Philippine Electricity Market Corporation

WEEKLY MARKET WATCH

02 - 08 Sep 2024

MARKET ASSESSMENT HIGHLIGHTS

Demand, Supply, and Price

- Average weekly demand and outages increased in both Visayas and Mindanao contrary to the occurrence in Luzon.
- Intervals with imports from Luzon to Visayas increased from 6.25% to 63.54% of the time, while the flow from Mindanao to Visayas is maintained at 100%.
- Increase in average weekly price was only observed in Mindanao contrary to both Luzon and Visayas which had decrease in average price.
- Weekly regulating reserve prices, both up and down, experienced decreases in the Visayas region but was still above the Php20,000/MWh range.
- Weekly dispatchable reserve (DR) prices decreased in both Luzon and Visayas contrary to Mindanao with an observed 20.60% increase.
- Lesser occurrence of top pivotal plants was recorded this week compared from the previous week.

Energy Offer Pattern Analysis

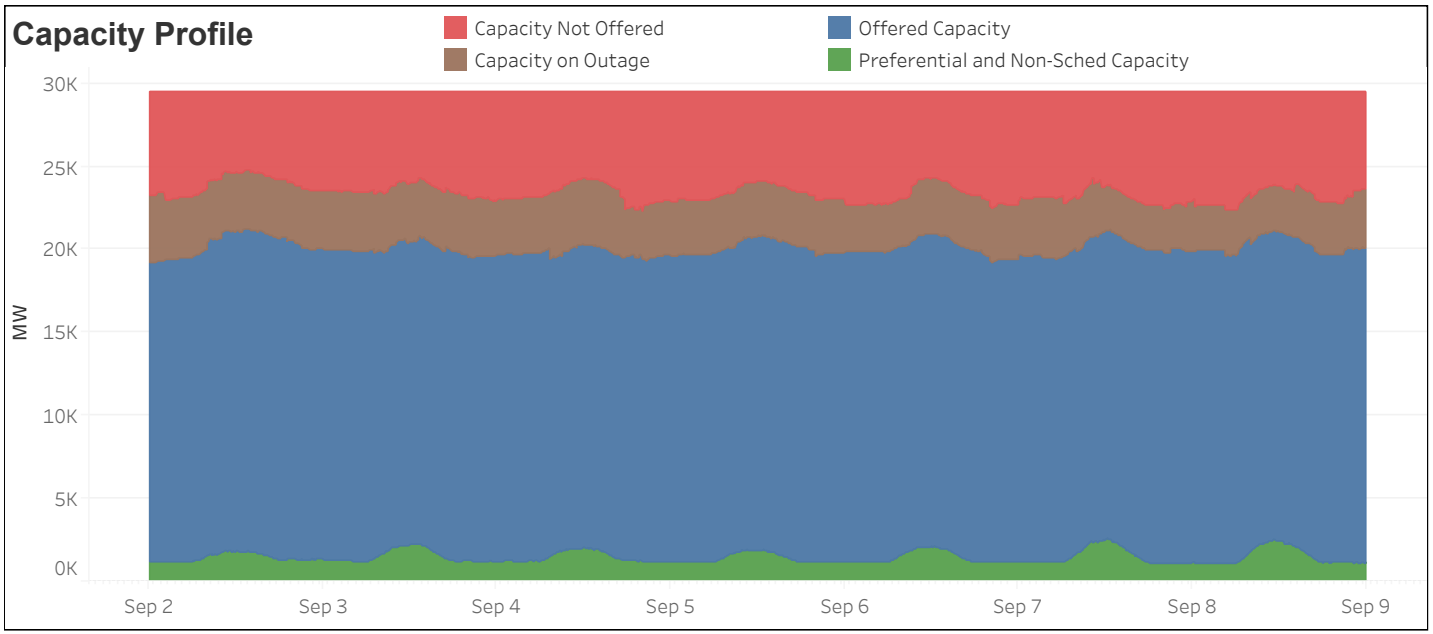
Luzon
- Hydro plants recorded higher set of offered prices starting 07 September; lower pump load nomination was observed on Sunday than the rest of the week.
- Solar plants recorded lower nominations compared to the previous week.
- Wind plants recorded higher peak nomination compared to the previous week.

Visayas
- Biofuel plants only recorded nominations on 07 September.
- Oil plants' offered capacity decreased starting 07 September, same with the offered capacity in the DR. Decrease in offered capacity was due to outages.
- Wind plants recorded higher peak nomination compared to the previous week.

Mindanao
- Hydro plants recorded Php (0,5000]/MWh offer price range only on 02 September. They also recorded decrease in both offered and effective capacities in the morning of 07 September which coincides when Baloi 138kV line 2 was de-energized.

Market Systems Advisory

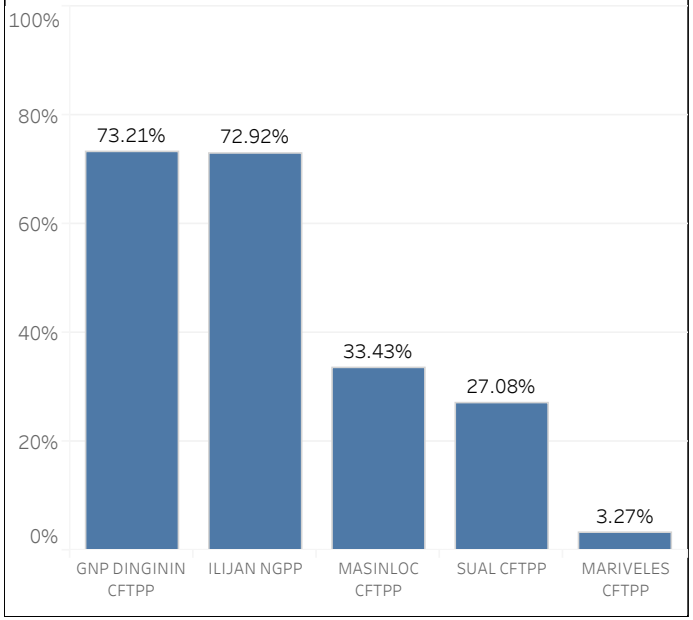
- No IT-related issue was advised in IEMOP's market systems from 02 - 08 September 2024.



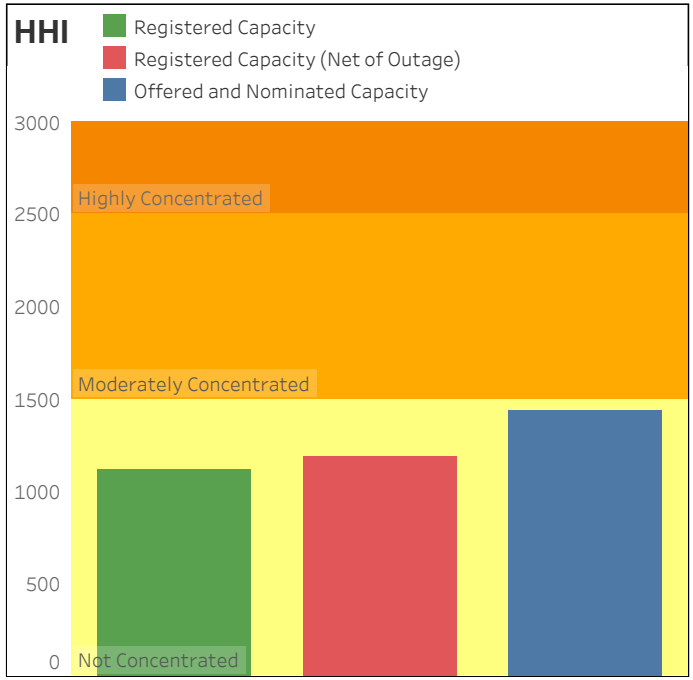
SUMMARY OF AVERAGE VALUES

Particulars	02 - 08 Sep 2024	26 Aug - 01 Sep 2024	% Change
GWAP (Php/MWh)			
System	3,206	4,169	-23.11%
Luzon	2,998	4,374	-31.45%
Visayas	3,853	4,384	-12.12%
Mindanao	3,548	3,145	12.81%
EFFECTIVE SUPPLY (MW)			
Luzon	11,508	12,048	-4.49%
Visayas	2,209	2,325	-5.01%
Mindanao	3,181	3,204	-0.72%
DEMAND (MW)			
Luzon	9,320	10,111	-7.83%
Visayas	2,004	1,942	3.20%
Mindanao	2,056	1,971	4.33%
OUTAGE (MW)			
Luzon	2,304	2,426	-5.03%
Visayas	572	496	15.17%
Mindanao	424	395	7.50%
RU PRICE (PHP/MWh)			
Luzon	4,418	2,809	57.29%
Visayas	26,640	30,410	-12.40%
Mindanao	2,061	1,482	39.10%
RD PRICE (PHP/MWh)			
Luzon	3,195	2,455	30.12%
Visayas	46,873	52,775	-11.18%
Mindanao	723	718	0.57%
FR PRICE (PHP/MWh)			
Luzon	2,584	3,105	-16.77%
Visayas	6,889	9,098	-24.28%
Mindanao	1,696	1,406	20.60%
DR PRICE (PHP/MWh)			
Luzon	3,518	2,505	40.40%
Visayas	7,651	3,581	113.67%
Mindanao	0	133	-100.00%

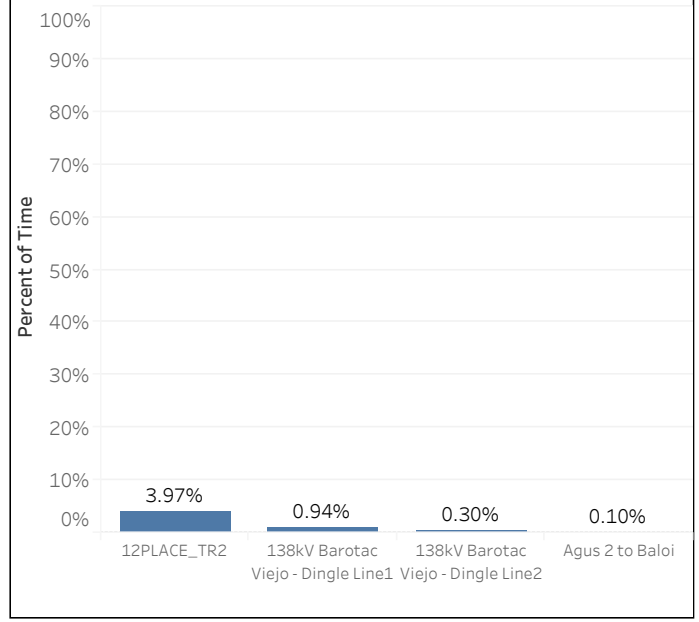
Top 5 Pivotal Plants



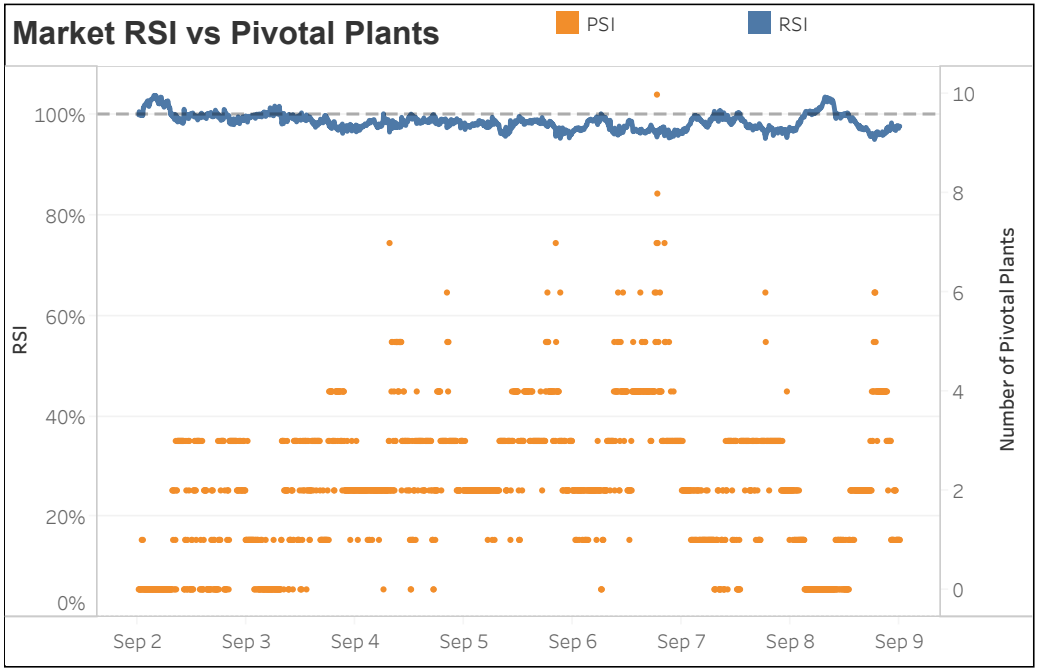
HHI



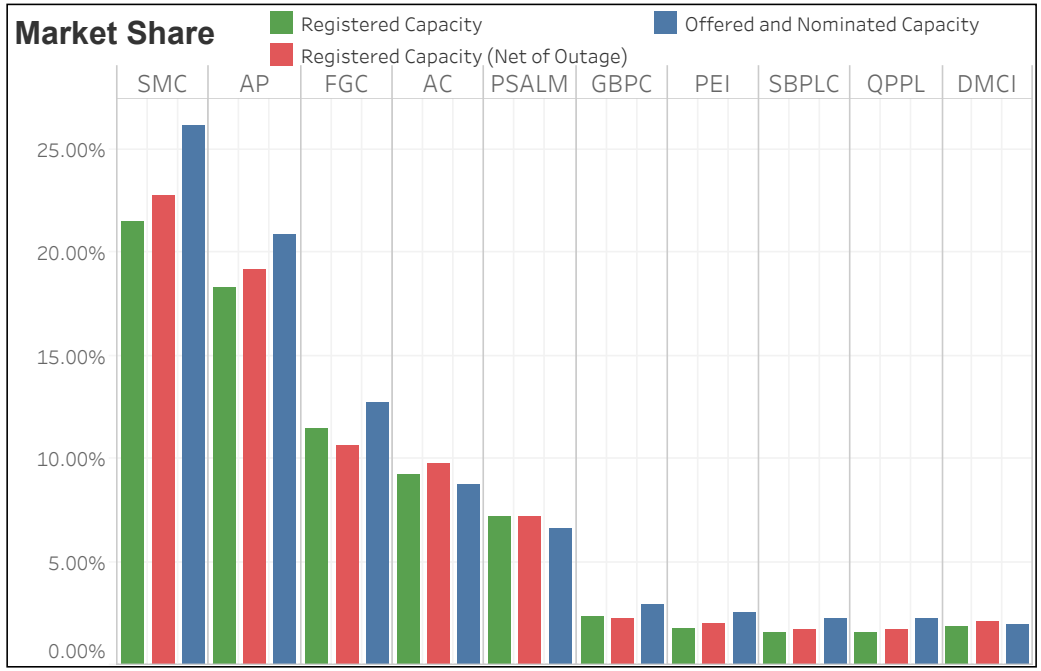
RTD Congestion



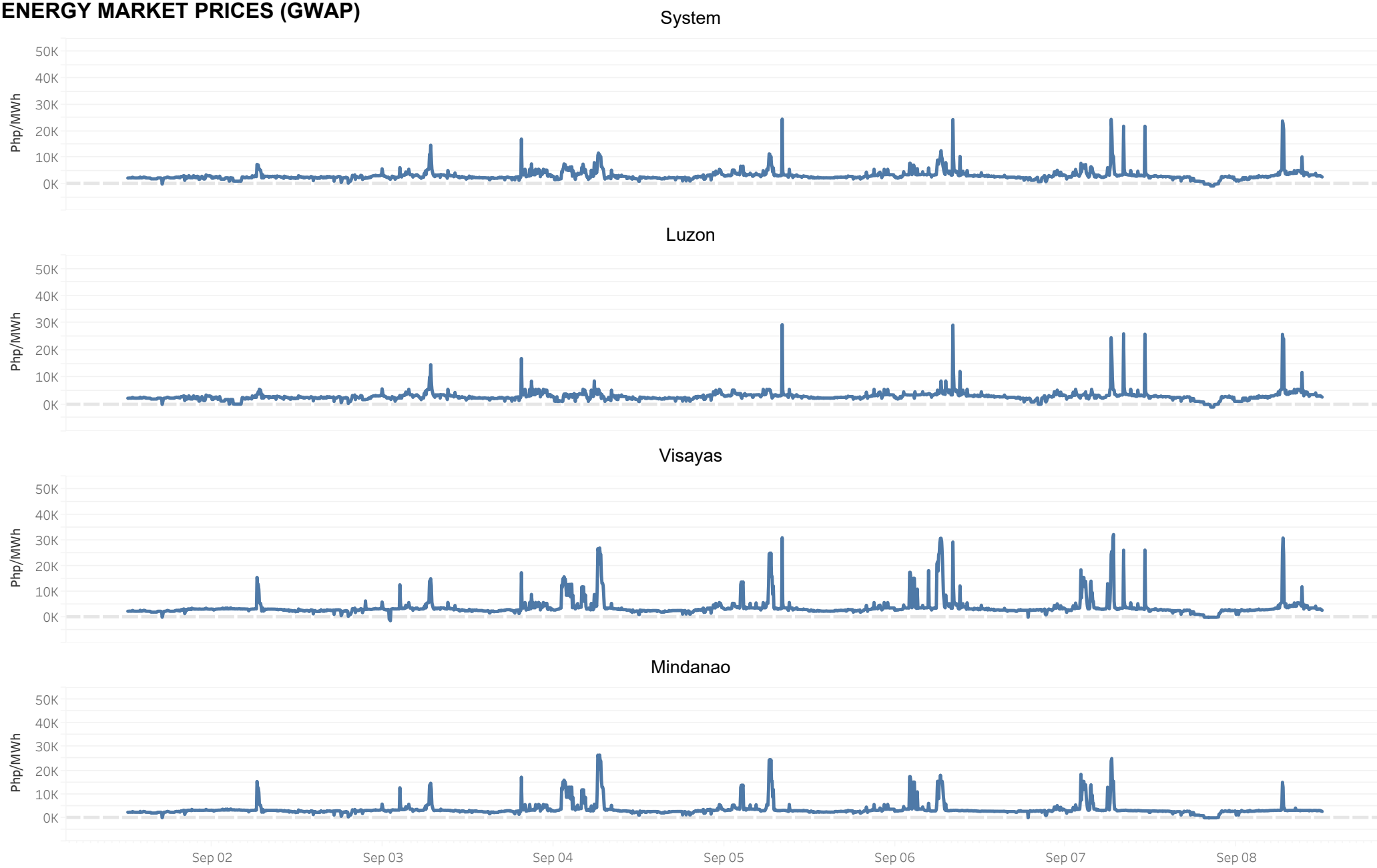
Market RSI vs Pivotal Plants



Market Share



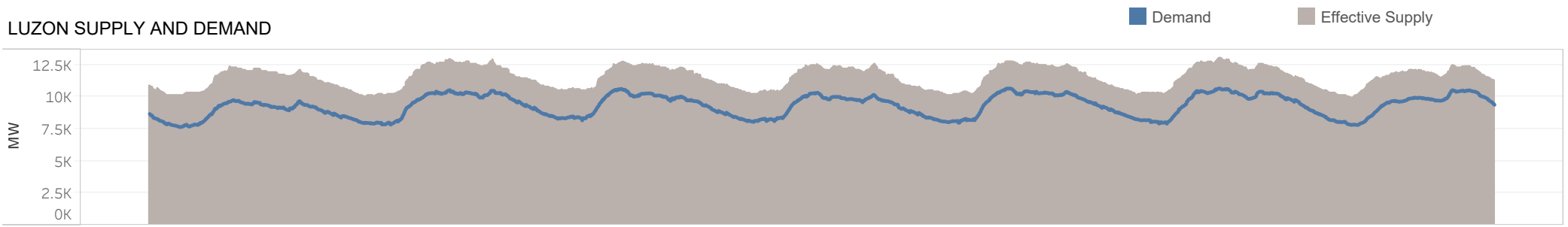
ENERGY MARKET PRICES (GWAP)



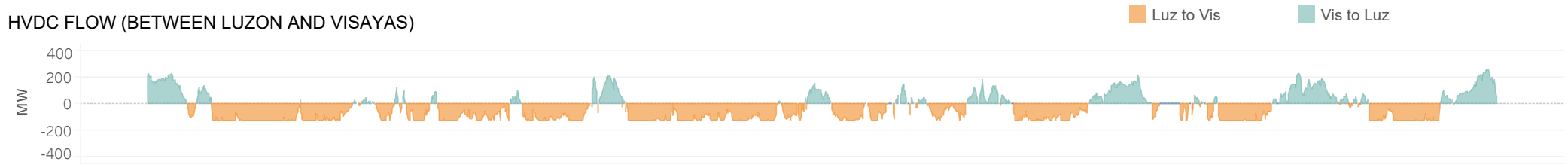
The charts show the market prices by region based on generator weighted average price (GWAP). Prices are subject to the finalization of settlement data.

GWAP GWAP (before post market run calculation)

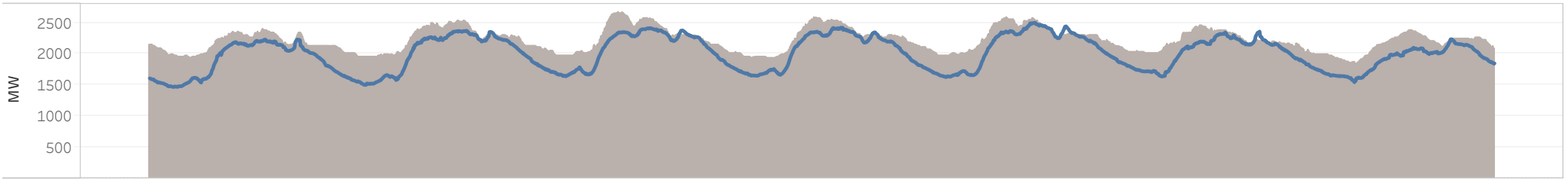
LUZON SUPPLY AND DEMAND



HVDC FLOW (BETWEEN LUZON AND VISAYAS)

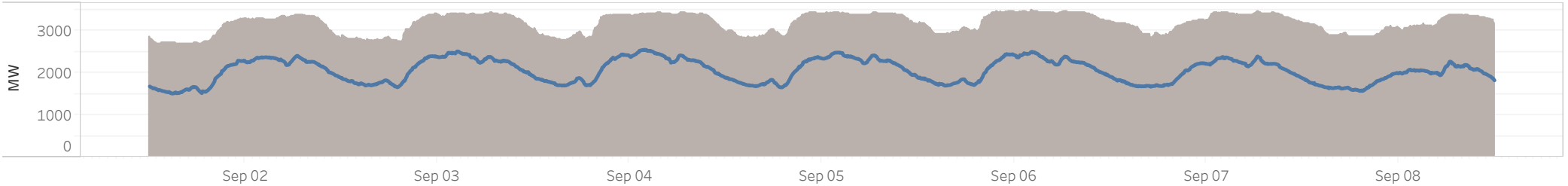


VISAYAS SUPPLY AND DEMAND



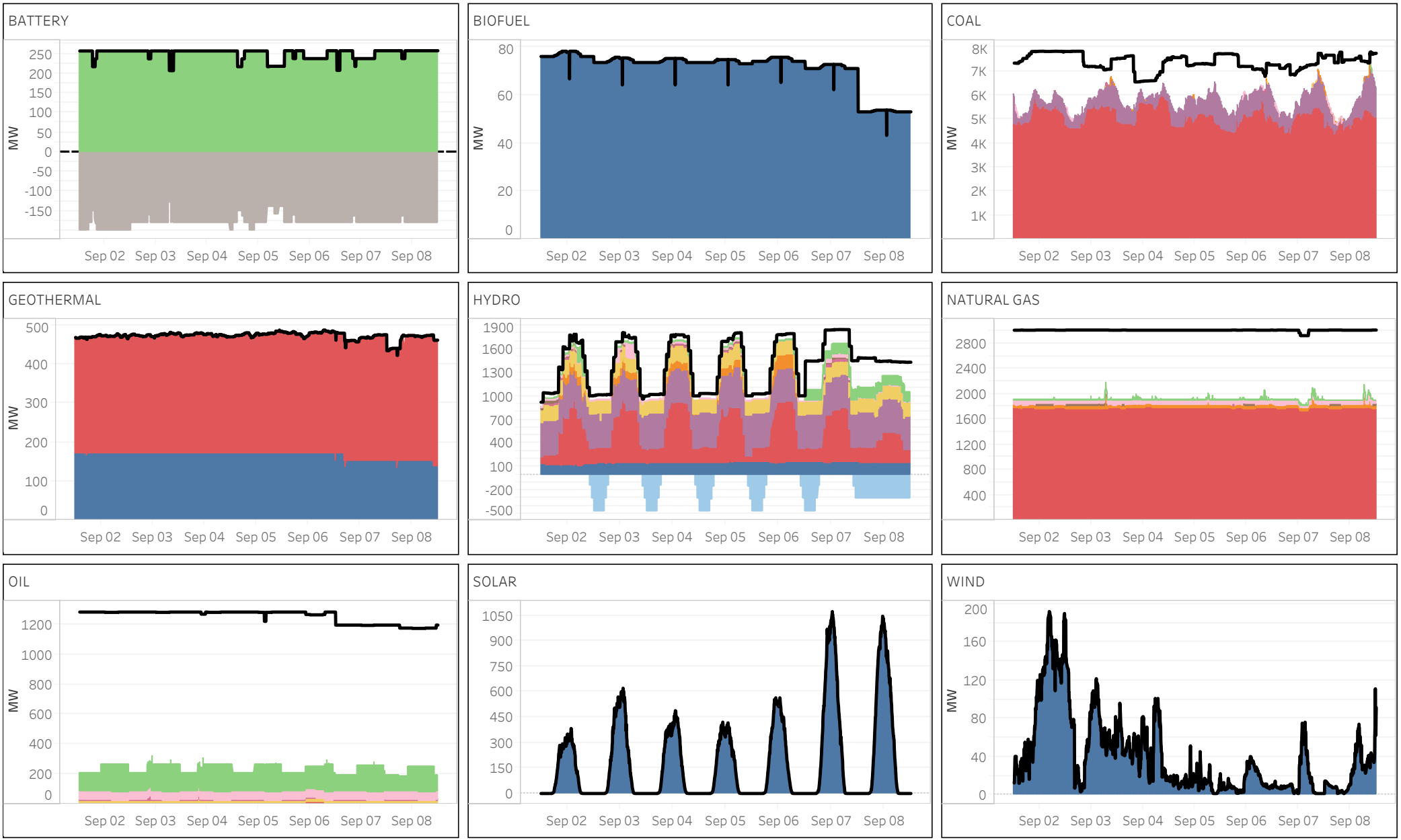
HVDC FLOW (BETWEEN VISAYAS AND MINDANAO)

MINDANAO SUPPLY AND DEMAND



The charts shows the aggregated supply and demand in each region and the scheduled power flow from/to a particular region via HVDC links.

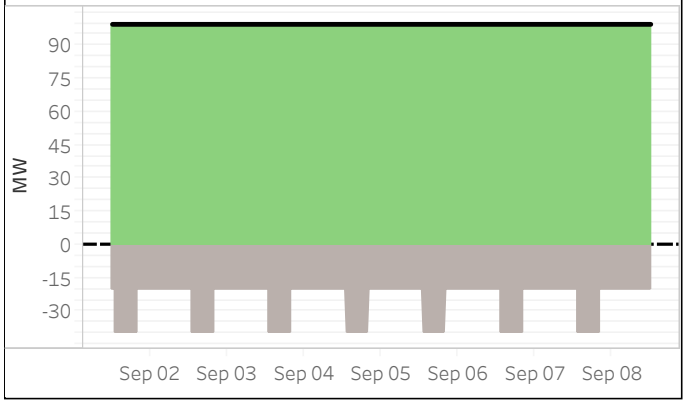
ENERGY OFFER PATTERN - LUZON



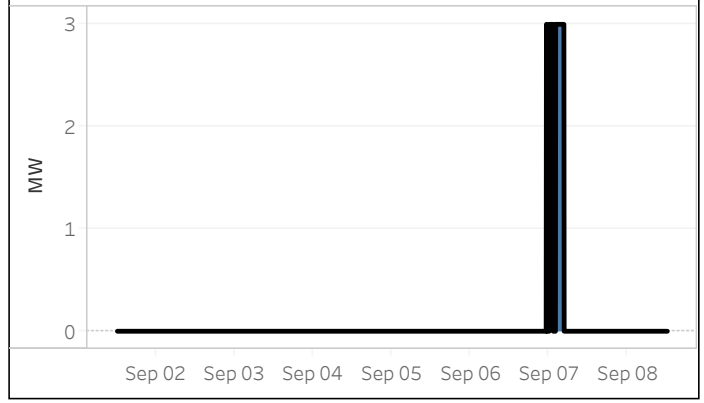
NOTES:
1. In Php (X, Y], it includes offer price greater than Php X but less than or equal to Php Y. 2. Reflected capacity are effective supply, adjusted for the submitted ramp rate and excluding any overriding constraint.

ENERGY OFFER PATTERN - VISAYAS

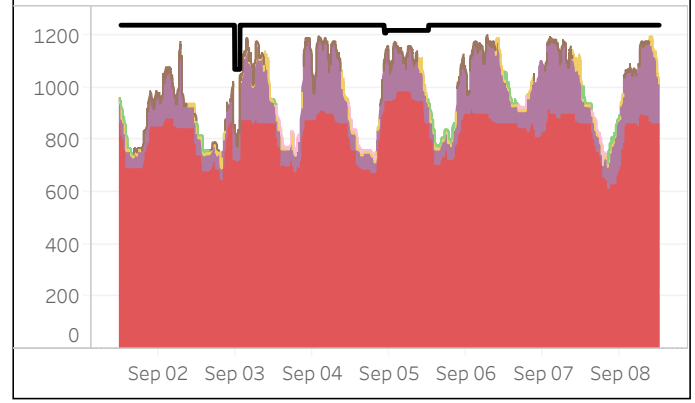
BATTERY



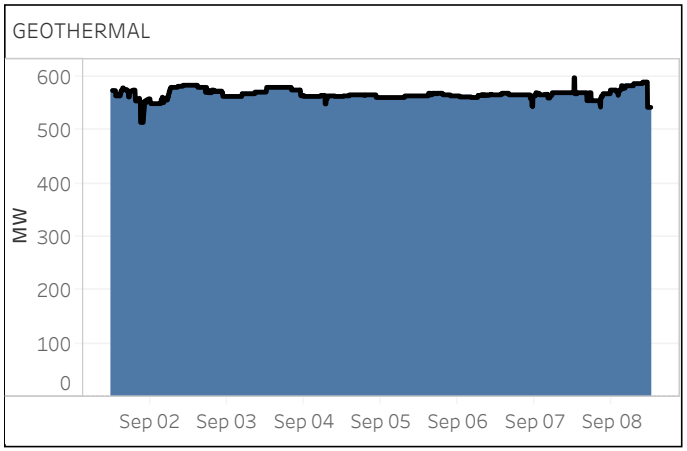
BIOFUEL



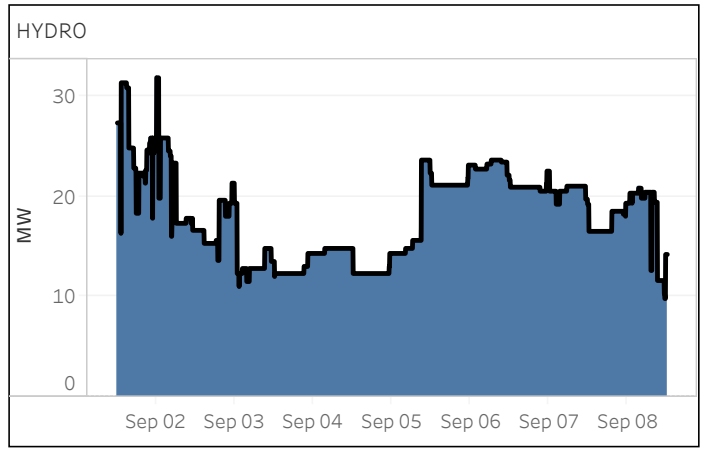
COAL



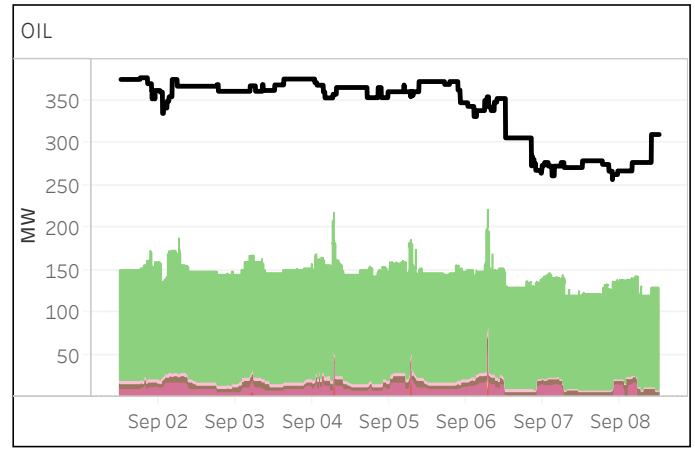
GEOTHERMAL



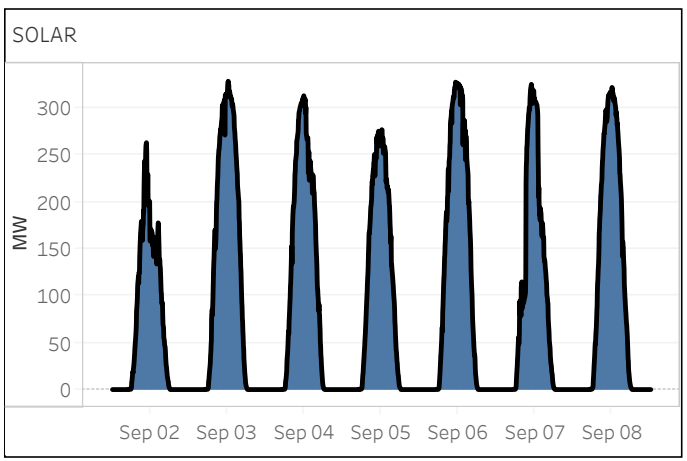
HYDRO



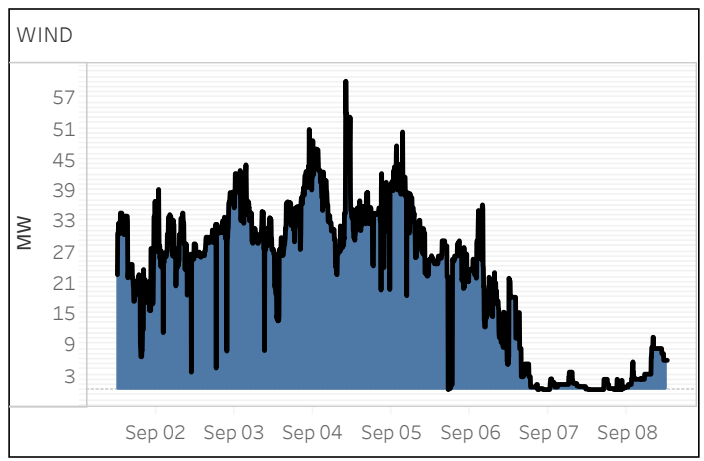
OIL



SOLAR



WIND

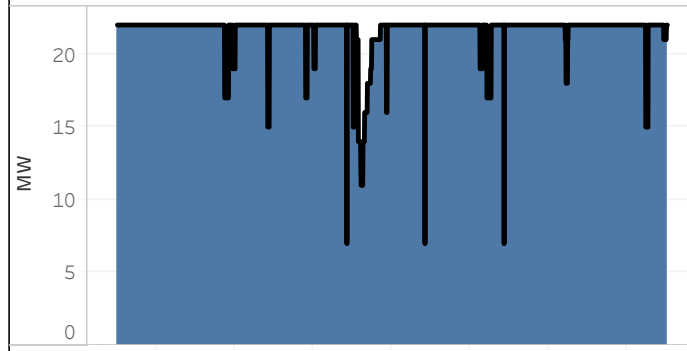


1. In Php (X, Y], it includes offer price greater than Php X but less than or equal to Php Y.
2. Reflected capacity are effective supply, adjusted for the submitted ramp rate and excluding any overriding constraint.

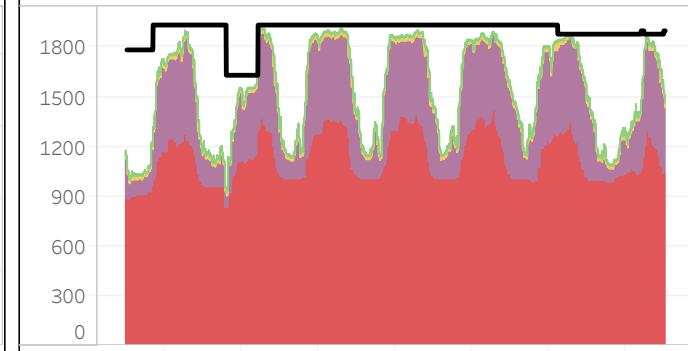
ENERGY OFFER PATTERN - MINDANAO

BATTERY

BIOFUEL

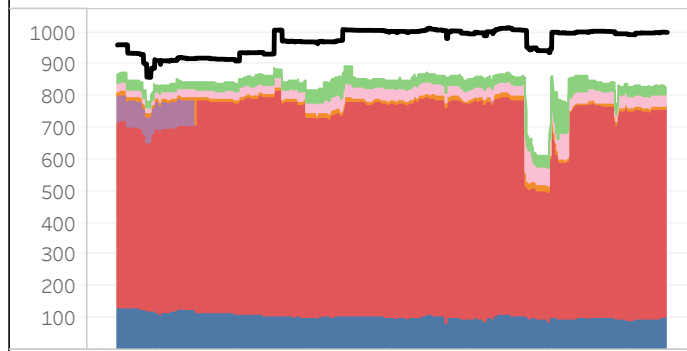


COAL

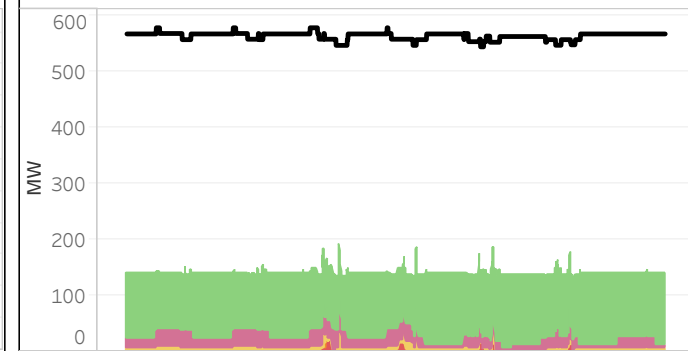


GEOTHERMAL

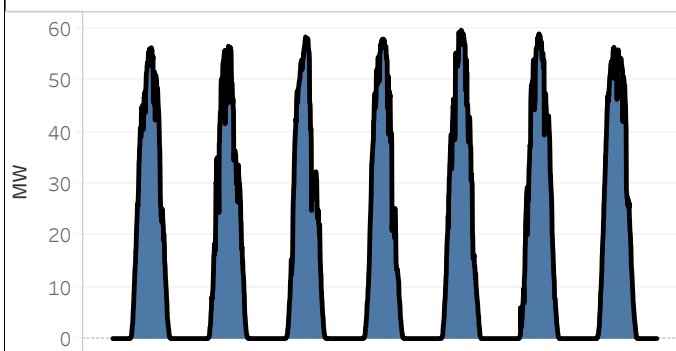
HYDRO

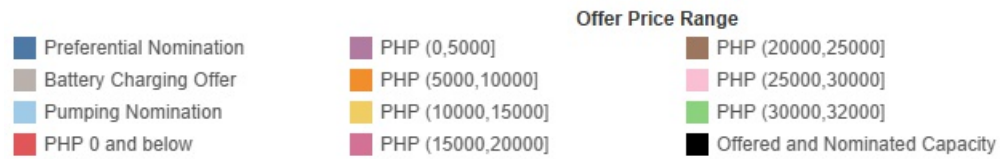


OIL



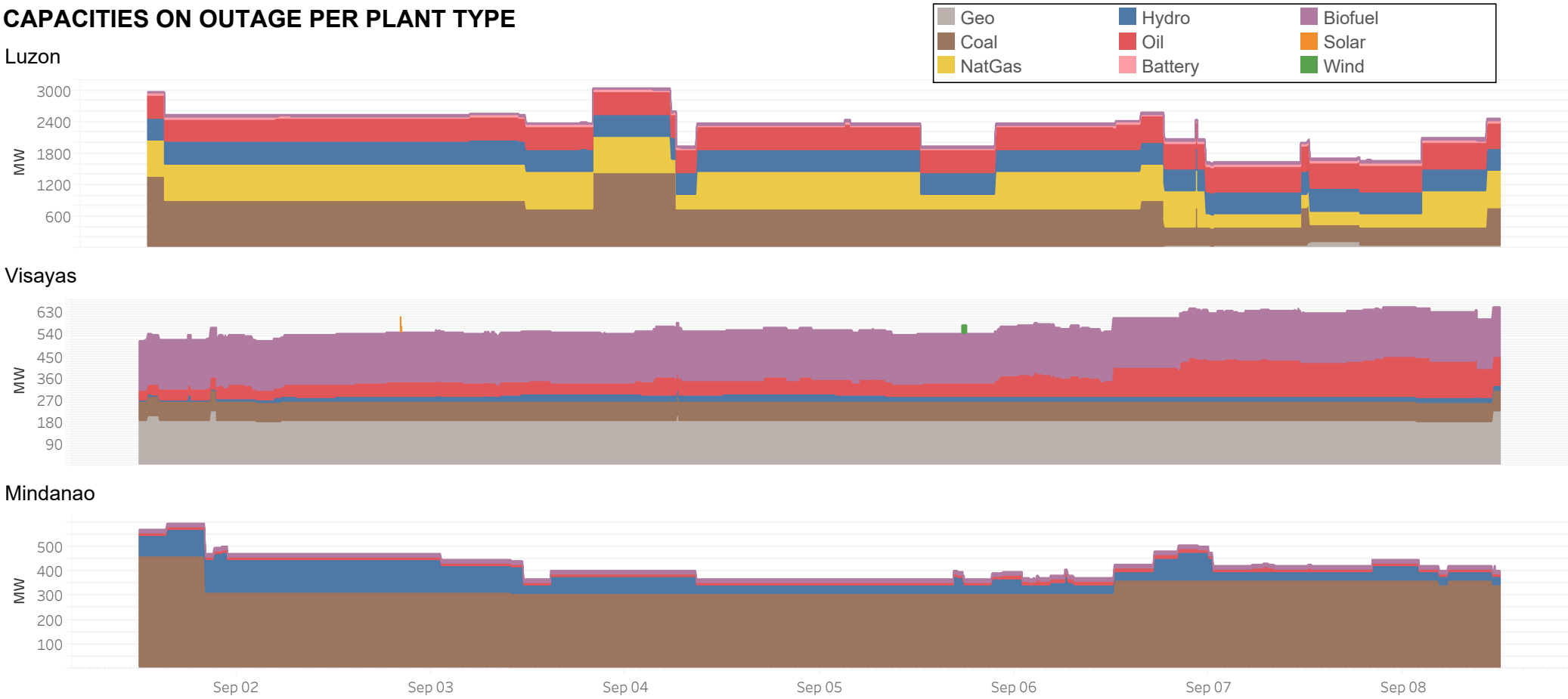
SOLAR



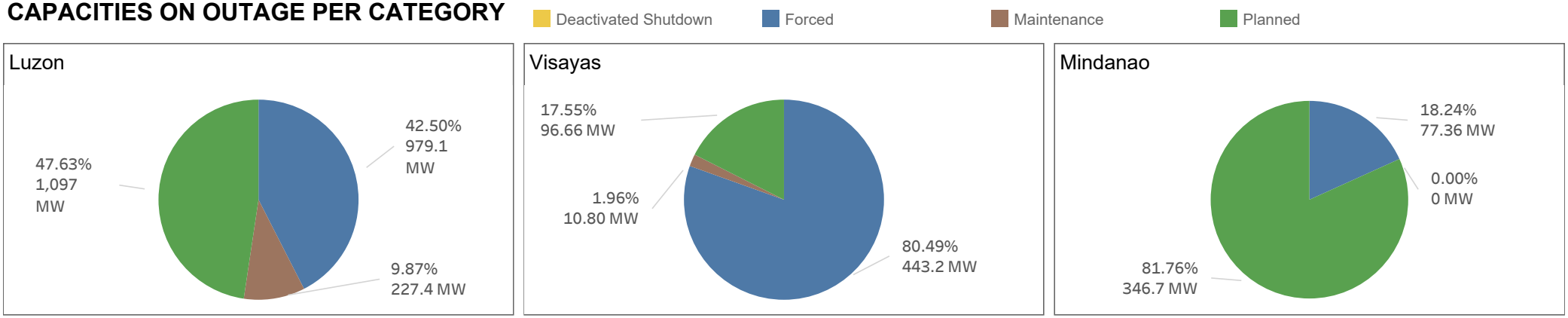


NOTES:
1. In Php (X, Y], it includes offer price greater than Php X but less than or equal to Php Y.
2. Reflected capacity are effective supply, adjusted for the submitted ramp rate and excluding any overriding constraint.

CAPACITIES ON OUTAGE PER PLANT TYPE

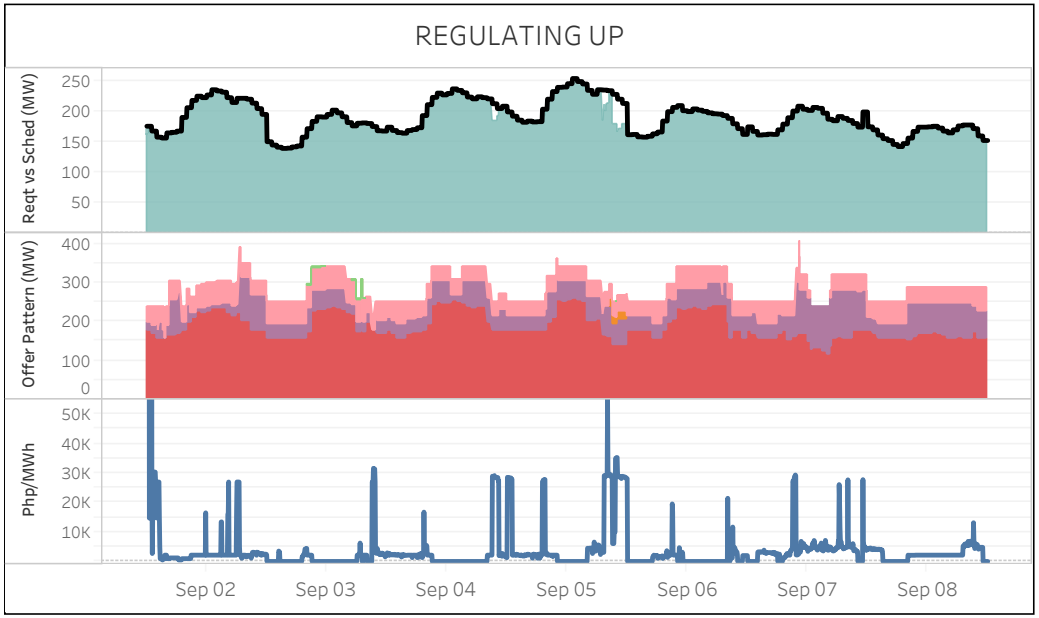


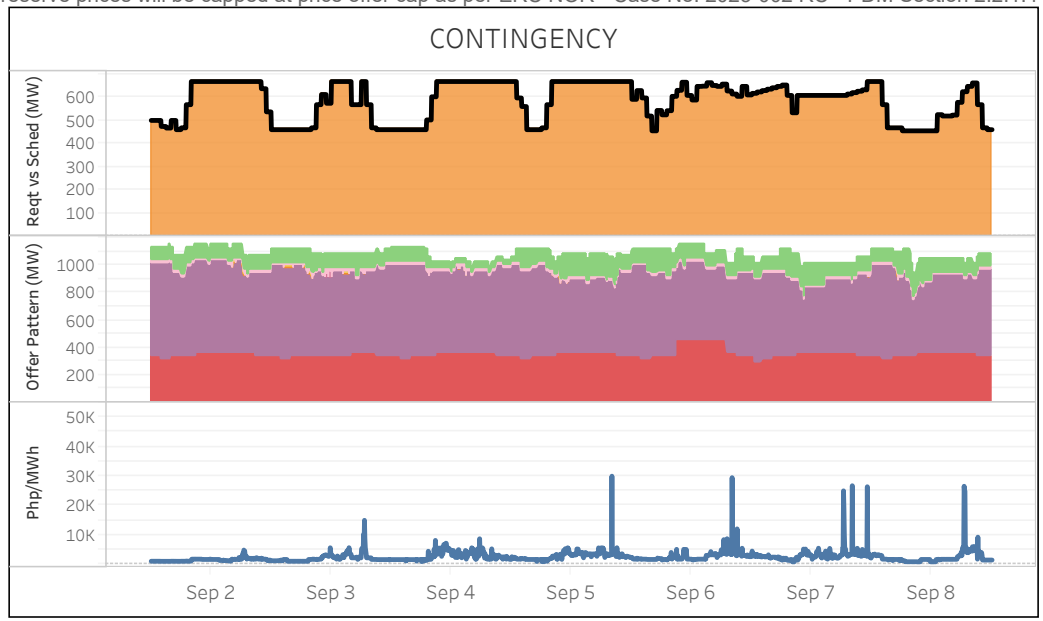
CAPACITIES ON OUTAGE PER CATEGORY

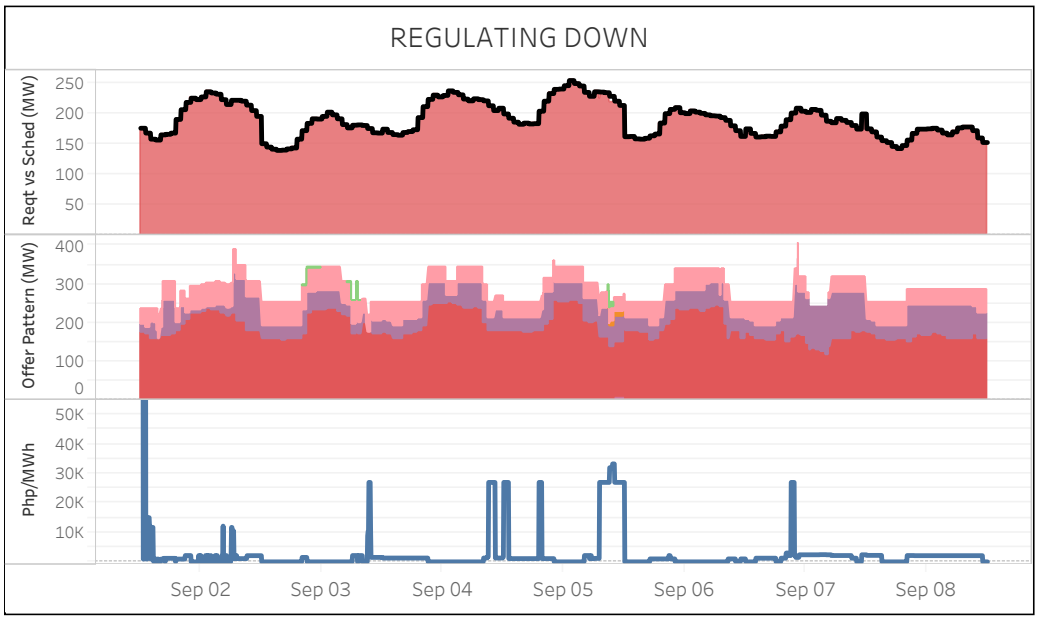


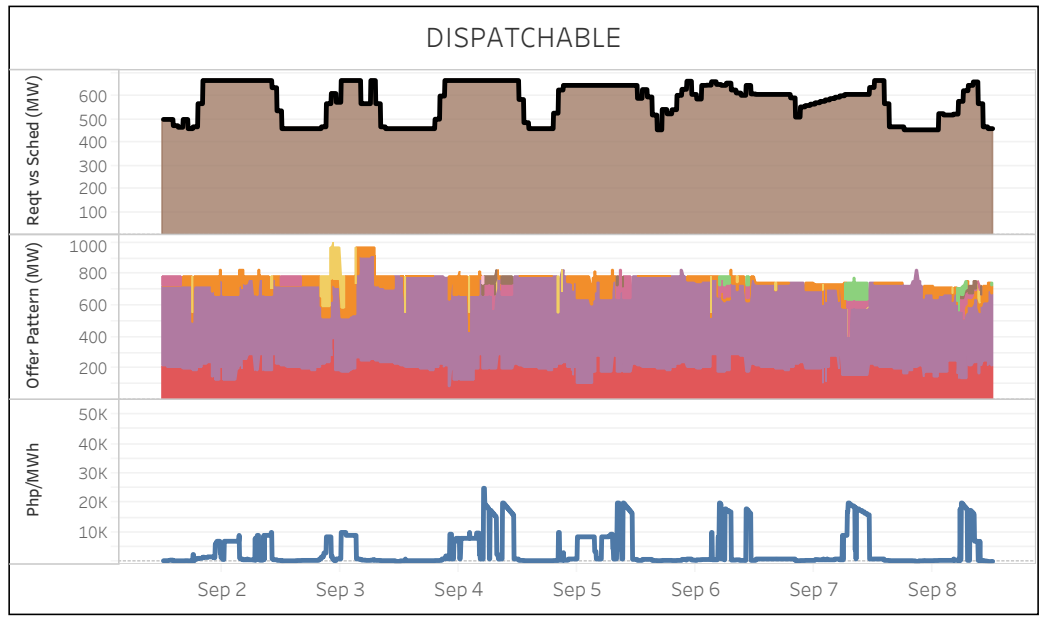
RESERVE MARKET DATA - LUZON

All reserve prices will be capped at price offer cap as per ERC NOR - Case No. 2023-002 RC - PDM Section 2.2.1.4









Reqt vs Sched Legends

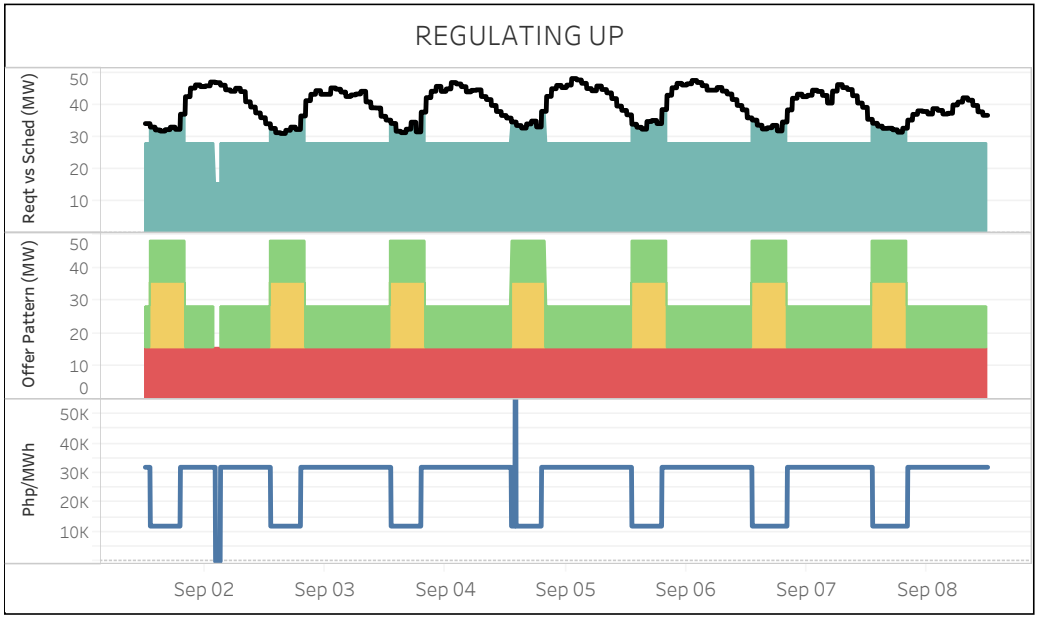
- Reserve Requirement
- RU Schedule
- RD Schedule
- FR Schedule
- DR Schedule

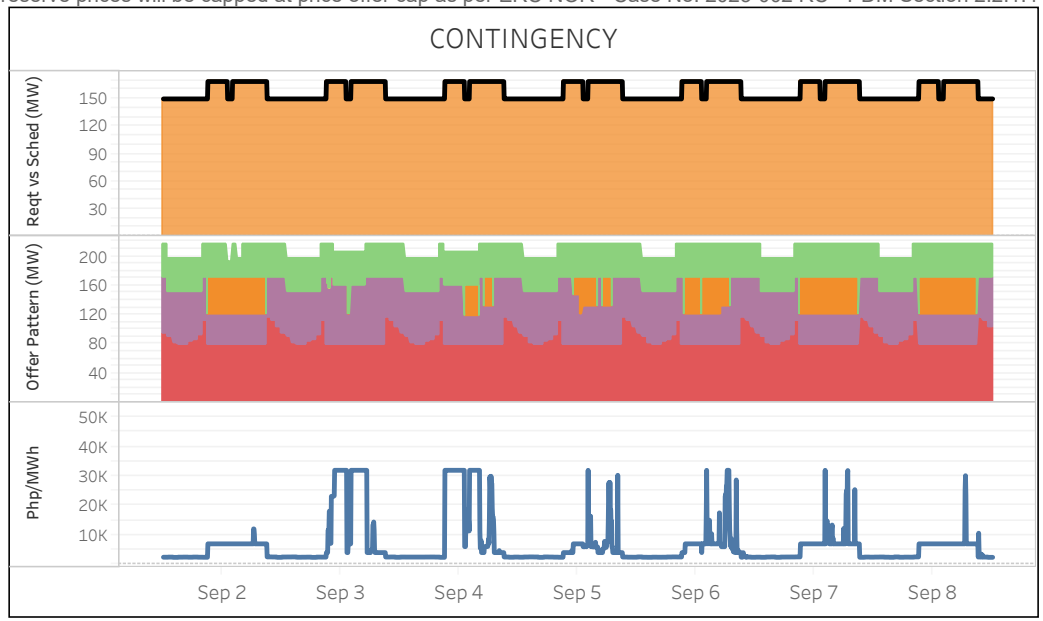
Offer Price Range

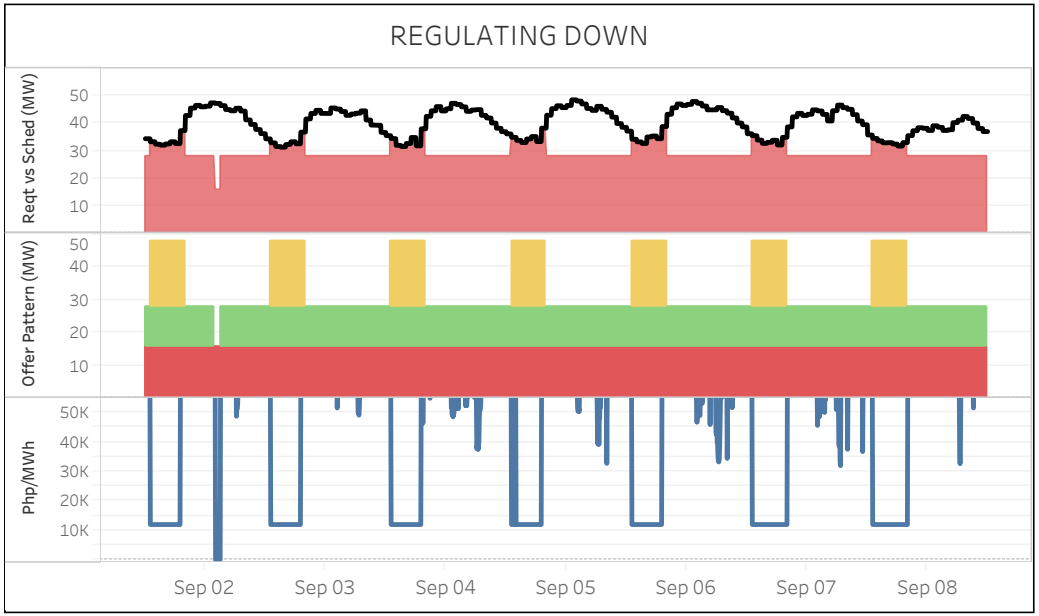
- PHP 0 and below
- PHP (0,5000]
- PHP (5000,10000]
- PHP (10000,15000]
- PHP (15000,20000]
- PHP (20000,25000]
- PHP (25000,30000]
- PHP (30000,32000]

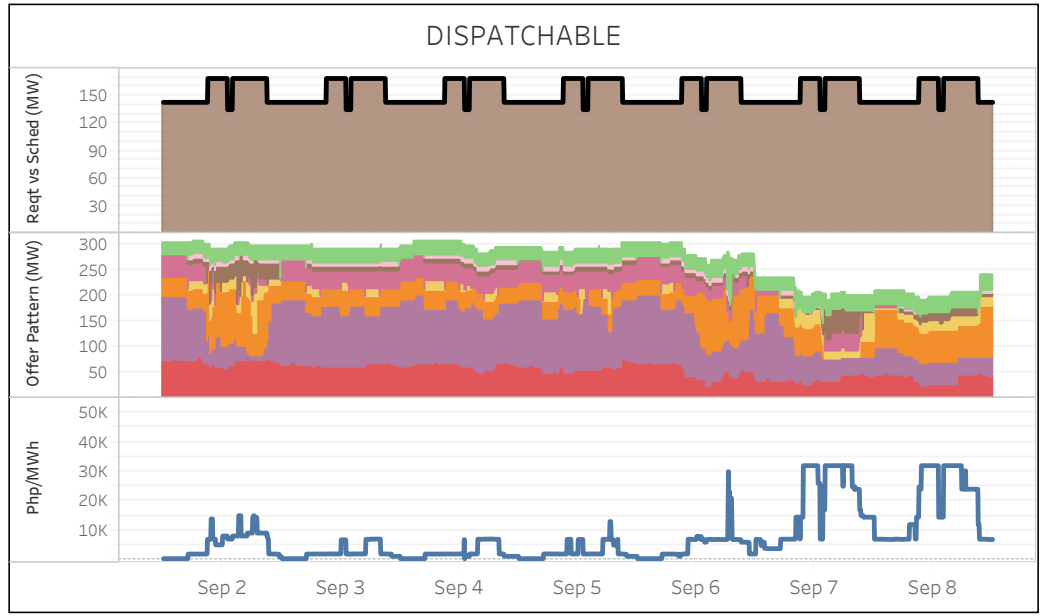
RESERVE MARKET DATA - VISAYAS

All reserve prices will be capped at price offer cap as per ERC NOR - Case No. 2023-002 RC - PDM Section 2.2.1.4









Reqt vs Sched Legends

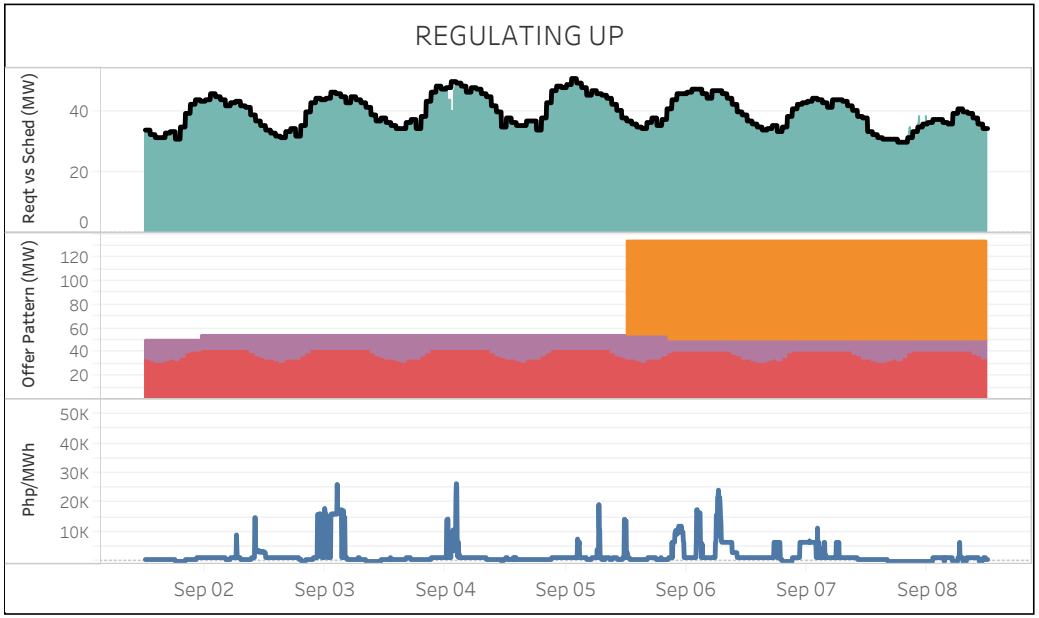
- Reserve Requirement
- RU Schedule
- RD Schedule
- FR Schedule
- DR Schedule

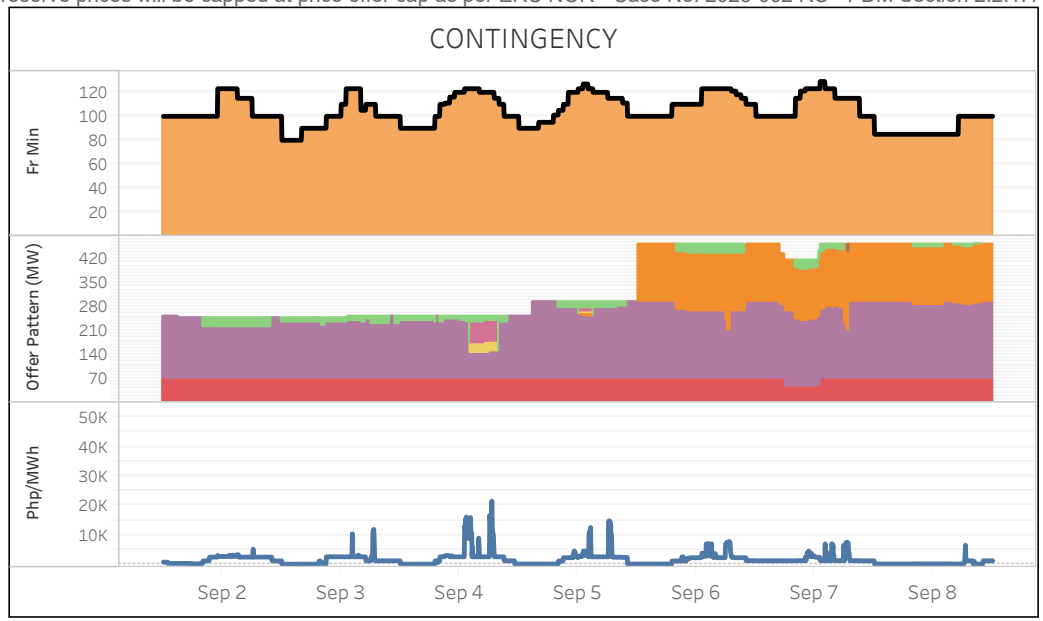
Offer Price Range

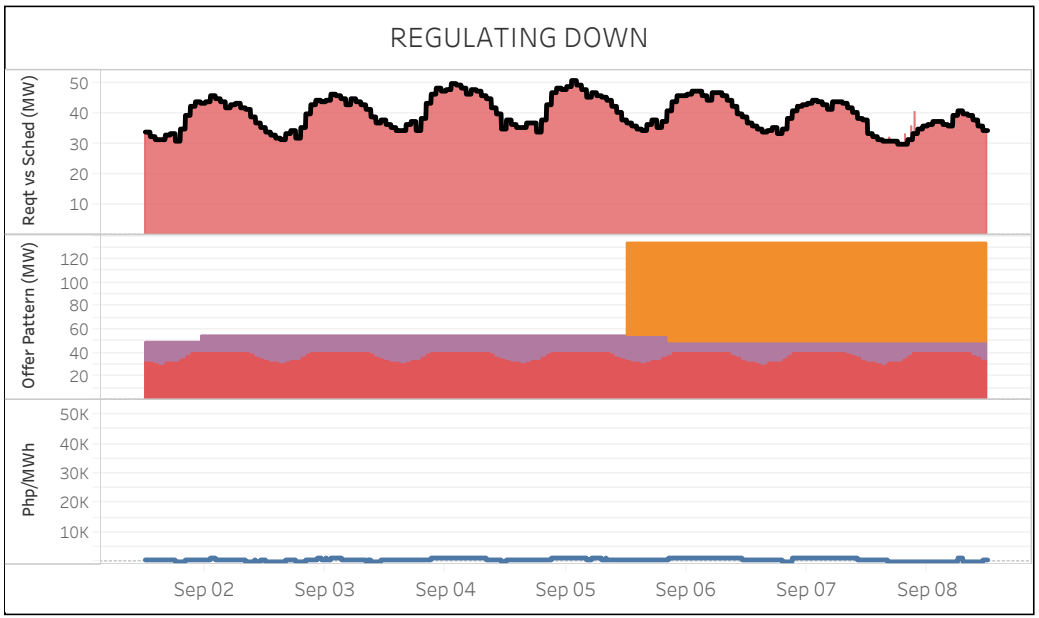
- PHP 0 and below
- PHP (0,5000]
- PHP (5000,10000]
- PHP (10000,15000]
- PHP (15000,20000]
- PHP (20000,25000]
- PHP (25000,30000]
- PHP (30000,32000]

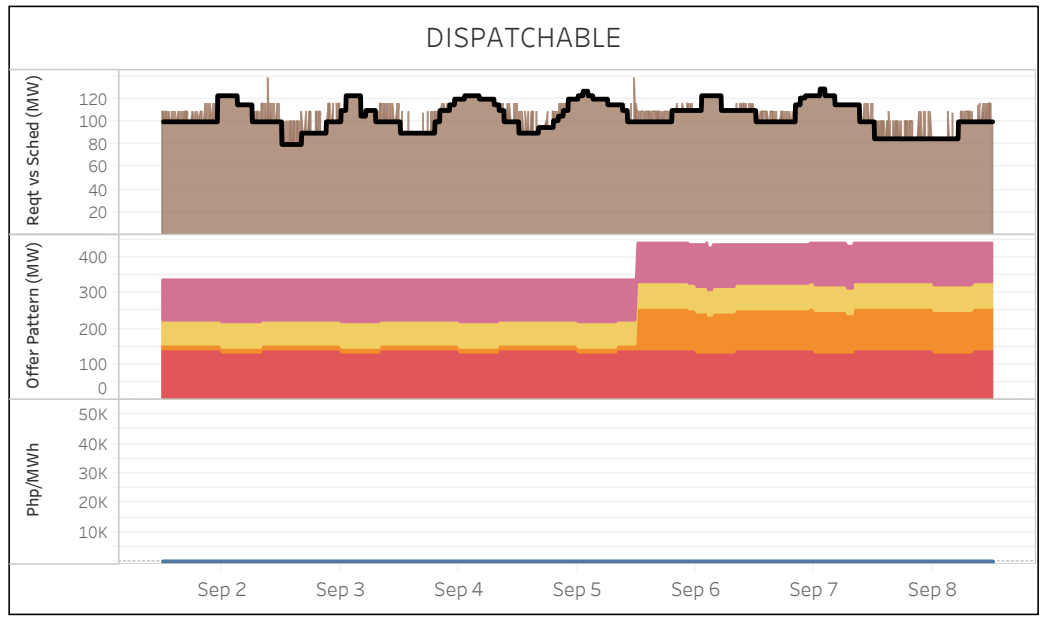
RESERVE MARKET DATA - MINDANAO

All reserve prices will be capped at price offer cap as per ERC NOR - Case No. 2023-002 RC - PDM Section 2.2.1.4









Reqt vs Sched Legends

- Reserve Requirement
- RD Schedule
- DR Schedule
- RU Schedule
- FR Schedule

Offer Price Range

- PHP 0 and below
- PHP (5000,10000]
- PHP (15000,20000]
- PHP (25000,30000]
- PHP (0,5000]
- PHP (10000,15000]
- PHP (20000,25000]
- PHP (30000,32000]

GLOSSARY OF TERMS

CAPACITY ON OUTAGE
Calculated for each 5-min interval as the sum of the capacity of all generating units on outage, which are further distinguished by plant type and category. The generating unit/s on outage and categories of outage are based on the SO's daily operations report. Cited below are the outage categories as defined in ERC Resolution No. 21, Series of 2016.

Deactivated Shutdown - refers to a condition where a generating unit is unavailable for service for an extended period of time for reasons not related to equipment and inactive for more than 60 days.
Forced - An outage that requires immediate removal of a unit from service, another outage state, or a reserve shutdown state.
Maintenance - An outage that does not require immediate removal from the In-Service state but requires a Unit to be removed from the available state before the next planned outage. This is scheduled at least seven (7) days in advance.
Planned - The state in which a Unit is unavailable due to inspection, testing, preventive maintenance or overhaul. A Planned Outage is scheduled with a pre-determined duration and is coordinated with the System Operator. The Planned Outage of a Unit shall be reflected in the Grid Operating and Management Program (GOMP).

DEMAND
Calculated for each 5-minute trading interval as the sum of the real time dispatch (RTD) schedule of all load resources plus regional losses.

HERFINDAHL-HIRSCHMAN INDEX (HHI)
It 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 1,500 - not concentrated; (2) 1,500 to 2,500 - moderately concentrated; and (3) greater than 2,500 - highly concentrated.

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.

NOMINATED CAPACITY
The available capacity declared by self-scheduled generators.

GLOSSARY OF TERMS

OFFERED CAPACITY
The available capacity declared by scheduled generators.

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).

POST MARKET RUN CALCULATION
Price adjustment after consideration of different pricing conditions such as AP, SPC, PSM, and PEN.

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.

RESERVE CATEGORIES
Regulating (RU and RD) - Readily available and dispatchable generating capacity that is allocated exclusively to correct deviations from the acceptable nominal frequency caused by unpredicted variations in demand or generation output.
Contingency (FR) - Synchronized generation capacity from Qualified Generating Units and Qualified Interruptible Loads allocated to cover the loss or failure of a synchronized generating unit or a transmission element of the power import from a circuit interconnection.
Dispatchable (DR) - Generating Capacity that are readily available for dispatch in order to replenish the Contingency Reserves whenever a generating unit trips or a loss of a single transmission interconnection occurs.

SUPPLY
Calculated for each 5-minute trading interval as the sum of the offered capacity of all scheduled generators considering their offered ramp rates, nominated loading level of nonscheduled generators and projected output of preferential dispatch generators, adjusted for any over-riding constraints imposed by the System Operator (SO), and reserve offers. Output of generators on testing and commissioning were considered based on the over-riding constraints imposed by the SO.