Market Surveillance Committee Monthly Market Assessment Report

26 June to 25 July 2021

JULY 2022

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

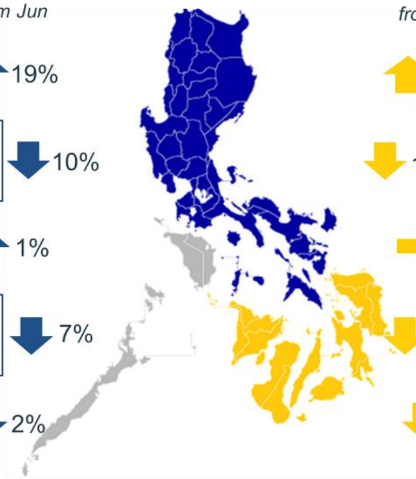
MONTHLY MARKET ASSESSMENT REPORT

(26 June – 25 July 2021)

ASSESSMENT OF THE MARKET

SUMMARY OF PRICING CONDITIONS

LUZON	from Jun
Normal 7,804 intervals (90%)	↑ 19%
PSM 0 interval (0%)	↓ 10%
PEN 275 intervals (3%)	↑ 1%
SEC 560 intervals (6%)	↓ 7%
AP 1 interval (0.01%)	↓ 2%



from Jun	VISAYAS
↑ 20%	Normal 7,804 intervals (90%)
↓ 10%	PSM 0 interval (0%)
– 0%	PEN 275 intervals (3%)
↓ 8%	SEC 560 interval (6%)
↓ 1%	AP 1 interval (0.01%)

- The absence of intervals imposed with Price Substitution Methodology (PSM), despite having observed recurring congestion events in the Samboan-Amlan line, resulted from the change in the Price Determination Methodology (PDM) which excludes radial lines in the PSM criteria upon commercial operations of the Enhanced WESM Design and Operations (EWDO).
- Intervals with pricing error notices not caused by congestion mainly resulted from inappropriate input data, affecting Luzon and Visayas prices and schedules.
- Secondary price cap at PHP6,245/MWh was evident due to depleted supply margin attributed to ramping constraints in the effective supply.
- Market Operator initiated Market Intervention in Luzon and Visayas on 28 June, 13:40 because of non-generation of RTD in the MMS.

NOTABLE HIGHLIGHTS

1. Commercial Operations of the Enhanced WESM Design and Operations (EWDO)
   - The new 5-min market commenced on 26 June 2021 in Luzon and Visayas while WESM Central Scheduling was implemented in Mindanao
2. Deration in available capacity of Ilijan NGPP
   - Caused by SPEX Malampaya gas supply restriction since 22 March 2021, 2200H
3. Issuance of Yellow Grid Status Alert on 13 July 2021
   - Issued for intervals 1100H, 1300H, and 1400H due to insufficient operating reserve
4. 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
5. Extreme nodal price separation of Negros and Panay TPs from the rest of the grid
   - Samboan-Amlan 138-kV line was damaged during a dredging activity of DPWH, resulting to frequent congestions as line capacity was cut in half (180 MW to 90 MW)

The ERC ordered the following measures that will mitigate the impact of extreme nodal price separation 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

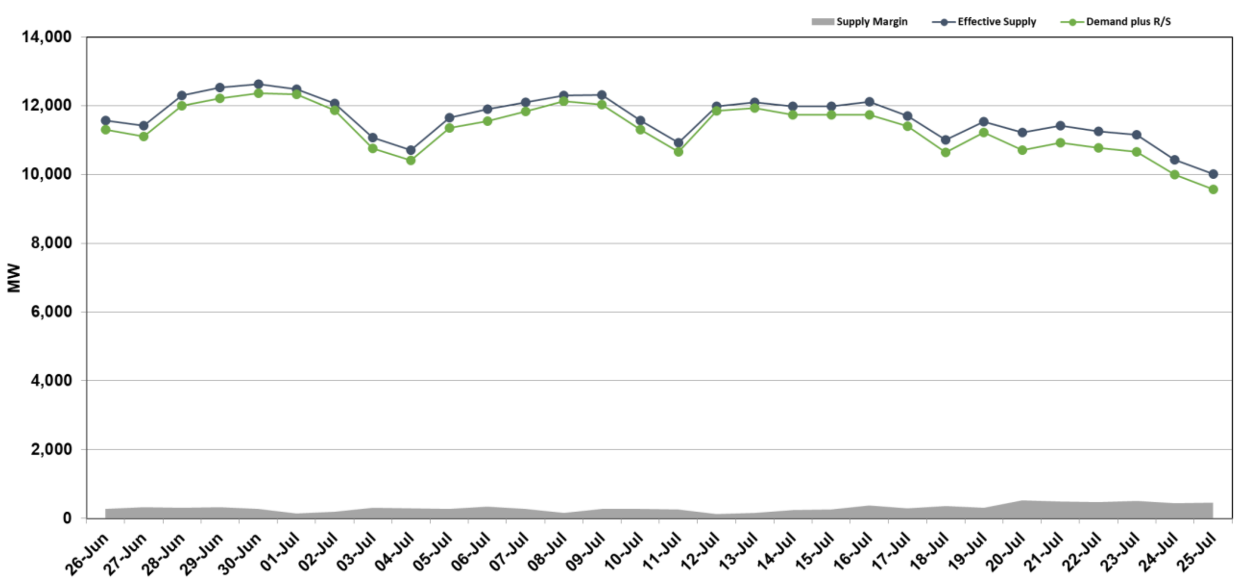
311
MW
(1,255 MW in June)

EFFECTIVE SUPPLY

11,649
MW
(13,261 MW in June)

DEMAND PLUS RESERVE SCHEDULE

11,338
MW
(12,005 MW in June)

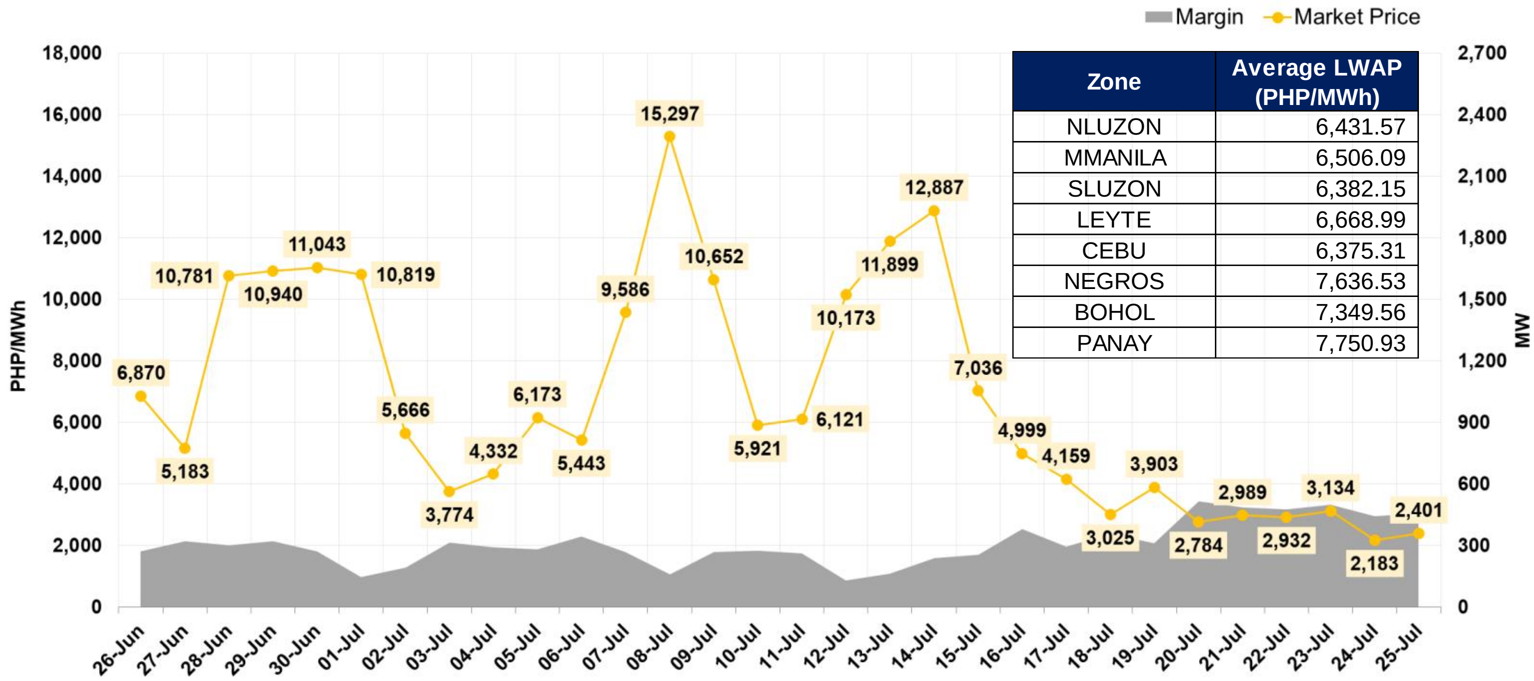


- Electricity demand with consideration of reserve schedules decreased by an average of 5.6 percent or from an average of 12,005 MW last month to 11,338 MW this month due to the observance of Rainy season.
- Effective supply significantly declined as the level of outage capacity increased brought about by forced outages from large coal power plants which is coupled by the deration of several natural gas power plants.
- With the shorter dispatch interval, ramp-limited generating units caused the thinning of the supply margin in the market despite having sufficient available capacity in the market. Average Supply Margin decreased by 75.2 percent or an average of 311 MW from 1,255 MW last June 2021 billing.

MARKET OUTCOME

PRICE

6,963
PHP/MWh
(PHP6,919/MWh in June)



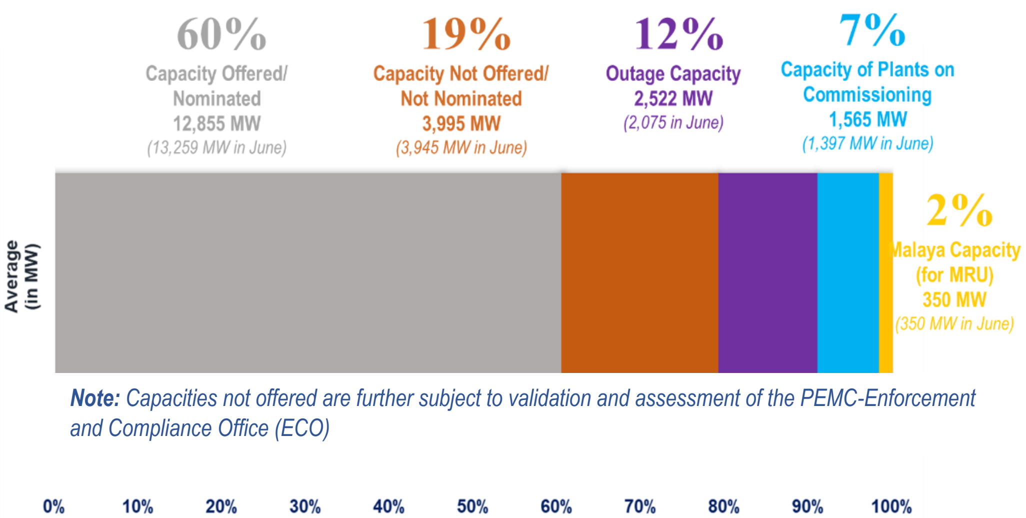
Zone	Average LWAP (PHP/MWh)
NLUZON	6,431.57
MMANILA	6,506.09
SLUZON	6,382.15
LEYTE	6,668.99
CEBU	6,375.31
NEGROS	7,636.53
BOHOL	7,349.56
PANAY	7,750.93

With the interaction of supply and demand, the July 2021 billing month opened with relatively high level of market prices which is highly attributable to the thin supply margin brought about by the ramp limited generating units due to shorter dispatch interval. Consequently, the resulting market price posted a slight uptick or an average of PHP6,963/MWh from previous month's PHP6,919/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, the secondary price cap was imposed for a total of 560 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.

CAPACITY PROFILE



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

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.

COAL
9,112 MW
(43%)

NATURAL GAS
3,290 MW
(15%)

OIL-BASED
2,642 MW
(12%)

HYDRO
2,538 MW
(12%)

GEOTHERMAL
1,754 MW
(8%)

SOLAR
1,022 MW
(5%)

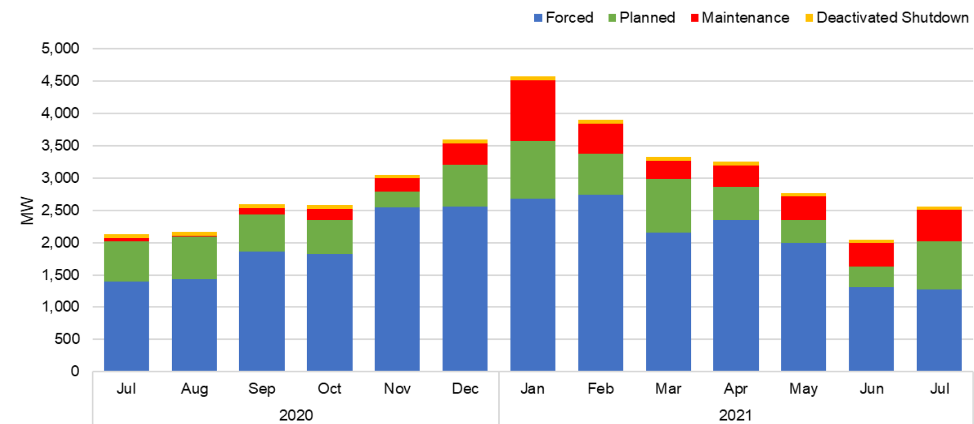
BIOMASS
472 MW
(2%)

WIND
427 MW
(2%)

BATTERY
110 MW
(1%)

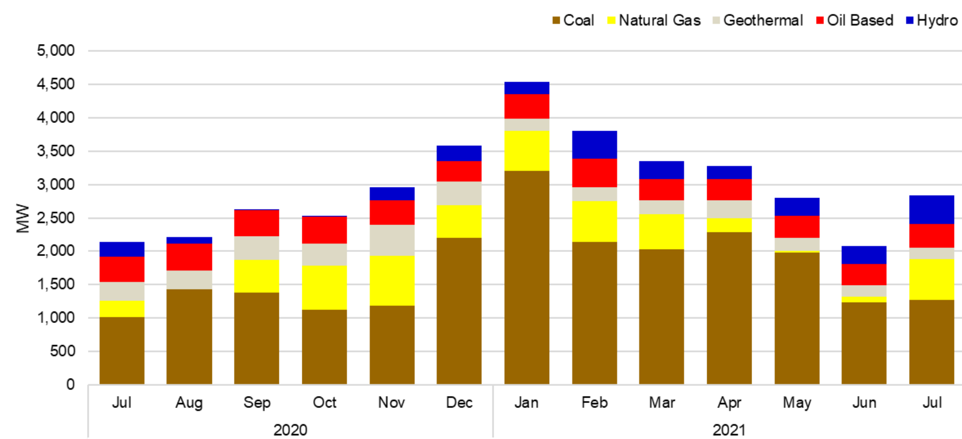
- The WESM registered capacity effectively increased by 118.9 MW from a total of 21,247.7 MW to 21,366.6 MW
  - Total net decrease in maximum capacity (Pmax) of plants amounted to 13.1 MW
  - New registration with an aggregate capacity of 132 MW
- Plants that decreased their capacities are unit 1 of Panay Diesel power plant and Tarlac Solar powerplant
- Universal power solutions, Inc. battery plants, Terasu Enegry Solar, and HyperGreens Energy Biomass power plant were added to the capacity mix this month

OUTAGE CAPACITY BY OUTAGE CATEGORY



Since the January 2021 billing month, monthly outage capacities were on a downtrend, but noted an increase for the first time this year which is mainly attributed to the increased in forced outages of large coal power plants coupled by outages of natural gas power plants.

OUTAGE CAPACITY BY PLANT TYPE



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

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

MONTHLY MARKET ASSESSMENT REPORT

(26 June – 25 July 2021)

MARKET TRANSACTIONS

BCQ

82.0%

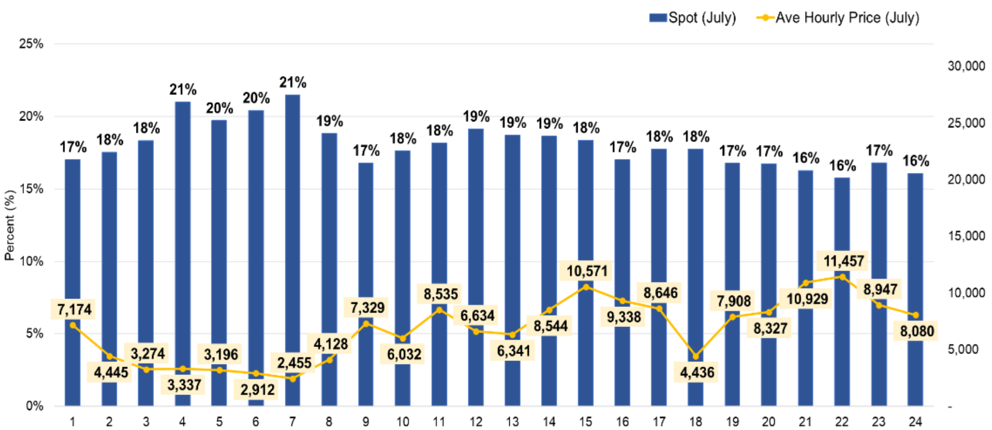
(85.8% in June)

SPOT

18.0%

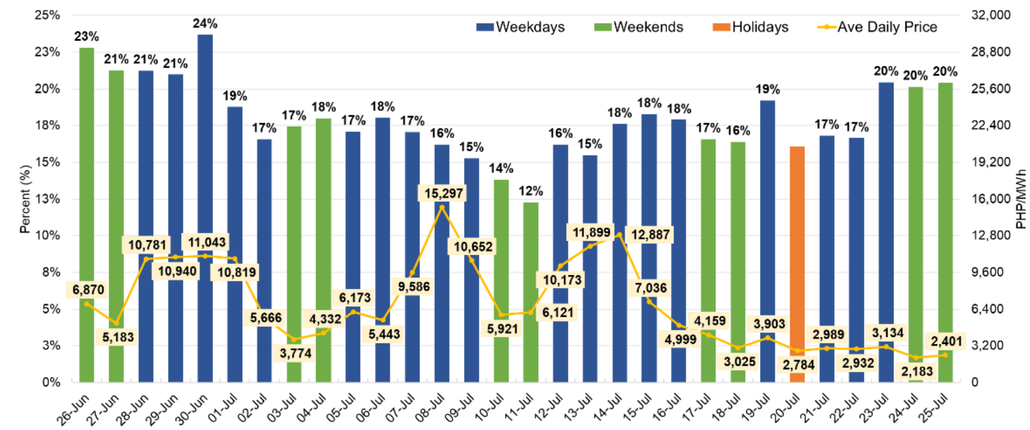
(14.2% in June)

HOURLY SPOT

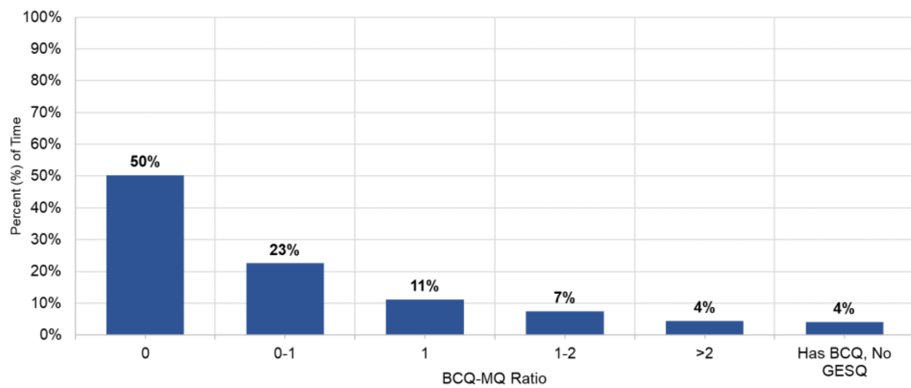


Total spot quantities of generator participants in July stood at an average of 17.8 percent during peak and 18.2 percent during off-peak hours, indicating less quantities exposed in the market during high prices.

DAILY SPOT



Spot share during weekdays averaged at 18.0 percent while it was 17.9 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.

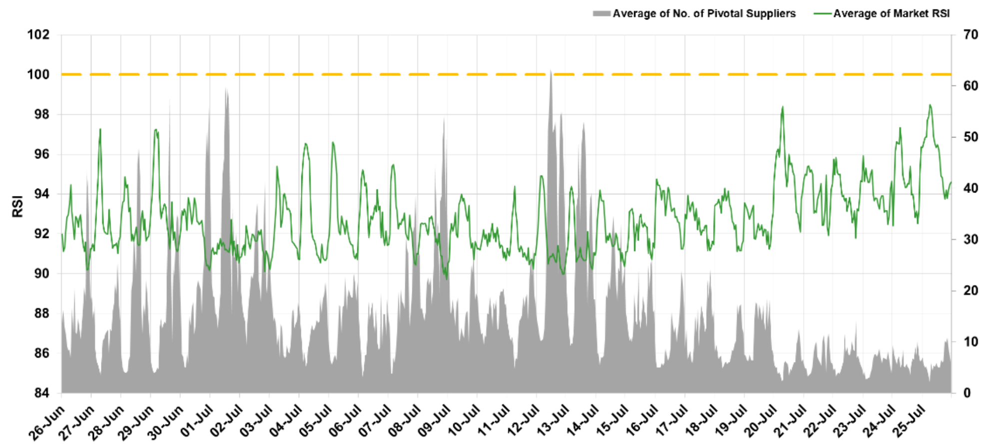


BCO-MO RATIO

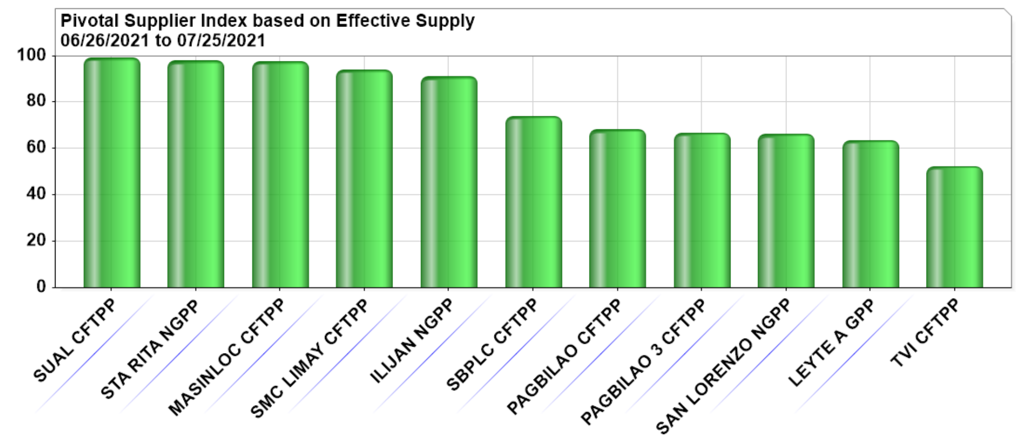
- The resulting BCQ to MQ ratio of 0 demonstrates that the entire capacity of generators was fully sold in the market at half of the time or 50 percent of the time.
- Roughly 11 percent had a BCQ to MQ ratio of 1 which resulted from all metered quantities being allocated to serve bilateral contract obligations
- About 4 percent were accounted for by generators which fully bought energy in the market to serve their bilateral contract obligations because of no MQ
- The remaining 34 percent accounted for BCQs consuming a fraction of their MQ (23 percent), declared BCQs up to twice their MQ (7 percent), and declared BCQs more than twice their MQ (4 percent)

STRUCTURAL COMPETITION INDICES

MARKET RSI



PIVOTAL PLANTS



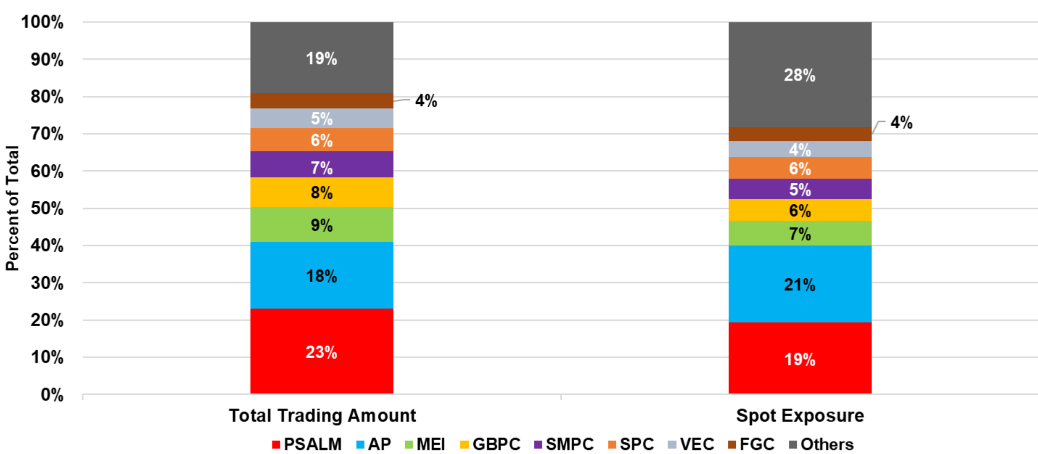
Out of the 8,640 trading intervals in July 2021 billing month, almost all or 8,635 intervals had a Residual Supply Index (RSI) below the 100 percent mark, indicating the presence of pivotal suppliers all throughout the month.

The average market prices for intervals with RSI below 100 percent was PHP6,966/MWh while those with RSI above 100 was PHP-2,947/MWh.

A total of 135 power plants were pivotal during the period with 92 coming from Luzon and 43 from Visayas.

The notable decline in 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



- Power Sector Assets and Liabilities and Management (PSALM) remained as the entity with the highest TTA share of sellers in the market with approximately 25 percent.
- Aboitiz Power Corporation (AP) declined in rank and recorded the second highest TTA share of around 19 percent.
- Millennium Energy, Inc. (MEI) maintained its third place, ending with a 10 percent of TTA share.
- The top 3 highest TTA shares corresponded to high spot shares in the market except for MEI.

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

Annex A. List of Major Plant Outages

Region	Plant Type	Plant/ Unit Name	Capacity (MW)	Date Out	Date In	Duration (Days)	Outage Type	Remarks
CLUZ	HYD	Angat M 1	50	07/23/2021 17:01	07/25/2021 18:46	2.07	Forced Outage	Generator field ground trouble.
CVIS	SOLR	Islasol 3	40.5	07/22/2021 10:23	07/24/2021 12:49	2.10	Forced Outage	Isolated due to tripping of 69KV Cadiz-Islasol III Sub TL (CO).
CLUZ	GEO	Bacman 1	60	07/20/2021 15:33	07/24/2021 17:51	4.10	Forced Outage	Tripped due to condenser level controller trouble.
CLUZ	HYD	San Roque 1	145	07/19/2021 0:01	07/23/2021 7:01	4.29	Maintenance Outage	Maintenance Outage
CVIS	GEO	Leyte 3	40.2	07/17/2021 0:33	07/20/2021 22:31	3.92	Maintenance Outage	2-days pre-arranged maintenance
CVIS	GEO	Leyte 1	41	07/17/2021 0:33	07/20/2021 11:45	3.47	Maintenance Outage	2-days pre-arranged maintenance
CLUZ	NATG	San Lorenzo 2	261.8	07/16/2021 20:23	07/20/2021 2:48	3.27	Planned Outage	Planned Outage until 19 July 2021
CLUZ	COAL	QPPL	460	07/13/2021 7:31	07/15/2021 15:02	2.31	Forced Outage	Tripped by High Furnace Pressure Trip
CVIS	OIL	TPVI 6	6.8	07/12/2021 14:02	07/23/2021 19:07	11.21	Forced Outage	EMERGENCY CUT-OUT DUE TO TURBOCHARGER B-BANK CUT-OFF BASEBOLTS
CLUZ	COAL	Pagbilao 2	382	07/10/2021 10:37	07/14/2021 13:19	4.11	Forced Outage	Emergency shutdown due to boiler tube leak
CLUZ	COAL	Masinloc 3	335	07/09/2021 17:07	07/11/2021 20:26	2.14	Forced Outage	Tripped with 319MW load
CLUZ	NATG	Sta. Rita 2	255.7	07/02/2021 0:42	07/04/2021 23:01	2.93	Planned Outage	NDC Test Preparation
CLUZ	COAL	Masinloc 3	335	07/01/2021 0:13	07/07/2021 16:22	6.67	Planned Outage	Maintenance outage until 15 July 2021
CVIS	GEO	Malitbog 3	72	06/29/2021 0:08	07/02/2021 21:51	3.90	Forced Outage	Rectify main stop valve opening problem
CVIS	OIL	TPVI 5	6.8	06/18/2021 11:34	07/02/2021 15:47	14.18	Forced Outage	WATER LEAK
CVIS	COAL	THVI 2	169	06/16/2021 21:43	06/27/2021 20:39	10.96	Forced Outage	EMERGENCY CUT-OUT FROM THE SYSTEM. POSSIBLE TUBE LEAK AT SEPARATOR SIDE
CLUZ	NATG	Sta. Rita 1	257.3	06/24/2021 10:28	06/27/2021 9:21	2.95	Forced Outage	GT protection actuated.Tripped at 122MW load. System Frequency is 59.63hz
CLUZ	COAL	SLTEC 2	122.9	06/18/2021 4:17	06/26/2021 19:34	8.64	Forced Outage	Boiler tube leak.
CVIS	GEO	PGPP1 Unit 3	37.5	06/23/2021 0:18	07/20/2021 10:45	27.44	Maintenance Outage	Offline due to PMS
CLUZ	COAL	Pagbilao 1	382	06/19/2021 0:56	07/15/2021 6:24	26.23	Maintenance Outage	Maintenance Outage
CVIS	COAL	Kepco Salcon 2	103	06/07/2021 2:41	07/02/2021 11:02	25.35	Planned Outage	APMS