shares in the market.

Annex A. List of Major Plant Outages

Region	Plant Type	Plant/ Unit Name	Capacity (MW)	Date Out	Date In	Duration (Days)	Outage Type	Remarks
CVIS	GEO	Mahanagdong B1	5	08/20/2021 23:56	08/23/2021 0:06	2.01	Forced Outage	Ind -- under voltage
CLUZ	OIL	SLPGC 3	25	08/18/2021 6:55	08/22/2021 21:30	4.61	Forced Outage	Declared unavailable due to fuel oil discharge line leak
CLUZ	COAL	QPPL	460	08/18/2021 0:55	08/22/2021 22:17	4.89	Forced Outage	Emergency Shutdown due to boiler tube leak
CLUZ	NATG	Sta. Rita 3	265.5	08/14/2021 0:56	08/16/2021 6:41	2.24	Planned Outage	Maintenance Outage
CLUZ	COAL	Pagbilao 1	382	08/13/2021 22:05	08/19/2021 5:58	5.33	Forced Outage	Emergency shutdown due to boiler tube leak
CVIS	OIL	CENPRI 2	4.5	08/13/2021 16:45	08/16/2021 14:12	2.89	Forced Outage	Offline due to heavy exhaust gas leak
CVIS	BIOF	SCBE	7.4	08/13/2021 10:05	08/20/2021 1:52	6.66	Forced Outage	Offline due to boiler problem
CVIS	OIL	Bohol 1	4	08/13/2021 9:07	08/24/2021 18:06	11.37	Forced Outage	Emergency cut out due exhaust gas leak at expansion bellows
CLUZ	NATG	Ilijan B2	190	08/11/2021 15:20	08/17/2021 14:06	5.95	Forced Outage	Affected by the SPEX Malampaya gas fuel restriction
CVIS	OIL	CENPRI 3	4.5	08/08/2021 19:24	08/11/2021 18:17	2.95	Forced Outage	Auto-tripped due to loss of field indication
CVIS	SOLR	San Carlos Sun	46.8	08/07/2021 6:20	08/21/2021 16:10	14.41	Maintenance Outage	South line isolated due to 69kV Bindoy-San Carlos line section maintenance
CLUZ	NATG	San Gabriel	420	08/06/2021 21:35	08/09/2021 4:03	2.27	Maintenance Outage	Rectification of steam leak at Hp steam drain valves.
CVIS	GEO	Upper Mahiao 2	32	08/02/2021 0:10	08/22/2021 12:34	20.52	Maintenance Outage	PMS
CVIS	GEO	Upper Mahiao 1	32	08/02/2021 0:11	08/25/2021 10:15	23.42	Maintenance Outage	PMS
CLUZ	NATG	San Gabriel	420	07/31/2021 0:32	08/02/2021 3:02	2.10	Maintenance Outage	Compressor Washing
CLUZ	NATG	Sta. Rita 4	264	07/30/2021 20:51	08/05/2021 1:53	5.21	Maintenance Outage	Intermediate Gas Turbine Inspection
CLUZ	COAL	GN Power 2	316	07/29/2021 15:53	08/01/2021 14:34	2.95	Forced Outage	Emergency shutdown due to boiler pre-heater problem
CLUZ	GEO	Bacman 3	20	07/28/2021 15:09	07/30/2021 15:32	2.02	Forced Outage	Actuation of woodward governing valves trouble
CLUZ	GEO	Makban 7	20	07/28/2021 0:40	08/12/2021 17:58	15.72	Forced Outage	Loss of 480VAC station service due to fault
CVIS	OIL	TPC Carmen 4	10	02/12/2021 9:47	08/20/2021 19:20	189.40	Forced Outage	TRIPPED DUE TO LOW ENGINE LO PRESSURE
CLUZ	NATG	Sta. Rita 1	257.3	07/24/2021 0:36	07/26/2021 6:46	2.26	Planned Outage	Inspection of gas turbine.
CVIS	SOLR	Silay	20	07/22/2021 16:18	08/08/2021 7:10	16.62	Forced Outage	Isolated from the grid due to tripping of 69kV Bacolod-Silay Sub TL. customer owned and maintained line.
CVIS	COAL	PALM 1	135	07/08/2021 0:01	08/10/2021 19:49	33.82	Planned Outage	CONDUCTED SCHEDULE ANNUAL PMS
CVIS	GEO	Leyte 2	39.3	07/03/2021 0:54	07/31/2021 23:42	28.95	Maintenance Outage	Cut-out from the system
CLUZ	HYD	Kalayaan 2	180	07/16/2021 0:01	07/27/2021 23:10	11.96	Maintenance Outage	Maintenance Outage until 22 July 2021
CLUZ	HYD	Kalayaan 1	180	07/16/2021 0:01	07/27/2021 23:10	11.96	Maintenance Outage	Maintenance Outage until 22 July 2021
CLUZ	NATG	Ilijan A3	220	07/04/2021 0:37	08/03/2021 21:41	30.88	Planned Outage	Maintenance Outage until 04 August 2021
CLUZ	NATG	Ilijan A2	190	07/04/2021 0:47	08/04/2021 21:41	31.87	Planned Outage	Maintenance Outage until 07 August 2021
CLUZ	NATG	Ilijan A1	190	07/01/2021 0:36	08/03/2021 4:12	33.15	Planned Outage	Maintanence Outage until 04 August 2021
CVIS	COAL	CEDC 1	82	07/20/2021 11:27	07/28/2021 22:49	8.47	Forced Outage	EMERGENCY CUT-OUT DUE TO POSSIBLE TUBE LEAK
CLUZ	COAL	Calaca 1	300	07/25/2021 9:25	08/05/2021 5:57	10.86	Forced Outage	Emergency shutdown due to boiler tube leak.
CVIS	OIL	Bohol 3	4.2	07/20/2021 13:56	07/27/2021 17:20	7.14	Forced Outage	Emergency out due to main bearing high temp.