



# **Market Surveillance Committee Monthly Market Assessment Report**

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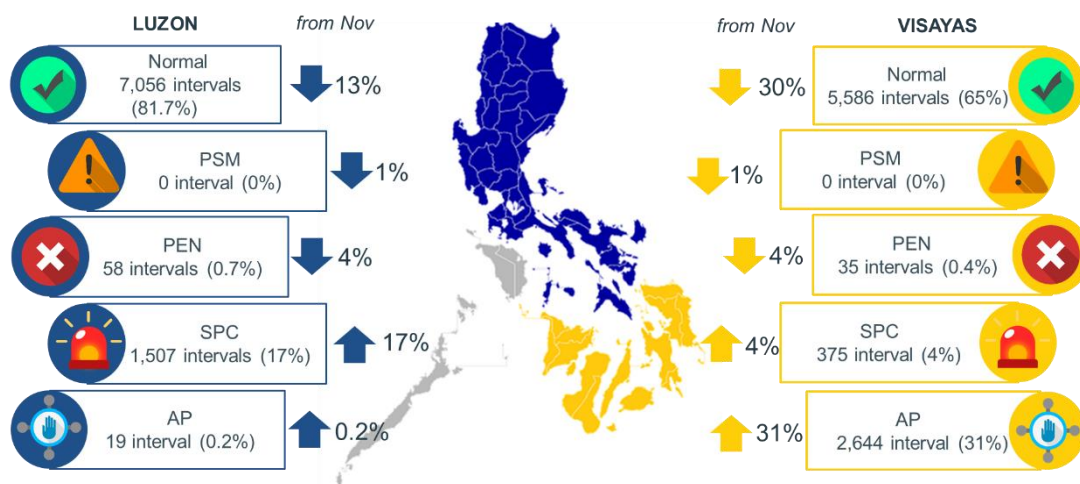
**26 November to 25 December 2021**

**AUGUST 2022**

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

## ASSESSMENT OF THE MARKET

### SUMMARY OF PRICING CONDITIONS



### NOTABLE HIGHLIGHTS

- Market Intervention (MI) was imposed to Luzon and Visayas due to onslaught of typhoon Odette in December 2021. The Market Operator (MO) initiated MI in Luzon due to non-generation of RTD schedules. Meanwhile, the ERC declared Market Suspension (MS) in Visayas due to the impact of typhoon Odette in the region.
- Intervals with pricing error notices were mainly due to inappropriate input data which affected prices and schedules for 35 intervals of the system.
- The cumulative 3-day (8,640 intervals) average computation of generator-weighted average prices (GWAP) breached the PHP9,000/MWh threshold and resulted to the imposition of secondary price cap for 375 intervals from 20 intervals last month, in both Luzon and Visayas. Regional imposition of secondary price cap was also observed in Luzon for 1,132 intervals. The increase was brought about by insufficient system supply that led to much higher prices in the market thereby increasing the chances of triggering the cap's threshold.
- No price substitution methodology (PSM) was noted for December 2021 billing.

- ERC declared MS due to the impact of typhoon Odette.
  - Visayas region was placed under MS due to widespread damage of typhoon Odette, affecting 2,644 trading intervals.
- System Demand was observed to have decreased by an average of 10.8% or an average of 9,396 MW from 10,539 MW last November 2021.
  - Attributable to the damaged transmission lines brought about by the devastation of typhoon Odette.
- The effective supply likewise decreased by 10.6 percent mainly caused by the absence of transmission lines that led to the suspension of power exchange between Luzon and Visayas region.
- Administered price were imposed to the suspended intervals in accordance with the Price Determination Methodology of the WESM
- Market prices increased by 26 percent due to depleted supply margin.
  - Notable increase in average price at PHP6,224/MWh in December 2021 from PHP4,943/MWh in November
  - Year-on-year comparison of monthly average price posted a 187 percent increase from an average of PHP2,169/MWh last year during the height of the pandemic with strict implementation of quarantine measures.

The administered price (AP) is a price determination methodology which shall be implemented by the Market Operator to impose administered prices on dispatch intervals under market suspension or market intervention.

The administered price shall be established by the Market Operator in accordance with guiding principles as set forth by the WESM rules and manual.

## MARKET OUTCOME

### SUPPLY MARGIN



↓ **536**  
MW  
(620 MW in November)

### EFFECTIVE SUPPLY

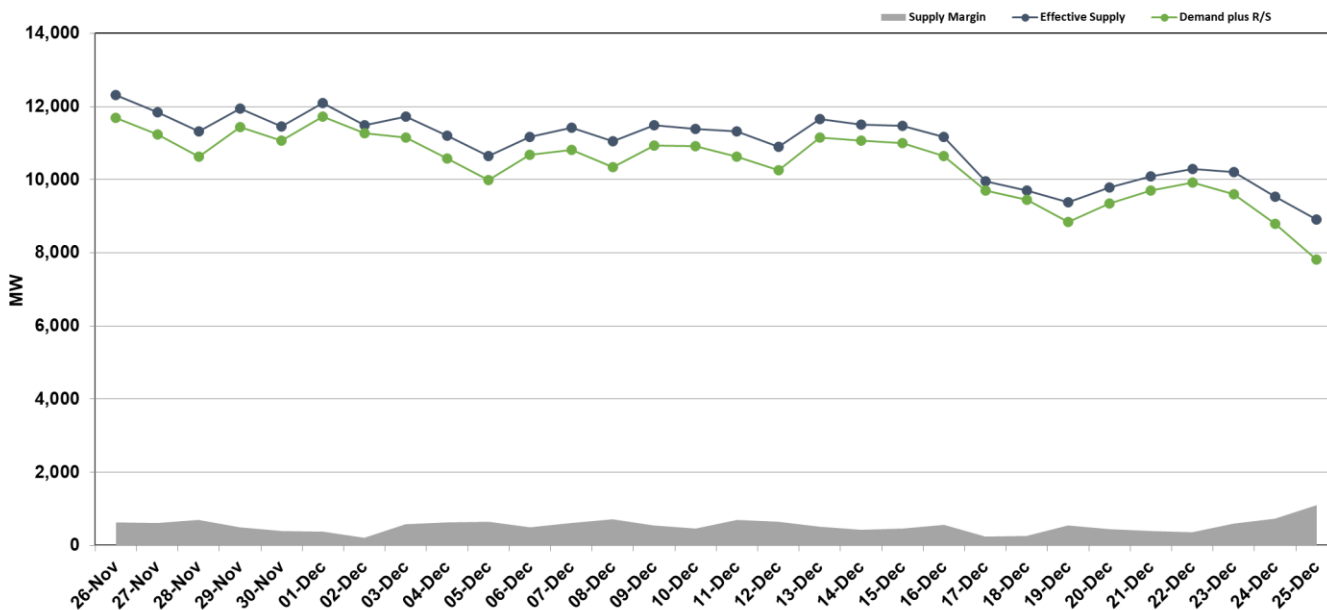


↓ **10,497**  
MW  
(12,246 MW in November)

### DEMAND PLUS RESERVE SCHEDULE



↓ **10,412**  
MW  
(11,626 MW in November)



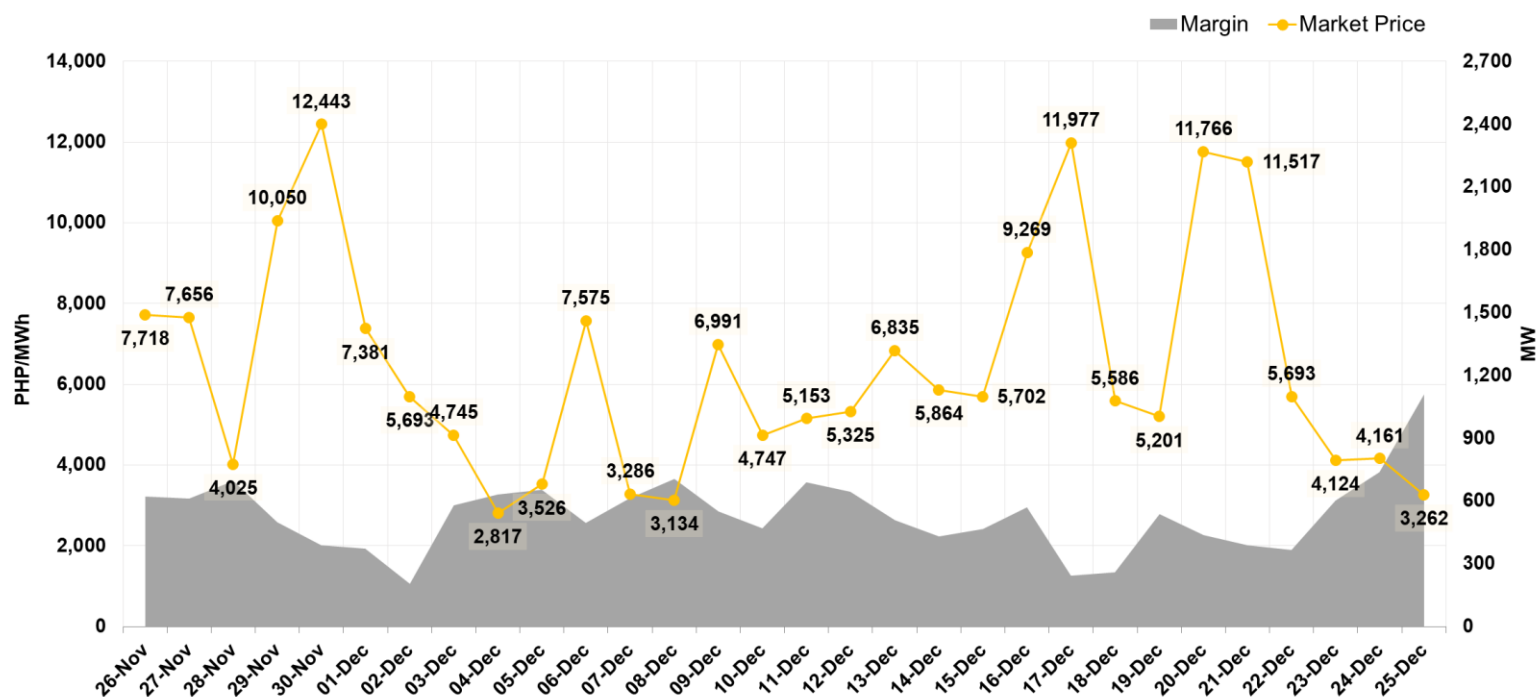
- Electricity demand with consideration of reserve schedules decreased by an average of 10.4 percent or from an average of 11,626 MW last month to 10,412 this month.
- Effective supply likewise decreased as the level of outage capacity increased brought about by, among others, the transmission line outages.
- Average Supply Margin is generally observed to decline and posted an average decreased of 13.5 percent or an average of 536 MW from 620 MW last November billing.

## MARKET OUTCOME

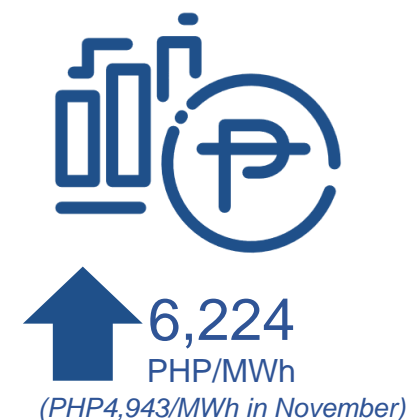
Zone	Average LWAP (PHP/MWh)
NLUZON	6,455.25
MMANILA	6,527.89
SLUZON	6,437.92
LEYTE	6,106.00
CEBU	5,850.81
NEGROS	5,526.27
BOHOL	6,750.40
PANAY	5,570.39

With the dynamics between the supply and demand, the former having experienced a decrease while the latter remained unstable, the December billing month opened with relatively high level of market prices which is highly attributable to the high outage capacity aggravated by the damaged transmission lines brought about by the impact of the devastation of typhoon Odette that caused transmission outage, which barred power exchange, resulting to thin supply margin and subsequently causing the electricity price to increase by an average of 26 percent from previous month's PHP4,943/MWh to PHP6,224/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 contributed to the prevailing price discrepancy between Bohol and the rest of the grid.



## PRICE



## MARKET OUTCOME

### RAMP LIMITED CAPACITY

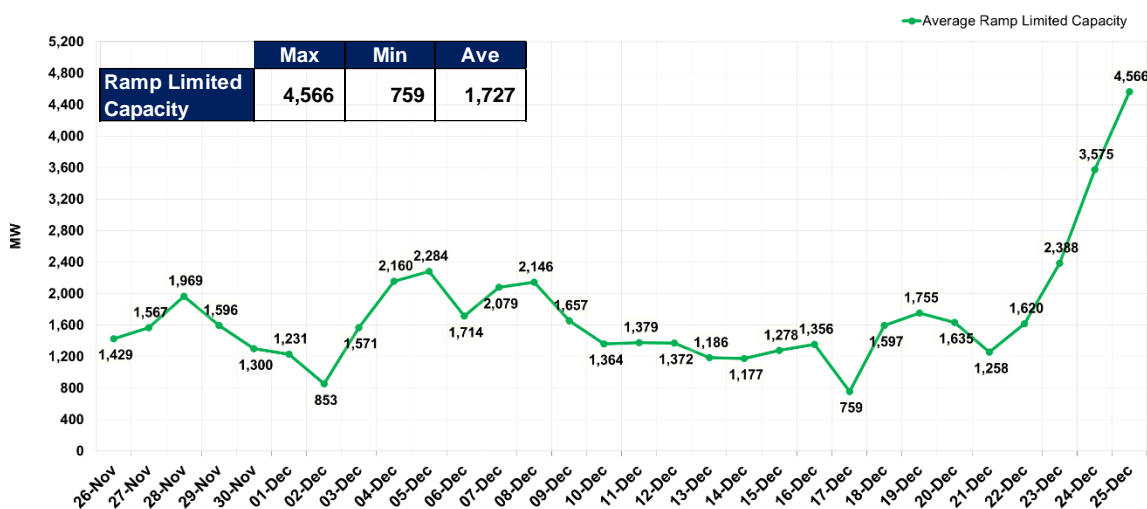
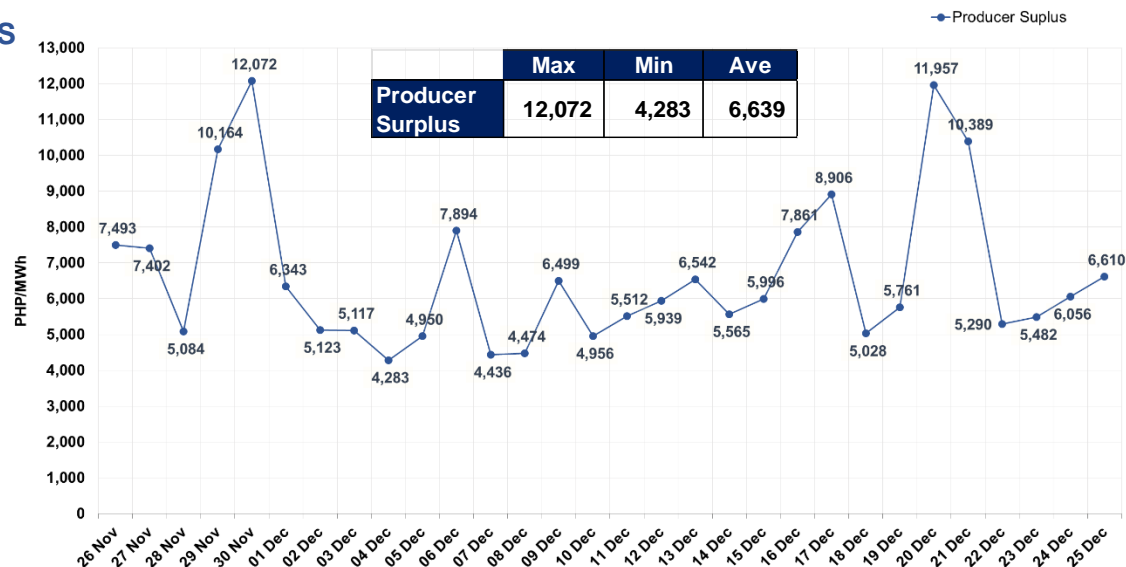


**1,727**  
MW  
(1,981MW in November)

### PRODUCER SURPLUS



**6,639**  
PHP  
(6,149MW in November)

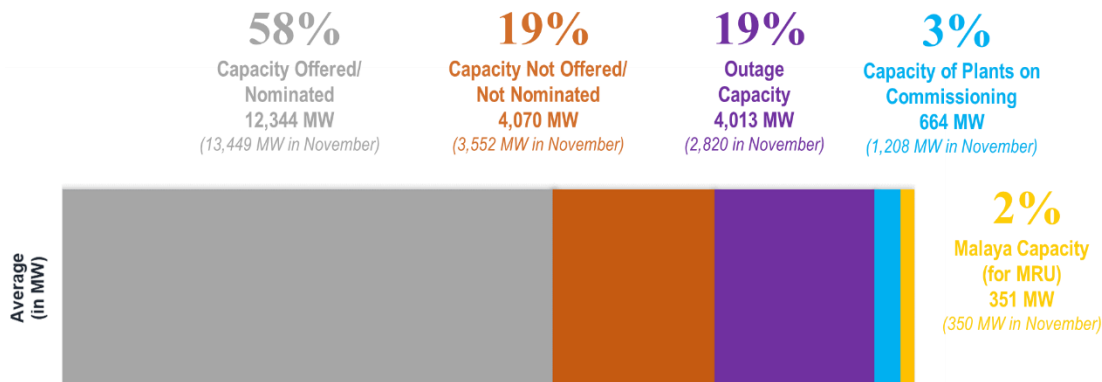


Ramp limited capacities for the month of December decreased by 13 percent. Occurrences of ramp limited capacities were more evident in the new market regime due to shorter intervals requiring for faster delivery of scheduled generations. Subsequently, capacities offered/nominated went up even with the observance of high level of outage capacities.

Producer/generator surplus derived from the difference between market price and offer price, averaged at PHP6,149/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 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.

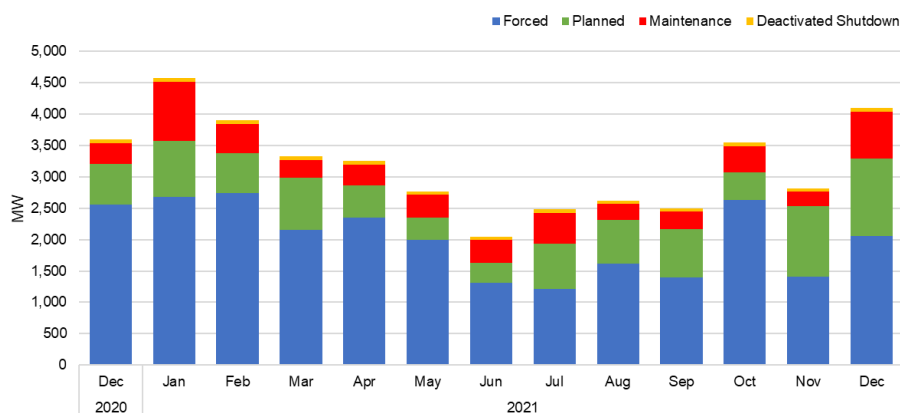
## CAPACITY PROFILE



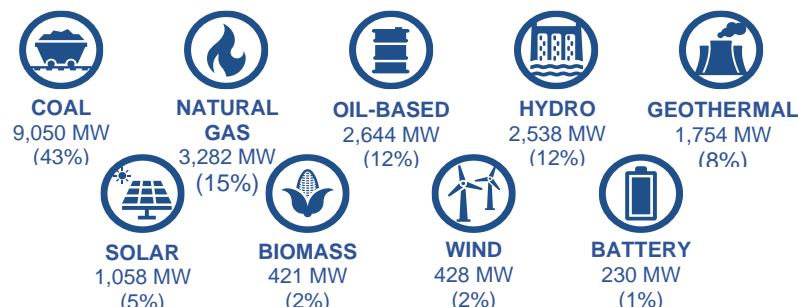
**Note:** Capacities not offered are further subject to validation and assessment of the PEMC-Enforcement and Compliance Office (ECO)

- Generators on testing and commissioning (T&C) slightly dropped and constituted just 3 percent of the total registered capacity. Five (5) plants were noted with expired T&C status for the month of November.

## OUTAGE CAPACITY BY OUTAGE CATEGORY

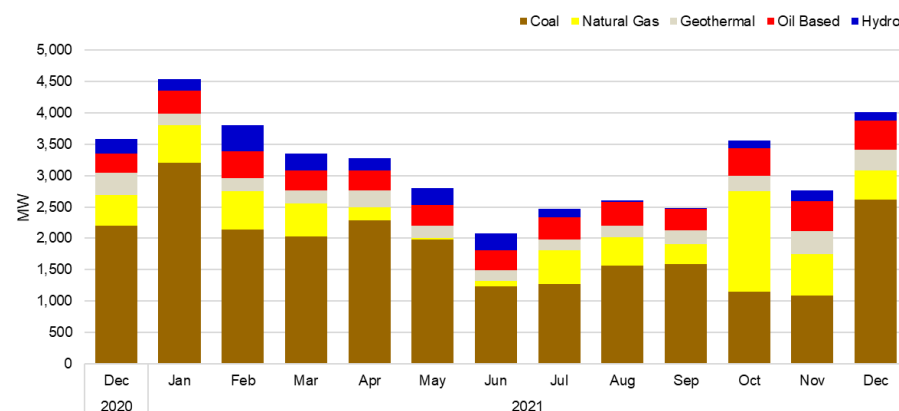


Average outage capacity was generally observed to have increased for the December billing. All categories posted an increase highly attributable with the effects of typhoon Odette. For ease of reference, Annex A shows the detailed information on plant outages in all categories.



- The WESM registered capacity decreased by 86 MW from a total of 21,405 MW to 21,319 MW. The net decrease resulted from the change in capacity of a power plant.
- Plants that decreased their capacities were Millennium Energy's Oil-based and Hawaiian Philippine Company's Biomass power plant.

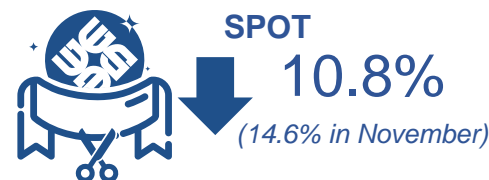
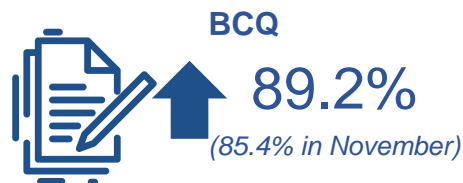
## OUTAGE CAPACITY BY PLANT TYPE



Coal power plants recorded with the highest increase in the outage capacity brought about by the effects of the devastation of typhoon Odette.

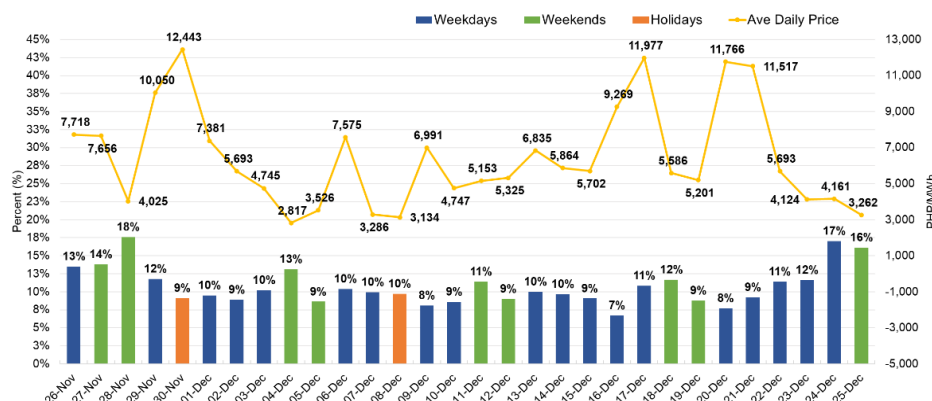


## MARKET TRANSACTIONS



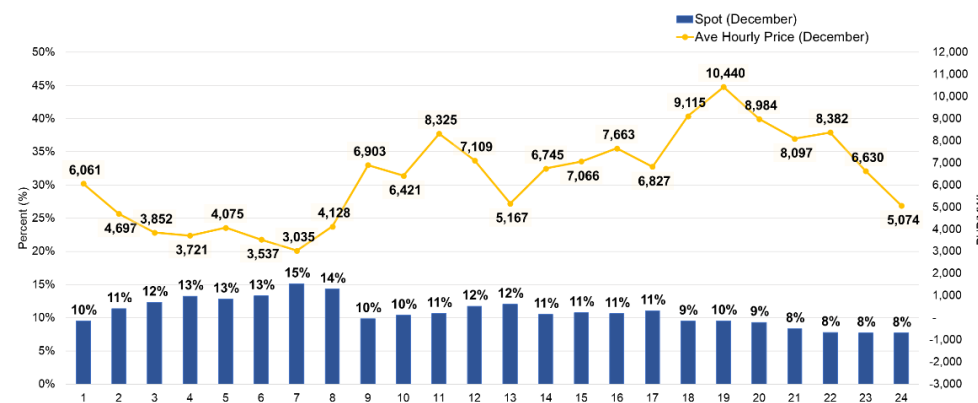
*Note: Spot share percentage is computed as the ratio of spot over the metered quantity in MWh.*

### DAILY SPOT

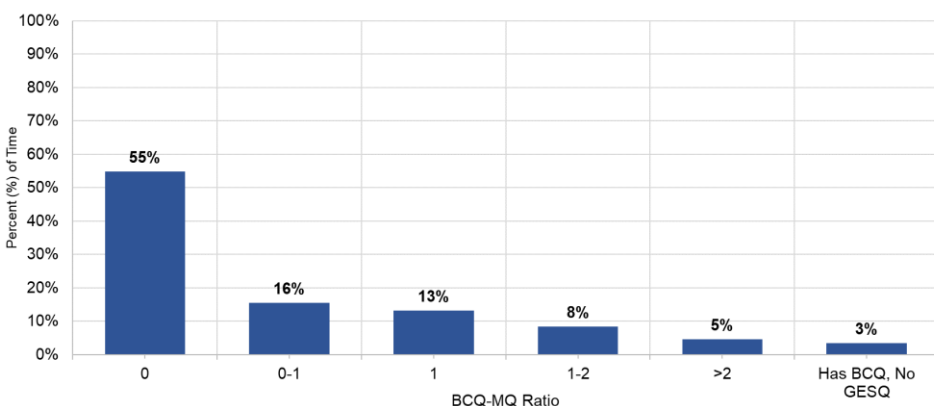


Spot share during weekdays averaged at 10.1 percent while the spot share during weekends average at 12.3 percent. The relatively high market prices due to low level of supply, have contributed to the increase in the spot quantities in the market. Higher exposures during the weekend have been brought about by lower market prices during these instances due to lower demand consumptions.

### HOURLY SPOT



Total spot quantities of generator participants in December stood at an average of 15.4 percent during off-peak and 13.6 percent during peak hours. In general, the trend shows high spot transactions during periods of relatively low prices.

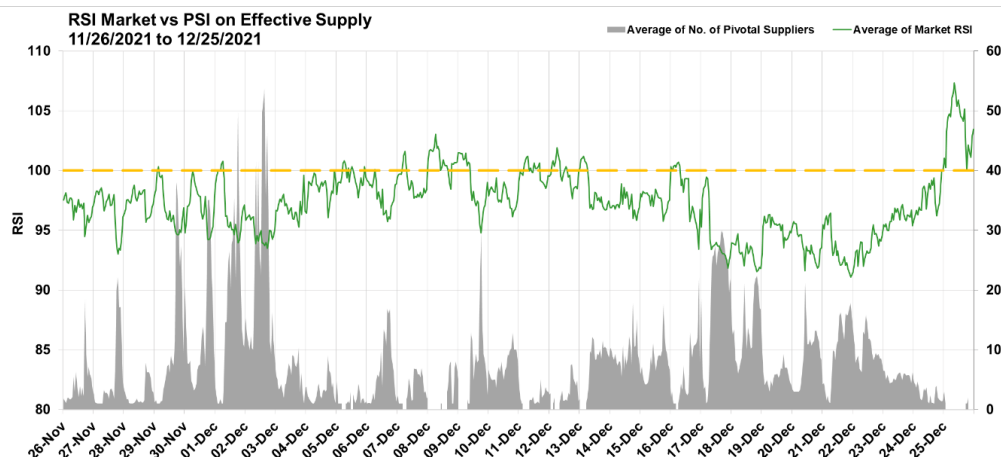


### BCQ-MQ RATIO

- The resulting BCQ to MQ ratio of 0 demonstrates that the entire generations were fully sold in the market 55 percent of the time.
- Roughly 13 percent of the time had a BCQ to MQ ratio of 1 which means that metered quantities were being allocated to serve bilateral contract obligations.
- Generators with no MQ and fully bought energy in the market to serve their bilateral contract obligations were accounted at 3 percent of the time.
- The remaining 29 percent accounted for BCQs consuming a fraction of their MQ (16 percent), declared BCQs up to twice their MQ (8 percent), and declared BCQs more than twice their MQ (5 percent).

## STRUCTURAL COMPETITION INDICES

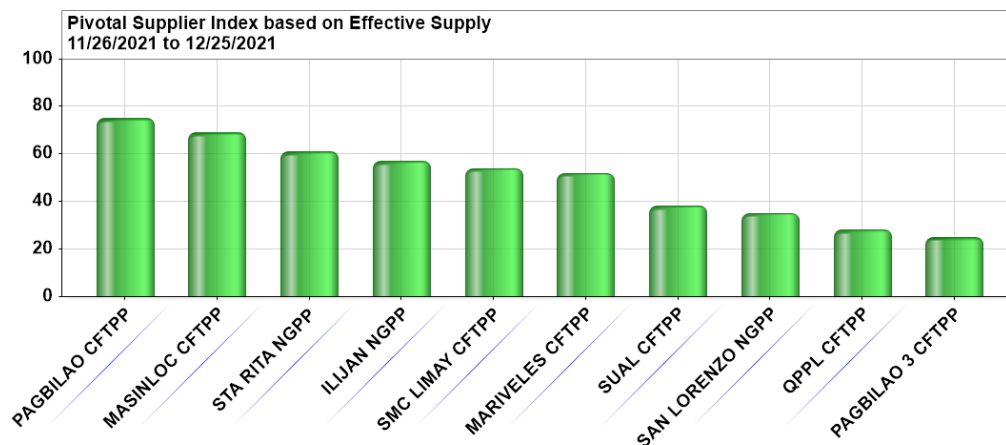
### MARKET RSI



Out of the 8,640 trading intervals in December 2021 billing month, 7,298 intervals had a Residual Supply Index (RSI) below the 100 percent mark, indicating presence of pivotal suppliers.

The average market prices for intervals with RSI below 100 percent was PHP7,051/MWh while those with RSI above 100 was PHP3,002/MWh.

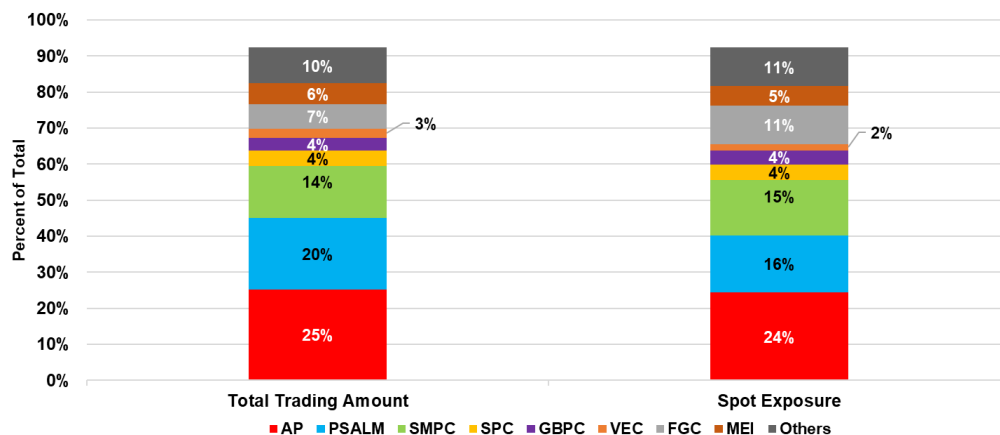
### PIVOTAL PLANTS



A total of 156 power plants were pivotal during the period with 109 coming from Luzon and 47 from Visayas.

The notable decrease in effective supply due to high outage level translated to a low RSI and high number of pivotal suppliers per 5-min dispatch interval.

## TTA AND SPOT SHARE



- Aboitiz Power Corporation (AP) topped the list as the entity with the highest TTA share of sellers in the market with approximately 25 percent.
- Power Sector Assets and Liabilities and Management (PSALM) came in as the second highest TTA share of around 20 percent.
- San Miguel Power Corp. (SMPC) became third place this month, ending with a 14 percent of TTA share.
- The top 3 highest TTA shares comprised 59% of the total shares in the market.
- Total trading amount is derived from the total energy sold and purchased in the market.



## DEFINITIONS, REFERENCES, AND INTERPRETATION

- **Pricing Error Notice (PEN)**
  - Pricing errors is 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)**
  - is 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**
  - Producer surplus represents the difference between the price a generator receives and their willingness to sell for each quantity.
- **Price Substitution Methodology (PSM)**
  - is 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**
  - are generators 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.

## 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	NATG	San Lorenzo 2	261.8	12/22/2021 2:45	12/24/2021 3:36	2.04	Planned Outage	Planned outage from 22 Dec 2021 (0001H) till 23 Dec 2021 (2350H). forced outage till 24 Dec (0336H)
CLUZ	NATG	San Lorenzo 1	264.8	12/18/2021 2:43	12/20/2021 3:57	2.05	Maintenance Outage	NDC Test Preparation
CVIS	GEO	Upper Mahiao 2	32	12/17/2021 9:02	12/23/2021 15:45	6.28	Forced Outage	Affected by blackout
CVIS	GEO	Mahanagdong A2	5	12/17/2021 9:03	12/22/2021 12:06	5.13	Forced Outage	Affected by blackout
CVIS	GEO	Mahanagdong A1	5	12/17/2021 9:03	12/21/2021 14:57	4.25	Forced Outage	Affected by blackout
CLUZ	COAL	SLTEC 1	121	12/17/2021 6:15	12/21/2021 13:12	4.29	Maintenance Outage	Maintenance Outage
CVIS	COAL	CEDC 2	82	12/16/2021 23:20	12/25/2021 0:26	8.05	Forced Outage	Tripped while house load. Typhoon odette
CVIS	GEO	PGPP2 Unit 3	20	12/16/2021 21:10	12/20/2021 22:45	4.07	Forced Outage	Auto-tripped due to typhoon Odette.
CVIS	GEO	PGPP2 Unit 2	20	12/16/2021 21:10	12/19/2021 14:07	2.71	Forced Outage	Auto-tripped due to typhoon Odette.
CVIS	GEO	PGPP2 Unit 1	20	12/16/2021 21:10	12/20/2021 15:19	3.76	Forced Outage	Auto-tripped due to typhoon Odette.
CVIS	GEO	PGPP1 Unit 3	37.5	12/16/2021 21:09	12/21/2021 18:20	4.88	Forced Outage	Auto-tripped due to typhoon Odette.
CLUZ	GEO	Tiwi 2	60	12/15/2021 13:41	12/19/2021 5:29	3.66	Forced Outage	Tripped due to excitation system trouble.
CLUZ	OIL	Malaya 2	350	12/15/2021 13:10	12/21/2021 17:01	6.16	Forced Outage	Emergency shutdown due to turbine steam leak.
CVIS	OIL	CENPRI 4	6.7	12/14/2021 17:50	12/18/2021 9:37	3.66	Forced Outage	Offline due to detached charging motor interlock.
CLUZ	COAL	SLPGC 1	150	12/10/2021 15:57	12/17/2021 17:09	7.05	Forced Outage	Emergency shutdown due to furnace high pressure.(RECLASSIFIED FROM FORCE. OMC OUTAGE)
CLUZ	COAL	Masinloc 1	315	12/05/2021 5:16	12/22/2021 12:28	17.30	Forced Outage	Unit tripped from 111MW.
CLUZ	NATG	Sta. Rita 2	255.7	12/04/2021 2:56	12/10/2021 20:42	6.74	Planned Outage	Planned outage from 04 Dec 2021 (0201H) till 08 Dec (2350H). forced outage till 10 Dec
CLUZ	OIL	Limay 3	60	12/04/2021 0:01	12/07/2021 17:12	3.72	Planned Outage	comprehensive unit inspection.
CVIS	COAL	PEDC 2	83.7	12/03/2021 11:21	12/06/2021 1:28	2.59	Forced Outage	OFFLINE - due to boiler tube leak
CVIS	OIL	TPVI 6	6.8	12/01/2021 15:08	12/06/2021 13:07	4.92	Forced Outage	BROKEN VALVE ROTATOR PLATE
CLUZ	COAL	Masinloc 3	335	11/29/2021 16:44	12/02/2021 8:49	2.67	Forced Outage	Boiler feed pump B tripping.
CLUZ	GEO	Bacman 1	60	11/29/2021 3:53	12/01/2021 22:15	2.77	Forced Outage	Tripped due to condenser level low indication.
CLUZ	HYD	Kalayaan 4	180	11/29/2021 0:01	12/03/2021 21:11	4.88	Planned Outage	Semi-annual Preventive Maintenance until 03 December 2021.