

**MARKET ASSESSMENT HIGHLIGHTS**
**Demand, Supply, and Price**

- Average weekly demand decreased in both Luzon and Visayas, while increased in Mindanao. Load shedding were observed in the MMS solution in Luzon at the end of the week.
- Average weekly GWAP increased in Luzon and Visayas regions by 49.71% and 80.32%, respectively, while it decreased in Mindanao region by 16.25%. The increase in Luzon and Visayas region is attributed due to intervals with Pricing Error Notice at the end of the week.
- Average weekly regulating up prices dropped in Luzon but increased in Visayas and Mindanao. Average weekly regulating down prices also fell in Luzon and Visayas but surged in Mindanao.
- Average weekly dispatchable reserve prices declined in both Luzon and Visayas, while in Mindanao, the price dropped to zero.
- Congestions at Dasmariñas Corridor coincided with the intervals with Pricing Error Notice at the end of the week.

**Energy Offer Pattern Analysis**
**Luzon**

- Biofuel plants recorded dropped in offered capacities in the early morning of 19 September.
- Solar plants recorded lower nominations compared to the previous week.
- Wind plants recorded lower peak nominations compared to the previous week.

**Visayas**

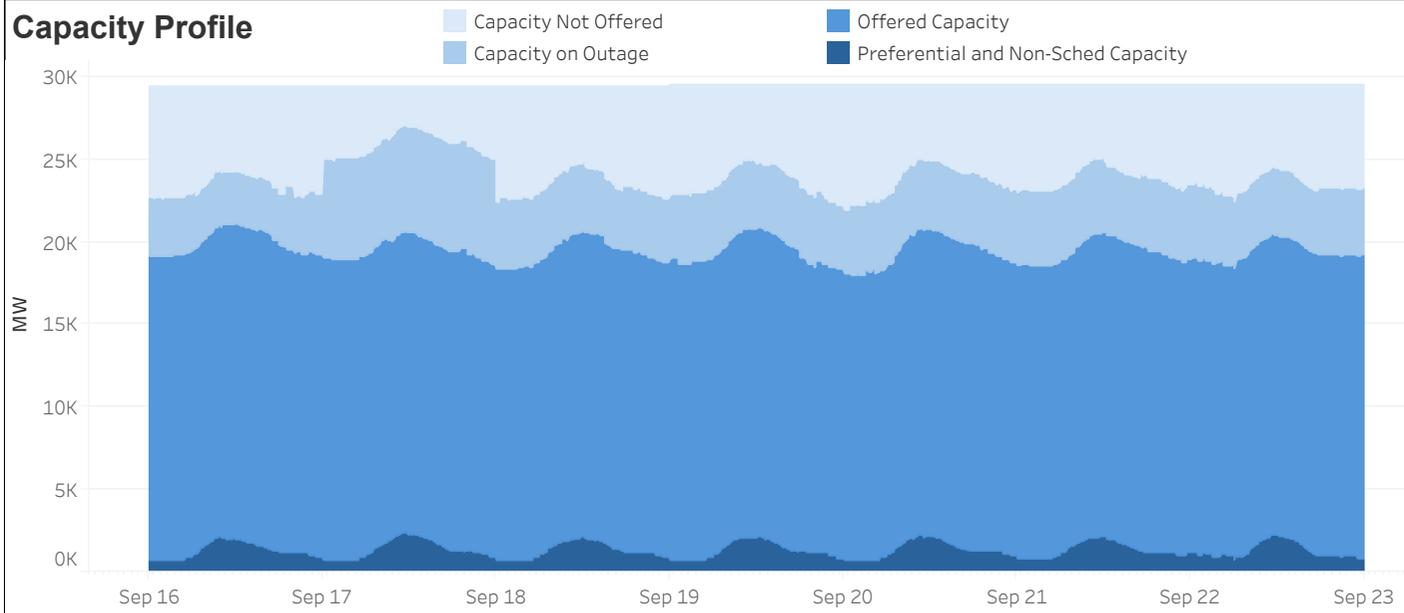
- Biofuel plants began nominations at noon on 17 September but dropped by the afternoon of 20 September.
- Solar plants' nomination recorded increasing trend
- Wind plants' nomination recorded decreasing trend

**Mindanao**

- Battery offered capacity decreased by around 17MW from 6AM to 8PM on 17 September and from 6AM to 9PM on 18 September.
- Coal plants recorded dropped in offered capacity in the evening of 20 to 22 September.
- Biofuel plants recorded dropped in offered capacity in the late evening of 17 September to early morning of 19 September.

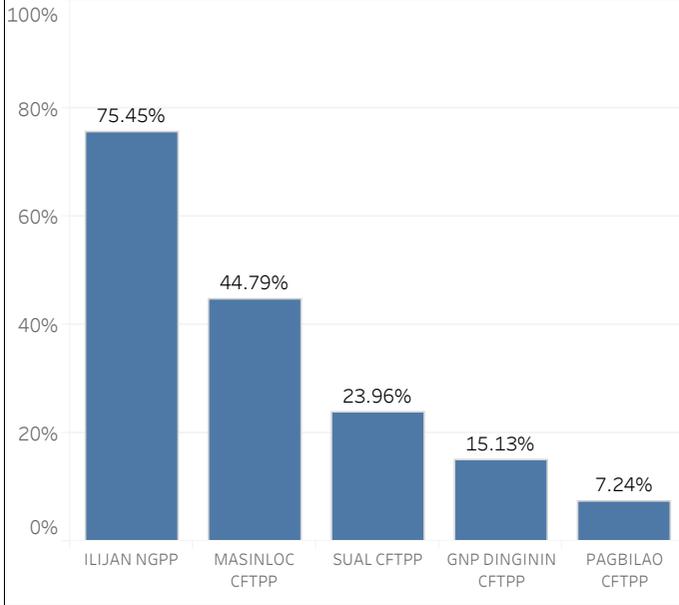
**Market Systems Advisory**

- No IT-related issue was advised in the IEMOP's market systems from 16 to 22 September 2024.

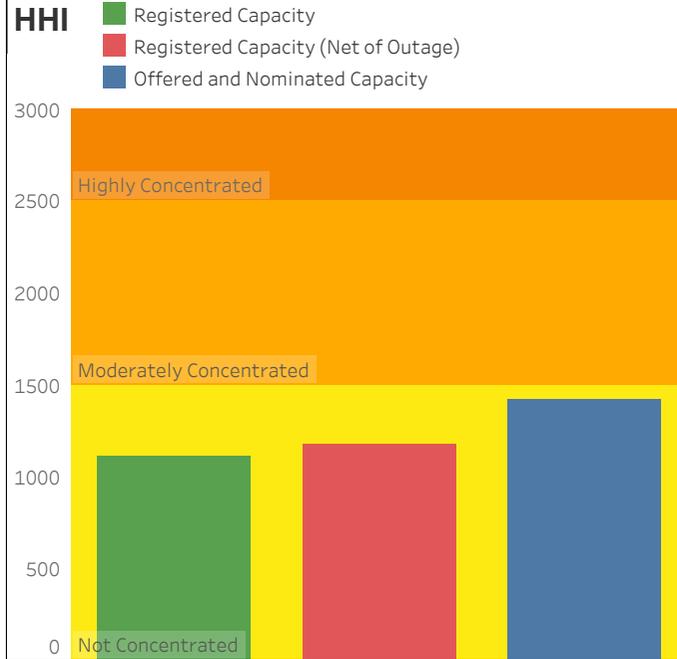
**Capacity Profile**

**SUMMARY OF AVERAGE VALUES**

Particulars	16 - 22 Sep 2024	09 - 15 Sep 2024	% Change
<b>GWAP (Php/MWh)</b>			
System	5,213	3,564	46.27%
Luzon	5,173	3,455	49.71%
Visayas	7,846	4,351	80.32%
Mindanao	2,894	3,456	-16.25%
<b>EFFECTIVE SUPPLY (MW)</b>			
Luzon	11,681	12,203	-4.28%
Visayas	2,247	2,176	3.23%
Mindanao	3,312	3,182	4.08%
<b>DEMAND (MW)</b>			
Luzon	9,698	10,194	-4.86%
Visayas	1,887	1,930	-2.21%
Mindanao	2,005	1,948	2.93%
<b>OUTAGE (MW)</b>			
Luzon	3,340	2,159	54.69%
Visayas	598	400	49.41%
Mindanao	442	480	-8.00%
<b>RU PRICE (PHP/MWh)</b>			
Luzon	3,853	6,619	-41.78%
Visayas	29,315	27,240	7.62%
Mindanao	2,030	1,590	27.69%
<b>RD PRICE (PHP/MWh)</b>			
Luzon	2,843	3,940	-27.85%
Visayas	45,182	47,648	-5.18%
Mindanao	1,825	1,084	68.42%
<b>FR PRICE (PHP/MWh)</b>			
Luzon	3,229	4,105	-21.35%
Visayas	6,087	5,962	2.10%
Mindanao	1,037	1,994	-48.02%
<b>DR PRICE (PHP/MWh)</b>			
Luzon	1,636	2,412	-32.17%
Visayas	6,607	7,152	-7.61%
Mindanao	0	365	-100.00%

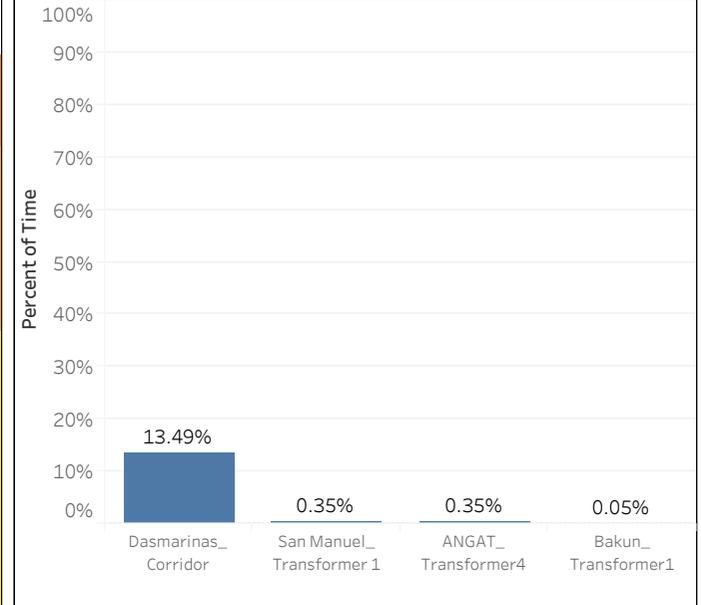
**Top 5 Pivotal Plants**



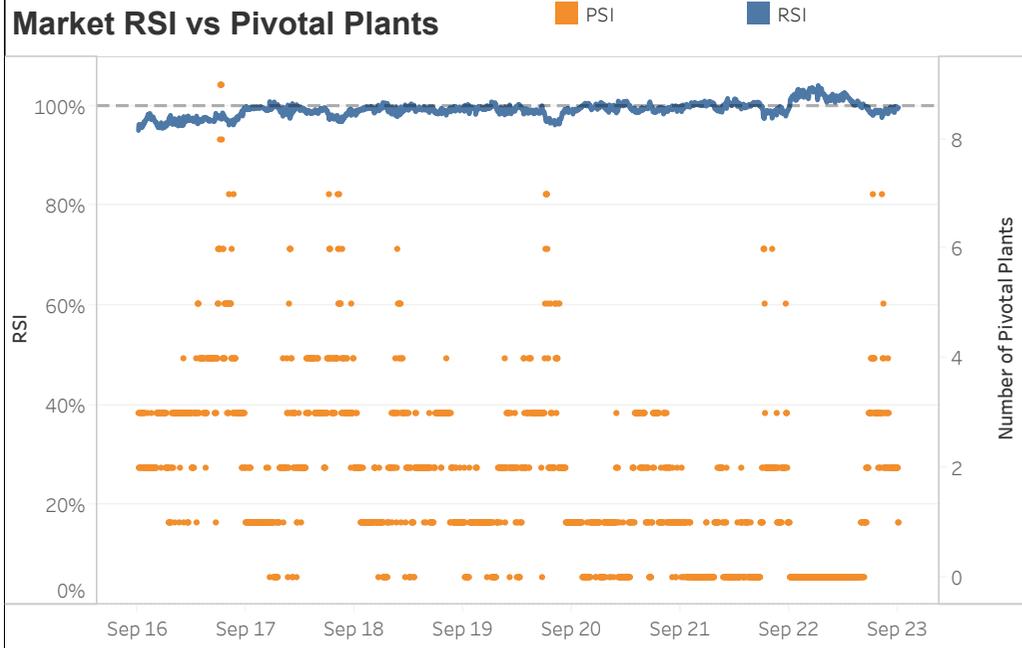
**HHI**



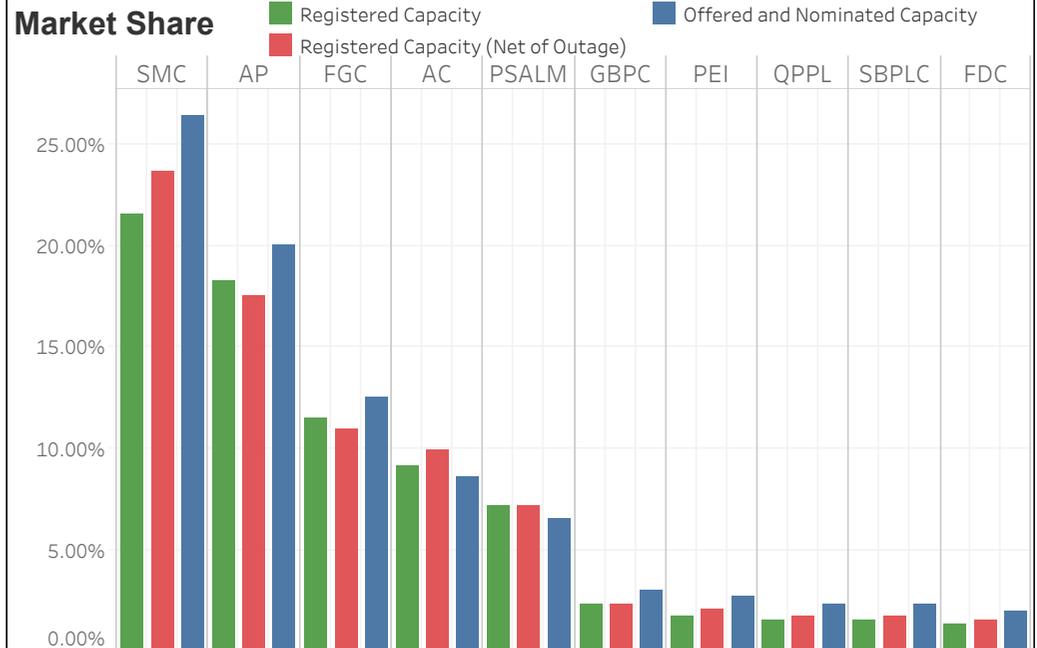
**RTD Congestion**



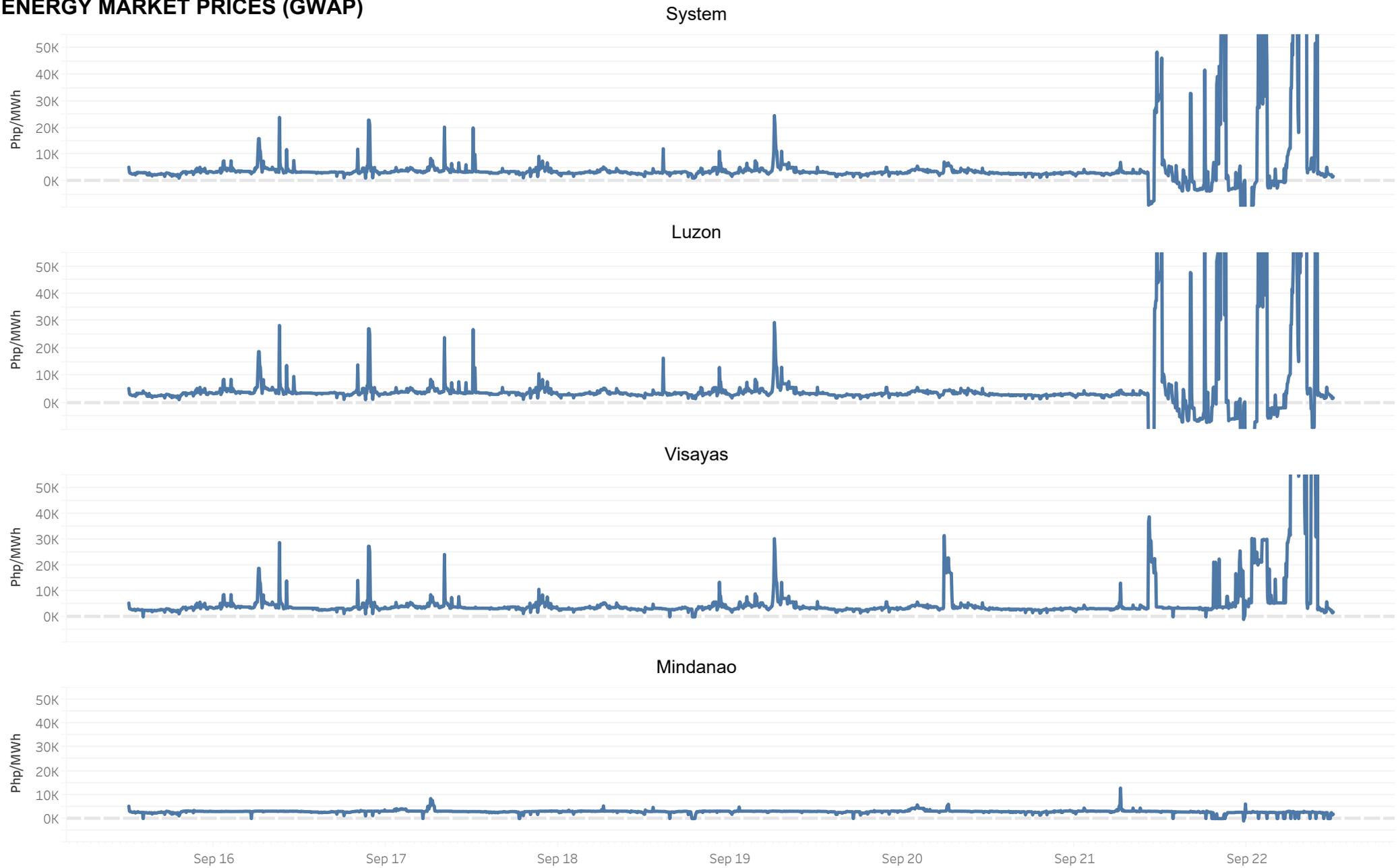
**Market RSI vs Pivotal Plants**



**Market Share**



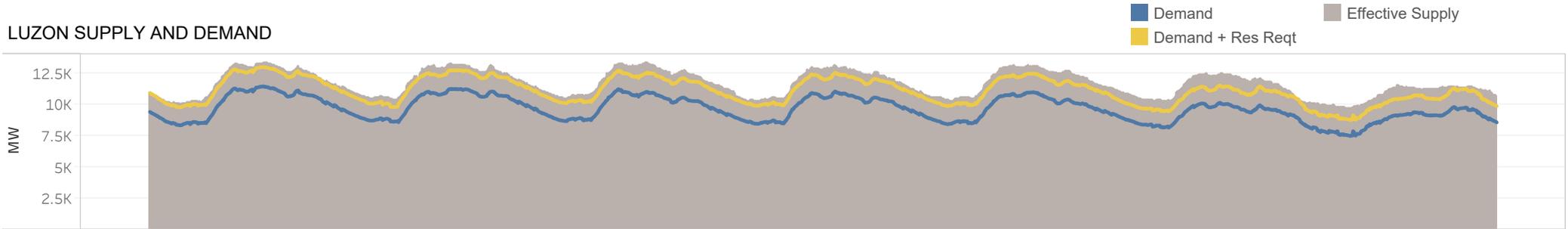
**ENERGY MARKET PRICES (GWAP)**



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)

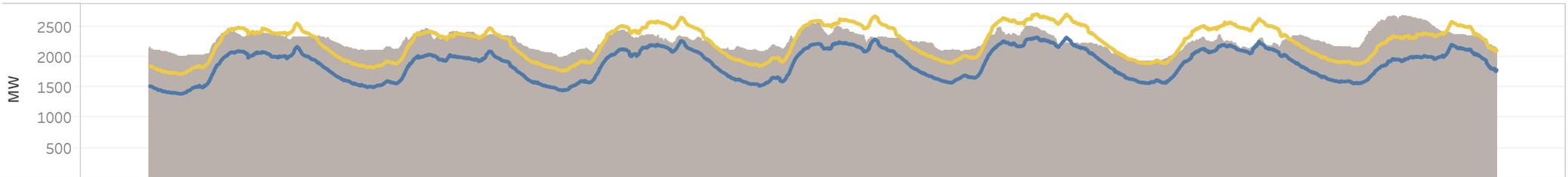
## LUZON SUPPLY AND DEMAND



## HVDC FLOW (BETWEEN LUZON AND VISAYAS)



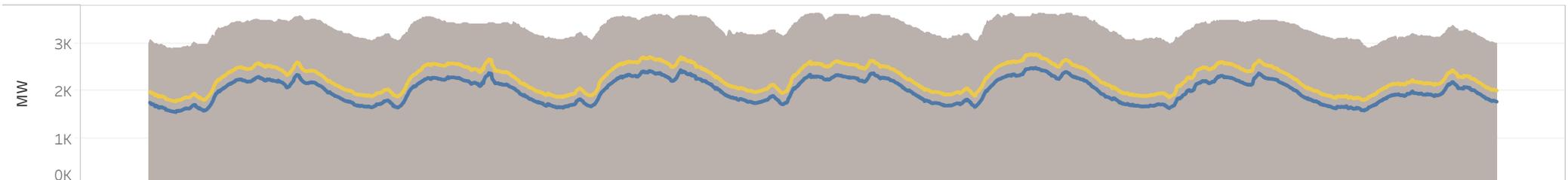
## VISAYAS SUPPLY AND DEMAND



## HVDC FLOW (BETWEEN VISAYAS AND MINDANAO)

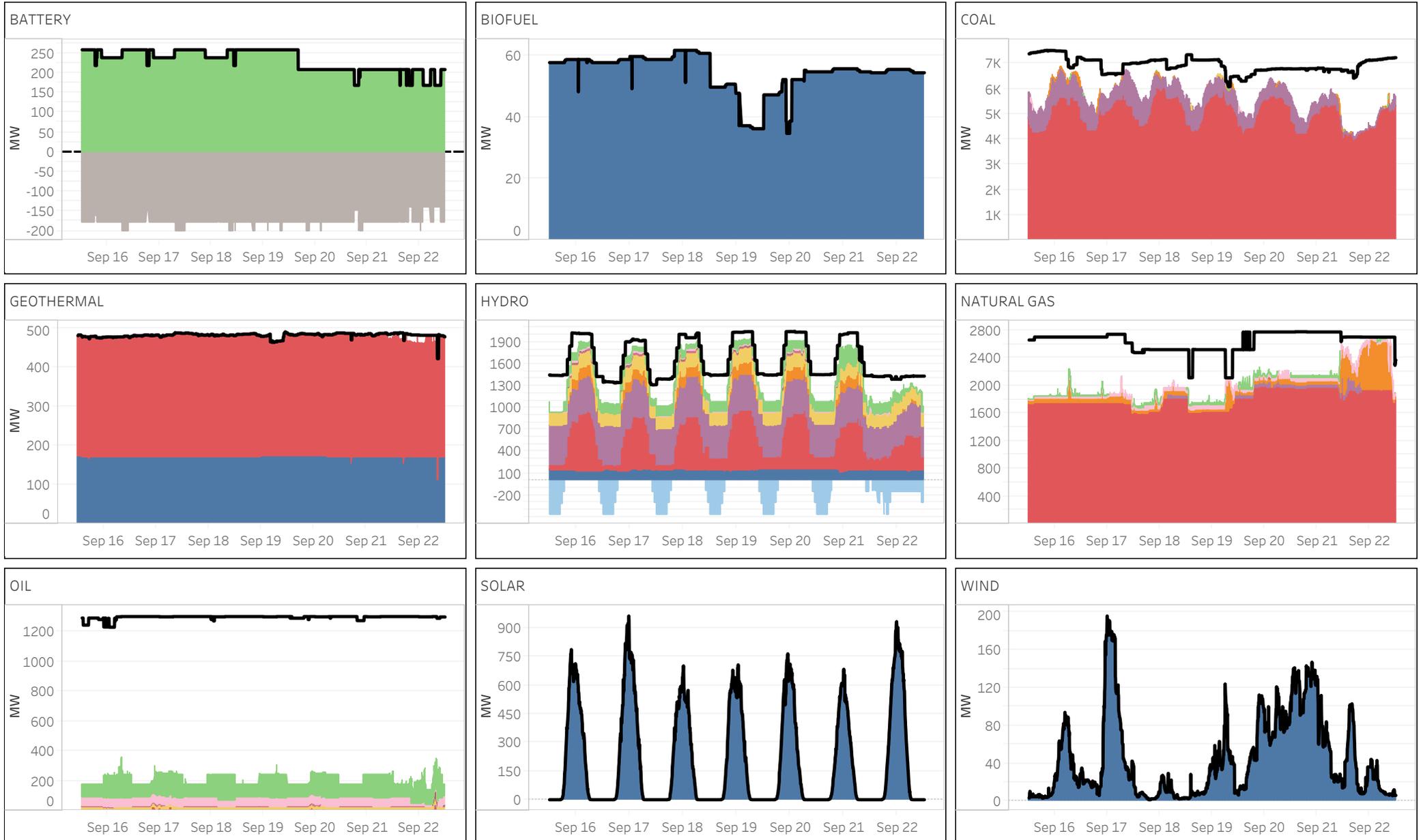


## MINDANAO SUPPLY AND DEMAND



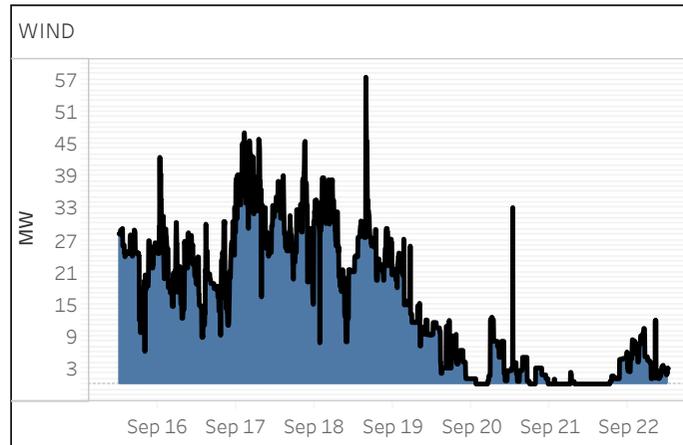
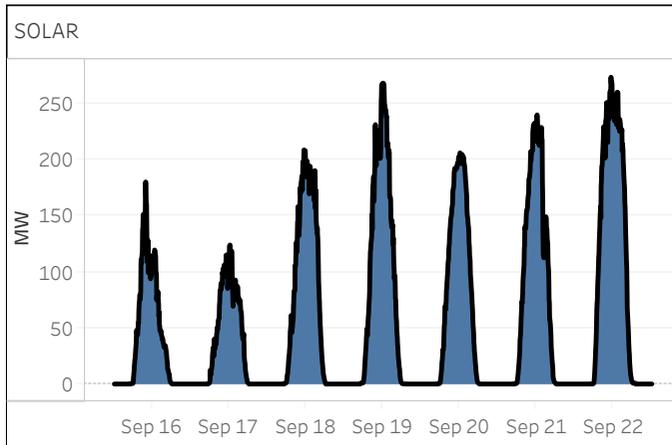
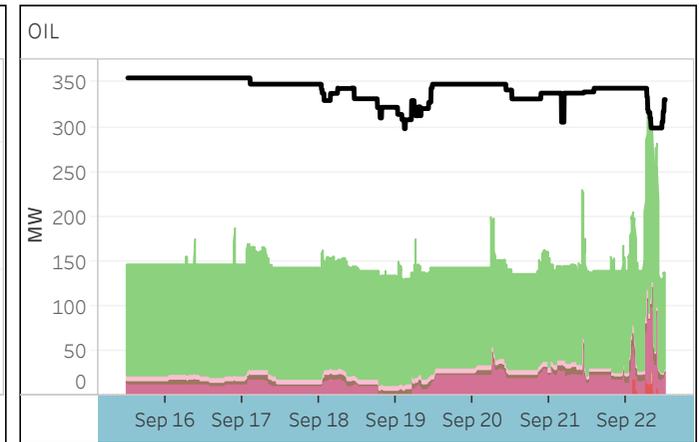
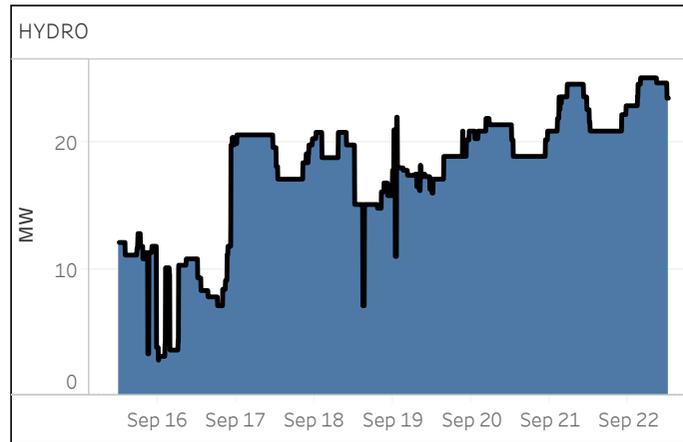
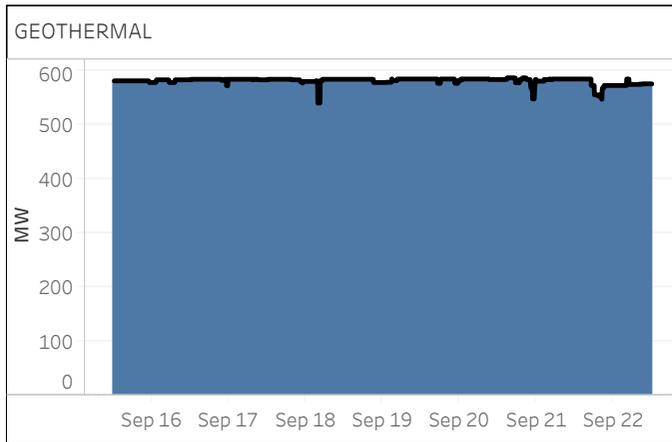
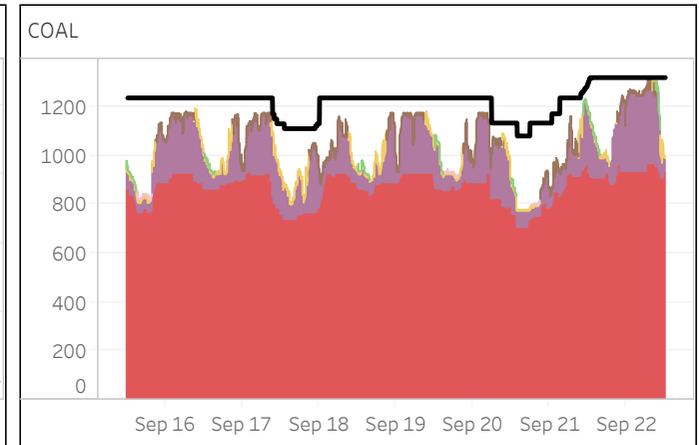
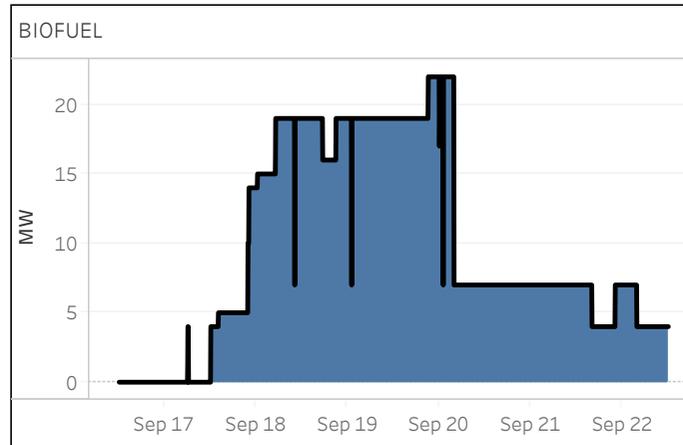
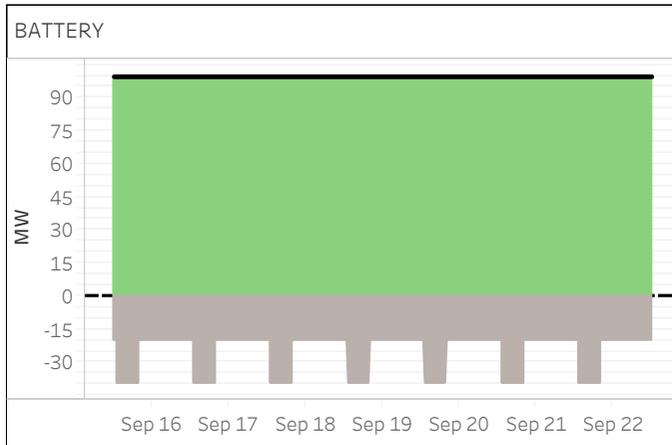
The charts show the aggregated supply and demand in each region and the scheduled power flow from/to a particular region via HVDC links.

## ENERGY OFFER PATTERN - LUZON



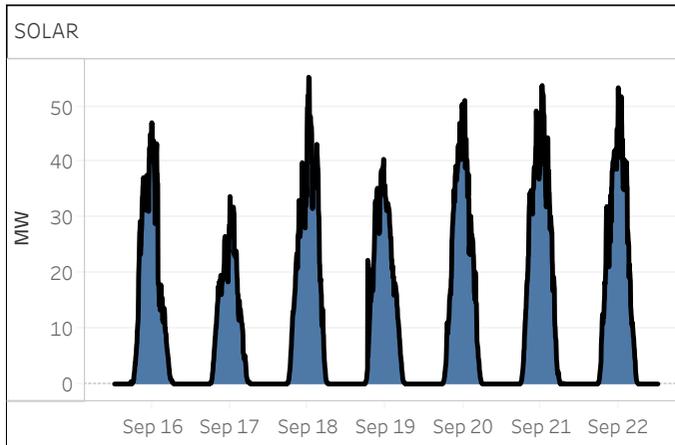
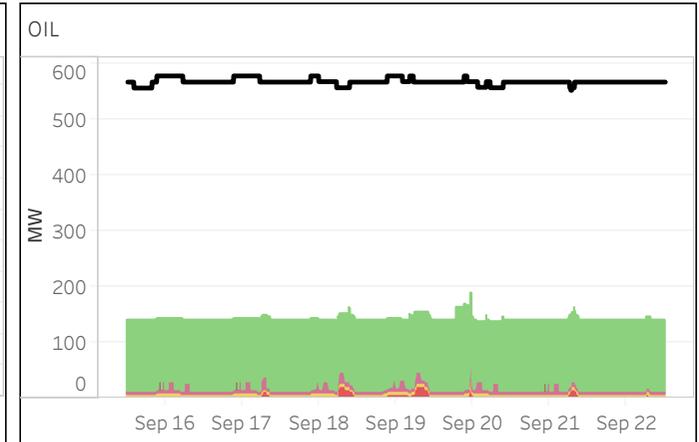
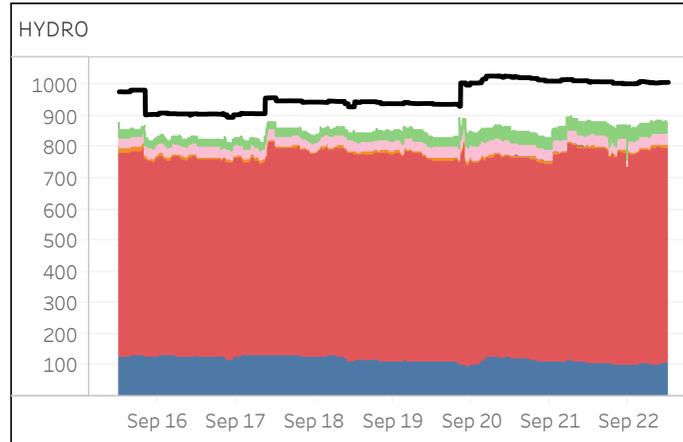
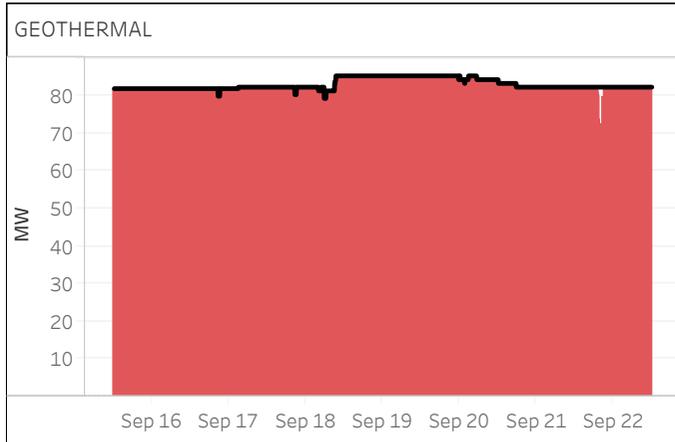
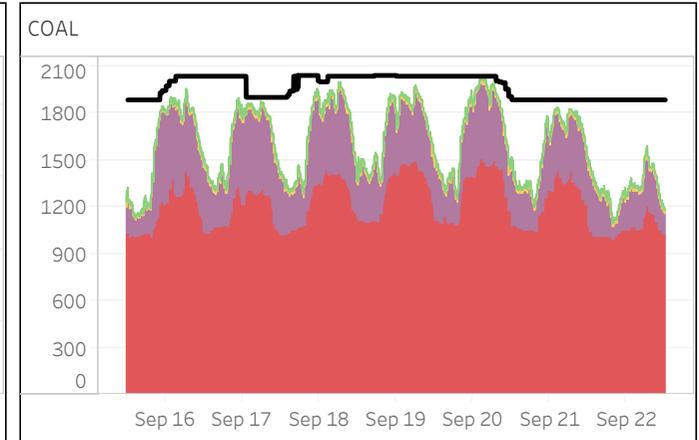
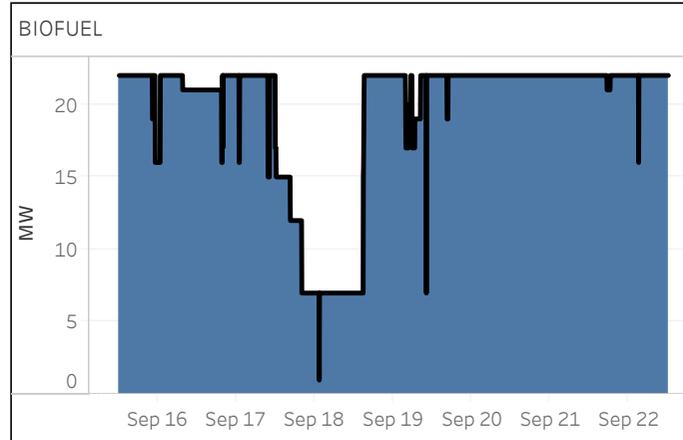
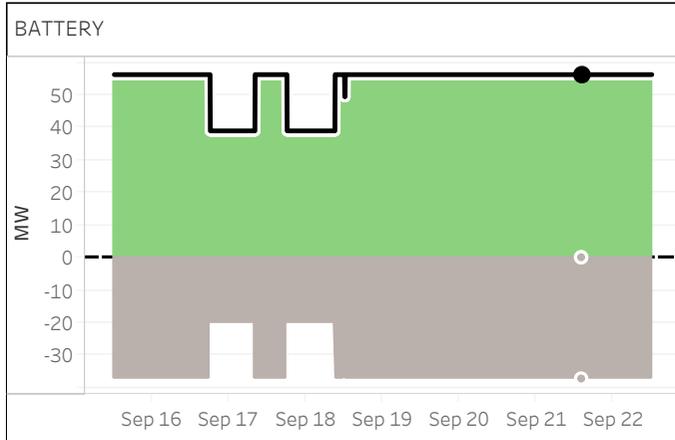
NOTES:  
 1. In Php (X, Y], it includes offer price greater than Php X but less than or equal to Php Y. 2. Reflected capacity are effective supply, adjusted for the submitted ramp rate and excluding any overriding constraint.

## ENERGY OFFER PATTERN - VISAYAS



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.

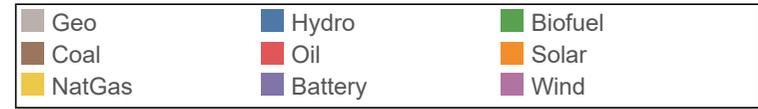
## ENERGY OFFER PATTERN - MINDANAO



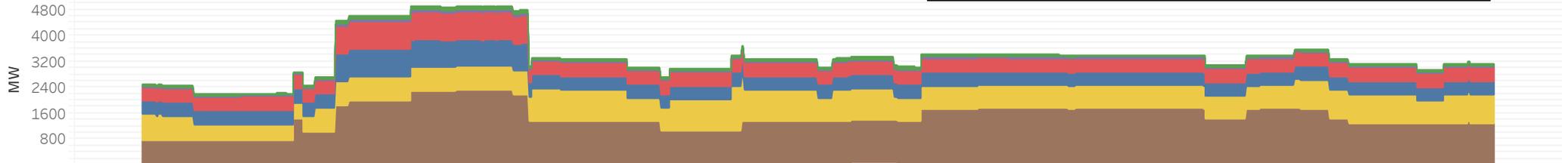
**NOTES:**

1. In Php (X, Y], it includes offer price greater than Php X but less than or equal to Php Y.
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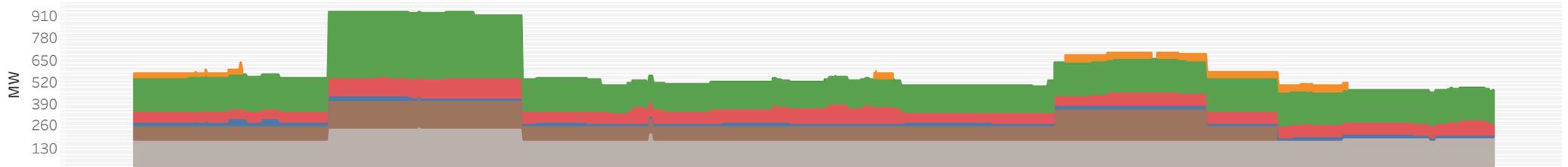
## CAPACITIES ON OUTAGE PER PLANT TYPE



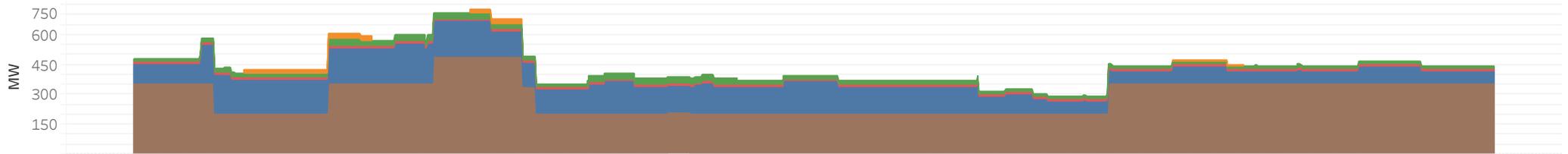
### Luzon



### Visayas



### Mindanao



Sep 16

Sep 17

Sep 18

Sep 19

Sep 20

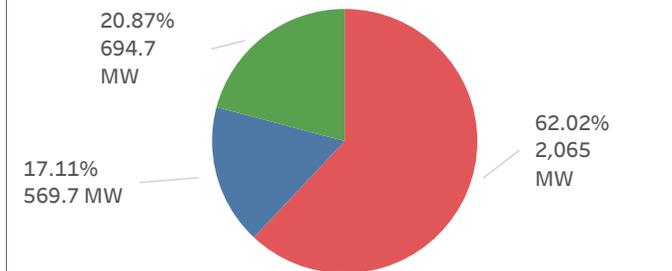
Sep 21

Sep 22

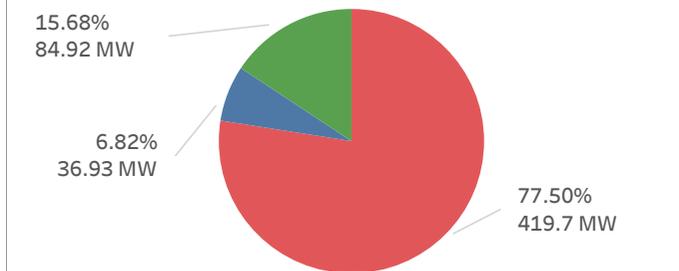
## CAPACITIES ON OUTAGE PER CATEGORY



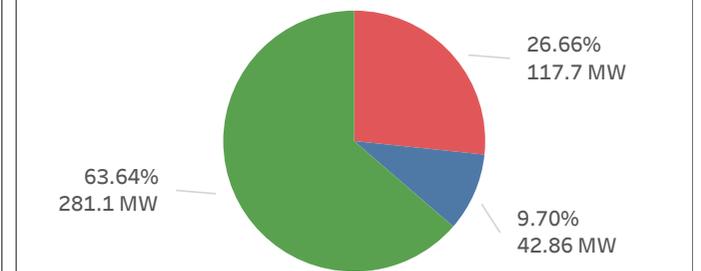
### Luzon



### Visayas

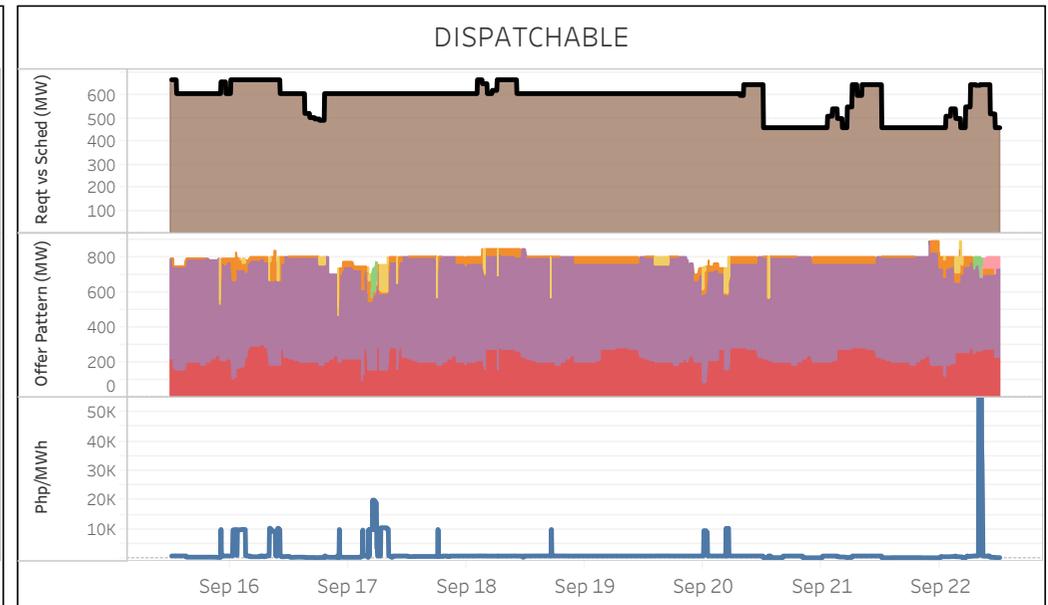
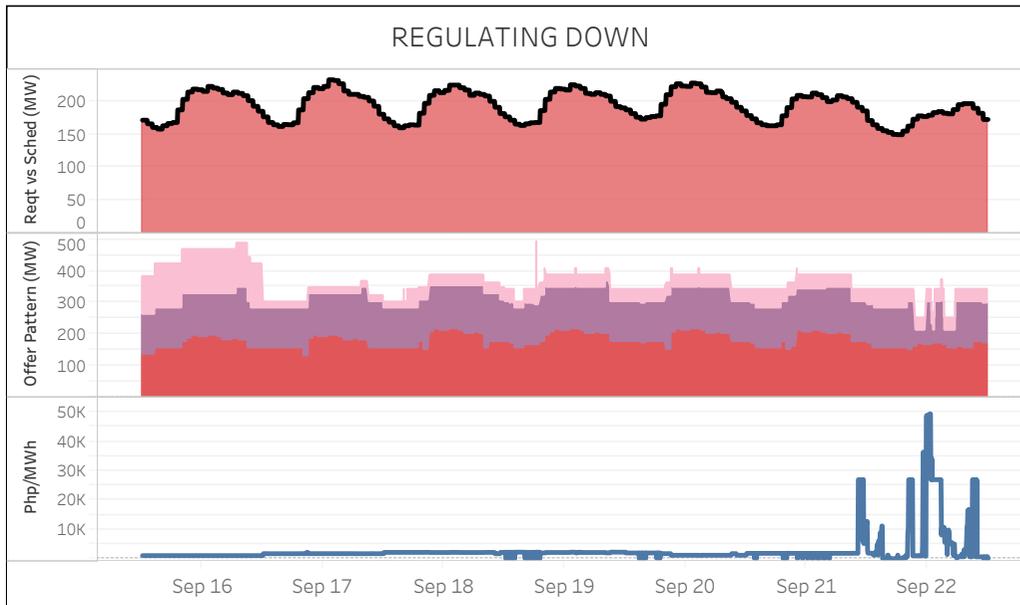
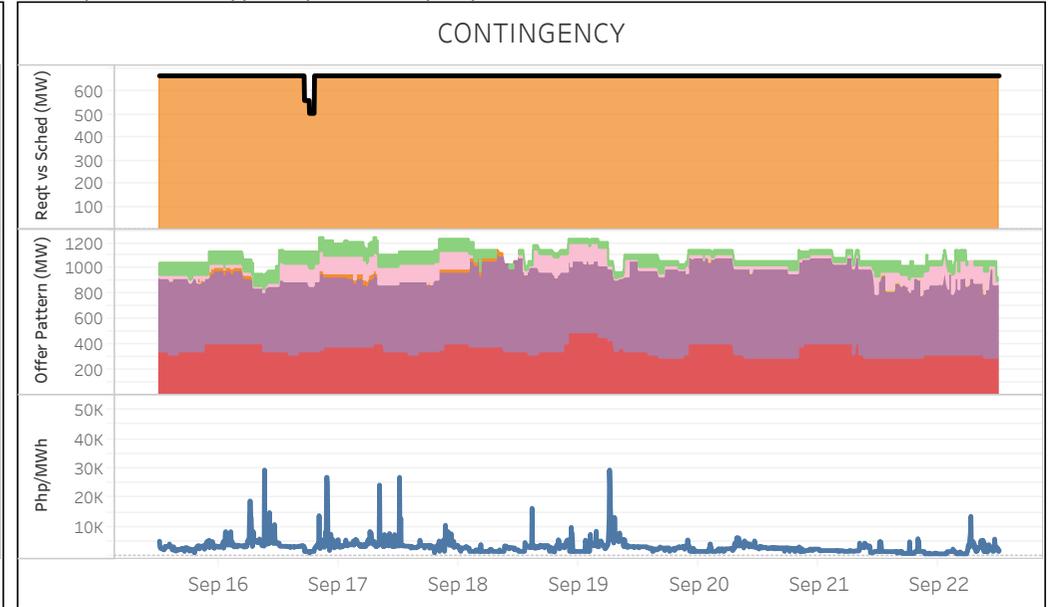
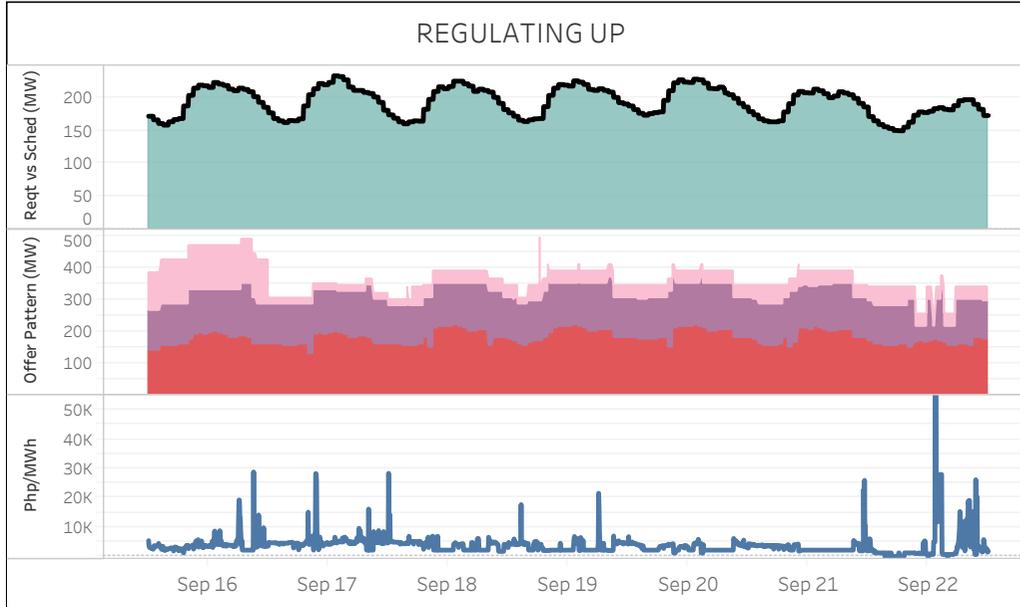


### Mindanao



## 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**

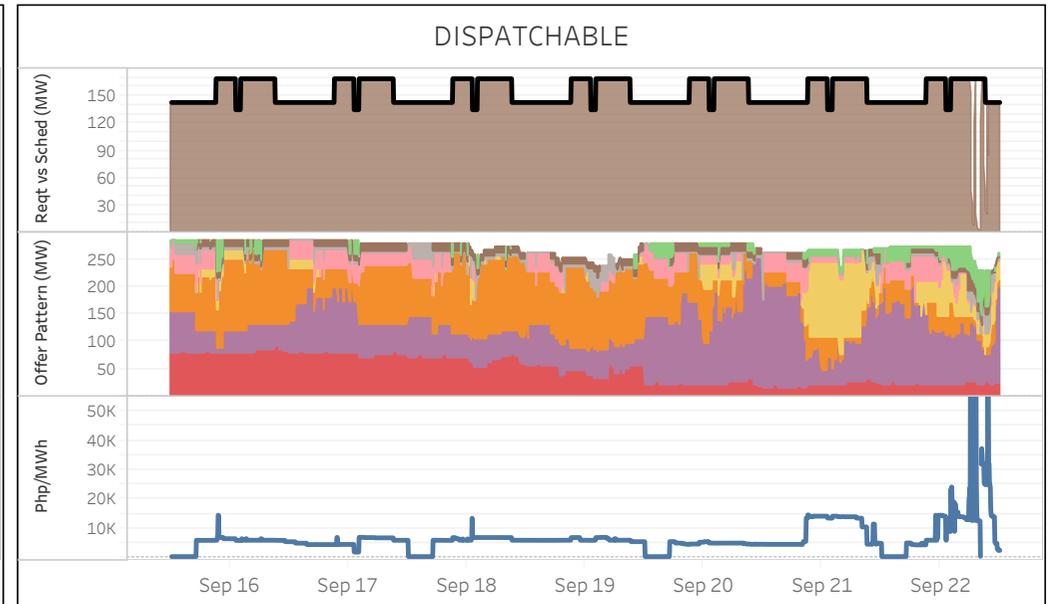
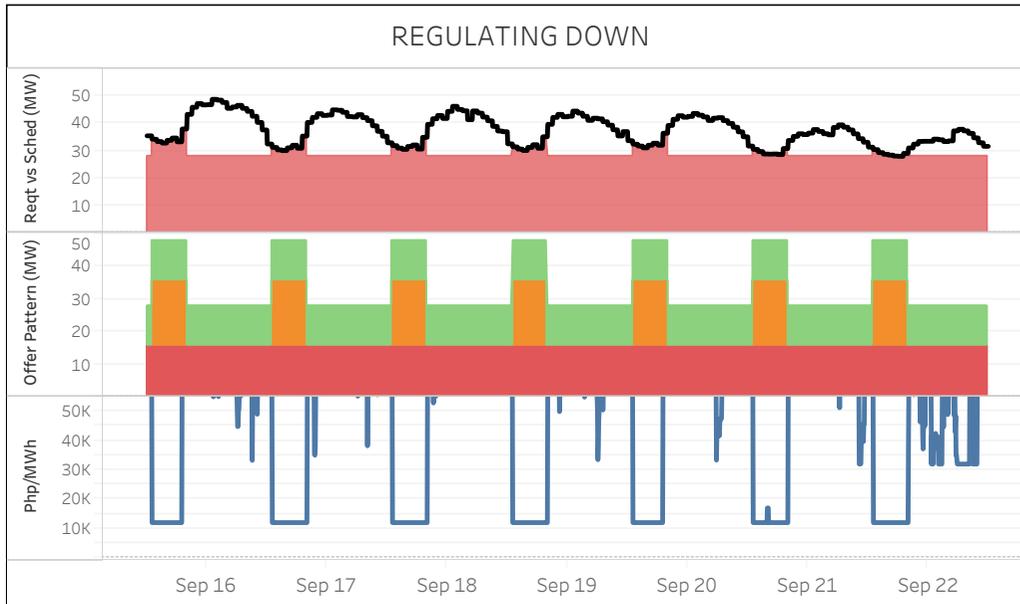
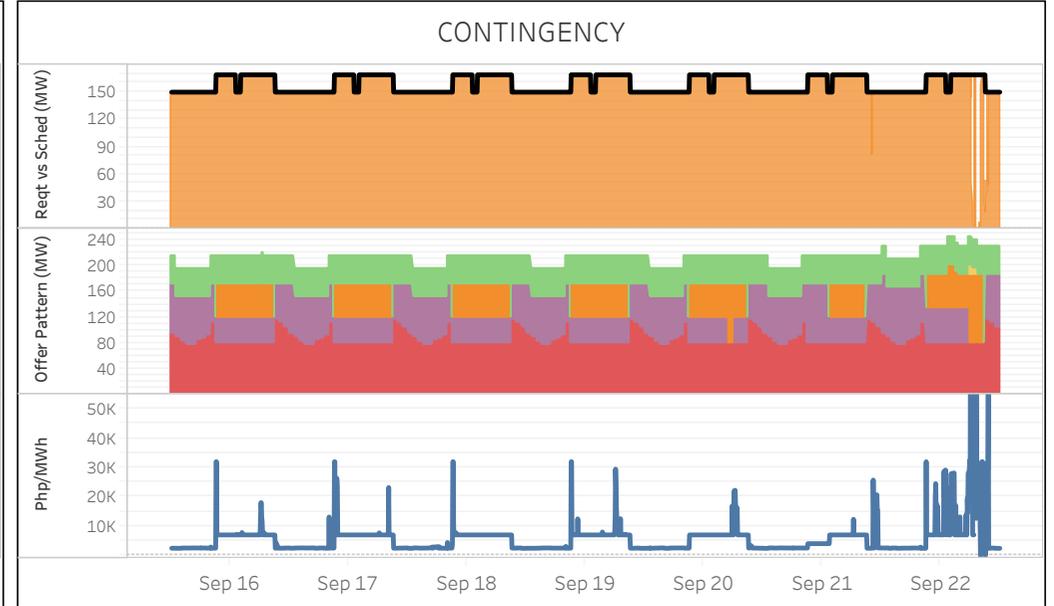
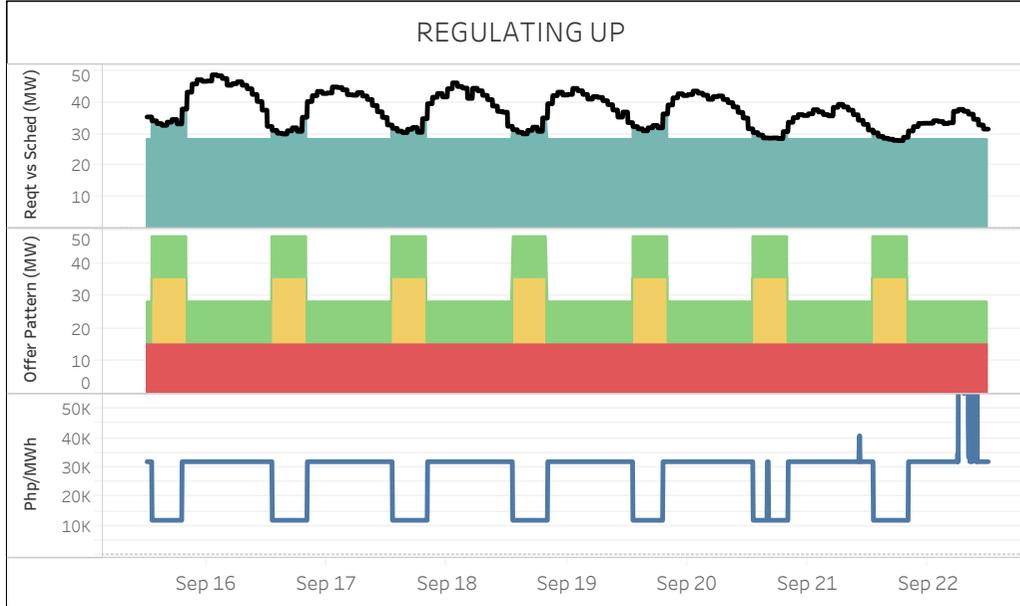
- Reserve Requirement (Black line)
- RU Schedule (Teal area)
- RD Schedule (Red area)
- FR Schedule (Orange area)
- DR Schedule (Brown area)

**Offer Price Range**

- PHP 0 and below (Red)
- PHP (0,5000) (Purple)
- PHP (5000,10000) (Orange)
- PHP (10000,15000) (Yellow)
- PHP (15000,20000) (Pink)
- PHP (20000,25000) (Brown)
- PHP (25000,30000) (Light Pink)
- PHP (30000,32000) (Green)

## 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



**Req't vs Sched Legends**

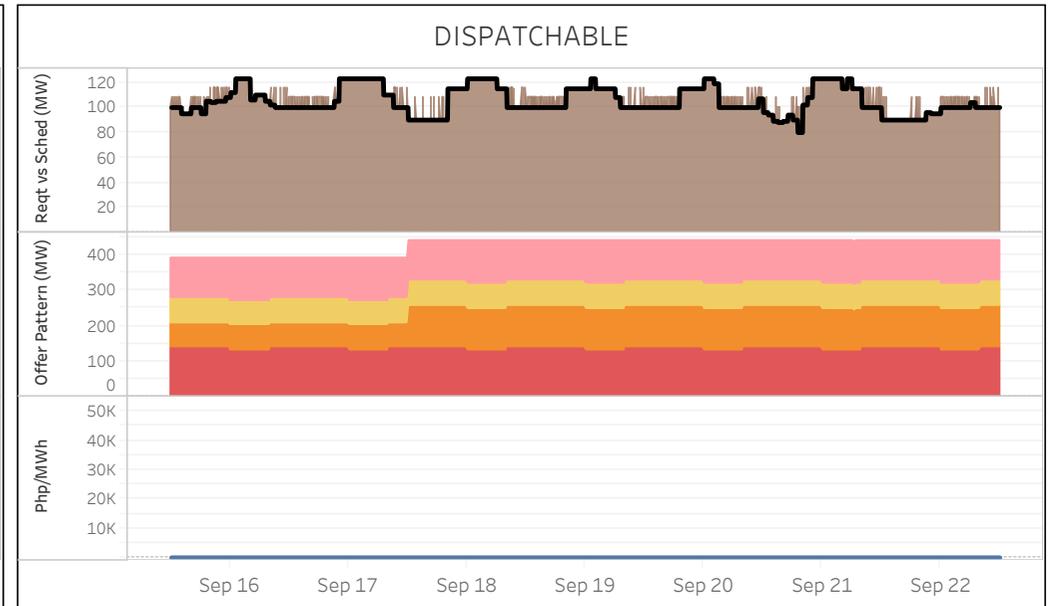
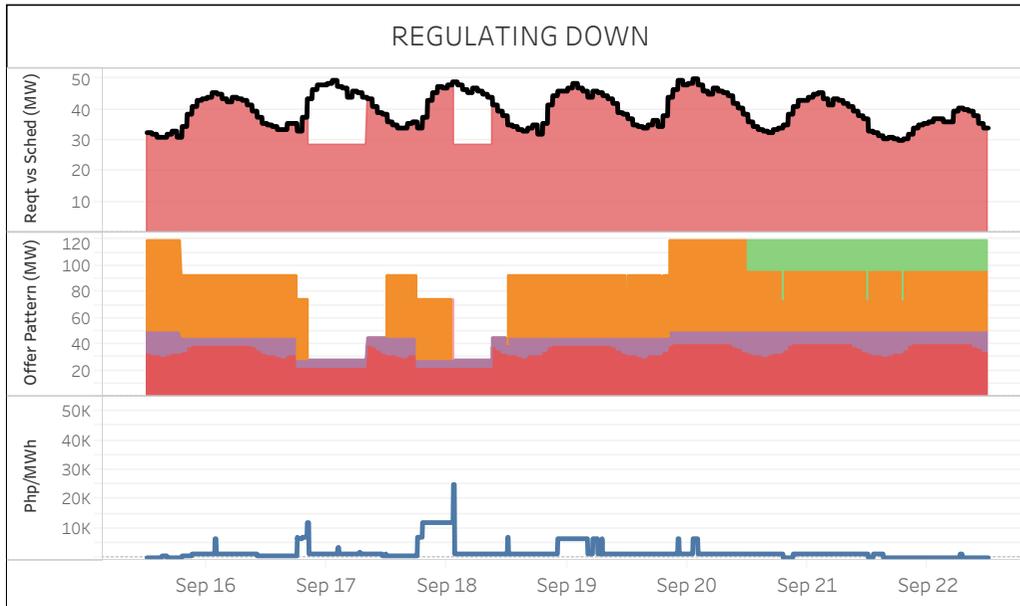
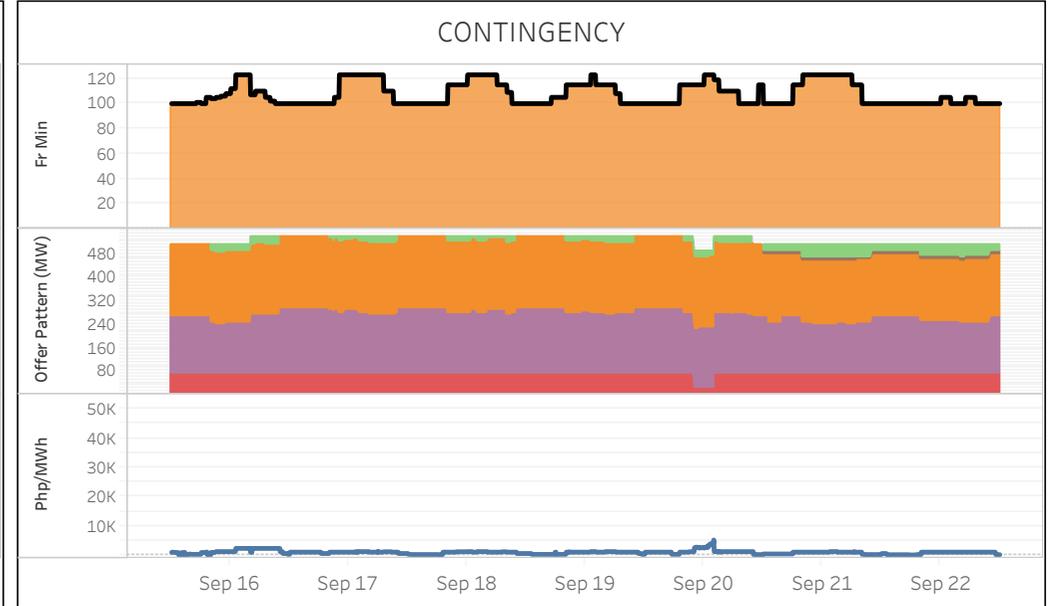
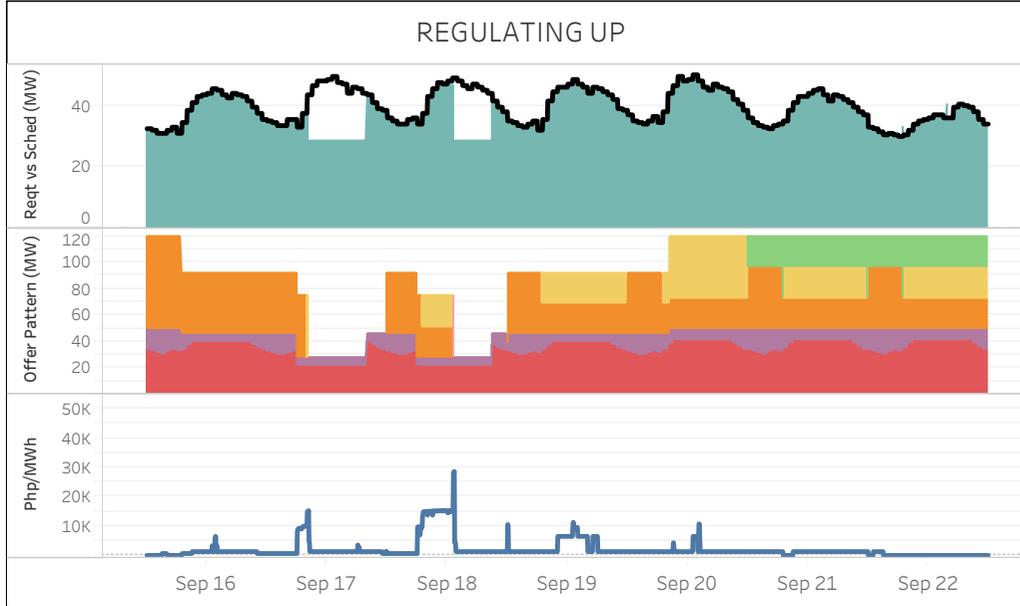
- Reserve Requirement
- RD Schedule
- DR Schedule
- RU Schedule
- FR Schedule

**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]

## 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



**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]
- 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**

The information contained in this document is based on the available electricity spot market data. The same information is subject to change as updated figures come in. As such, the PEMC does not make any representation or warranty as to the completeness of this information. The PEMC likewise accepts no responsibility or liability whatsoever for any loss or cost incurred by a reader arising from, or in relation to, any conclusion or assumption derived from the information found herein.