MARKET ASSESSMENT HIGHLIGHTS

Demand, Supply, and Price

- Average weekly demand decreased in Luzon region by 3.11% than the previous week.
- Outages decreased in Luzon and Mindanao, while it increased by 41.72% in Visayas.
- Intervals with imports from Luzon to Visayas increased from 12.75% to 25.54% of the time, while the flow from Mindanao to Visayas is maintained at 100% of the time.
- Average weekly energy price decreased in all regions, especially in Luzon by 18.37%.
- Weekly regulating reserve prices, both up and down, increased significantly in Luzon and Visayas regions, while DR prices in the same regions decreased.
- PSM was observed on 23 to 25 August.

Energy Offer Pattern Analysis

- Luzon Battery plants recorded a decrease in offered capacity by 50MW starting 20 August.
- Luzon Geothermal plants recorded decrease in nominated capacity on 21 to 22 August, and 24 August onwards.
- Luzon Natural Gas Plants' decrease in its offered capacity was due to over-riding constraints which were scheduled by impositions and not by submission of offers.
- Visayas Battery plants recorded increase in charging capacities during mornings.
- Visayas Wind plants had increasing nominations towards the end of the week, contrary to the previous week.
- Mindanao Biofuel plants had significant decrease in its nomination on 25 August.
- Mindanao Geothermal plants had no recorded offered capacity during morning of 21 August.
- The rest of the offer pattern had no significant changes.

Market Systems Advisory

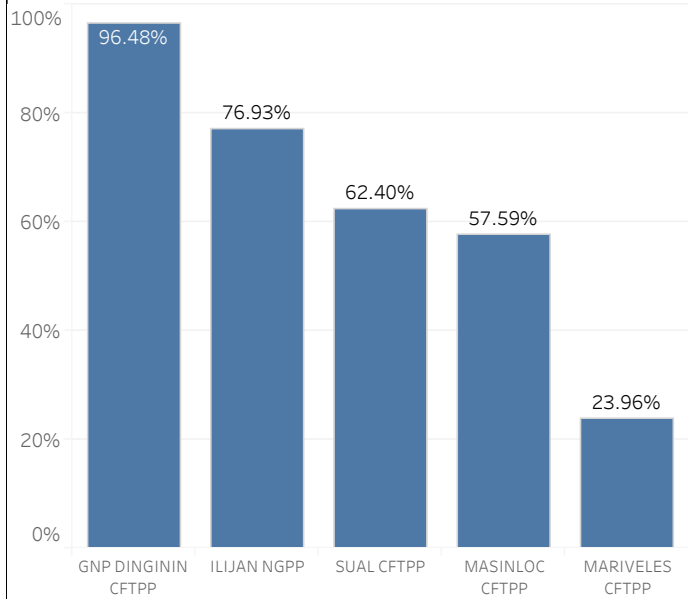- No IT-related issue was advised in IEMOP's market systems from 19 - 25 Aug 2024.
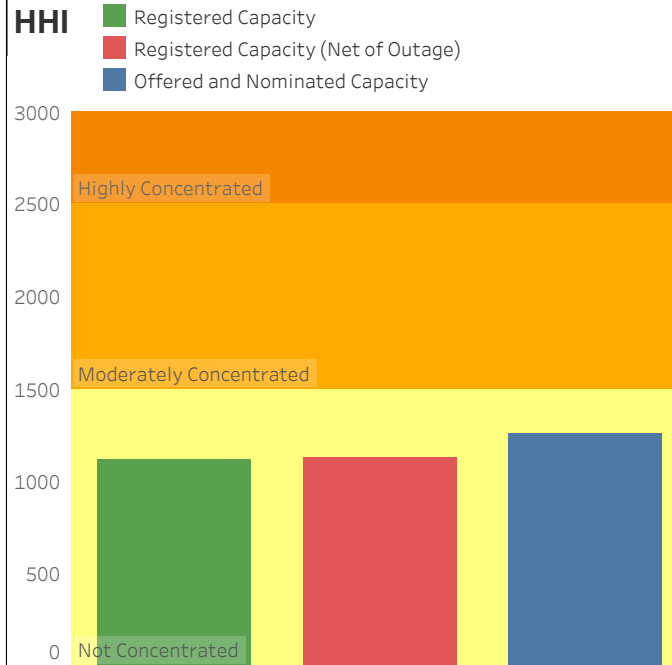
Capacity Profile
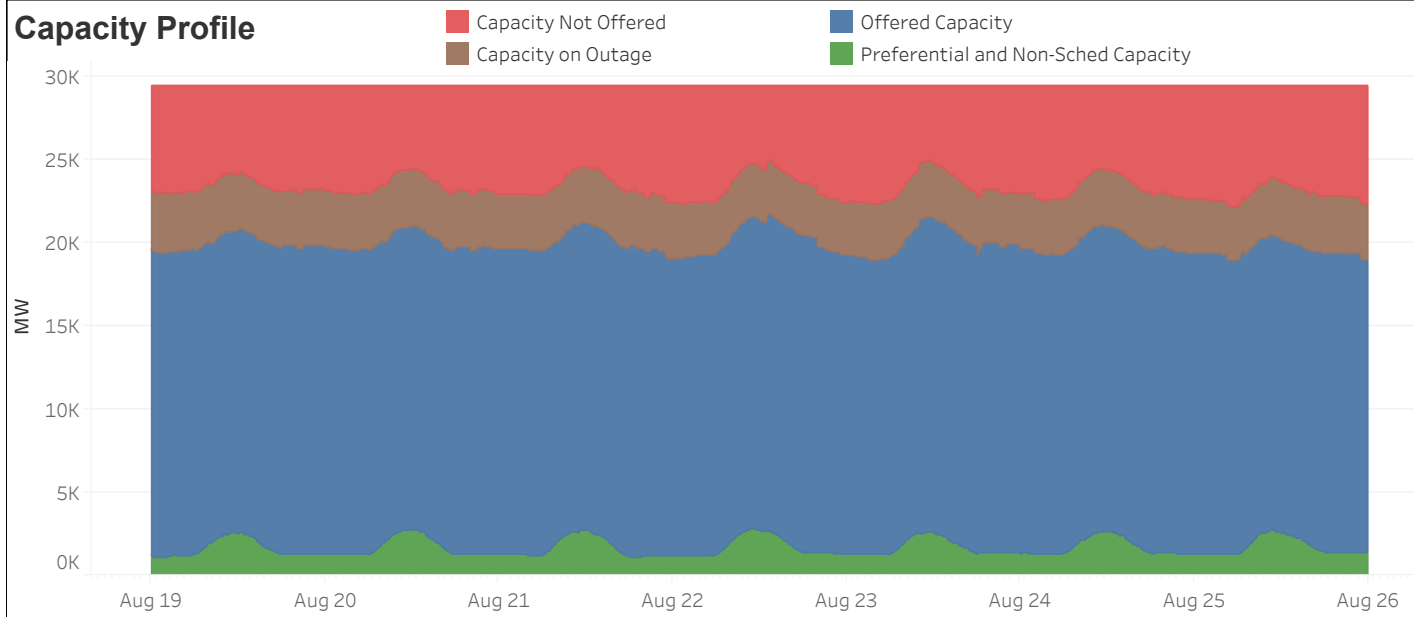
SUMMARY OF AVERAGE VALUES

Particulars	19 - 25 Aug 2024	12 - 18 Aug 2024	% Change
GWAP (Php/MWh)			
System	5,417	6,402	-15.38%
Luzon	5,718	7,004	-18.37%
Visayas	7,202	7,402	-2.69%
Mindanao	2,976	2,979	-0.10%
EFFECTIVE SUPPLY (MW)			
Luzon	12,435	12,729	-2.30%
Visayas	2,249	2,324	-3.21%
Mindanao	3,335	3,233	3.15%
DEMAND (MW)			
Luzon	10,508	10,846	-3.11%
Visayas	2,028	2,050	-1.09%
Mindanao	2,029	2,054	-1.21%
OUTAGE (MW)			
Luzon	2,481	2,752	-9.84%
Visayas	672	474	41.72%
Mindanao	184	355	-48.28%
RU PRICE (PHP/MWh)			
Luzon	13,212	5,672	132.92%
Visayas	28,635	7,665	273.60%
Mindanao	2,721	8,031	-66.11%
RD PRICE (PHP/MWh)			
Luzon	18,097	3,662	394.17%
Visayas	50,033	12,232	309.03%
Mindanao	1,105	5,966	-81.47%
FR PRICE (PHP/MWh)			
Luzon	4,866	6,697	-27.35%
Visayas	25,217	9,538	164.38%
Mindanao	1,365	1,161	17.63%
DR PRICE (PHP/MWh)			
Luzon	3,576	6,131	-41.67%
Visayas	3,898	6,608	-41.00%
Mindanao	0	0	

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Top 5 Pivotal Plants

- GNP DINGININ CFTPP: 96.48%
- ILIJAN NGPP: 76.93%
- SUAL CFTPP: 62.40%
- MASINLOC CFTPP: 57.59%
- MARIVELES CFTPP: 23.96%

HHI

Legend:
- Registered Capacity
- Registered Capacity (Net of Outage)
- Offered and Nominated Capacity

Zones: Highly Concentrated, Moderately Concentrated, Not Concentrated

RTD Congestion

- 6KABAN_TR2: 3.92%
- 230 kV Hermosa-Malolos Line1: 3.57%
- 3TAYAB_TR2: 2.38%
- 3TAYAB_TR1: 2.03%
- 138kV Barotac Viejo - Dingle Line1: 1.19%

Market RSI vs Pivotal Plants

PSI / RSI

Market Share

Legend:
- Registered Capacity
- Registered Capacity (Net of Outage)
- Offered and Nominated Capacity

Companies: SMC, AP, FGC, AC, PSALM, GBPC, PEI, DMCI, QPPL, SBPLC
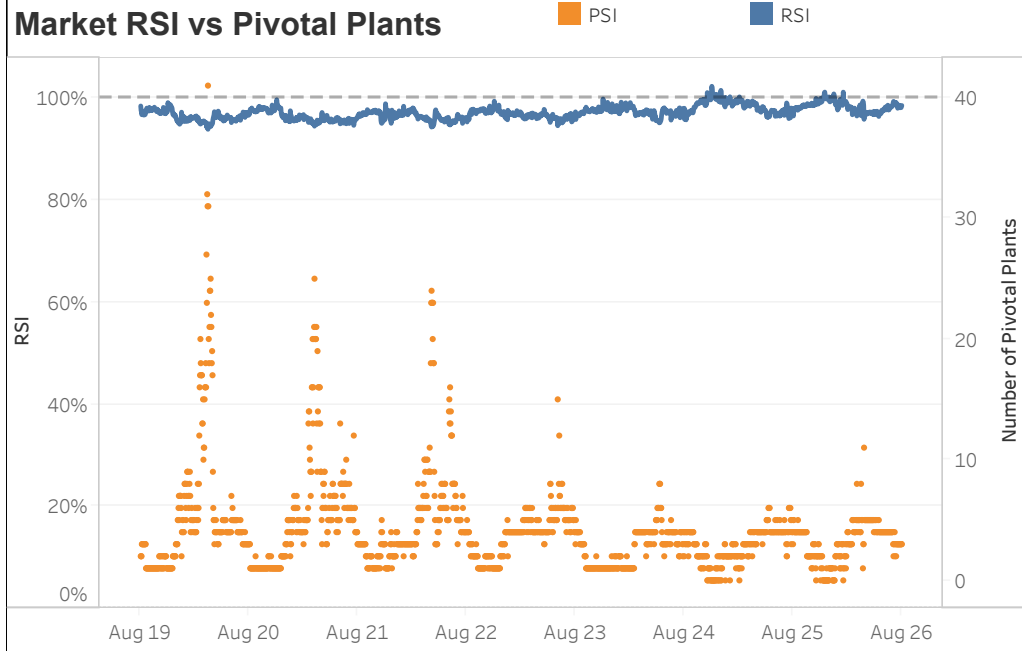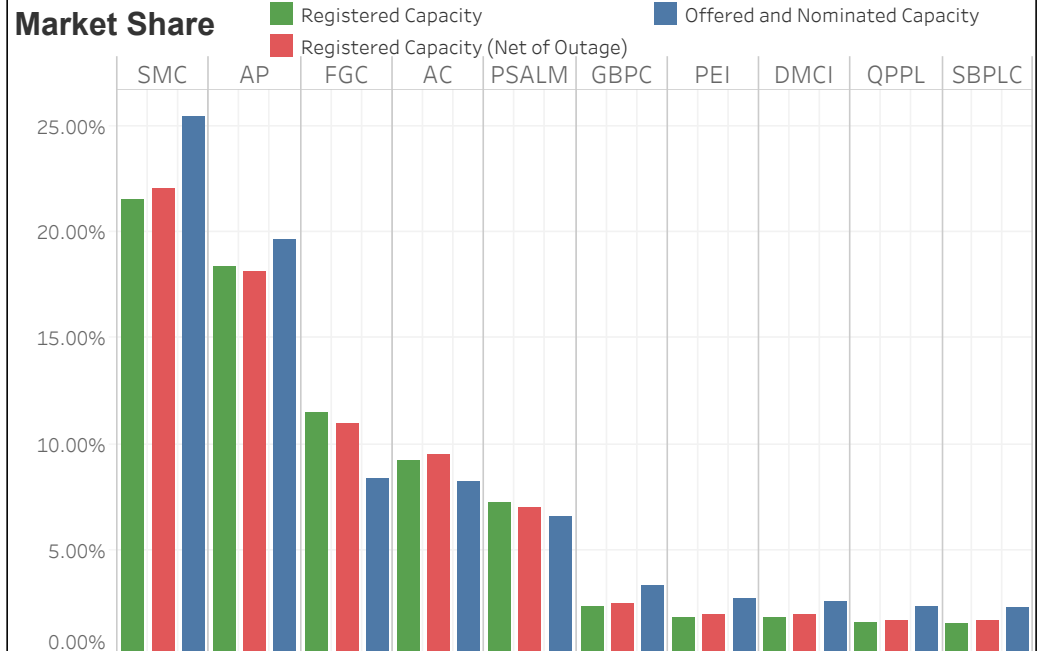
ENERGY MARKET PRICES (GWAP)
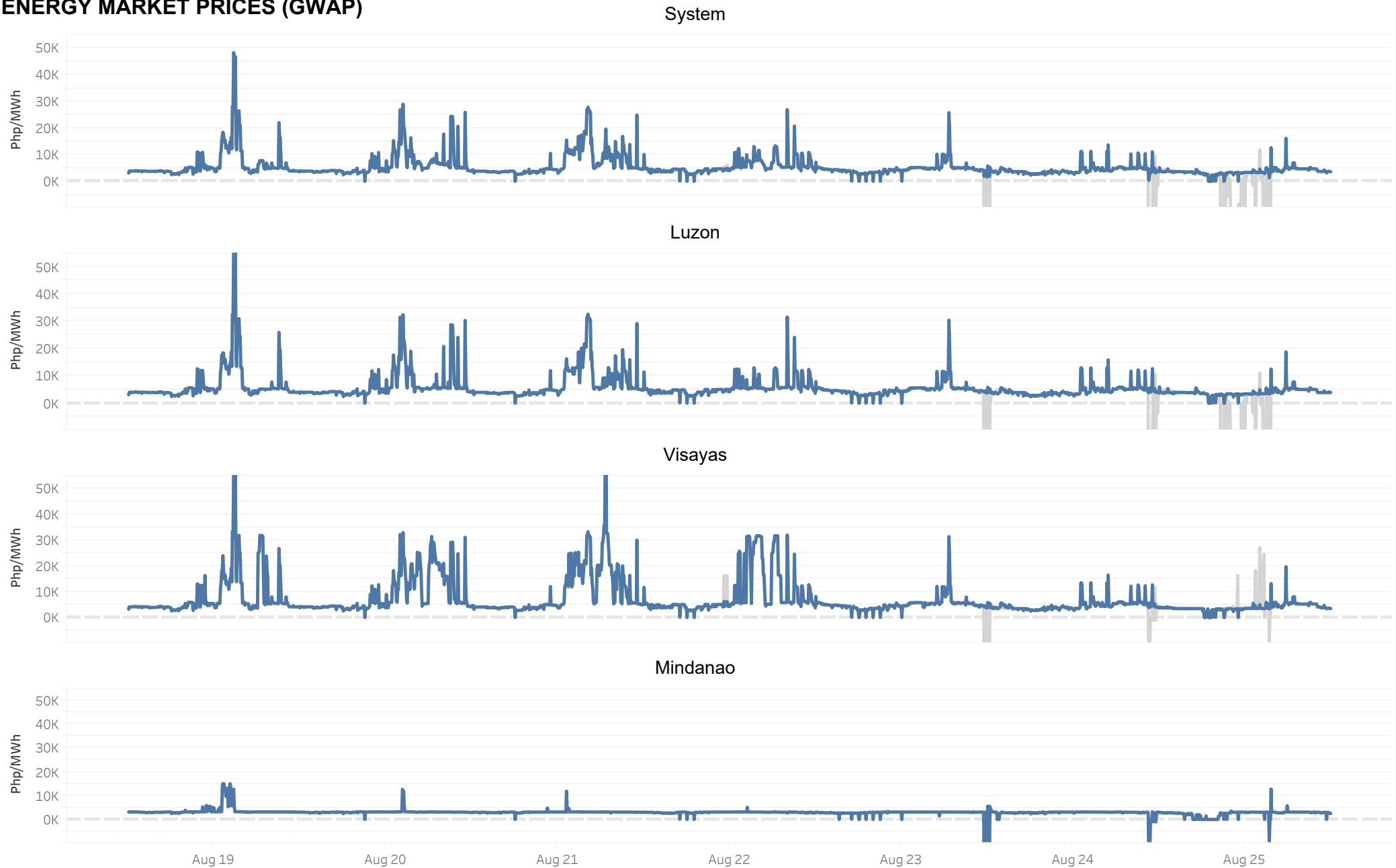
The charts show the market prices by region based on generator weighted average price (GWAP). Prices are subject to the finalization of settlement data.
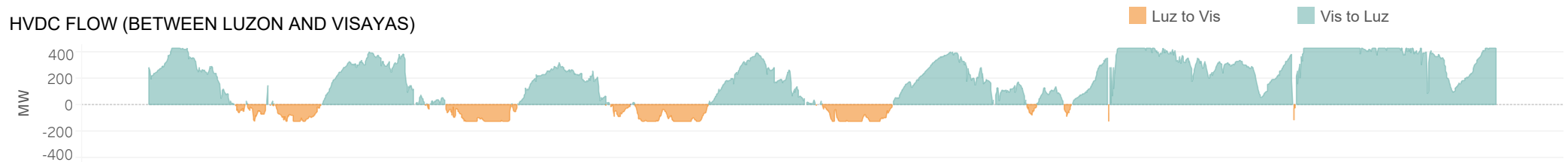
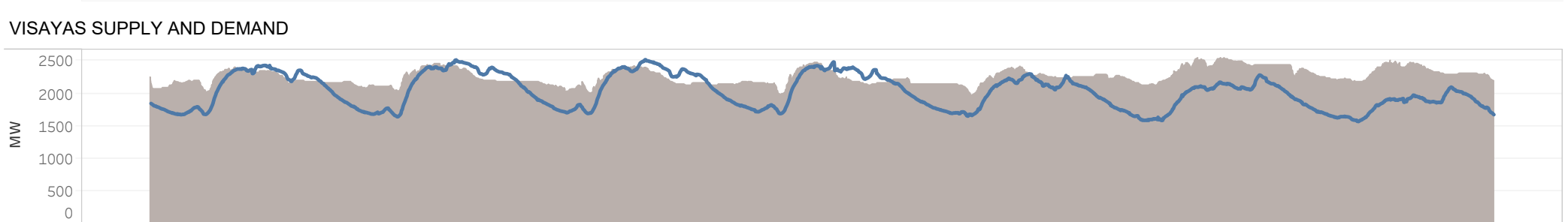■ GWAP   ▨ GWAP (before post market run calculation)

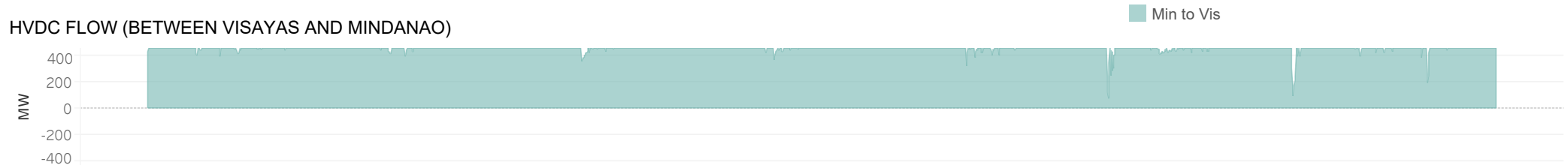**Philippine Electricity Market Corporation**

LUZON SUPPLY AND DEMAND

Demand ■ Effective Supply
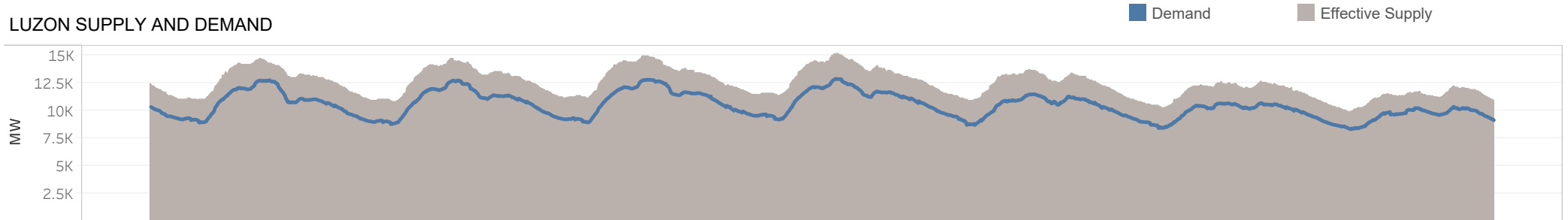
HVDC FLOW (BETWEEN LUZON AND VISAYAS)

■ Luz to Vis ■ Vis to Luz

VISAYAS SUPPLY AND DEMAND

HVDC FLOW (BETWEEN VISAYAS AND MINDANAO)

■ Min to Vis

MINDANAO SUPPLY AND DEMAND
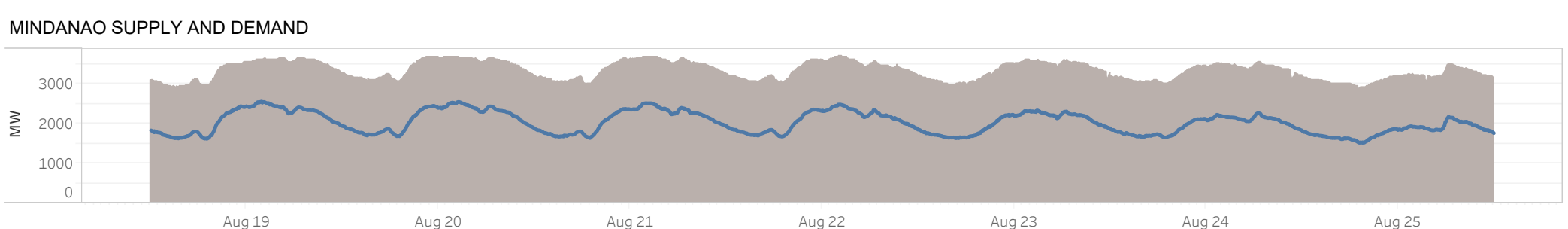
The charts shows the aggregated supply and demand in each region and the scheduled power flow from/to a particular region via HVDC links.
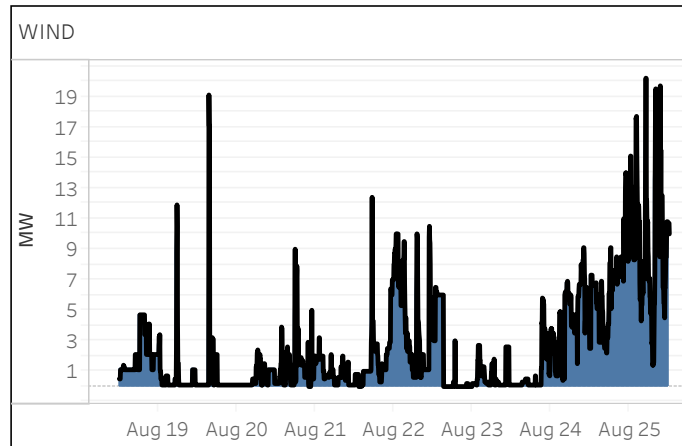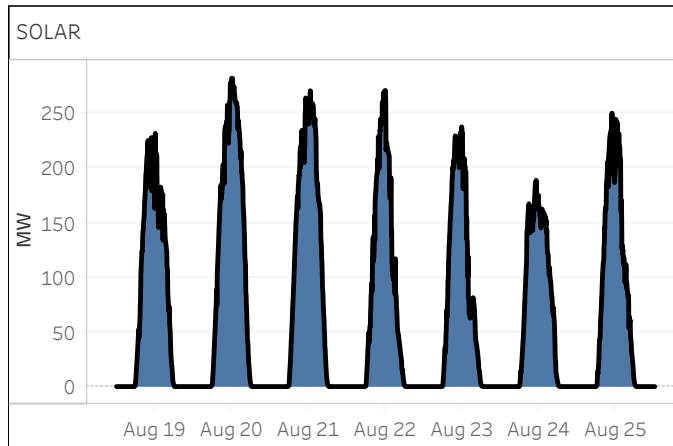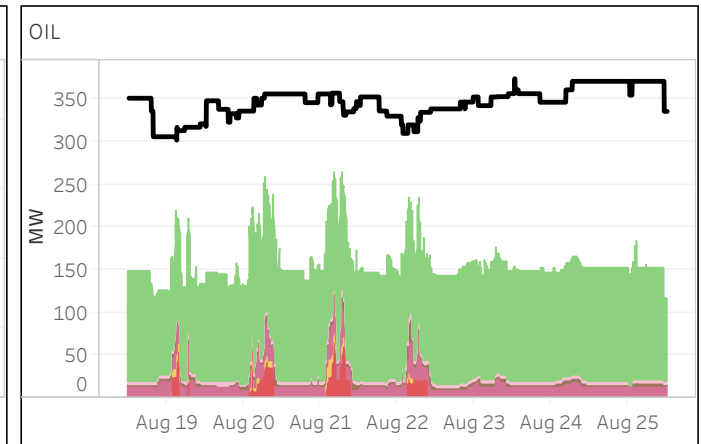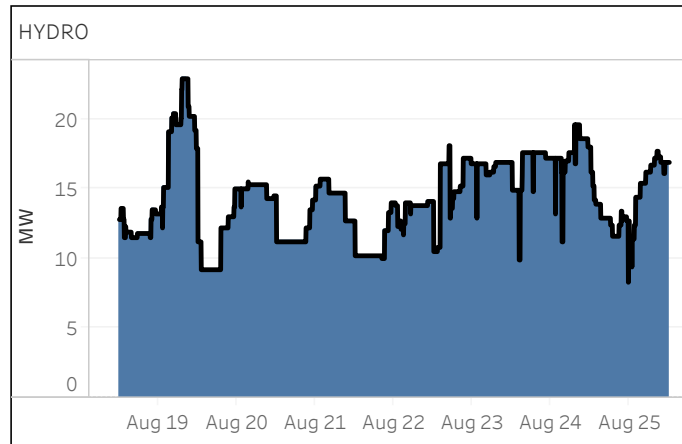
Philippine Electricity Market Corporation
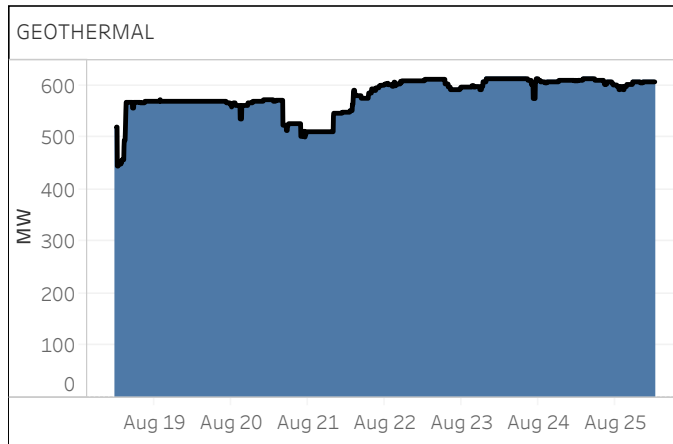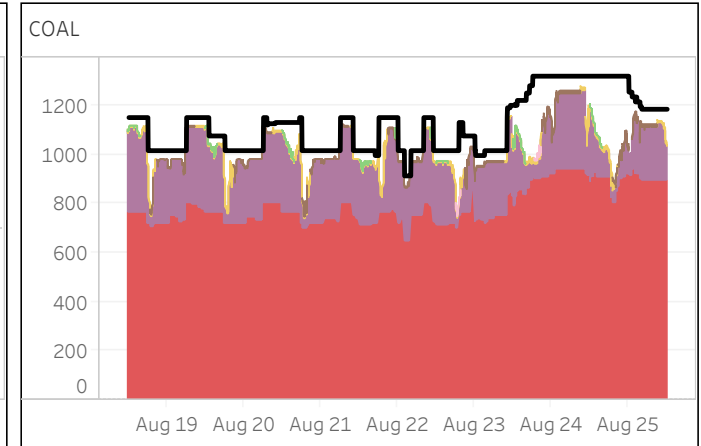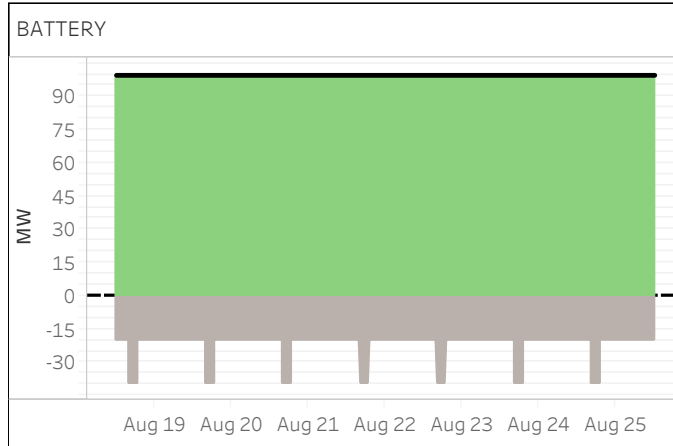
ENERGY OFFER PATTERN - LUZON
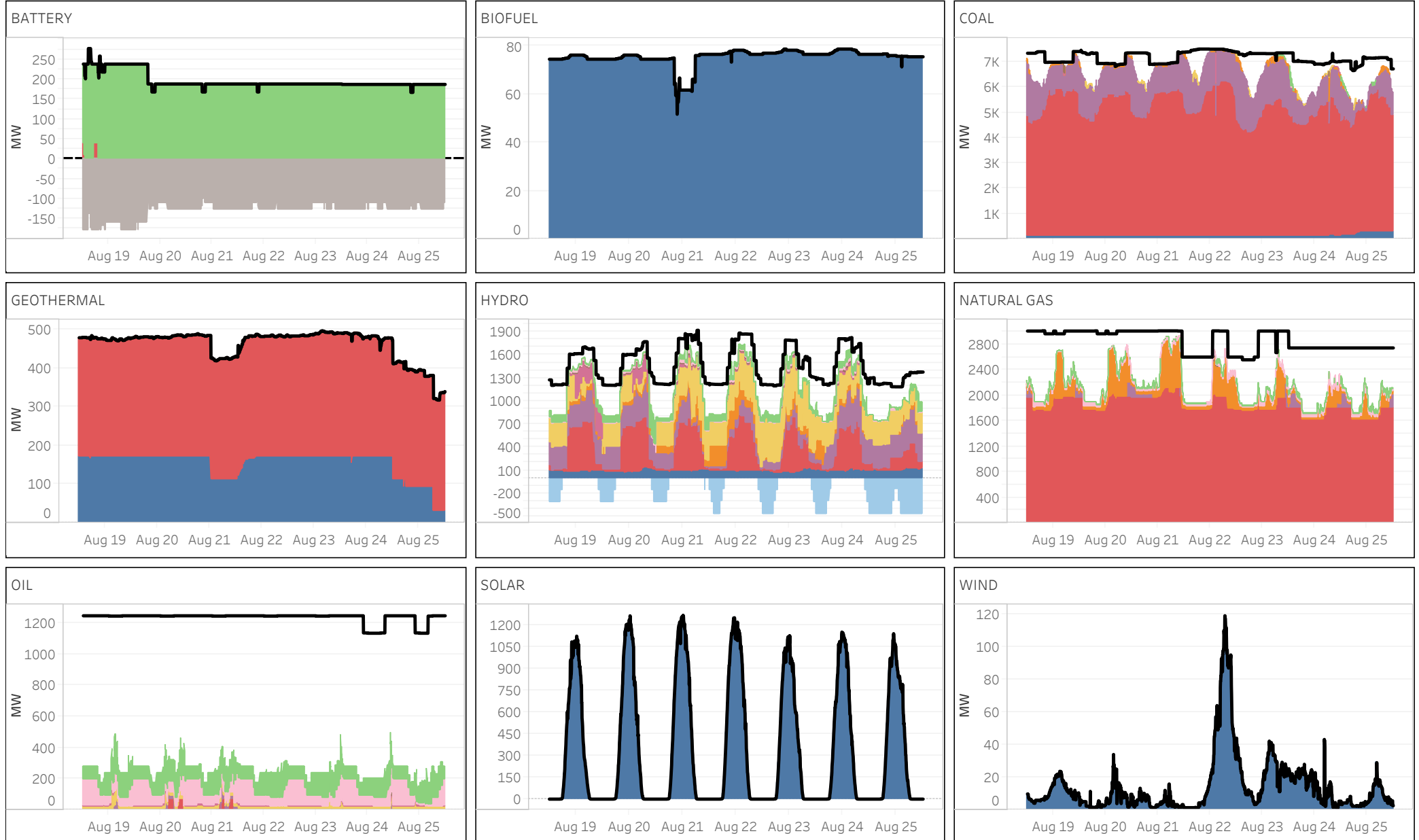
BATTERY

BIOFUEL

COAL

GEOTHERMAL

HYDRO

NATURAL GAS

OIL

SOLAR

WIND

Offer Price Range

- Preferential Nomination
- Pumping Nomination
- PHP (0,5000]
- PHP (10000,15000]
- PHP (20000,25000]
- PHP (30000,32000]
- Battery Charging Offer
- PHP 0 and below
- PHP (5000,10000]
- PHP (15000,20000]
- PHP (25000,30000]
- Offered and Nominated Capacity

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.

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ENERGY OFFER PATTERN - VISAYAS

BATTERY

BIOFUEL

COAL

GEOTHERMAL

HYDRO

OIL

SOLAR

WIND

Offer Price Range

- Preferential Nomination
- Battery Charging Offer
- Pumping Nomination
- PHP 0 and below
- PHP (0,5000]
- PHP (5000,10000]
- PHP (10000,15000]
- PHP (15000,20000]
- PHP (20000,25000]
- PHP (25000,30000]
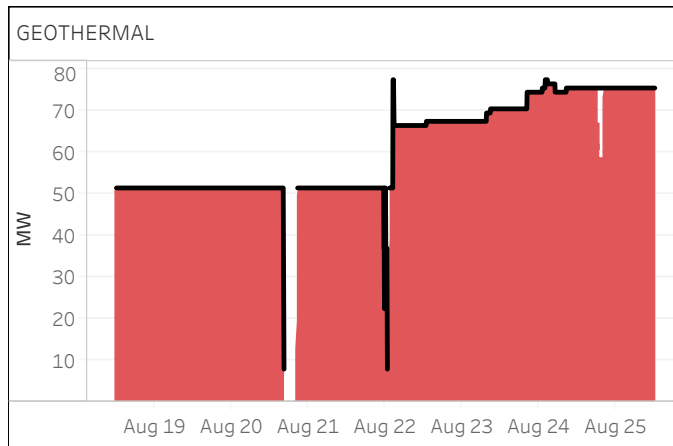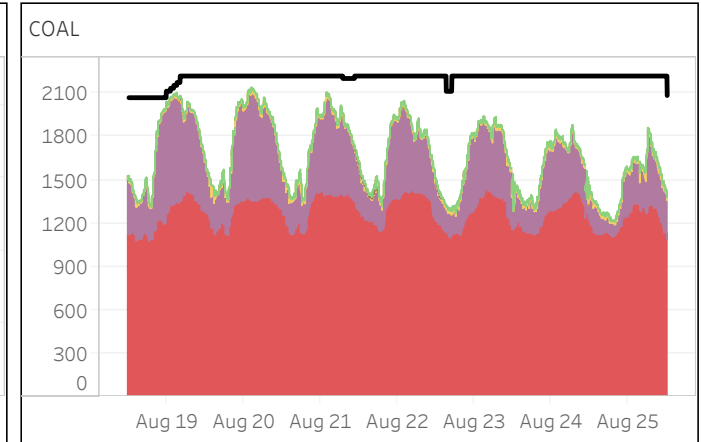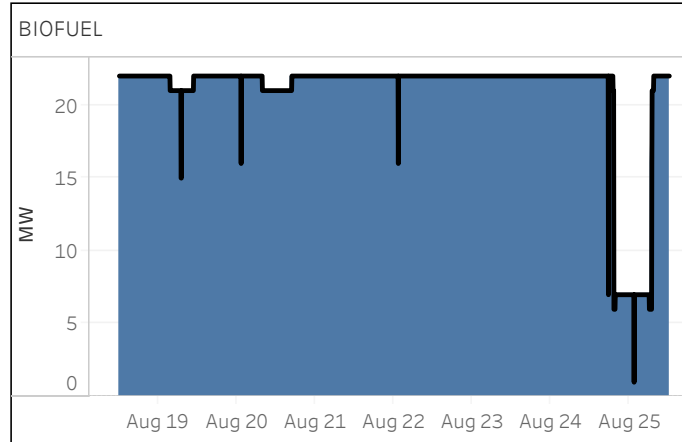- PHP (30000,32000]
- Offered and Nominated Capacity

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.

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ENERGY OFFER PATTERN - MINDANAO
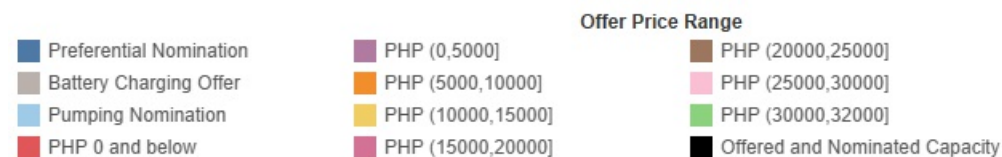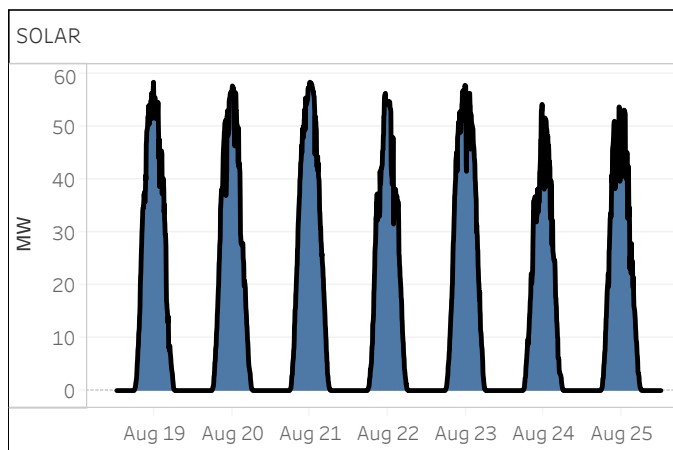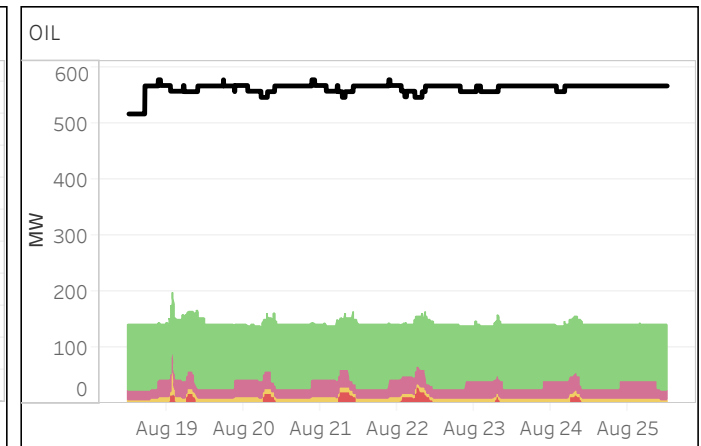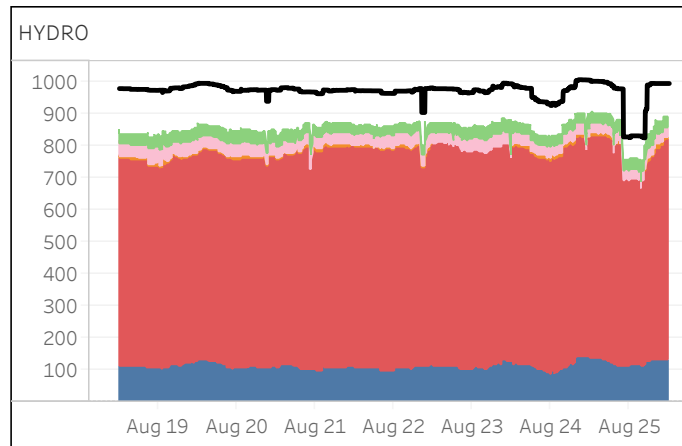
BATTERY

BIOFUEL

COAL

GEOTHERMAL

HYDRO

OIL

SOLAR

Offer Price Range

- Preferential Nomination
- Battery Charging Offer
- Pumping Nomination
- 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]
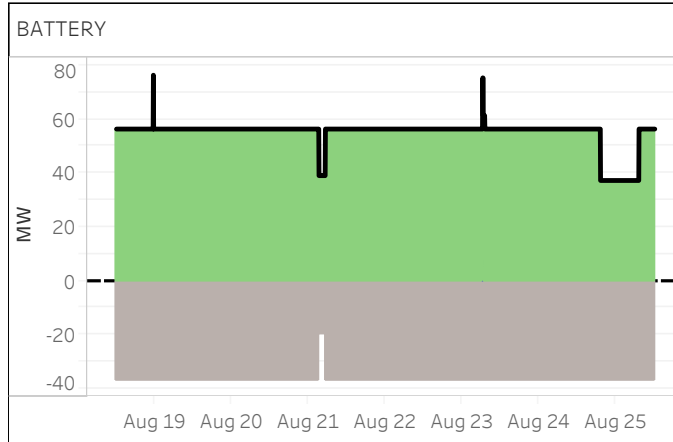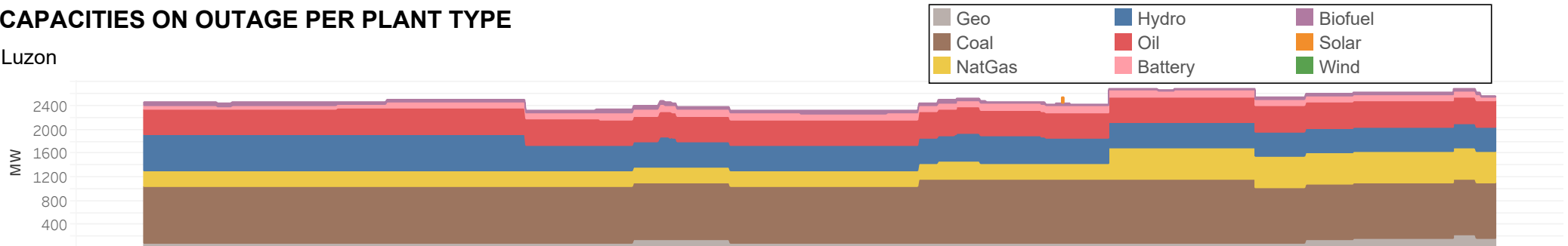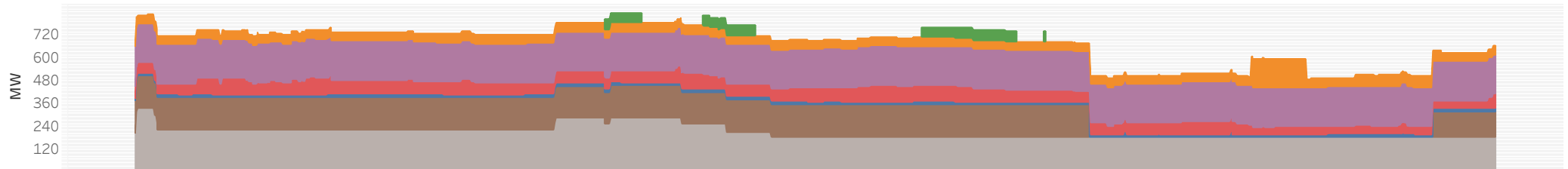- Offered and Nominated Capacity

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.

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CAPACITIES ON OUTAGE PER PLANT TYPE

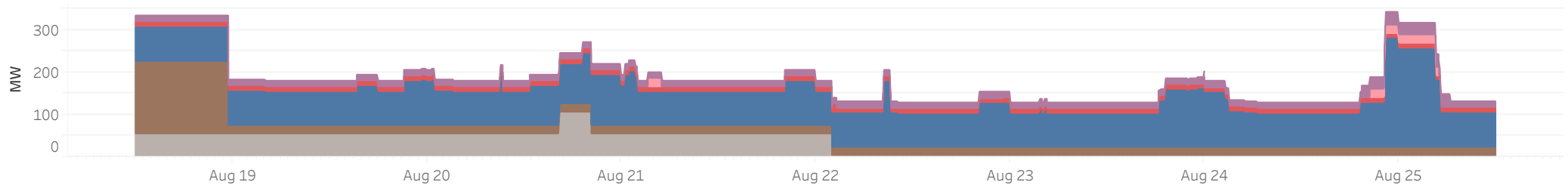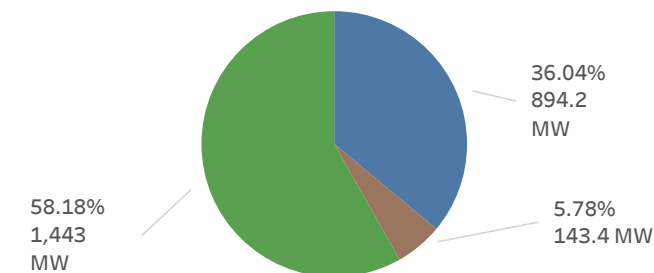Legend: Geo, Hydro, Biofuel, Coal, Oil, Solar, NatGas, Battery, Wind

Luzon

Visayas

Mindanao

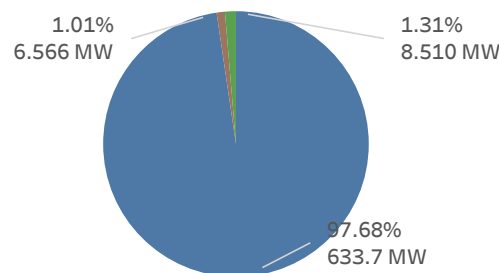
CAPACITIES ON OUTAGE PER CATEGORY

Legend: Deactivated Shutdown, Forced, Maintenance, Planned

Luzon
- 36.04% 894.2 MW
- 58.18% 1,443 MW
- 5.78% 143.4 MW

Visayas
- 1.01% 6.566 MW
- 1.31% 8.510 MW
- 97.68% 633.7 MW
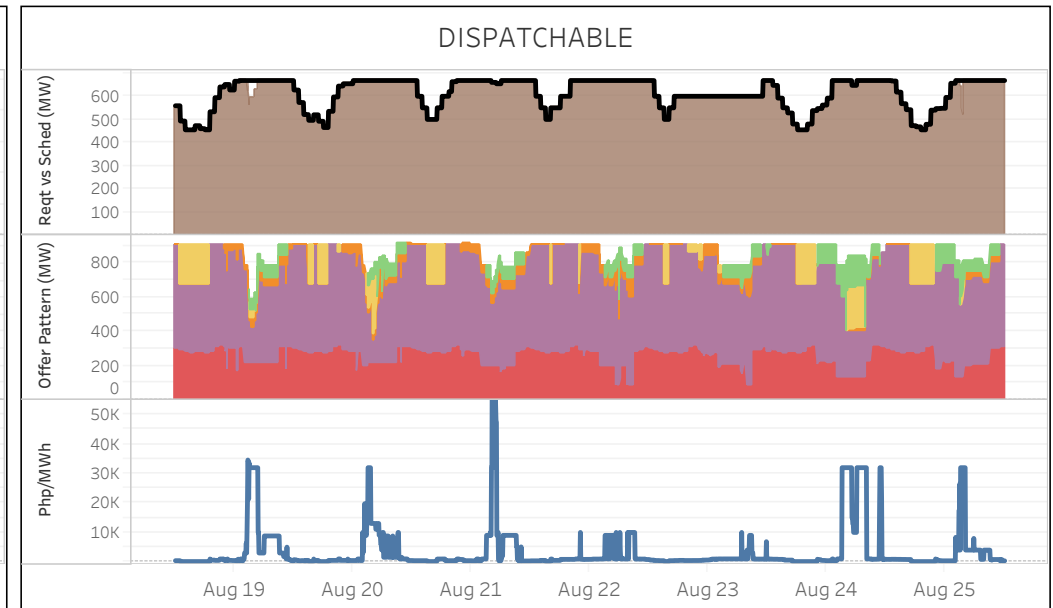
Mindanao
- 43.86% 80.51 MW
- 56.14% 103.0 MW
- 0.00% 0 MW
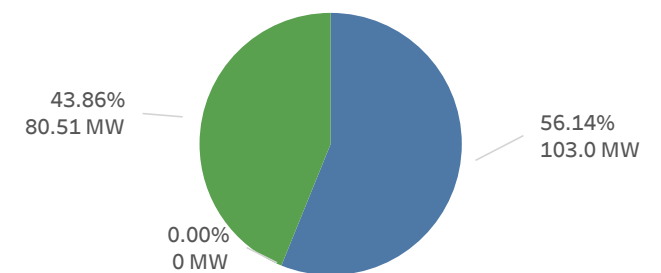
RESERVE MARKET DATA - LUZON

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

REGULATING UP

CONTINGENCY

REGULATING DOWN

DISPATCHABLE

Reqt vs Sched Legends

■ Reserve Requirement	■ RD Schedule
■ RU Schedule	■ FR Schedule
■ DR Schedule	

Offer Price Range

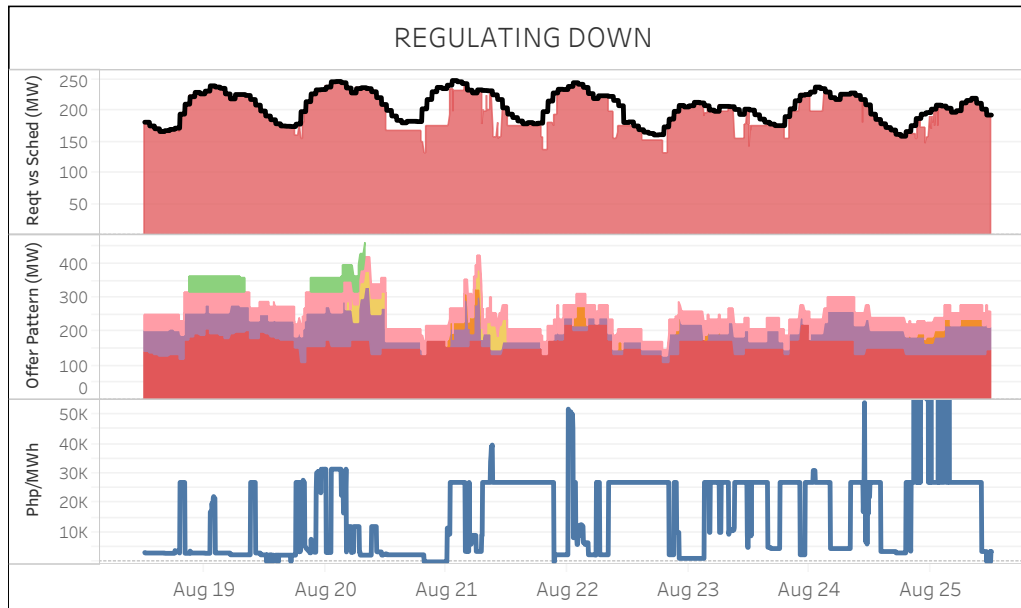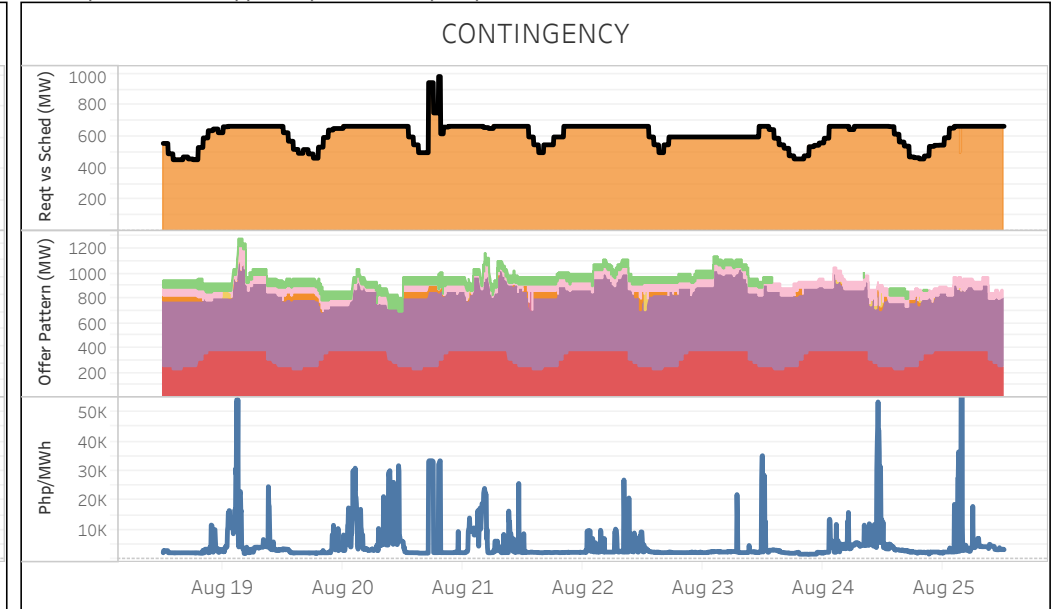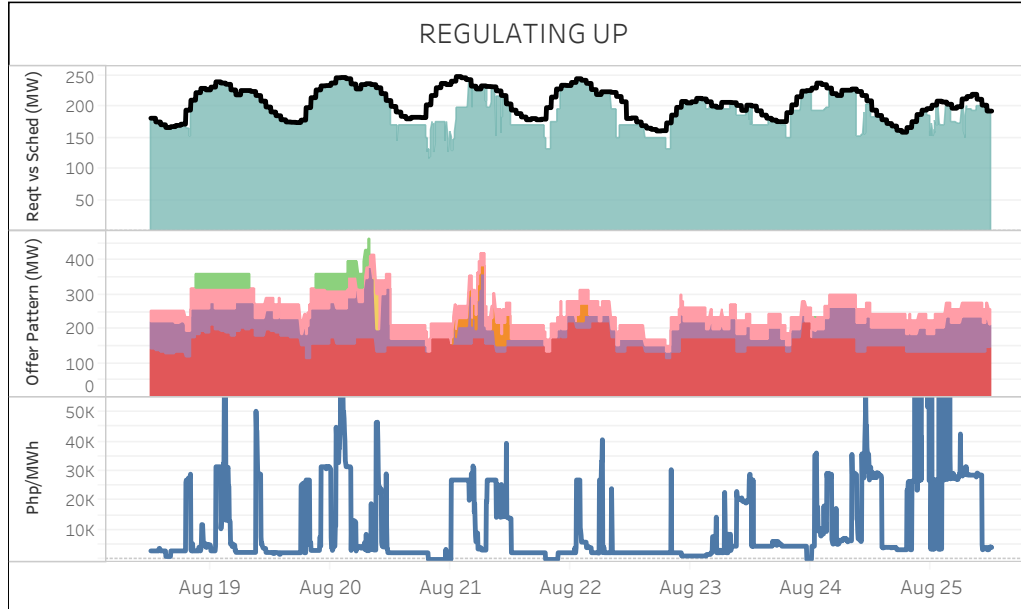|			
■ PHP 0 and below	■ PHP (5000,10000]	■ PHP (15000,20000]	■ PHP (25000,30000]
■ PHP (0,5000]	■ PHP (10000,15000]	■ PHP (20000,25000]	■ PHP (30000,32000]

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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

REGULATING UP

CONTINGENCY

REGULATING DOWN

DISPATCHABLE

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]

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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

REGULATING UP

CONTINGENCY

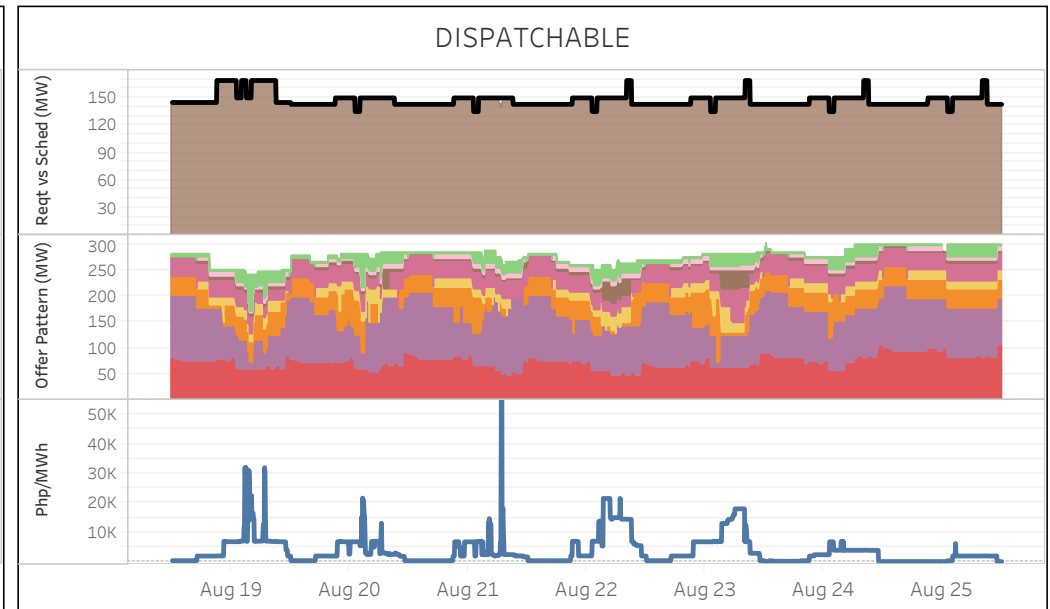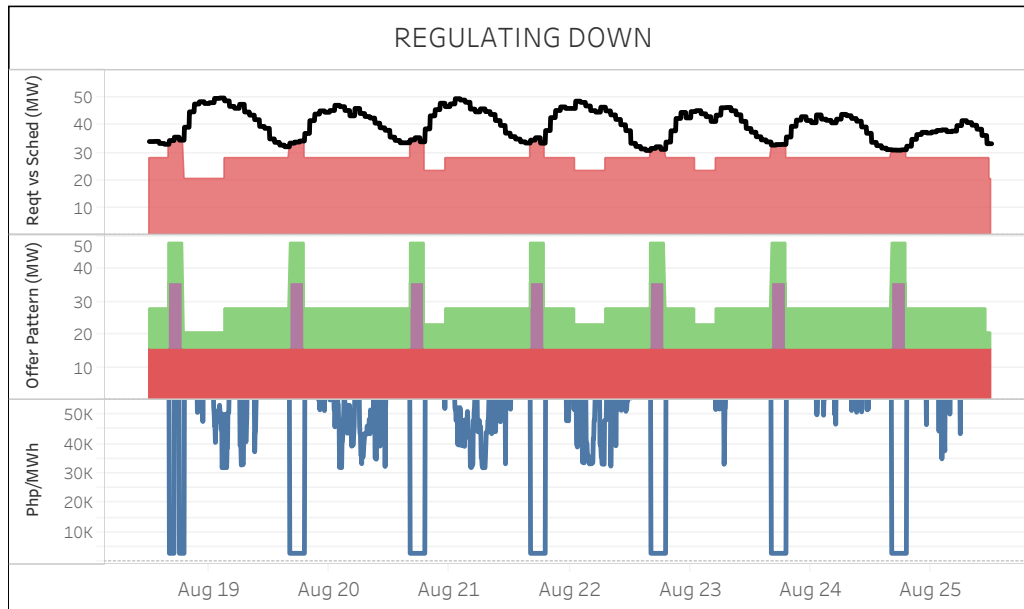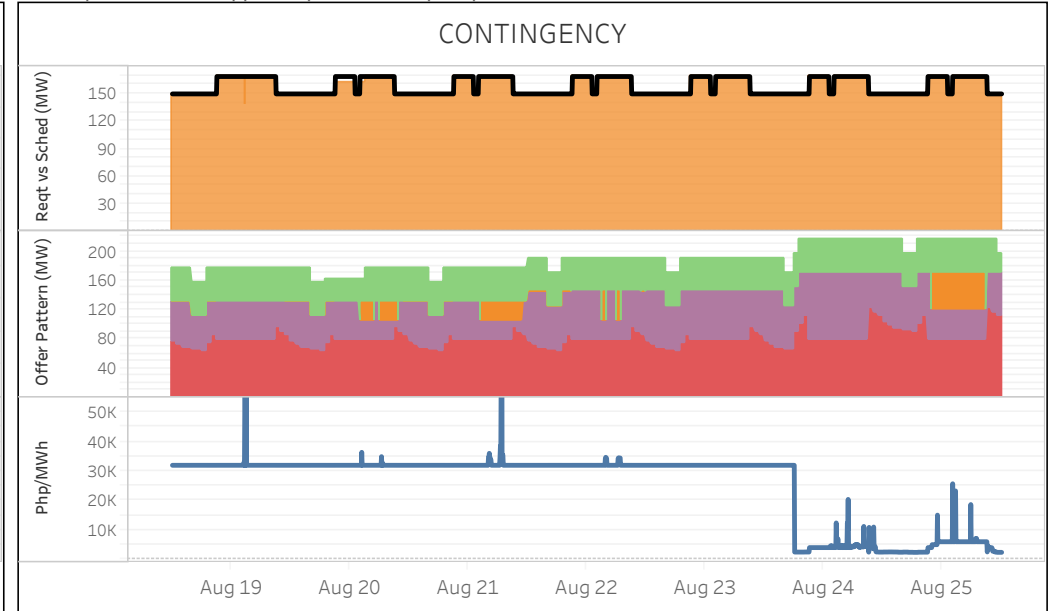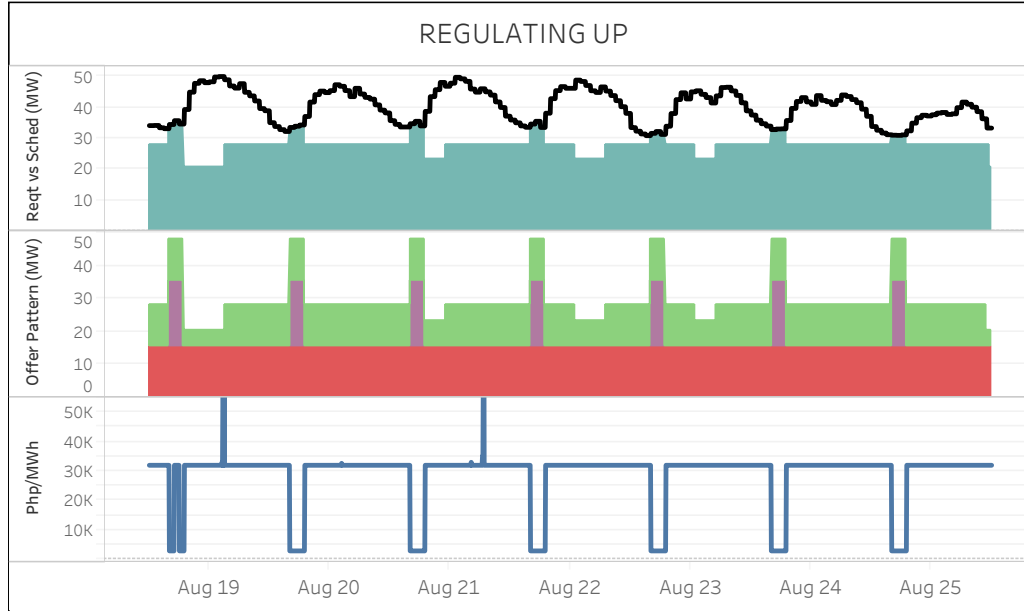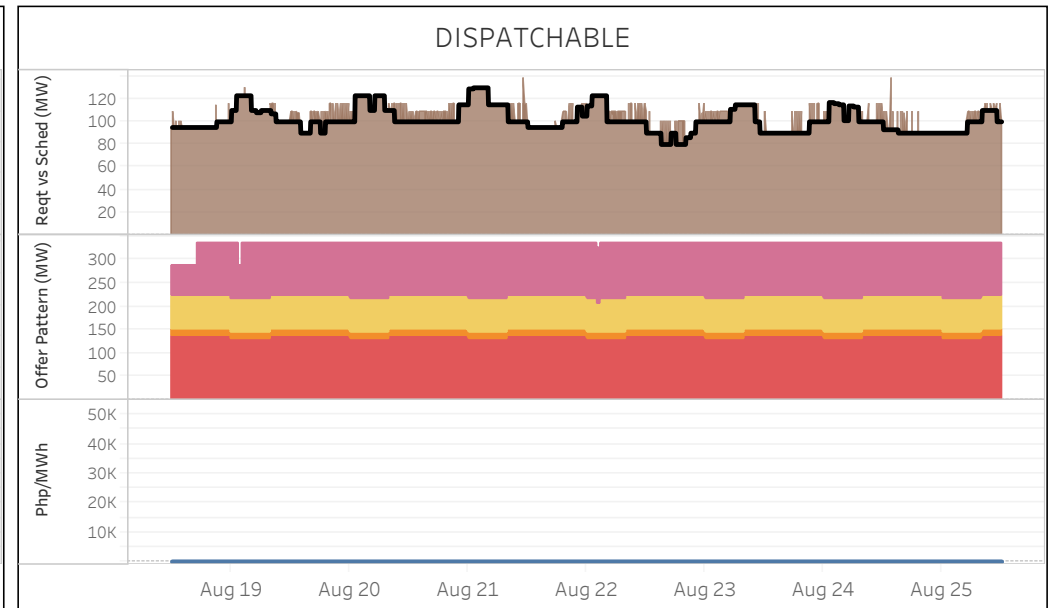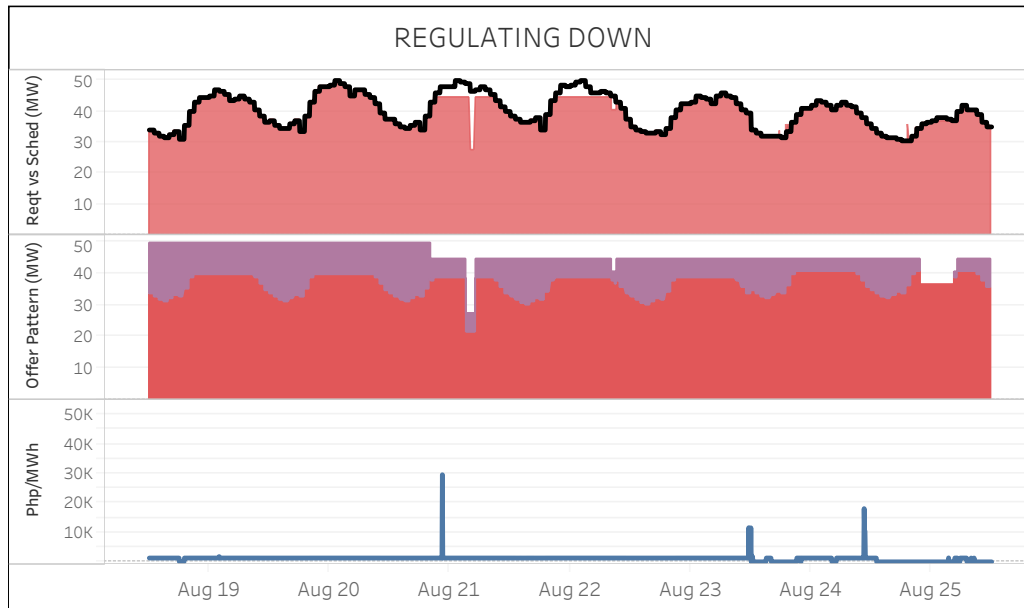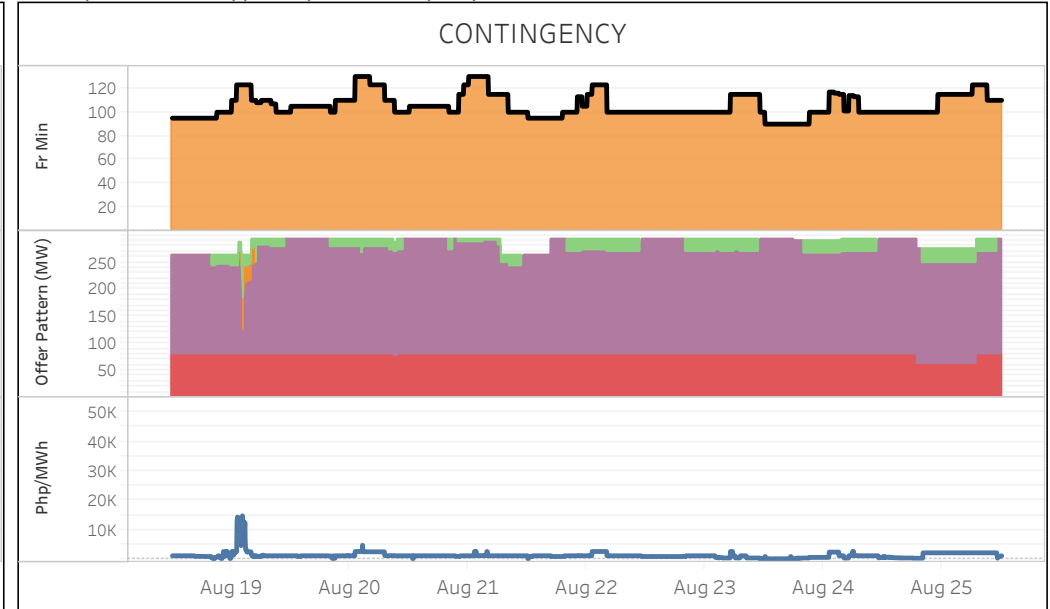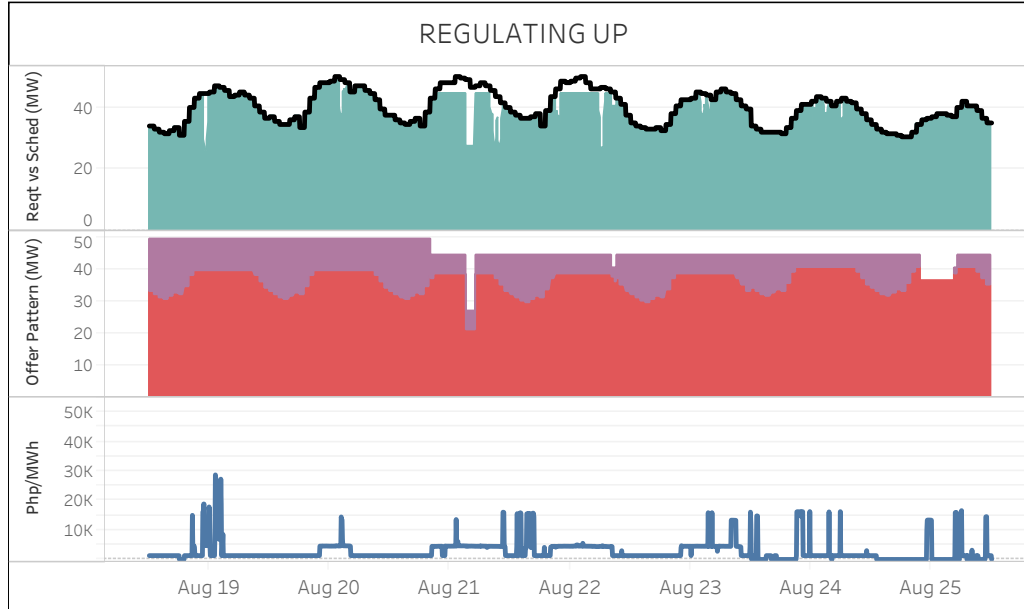REGULATING DOWN

DISPATCHABLE

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]

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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.