

## MARKET ASSESSMENT HIGHLIGHTS

### Demand, Supply, and Price

- The average weekly demand decreased across all regions.
- The average weekly outage increased in the Luzon and Mindanao regions, while it decreased in the Visayas region.
- Exports from Luzon to Visayas occurred 47.47% of the time, while the flow from Mindanao to Visayas was maintained at 100% of the time.
- The average weekly GWAP decreased by 5.16%, 15.81%, and 6.92% in Luzon, Visayas, and Mindanao regions, respectively.
- There is a presence of a pivotal supplier for 97.37% of the time.
- The weekly regulating up and down reserves in the Visayas region both show shortfalls ranging from 0.63% to 33.13% for 18 to 24 November.

### Energy Offer Pattern Analysis

- Luzon**
- Batteries recorded dips in offered capacities on 19 November.
  - Biofuel and Geothermal plants recorded dips in nominated capacities due to outages on 18 November.
  - Coal plants recorded dips in offered capacities due to outages from 21 to 24 November 2024.
  - Hydro plants had lower offered capacities compared to the previous week due to planned outage of Kalayaan from 19 to 23 November.
  - Natural gas plants showed a decreasing trend in offered capacities due to outages.
  - Solar plants recorded their lowest nomination on 18 November.
  - Wind plants recorded their lowest nomination on 21 November.
- Visayas**
- Biofuel plants showed an increasing trend in nominated capacities throughout the week but recorded dips on 18 and 20 November due to outages.
  - Geothermal plants recorded dips in nominated capacities due to outages on 20 and 23 November.
  - Hydro plants showed fluctuations in nominated capacities due to outages each day of the week.
  - Wind plants had higher nominated capacities compared to the previous week.

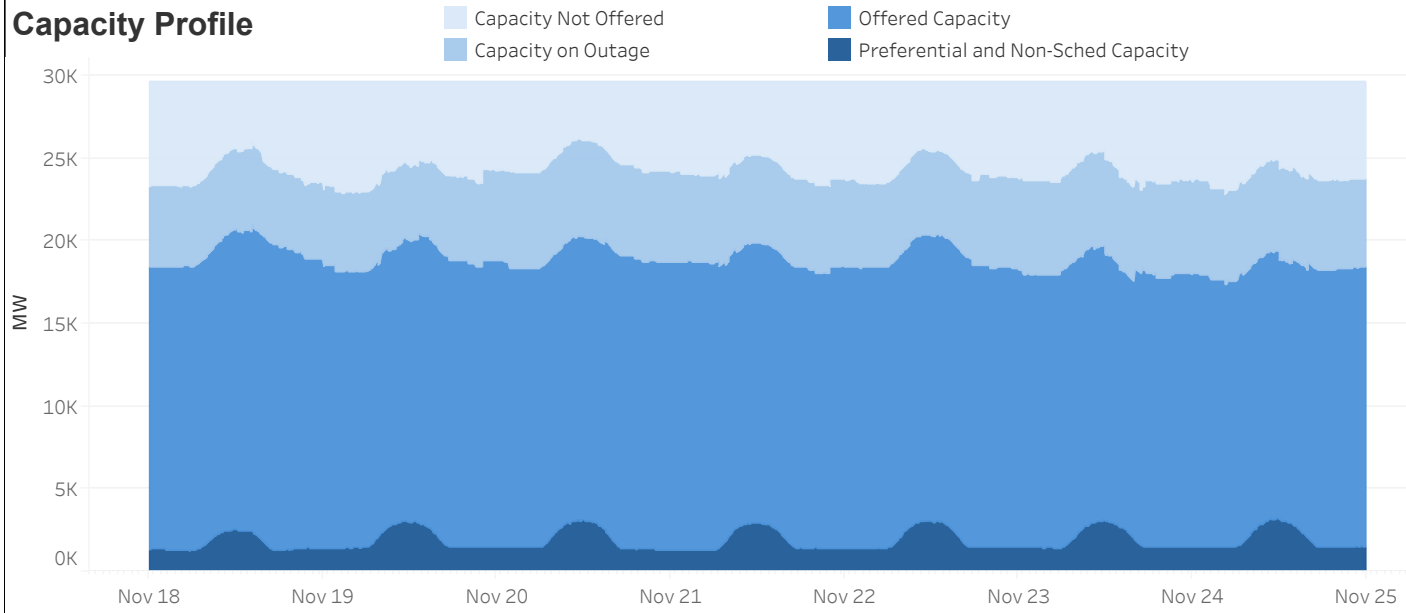
#### Mindanao

- Batteries recorded dips in offered capacities on 19 November.
- Biofuels plants had higher nominated capacities compared to the previous week.
- Geothermal plants recorded a decrease in offered capacities due to an outage that lasted until 22 November.
- Hydro plants recorded a decreasing trend in offered capacities due to outages.
- Oil plants recorded dips in offered capacities due to outages from 18 to 24 November.
- Solar plants had lower nominated capacities compared to the previous week.

### Market Systems Advisory

- No IT-related issue was advised in the IEMOP's market systems from 18 to 24 November 2024.

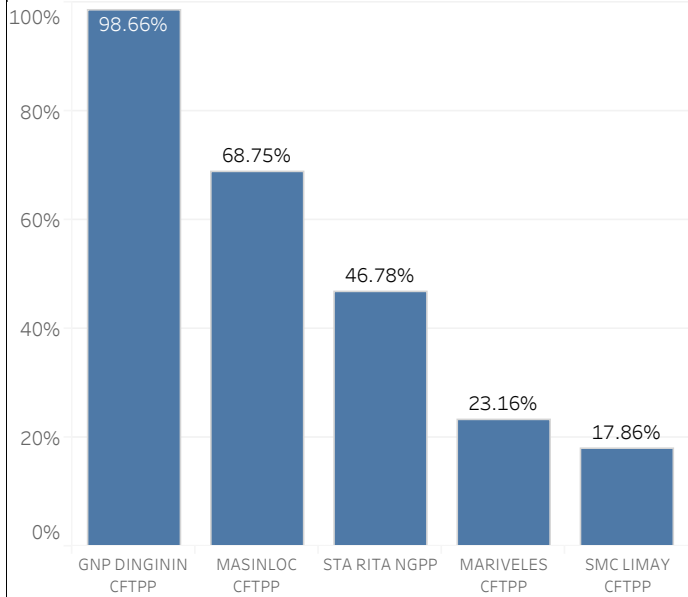
## Capacity Profile



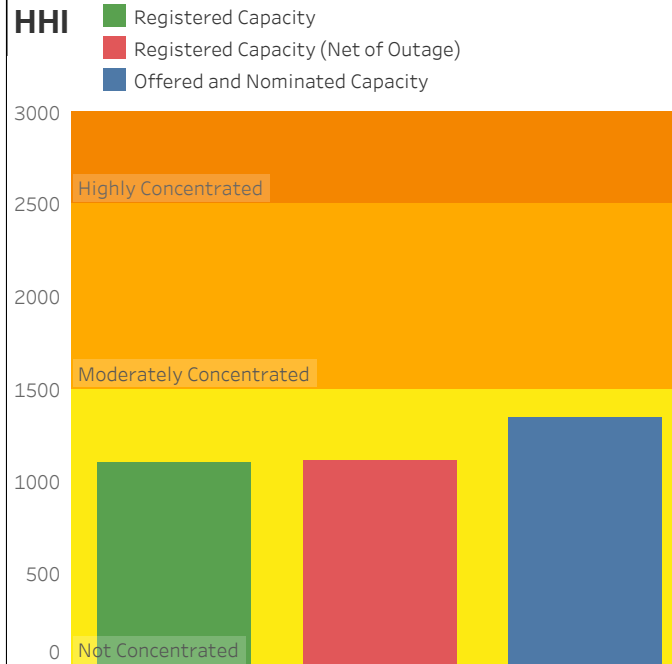
## SUMMARY OF AVERAGE VALUES

| Particulars                  | 18 - 24 Nov 2024 | 11 - 17 Nov 2024 | % Change |
|------------------------------|------------------|------------------|----------|
| <b>GWAP (Php/MWh)</b>        |                  |                  |          |
| System                       | 4,268            | 4,590            | -7.01%   |
| Luzon                        | 3,985            | 4,202            | -5.16%   |
| Visayas                      | 4,841            | 5,750            | -15.81%  |
| Mindanao                     | 5,075            | 5,452            | -6.92%   |
| <b>EFFECTIVE SUPPLY (MW)</b> |                  |                  |          |
| Luzon                        | 12,163           | 12,197           | -0.28%   |
| Visayas                      | 2,355            | 2,337            | 0.74%    |
| Mindanao                     | 3,092            | 3,223            | -4.08%   |
| <b>DEMAND (MW)</b>           |                  |                  |          |
| Luzon                        | 9,990            | 10,045           | -0.54%   |
| Visayas                      | 2,049            | 2,058            | -0.45%   |
| Mindanao                     | 2,063            | 2,093            | -1.41%   |
| <b>OUTAGE (MW)</b>           |                  |                  |          |
| Luzon                        | 4,136            | 3,485            | 18.66%   |
| Visayas                      | 408              | 424              | -3.65%   |
| Mindanao                     | 743              | 630              | 17.85%   |
| <b>RU PRICE (PHP/MWh)</b>    |                  |                  |          |
| Luzon                        | 13,925           | 16,833           | -17.27%  |
| Visayas                      | 22,393           | 22,835           | -1.93%   |
| Mindanao                     | 12,874           | 10,213           | 26.05%   |
| <b>RD PRICE (PHP/MWh)</b>    |                  |                  |          |
| Luzon                        | 11,141           | 14,650           | -23.96%  |
| Visayas                      | 43,207           | 42,763           | 1.04%    |
| Mindanao                     | 11,728           | 9,993            | 17.36%   |
| <b>FR PRICE (PHP/MWh)</b>    |                  |                  |          |
| Luzon                        | 2,773            | 2,709            | 2.38%    |
| Visayas                      | 8,352            | 6,864            | 21.68%   |
| Mindanao                     | 3,805            | 2,917            | 30.45%   |
| <b>DR PRICE (PHP/MWh)</b>    |                  |                  |          |
| Luzon                        | 1,613            | 490              | 228.93%  |
| Visayas                      | 2,905            | 3,121            | -6.92%   |
| Mindanao                     | 217              | 210              | 3.28%    |

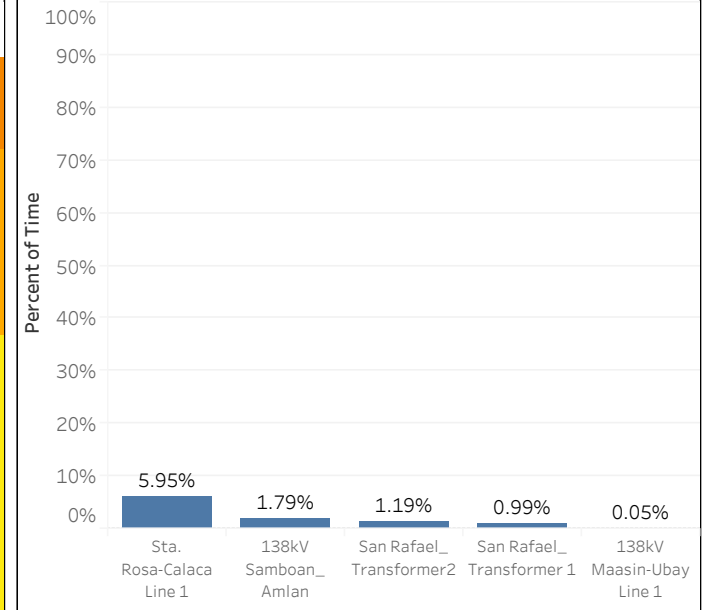
## Top 5 Pivotal Plants



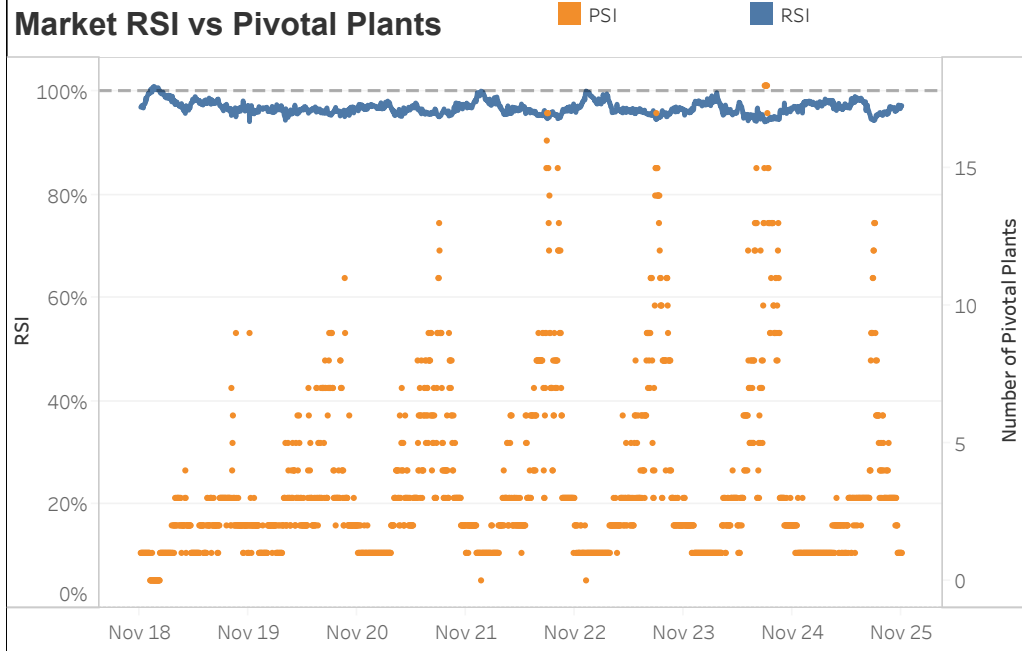
## HHI



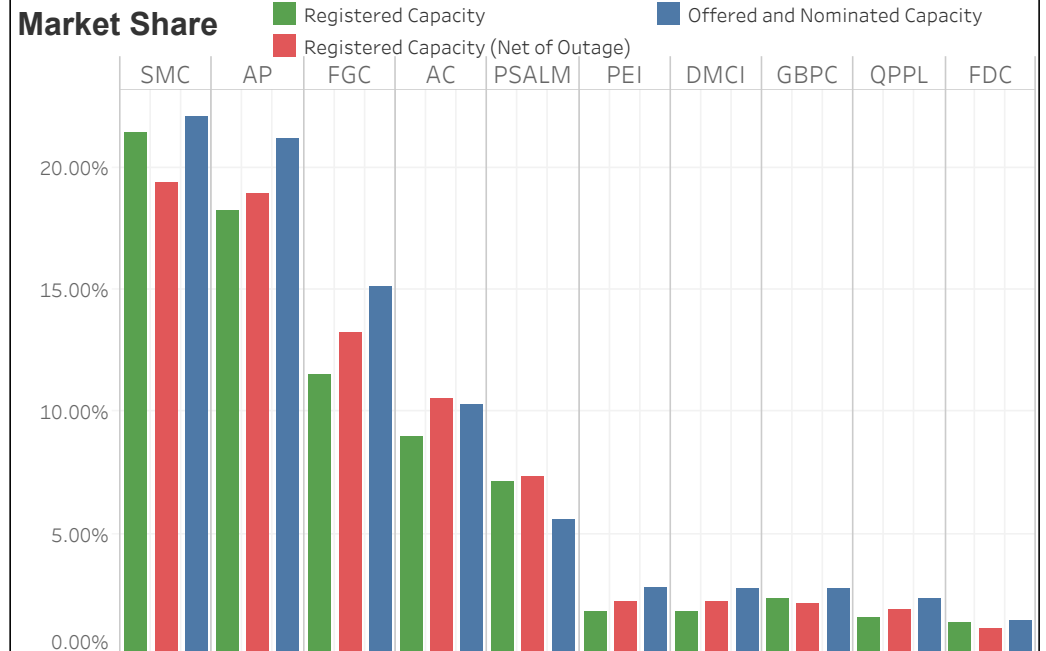
## RTD Congestion



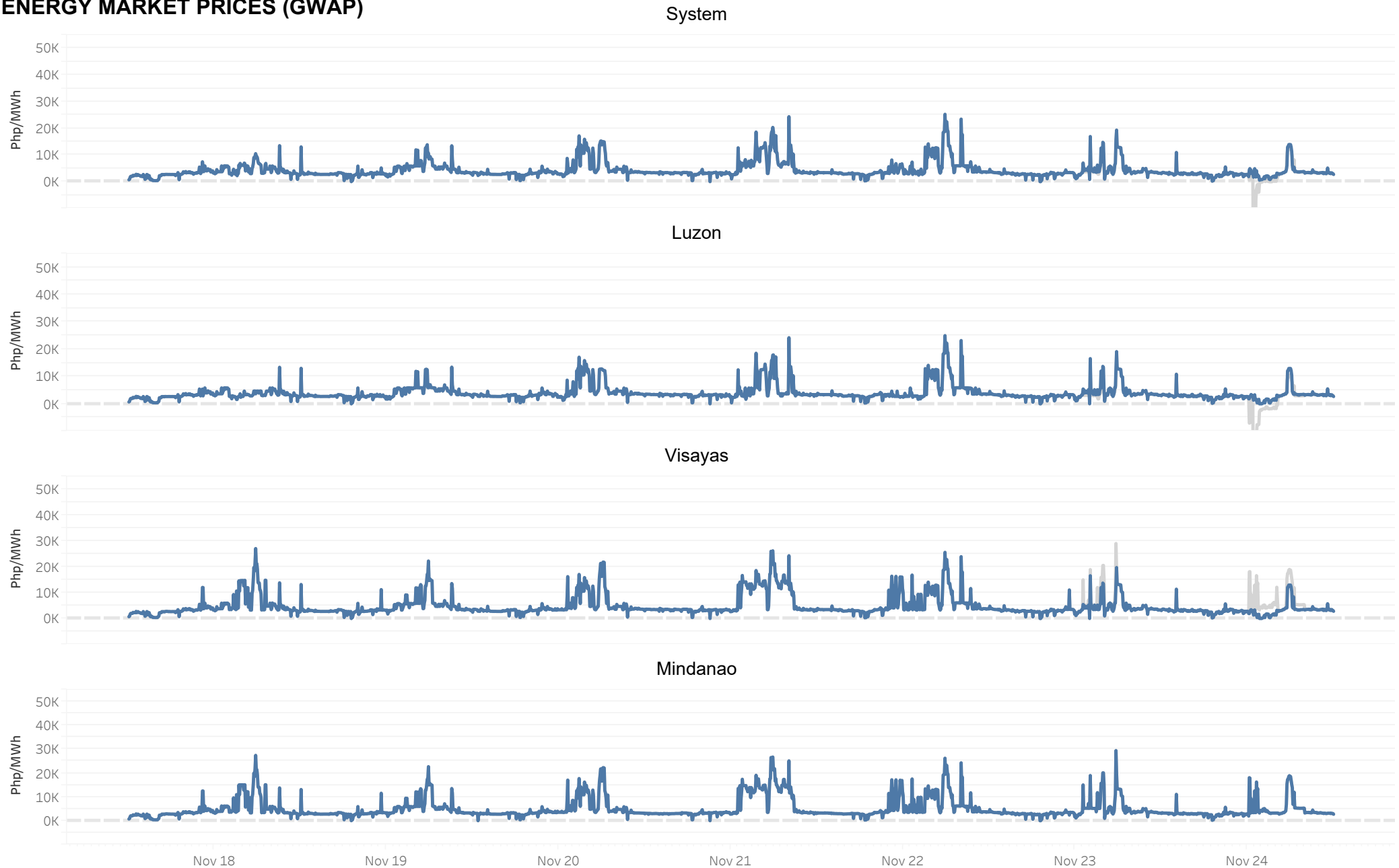
## Market RSI vs Pivotal Plants



## Market Share



## ENERGY MARKET PRICES (GWAP)

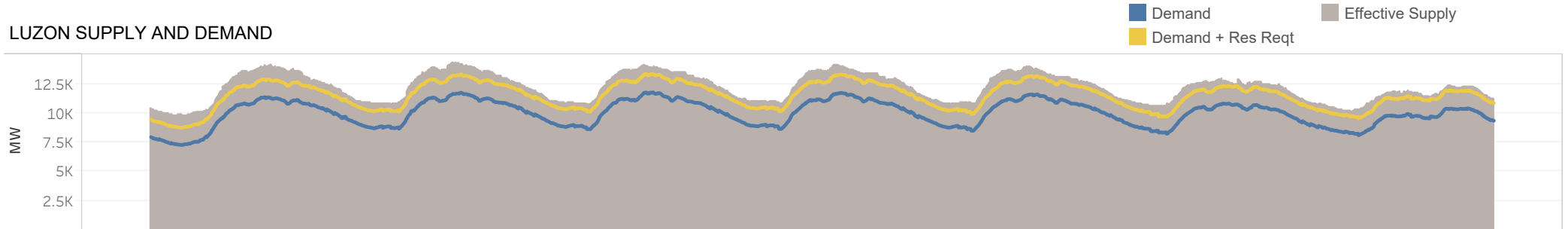


The charts show the market prices by region based on generator weighted average price (GWAP). Prices are subject to the finalization of settlement data.

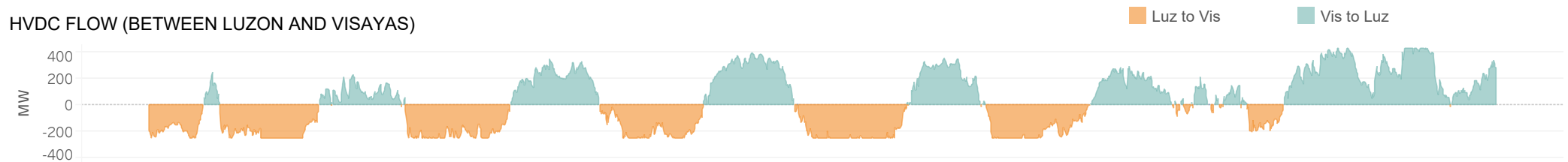
■ GWAP

■ GWAP (before post market run calculation)

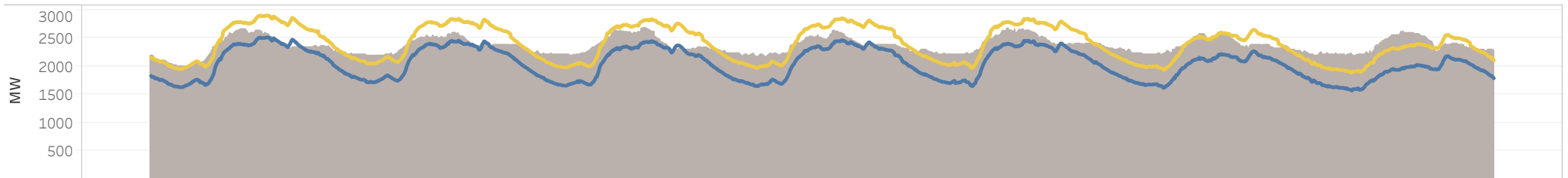
## LUZON SUPPLY AND DEMAND



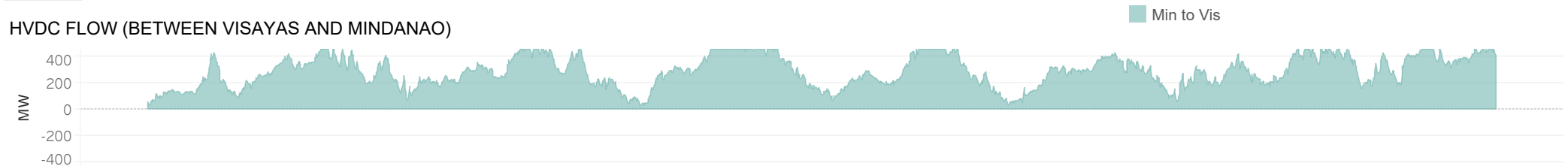
## HVDC FLOW (BETWEEN LUZON AND VISAYAS)



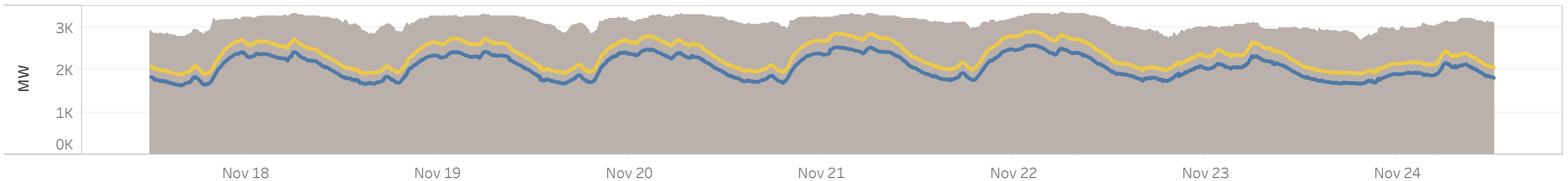
## VISAYAS SUPPLY AND DEMAND



## HVDC FLOW (BETWEEN VISAYAS AND MINDANAO)

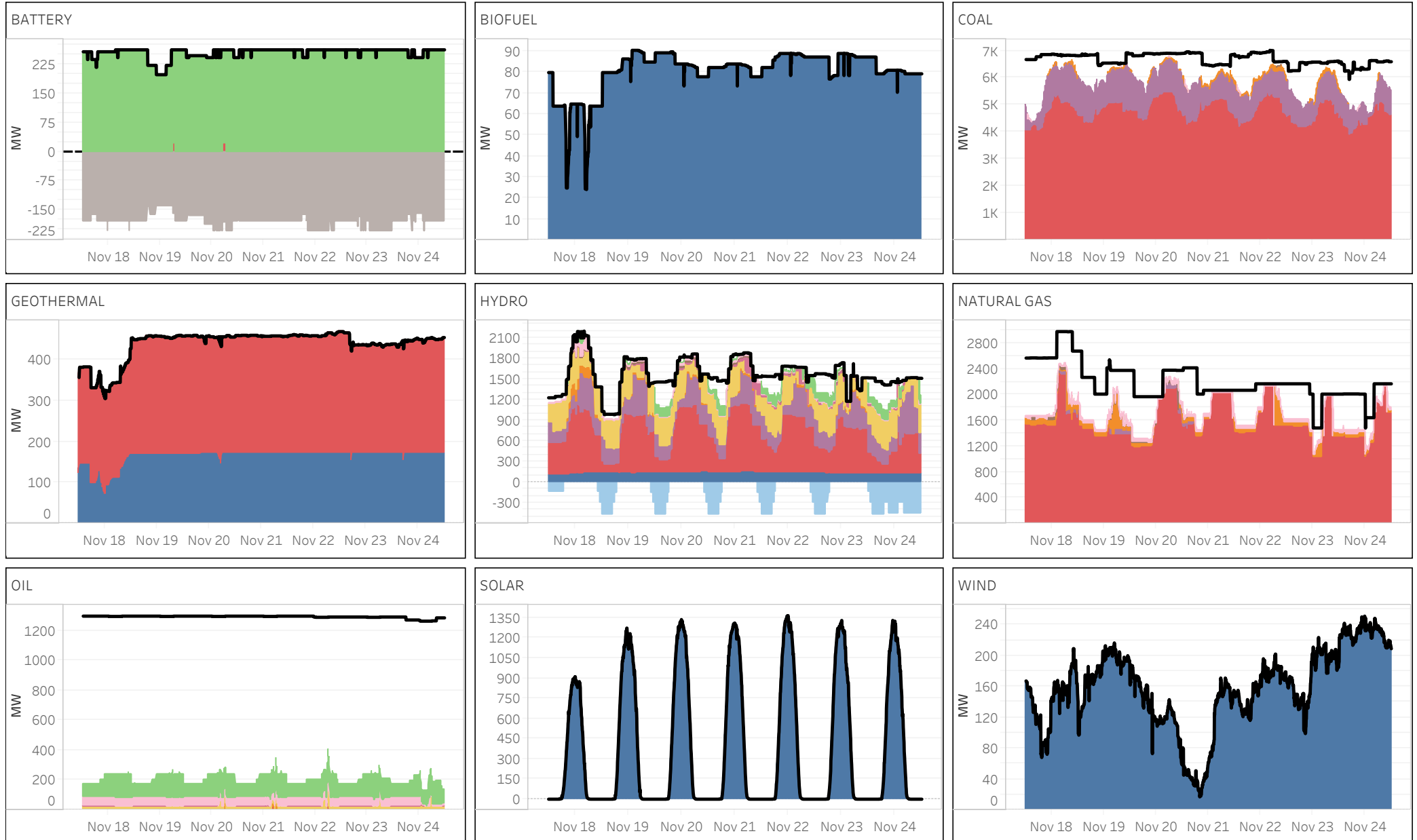


## MINDANAO SUPPLY AND DEMAND



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

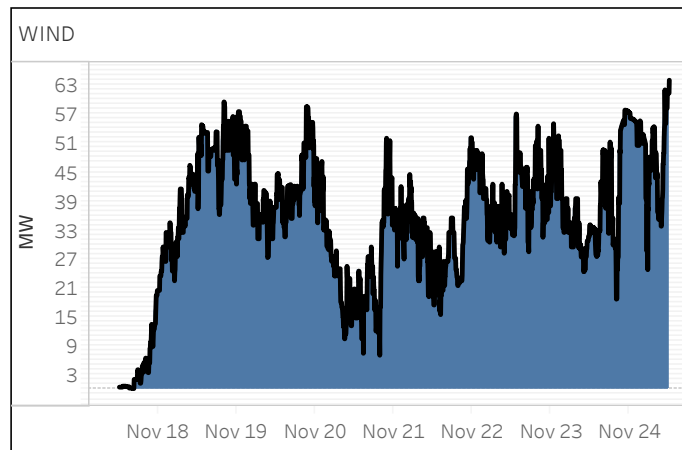
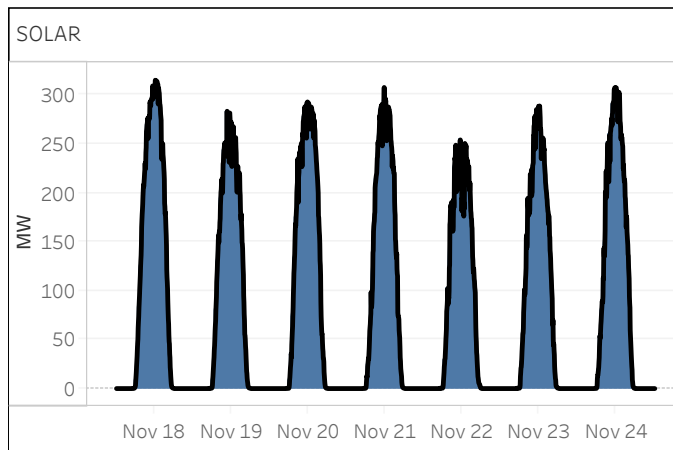
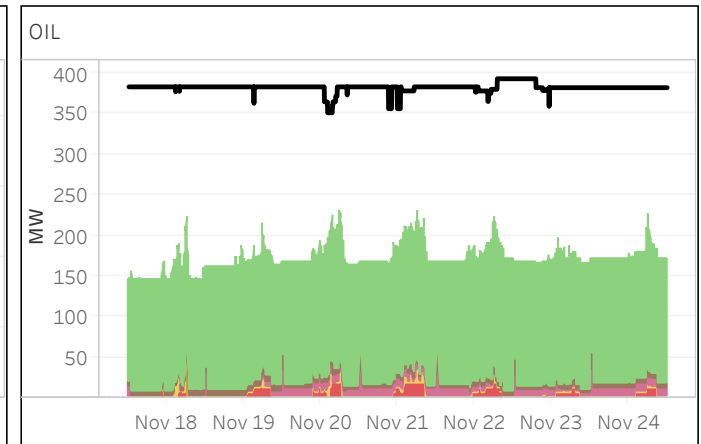
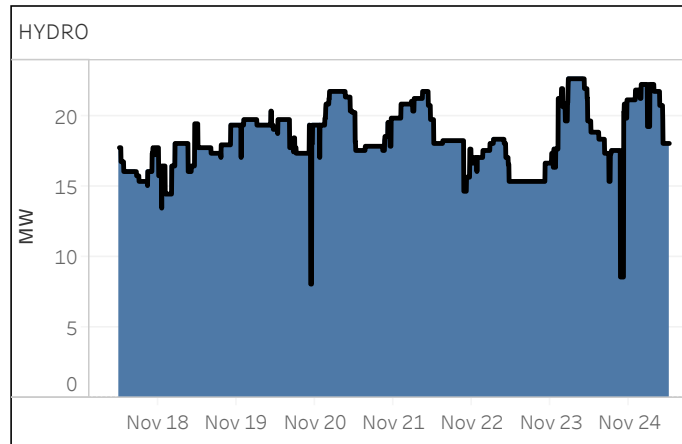
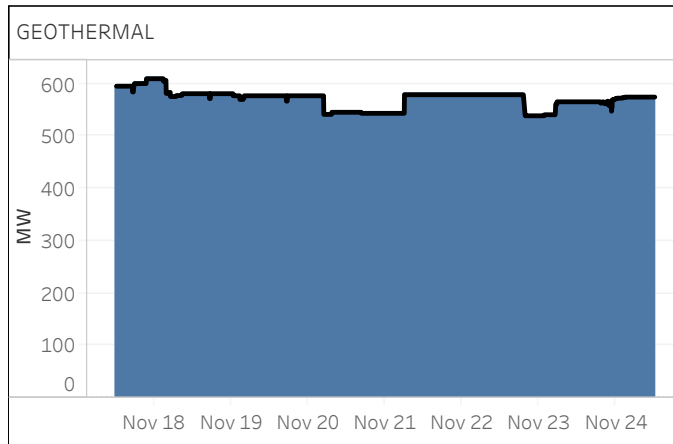
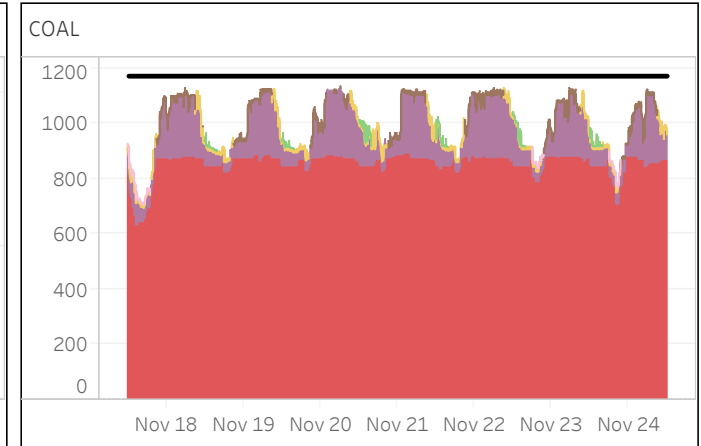
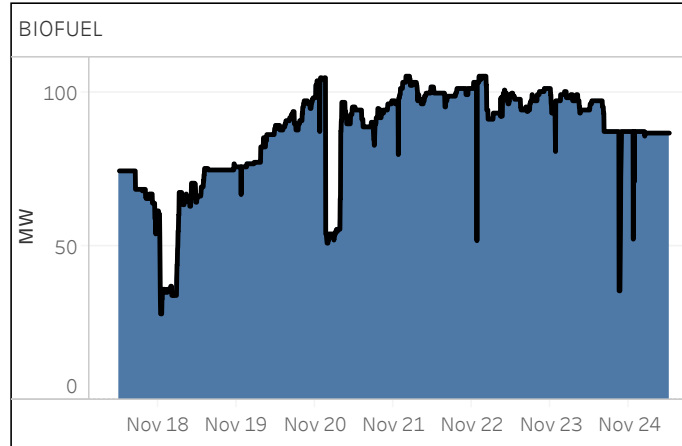
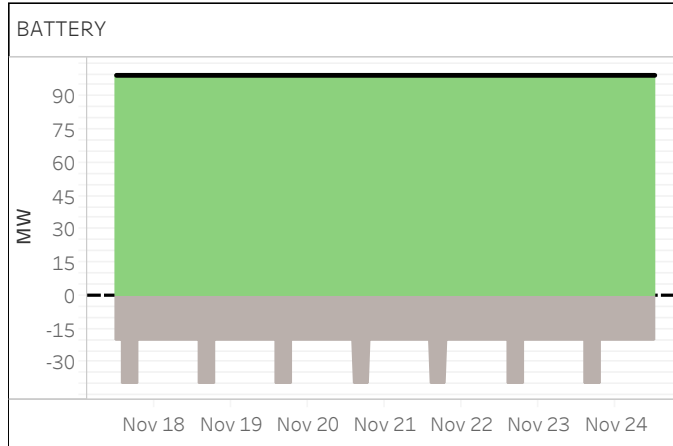
## ENERGY OFFER PATTERN - LUZON



### NOTES:

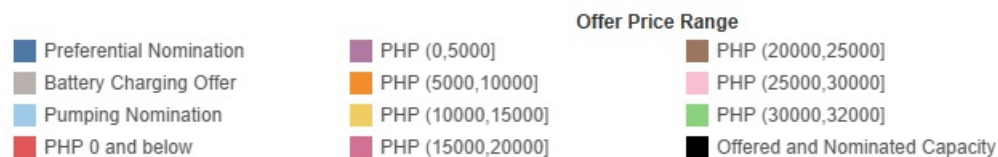
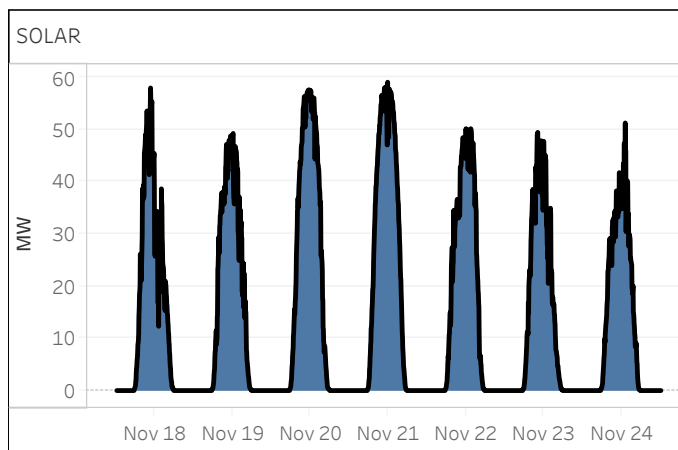
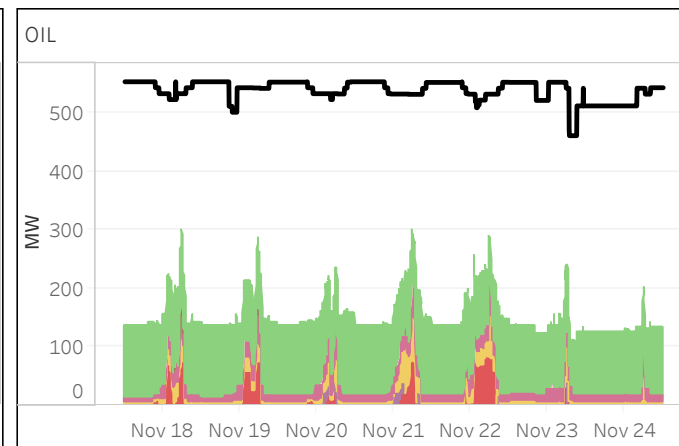
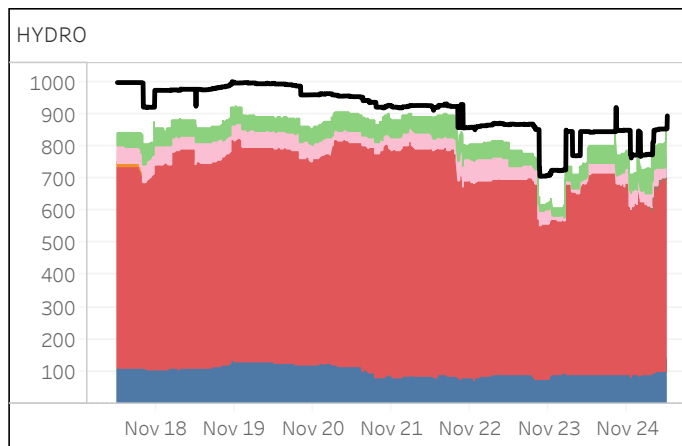
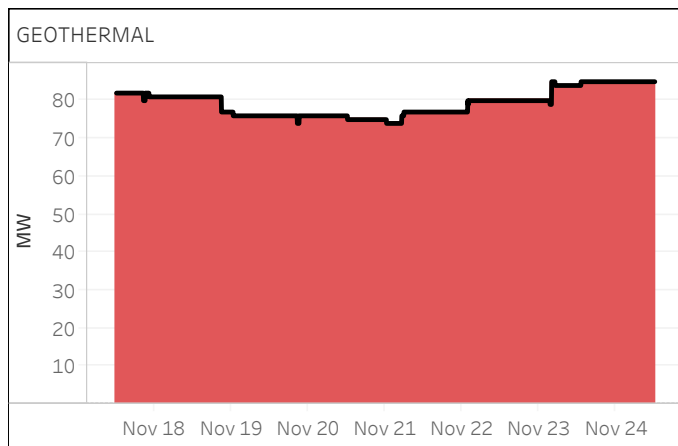
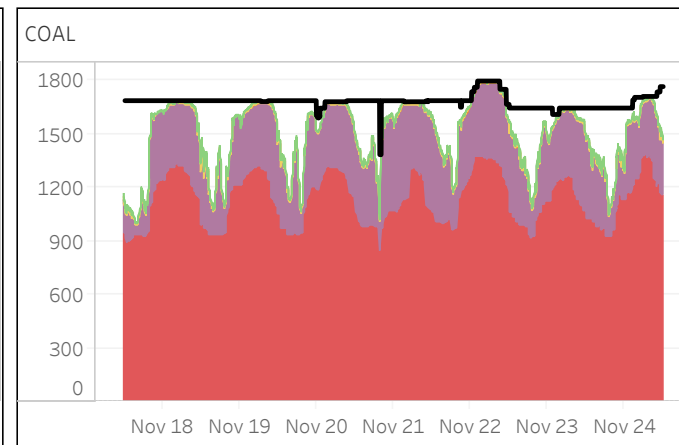
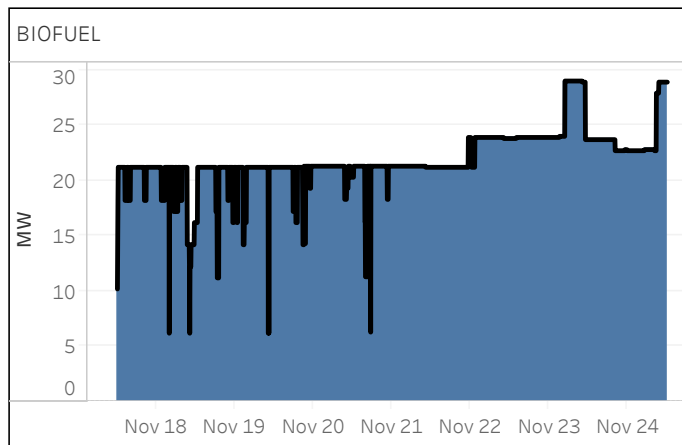
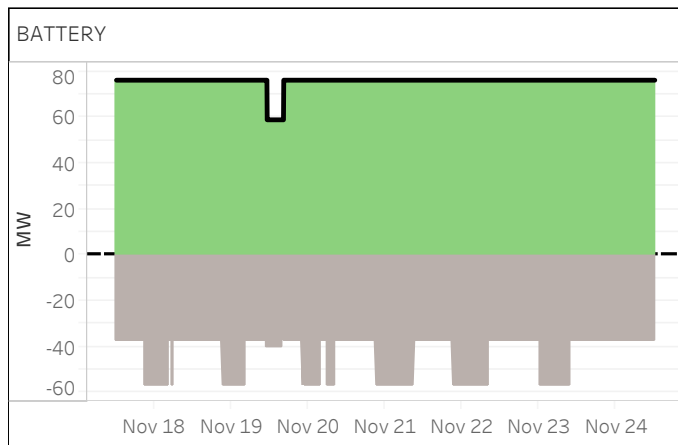
1. In Php (X, Y], it includes offer price greater than Php X but less than or equal to Php Y. 2. Reflected capacity are effective supply, adjusted for the submitted ramp rate and excluding any overriding constraint.

## ENERGY OFFER PATTERN - VISAYAS



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## ENERGY OFFER PATTERN - MINDANAO

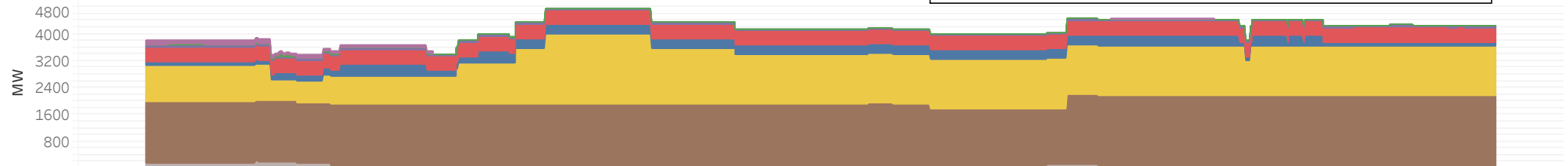


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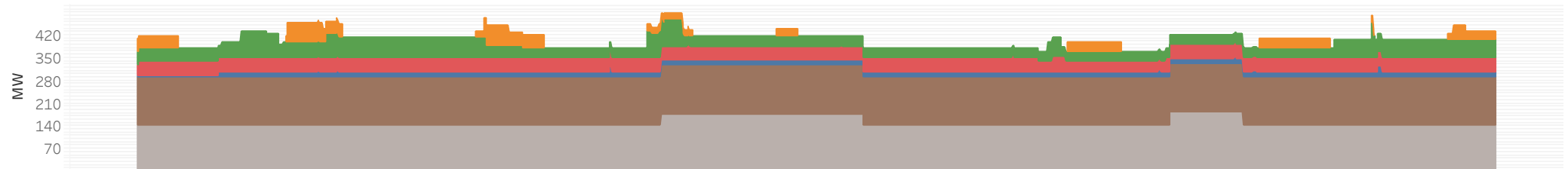
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## CAPACITIES ON OUTAGE PER PLANT TYPE

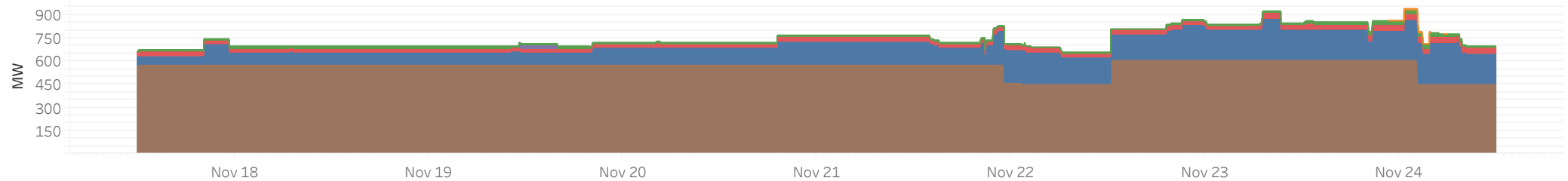
### Luzon



### Visayas

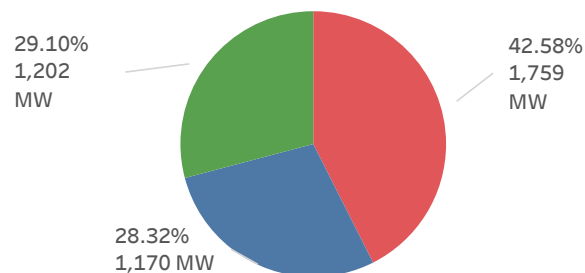


### Mindanao

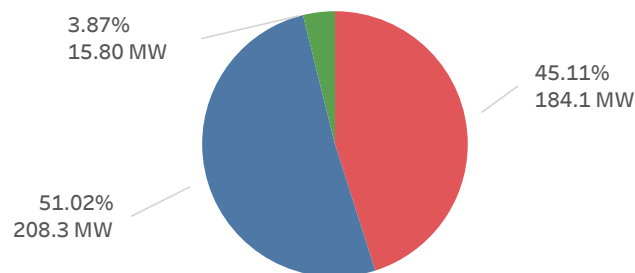


## CAPACITIES ON OUTAGE PER CATEGORY

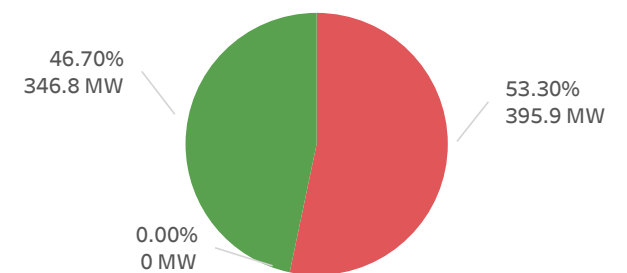
### Luzon



### Visayas



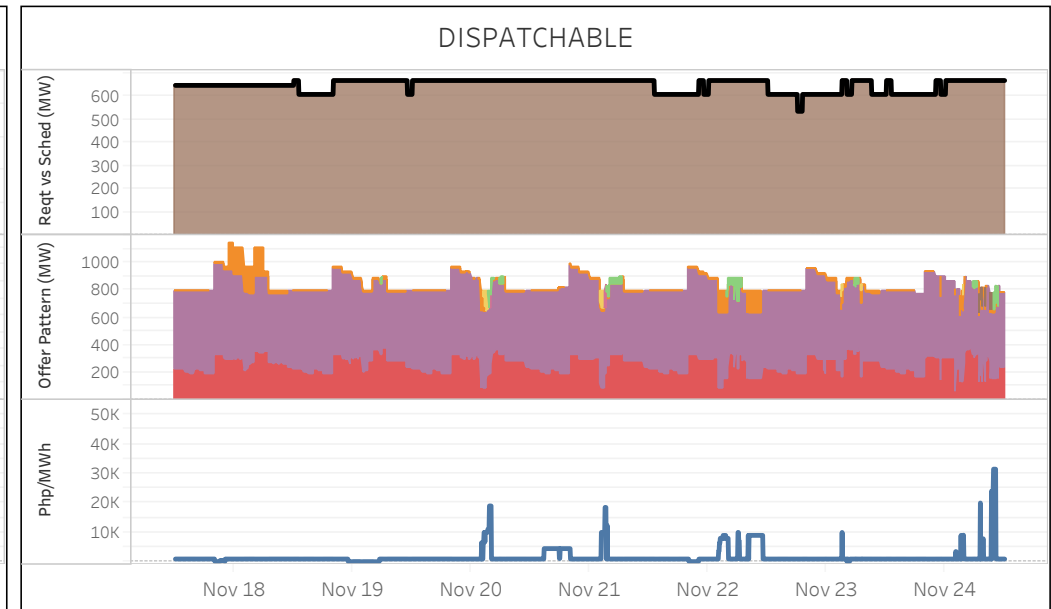
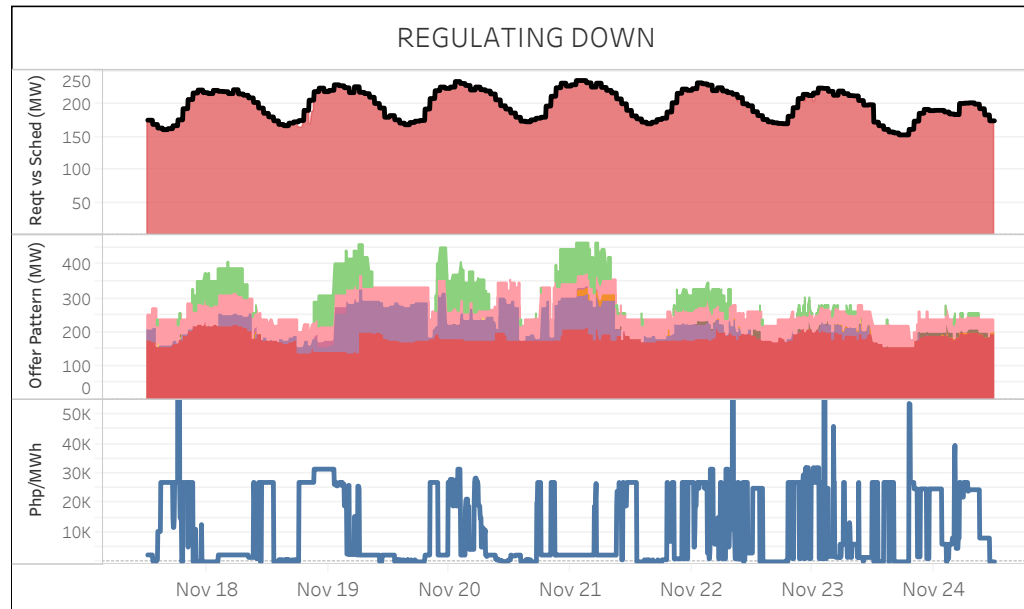
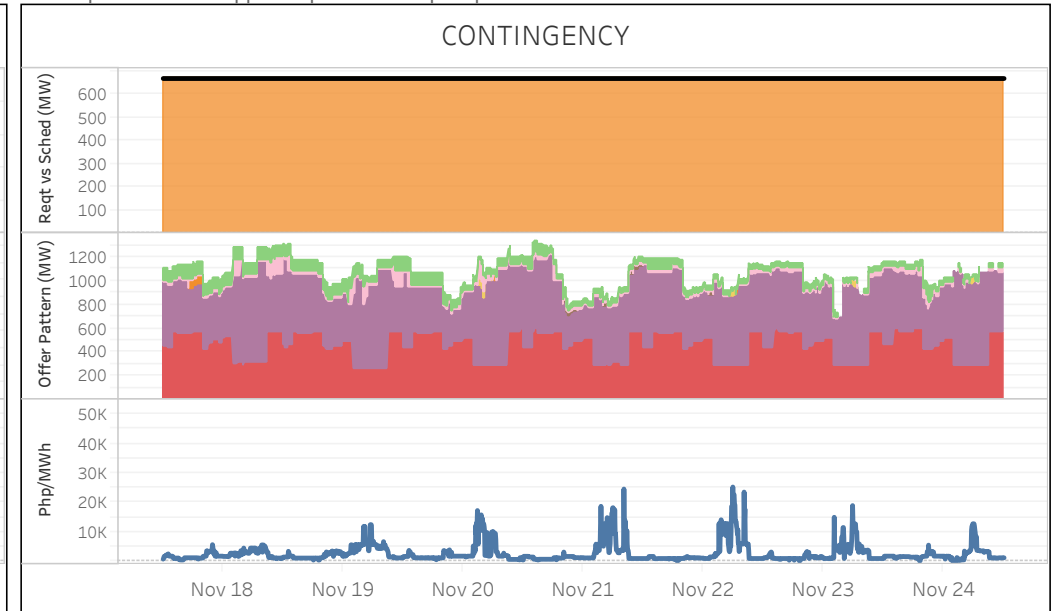
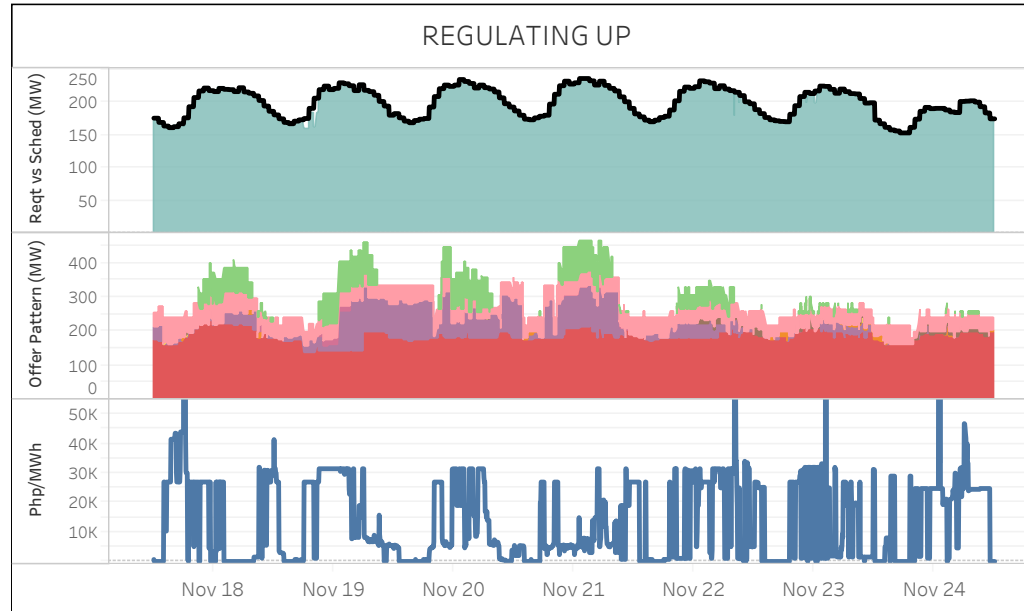
### Mindanao





## 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



**Req't vs Sched Legends**

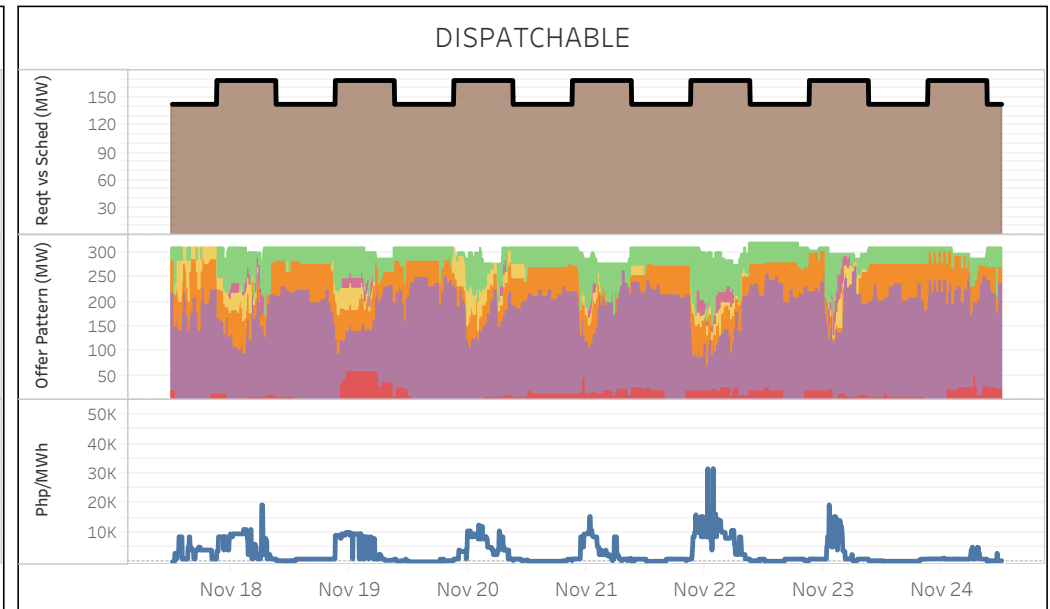
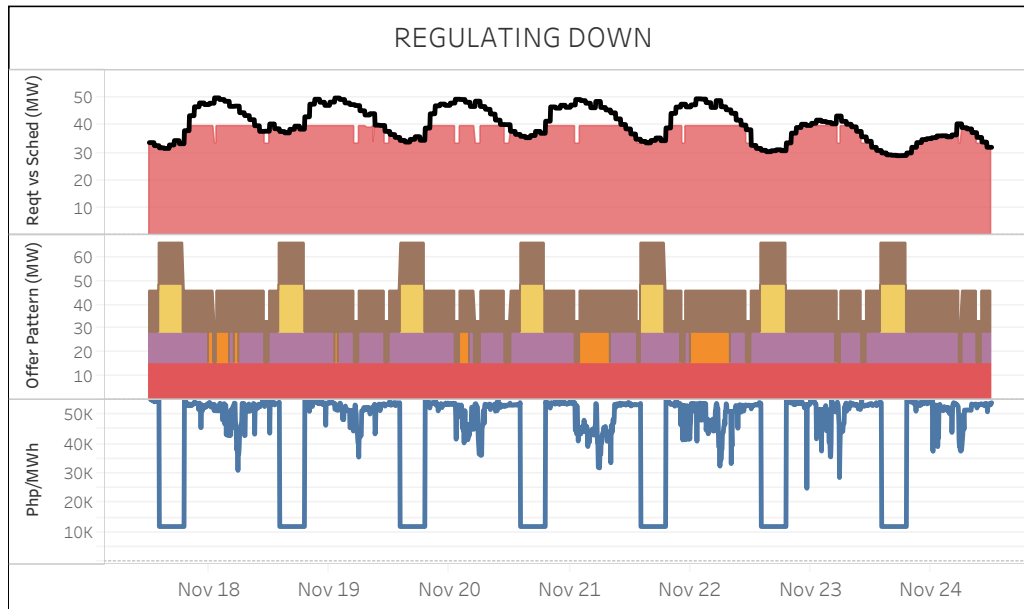
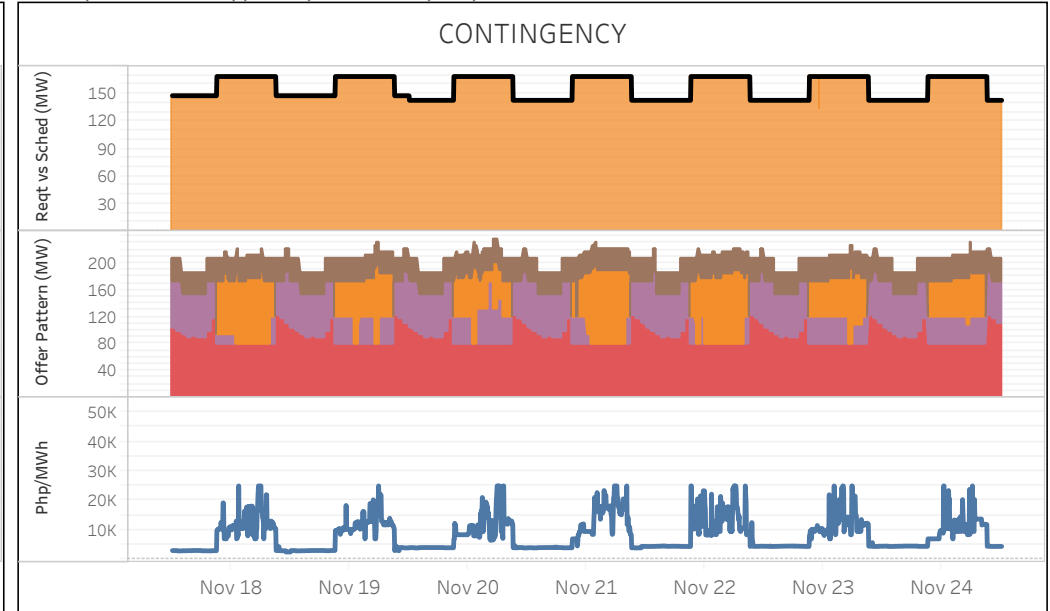
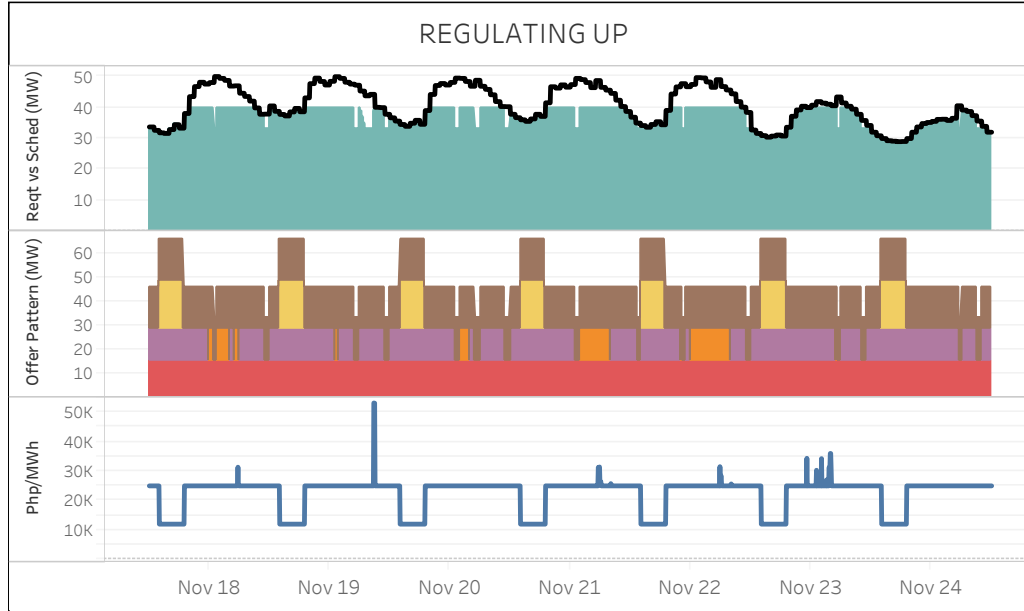
- Reserve Requirement
- RU Schedule
- RD Schedule
- FR Schedule
- DR Schedule

**Offer Price Range**

- PHP 0 and below
- PHP (0,5000]
- PHP (5000,10000]
- PHP (10000,15000]
- PHP (15000,20000]
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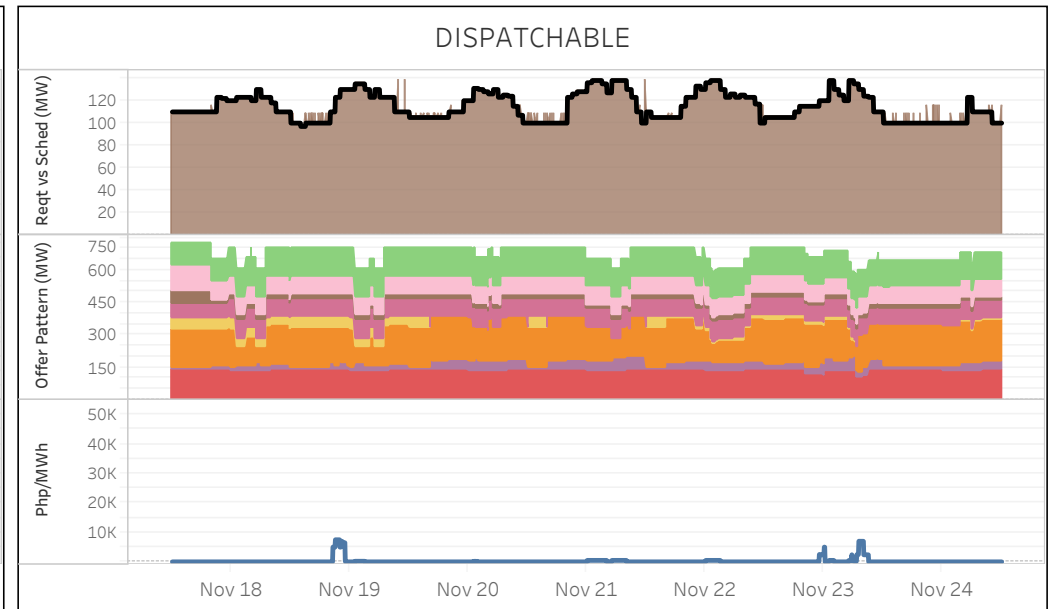
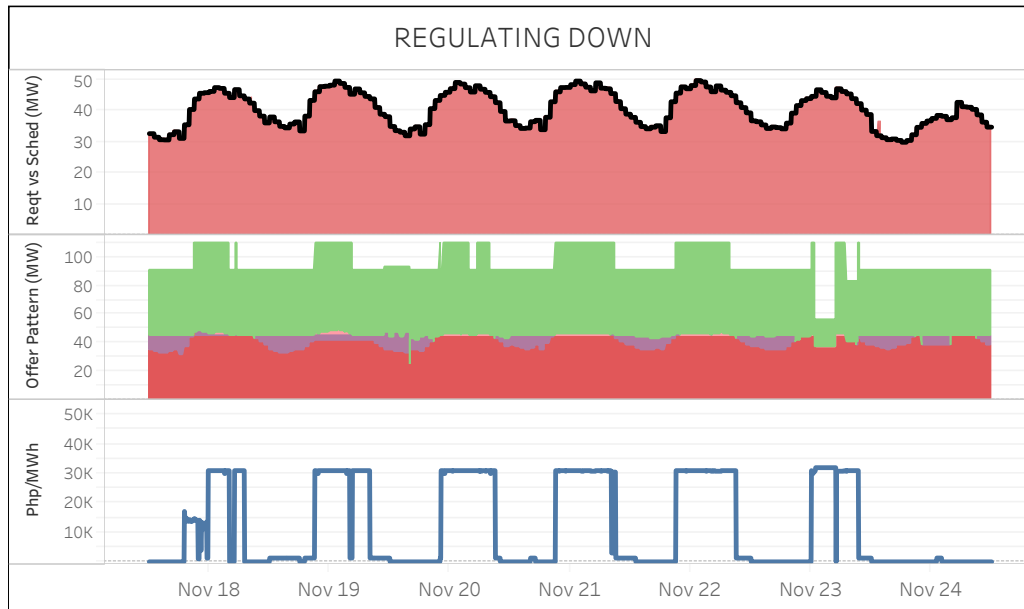
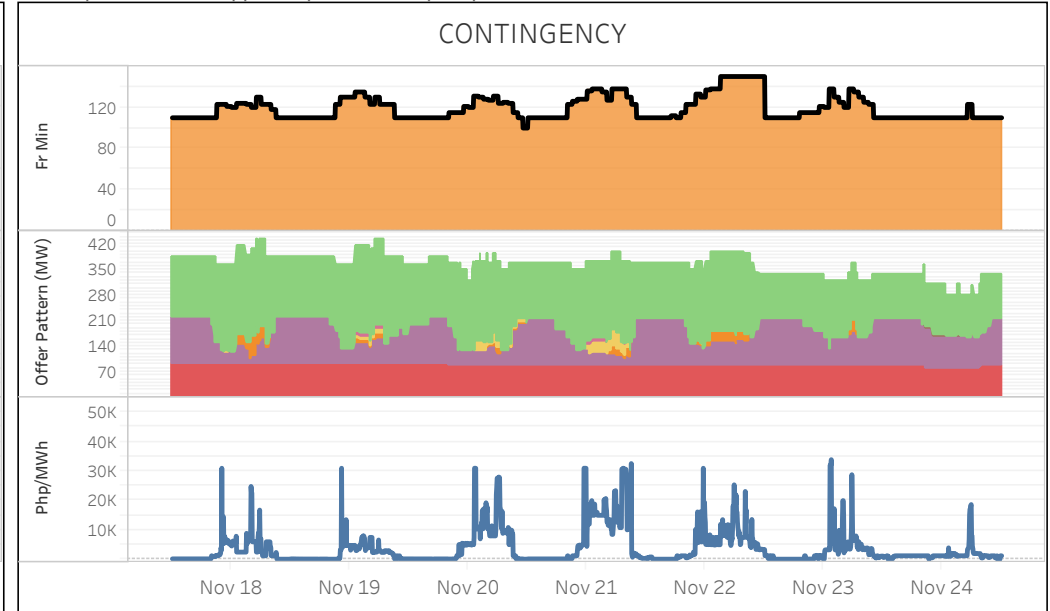
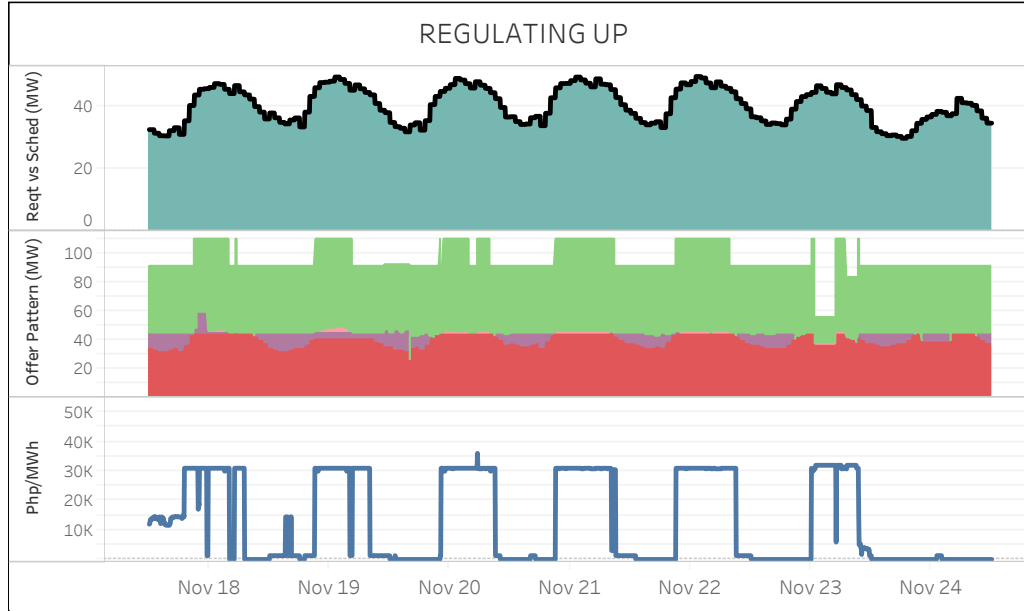
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## RESERVE MARKET DATA - MINDANAO

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**Req vs Sched Legends**

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- PHP (15000,20000]
- PHP (20000,25000]
- PHP (25000,30000]
- 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 Maintenance* - An outage that requires immediate removal of a unit from service, another outage state, or a reserve shutdown state.
- Planned* - 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.

### EFFECTIVE 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.

### 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.

**GLOSSARY OF TERMS****NOMINATED CAPACITY**

The available capacity declared by self-scheduled generators.

**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.

**DISCLAIMER**

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