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ENERGY RESEARCH

Philippines Monthly Market Summary April 2025

Published May 2025

Agenda

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I. **Summary**

II. **Wholesale market**

1. Wholesale prices
2. Generation mix

III. **Reserve (ancillary) markets**

April 2025 WESM monthly snapshot

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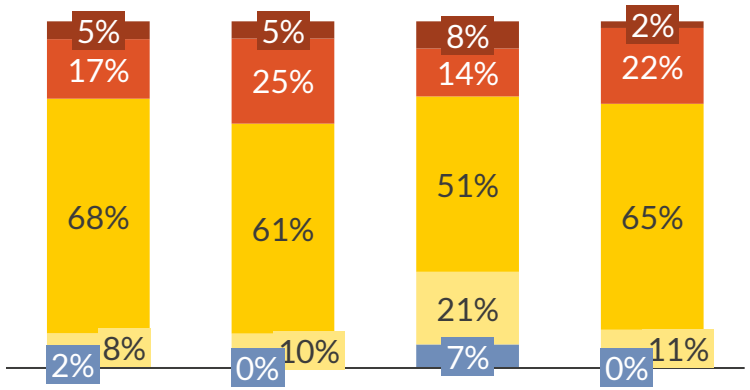
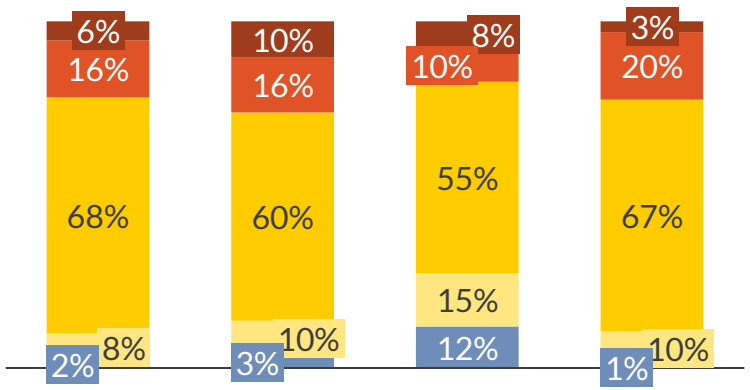
LUZON

Apr'25 price distribution[1]



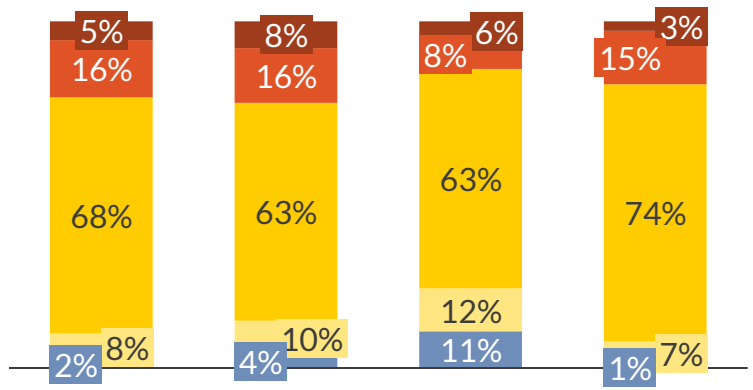
Monthly average LWAP = ~4,400 ₱/MWh

VISAYAS



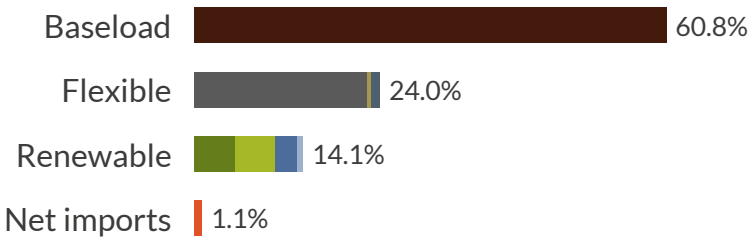
Monthly average LWAP = ~4,300 ₱/MWh

MINDANAO

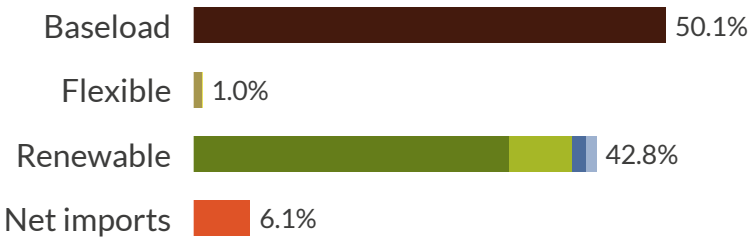


Monthly average LWAP = ~3,900 ₱/MWh

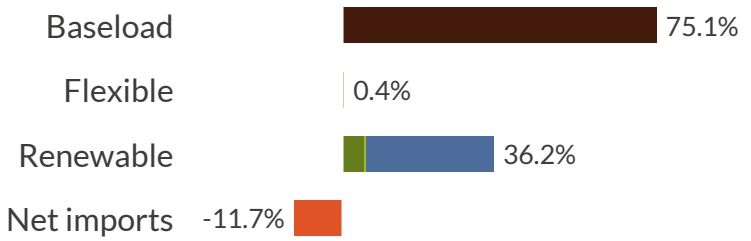
Generation mix[2]



Total scheduled dispatch = ~7.8 TWh



Total scheduled dispatch = ~1.5 TWh



Total scheduled dispatch = ~1.5 TWh

1) Prices used were original real-time dispatch (RTD) load weighted average price (LWAP) from IEMOP. 2) Monthly generation mix and total scheduled dispatch was calculated using using IEMOP 5-min RTD prices and schedules data. Percentage of regional demand covered by different technologies, including imports. 3) Negative net imports indicate the region being a net exporter on average. 4) Weeks are defined using the following days in the month; Week 1: 1-7, Week 2: 8-15, Week 3: 16-23, Week 4: 24-31.

Sources: Aurora Energy Research, IEMOP

Agenda

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Daily wholesale market prices for April 2025

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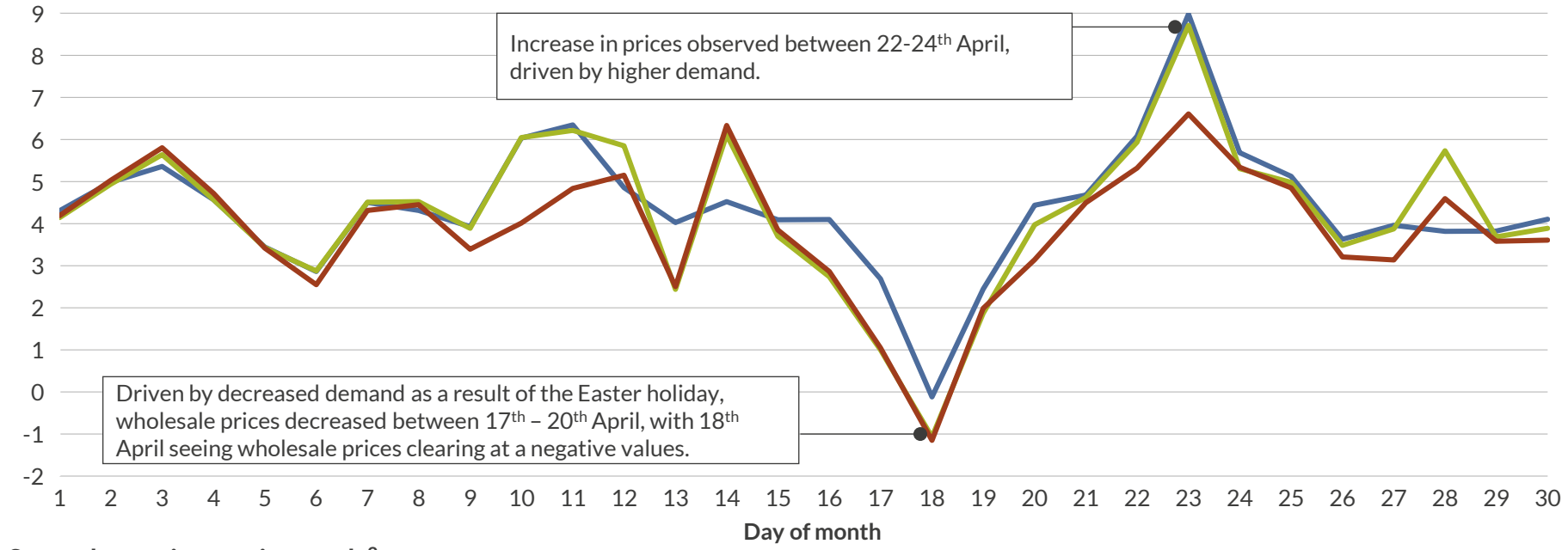
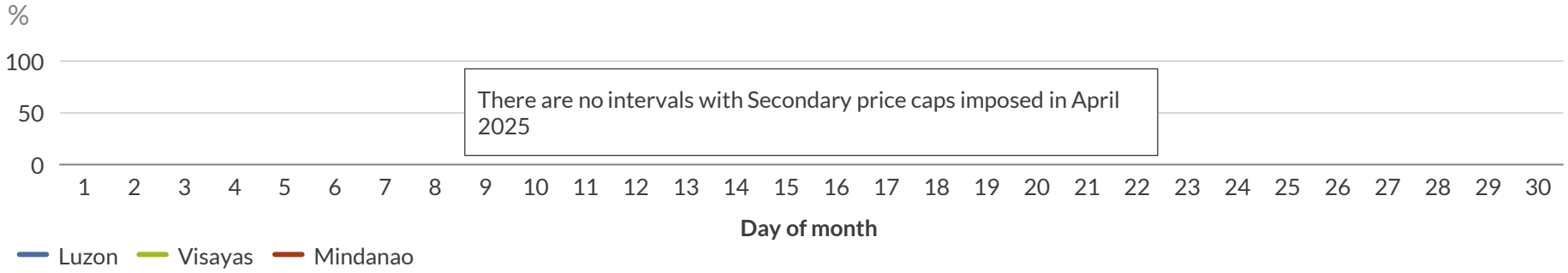
Daily average LWAP[1]

Thousand ₱/MWh



Secondary price cap intervals[2]

%



1) Original RTD LWAP published by IEMOP. This graph takes the LWAP and calculates a simple average across each day (i.e., a time-weighted average of the LWAP). 2.) Secondary price cap intervals are calculated by finding the percentage of intervals in a day where the secondary price cap was applied (i.e, prices were 6,245 ₱/MWh), using Original GWAP data published by IEMOP.

Sources: Aurora Energy Research, IEMOP, PEMC, Philippine Star

Comments

Average regional wholesale prices:

- **Luzon:** 4,385 ₱/MWh
- **Visayas:** 4,253 ₱/MWh
- **Mindanao:** 3,905 ₱/MWh

On 12th April 2025, the Luzon-Visayas HVDC interconnection went on outage, temporarily stopping energy flows between Luzon and Visayas.

The interconnector was brought back online on 20th April 2025, resuming flows via the Luzon-Visayas HVDC interconnector.

Monthly wholesale market prices

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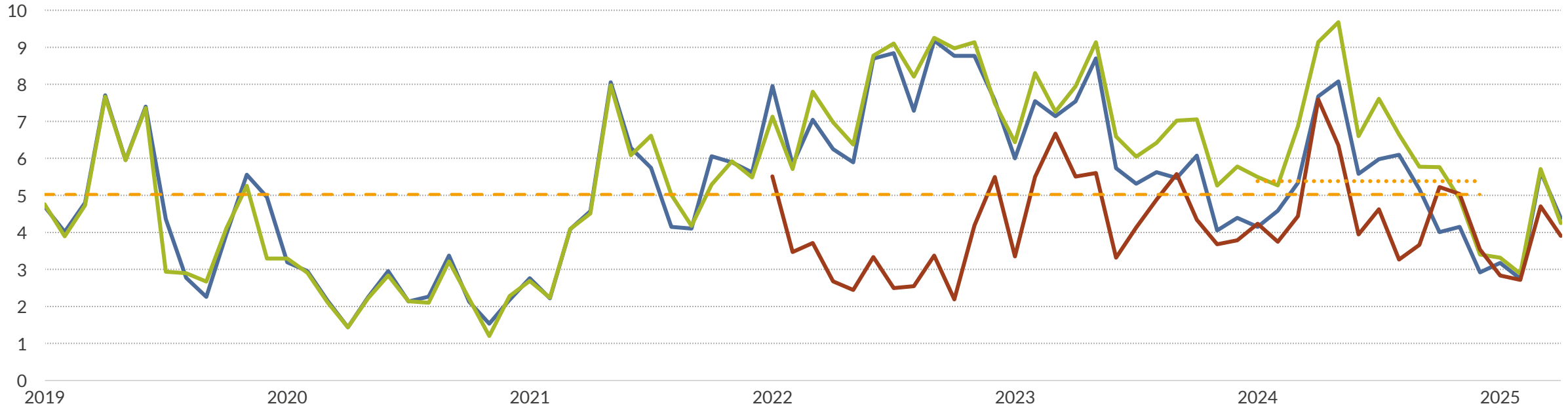
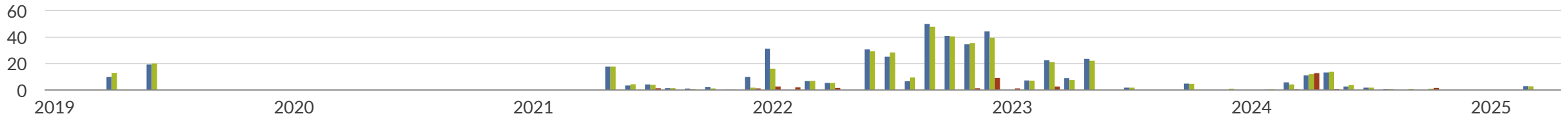
Monthly average LWAP[1]

Thousand ₱/MWh



Secondary price cap intervals[3]

%



Luzon Visayas Mindanao 6-year Historic prices[2] 2024 Historical average[2]

1.) Monthly LWAP averages are calculated using original RTD LWAP published by IEMOP, taking a simple average of the 5-min LWAP data for each month (i.e., a time-weighted average of the LWAP). 2.) Calculated using the system (i.e whole of Philippines) original RTD LWAP 3.) Secondary price cap intervals are calculated by finding the percentage of intervals in a month where the secondary price cap was applied (i.e, prices were 6,245 ₱/MWh), using Original GWAP data published by IEMOP.

Sources: Aurora Energy Research, IEMOP

Time-of-day (intraday) wholesale market price for April 2025

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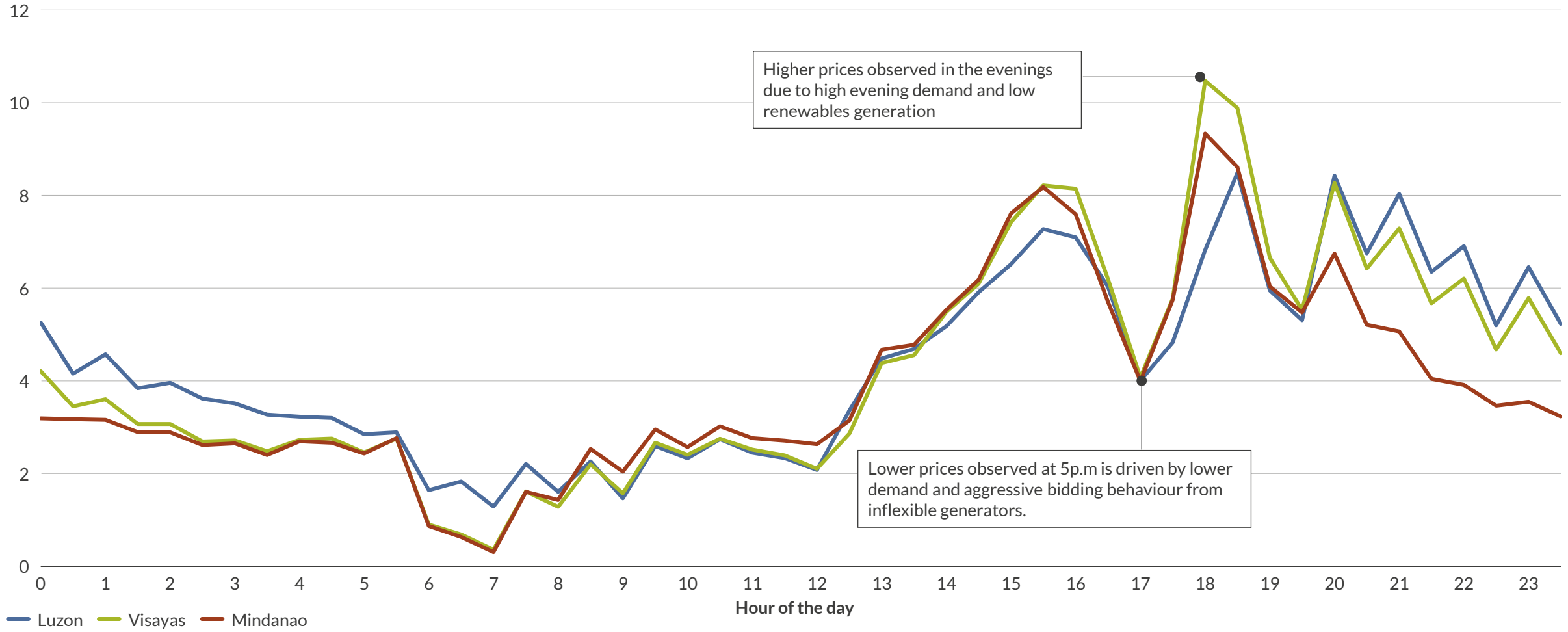
Average time-of-day LWAP[1]
Thousand ₱/MWh



1) Average prices at each half-hour of the day for the month, calculated using a simple average of the original RTD LWAP published by IEMOP.

Sources: Aurora Energy Research, IEMOP

Wholesale price spreads for April 2025

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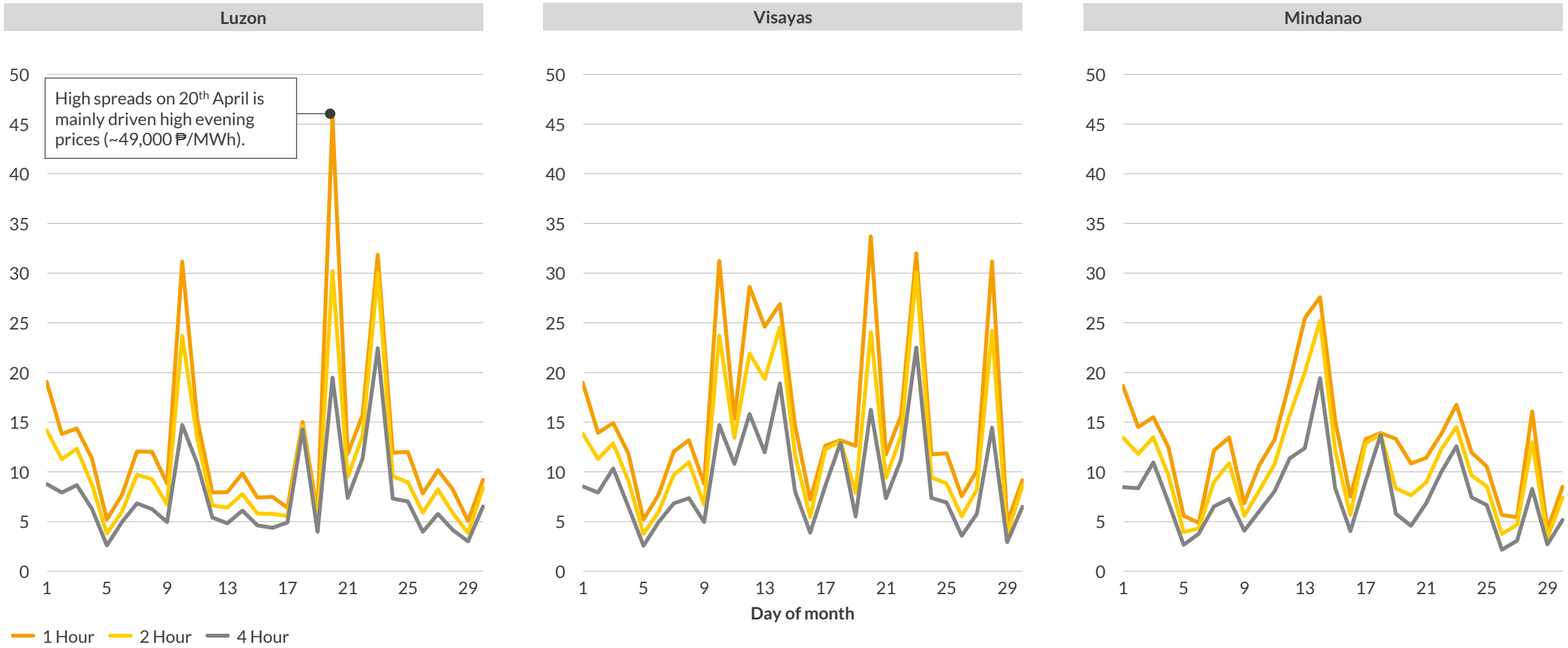
Daily LWAP spread[1]

Thousand ₱/MWh



1) Calculated by subtracting the averages of the lowest 1,2 and 4 hours of prices from the highest. For example, a 1-hour spread would represent average of the highest 12 5-min price intervals minus the average of the lowest 12 for a given day. Prices used are original RTD LWAP published by IEMOP

Sources: Aurora Energy Research, IEMOP, PEMC

Monthly 2-hour wholesale price spreads

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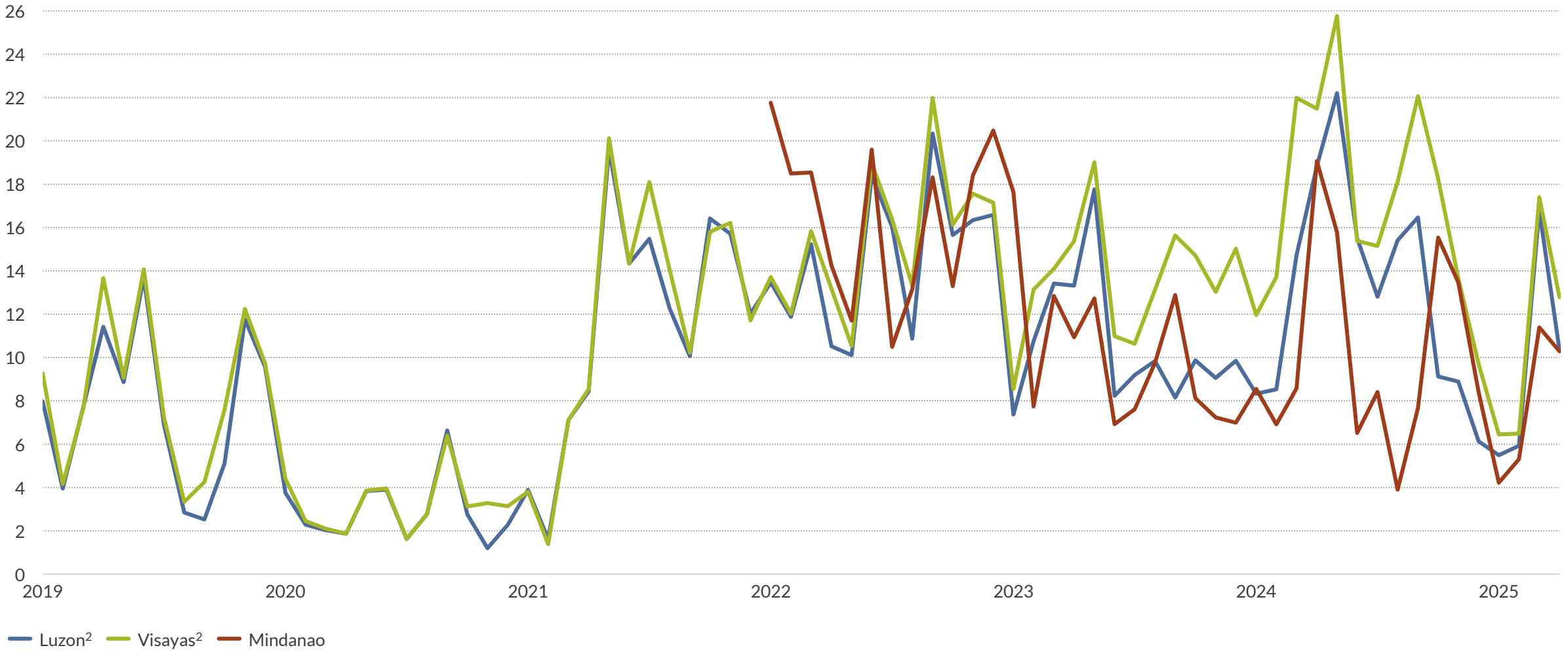
Monthly LWAP spread[1]

Thousand ₱/MWh



1.) Monthly LWAP spreads are calculated using a simple average of the daily 2-hour spreads for each month. Daily 2-hour spreads are calculated by subtracting the averages of the lowest 2 hours of prices from the highest. Prices used are original RTD LWAP published by IEMOP.

Sources: Aurora Energy Research, IEMOP

Average generation by time-of-day in April 2025

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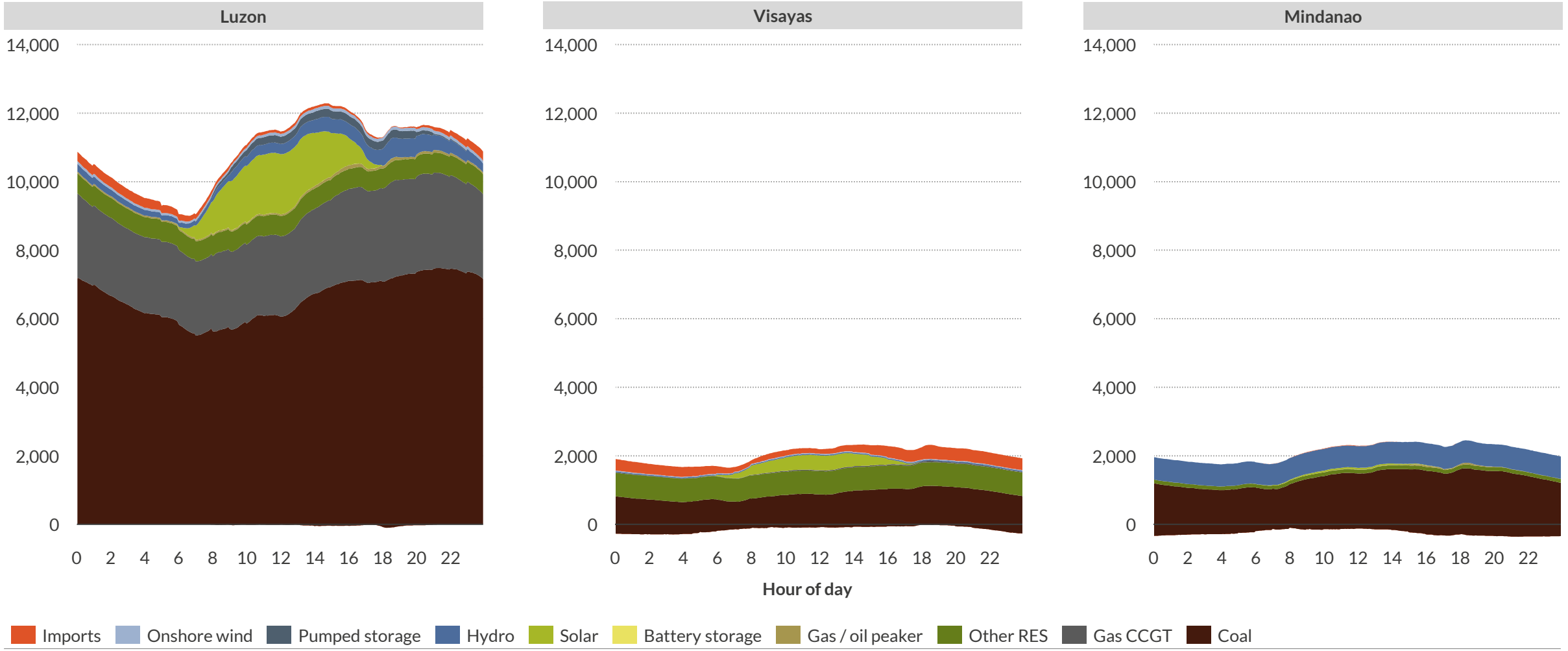
Average time-of-day scheduled generation[1,2]

Scheduled generation (MW)



1) Average time-of-day scheduled generation is calculated for each 5-min interval in a day, (i.e the generation for each 5-min interval in a day is averaged across all days in a month), using 5-min RTD prices and schedules data published by IEMOP. 2) Negative generation displayed in these charts account for exports.

Sources: Aurora Energy Research, IEMOP

Daily generation by technology in April 2025

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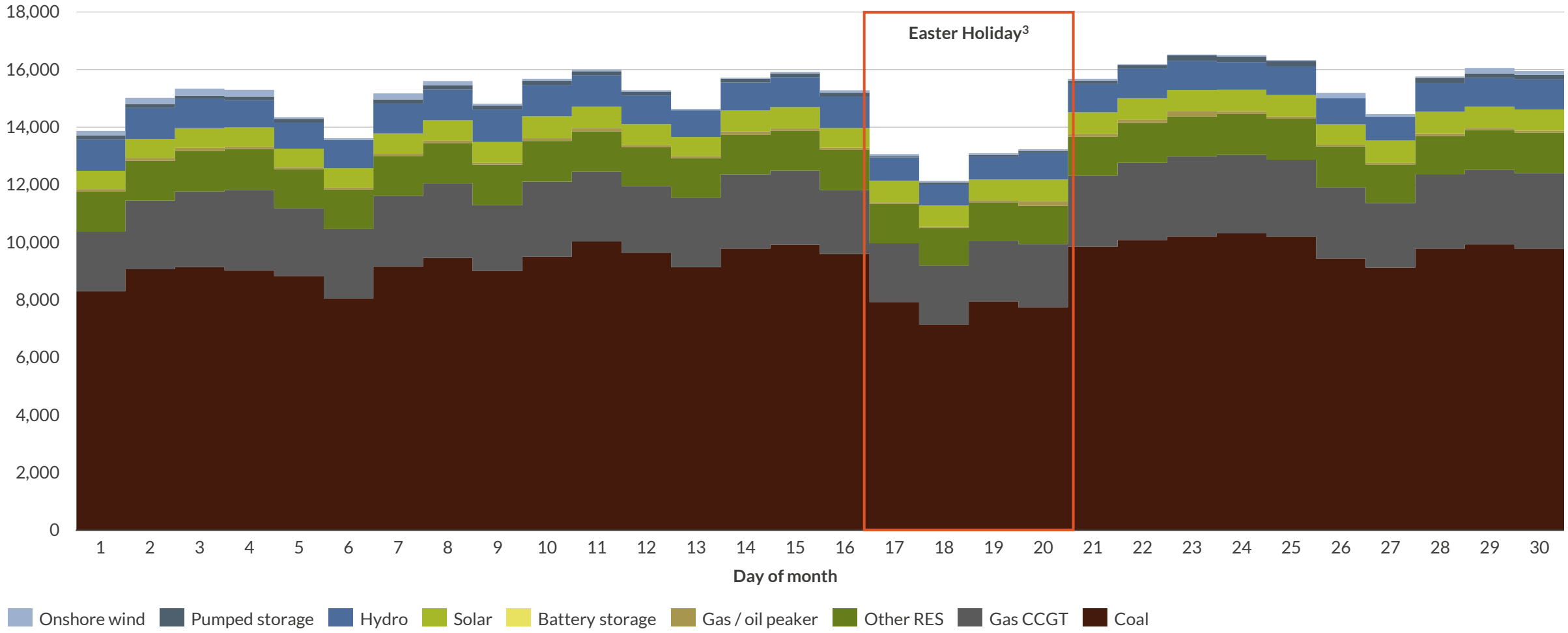
Daily average scheduled generation[1, 2]

Scheduled generation (MW)



1) Daily average scheduled generation is calculated using 5-min RTD prices and schedules data published by IEMOP 2) Average scheduled generation for each day is calculated by first taking the sum of scheduled generation across all plants at each 5 min interval for each type of technology. Subsequently, the average scheduled generation across all 5-min intervals in a day was calculated for each technology and each day of the month. 3) Comprises Maundy Thursday, Good Friday, Black Saturday, Easter Sunday.

Sources: Aurora Energy Research, IEMOP

Monthly average generation by technology

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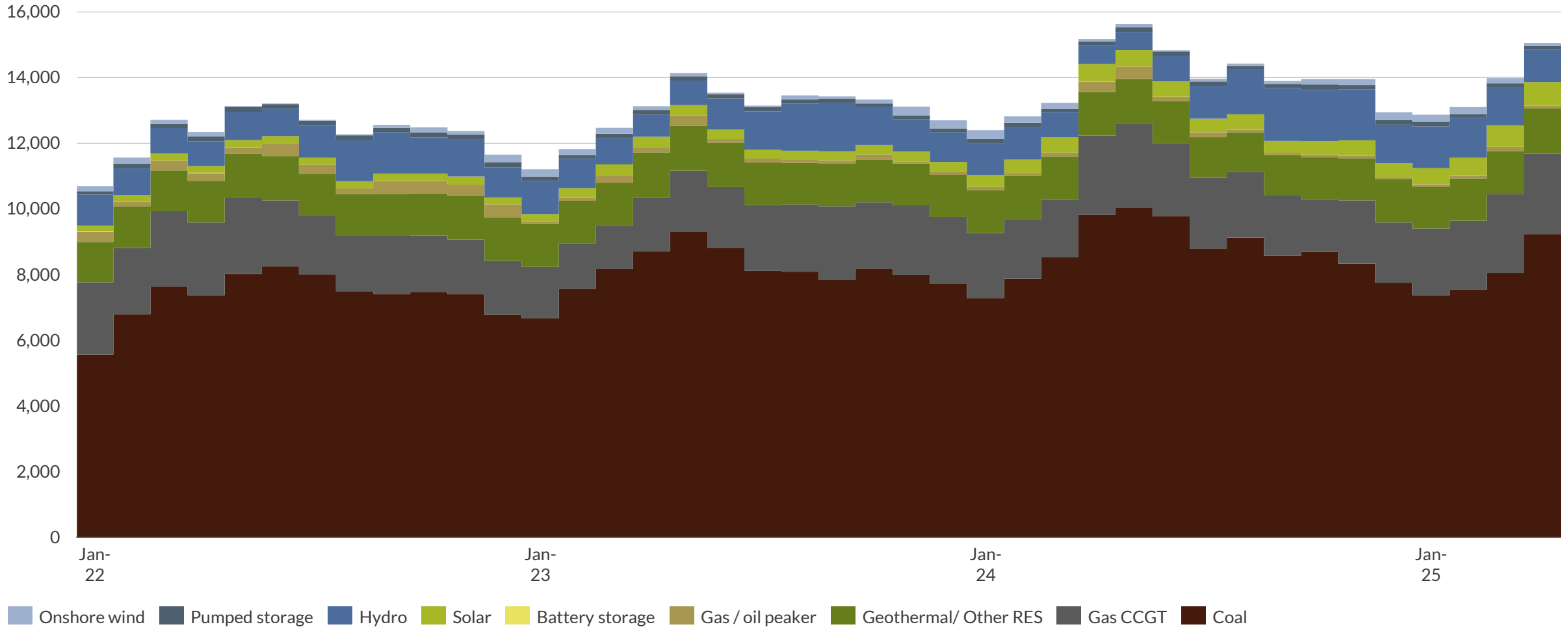
Monthly average scheduled generation per interval[1, 2]

Scheduled generation (MW)



1) Monthly average scheduled generation is calculated using 5-min RTD prices and schedules data published by IEMOP 2) Average scheduled generation for each day is calculated by first taking the sum of scheduled generation across all plants at each 5 min interval for each type of technology. Subsequently, the average scheduled generation across all 5-min intervals in a day was calculated for each technology and each day of the month.

Sources: Aurora Energy Research, IEMOP

Agenda

AURORA

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Daily average reserve prices for April 2025

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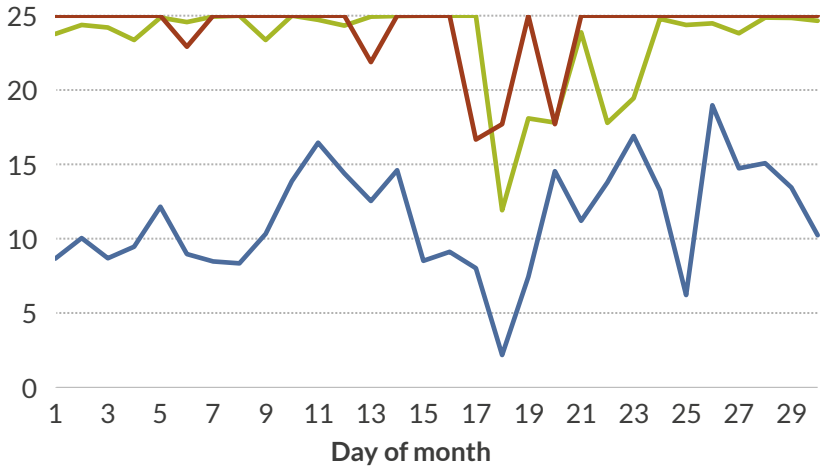
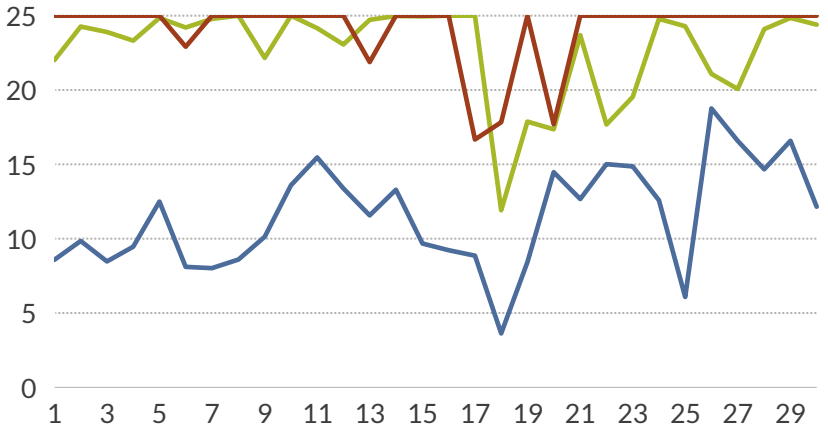
Daily average regulation raise reserve price[1]

Thousand ₱/MW/h



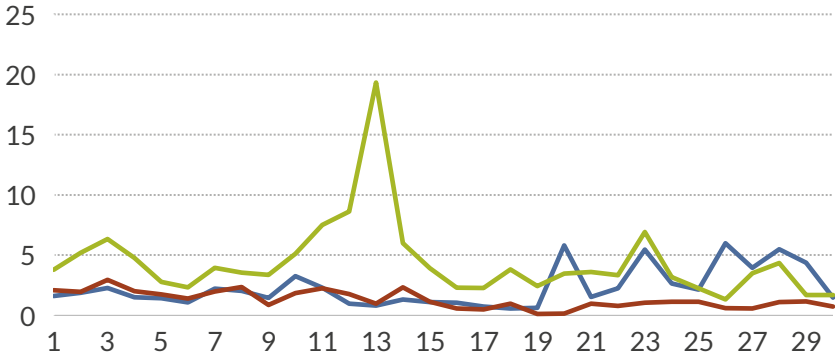
Daily average regulation lower reserve price[1]

Thousand ₱/MW/h



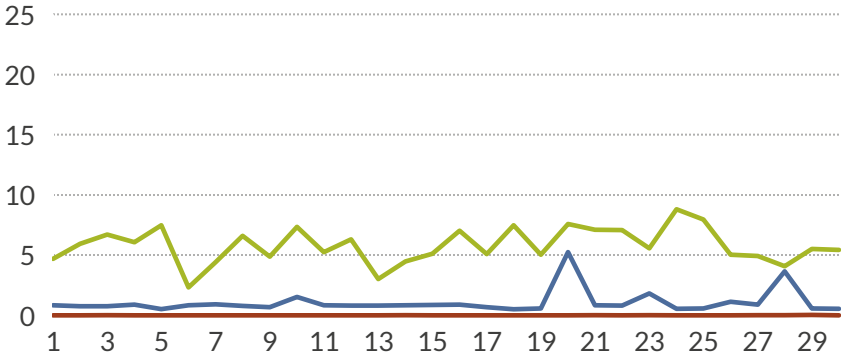
Daily average contingency reserve price[1]

Thousand ₱/MW/h



Daily average dispatchable reserve price[1]

Thousand ₱/MW/h



Luzon Visayas Mindanao

1) RTD Regional Reserve Prices data published by IEMOP. These graphs take the reserve clearing prices and calculates a simple average across each day (i.e., a time-weighted average of the reserve clearing prices).

Sources: Aurora Energy Research, IEMOP

Comments

Raise regulation average rates:

- **Luzon:** 11,351 ₱/MW/h
- **Visayas:** 23,273 ₱/MW/h
- **Mindanao:** 24,062 ₱/MW/h

Lower regulation average rates:

- **Luzon:** 11,505 ₱/MW/h
- **Visayas:** 22,766 ₱/MW/h
- **Mindanao:** 24,067 ₱/MW/h

Contingency reserve average rates:

- **Luzon:** 2,310 ₱/MW/h
- **Visayas:** 4,421 ₱/MW/h
- **Mindanao:** 1,301 ₱/MW/h

Dispatchable reserve average rates:

- **Luzon:** 1,063 ₱/MW/h
- **Visayas:** 5,813 ₱/MW/h
- **Mindanao:** 2 ₱/MW/h

Time-of-day average reserve prices for April 2025

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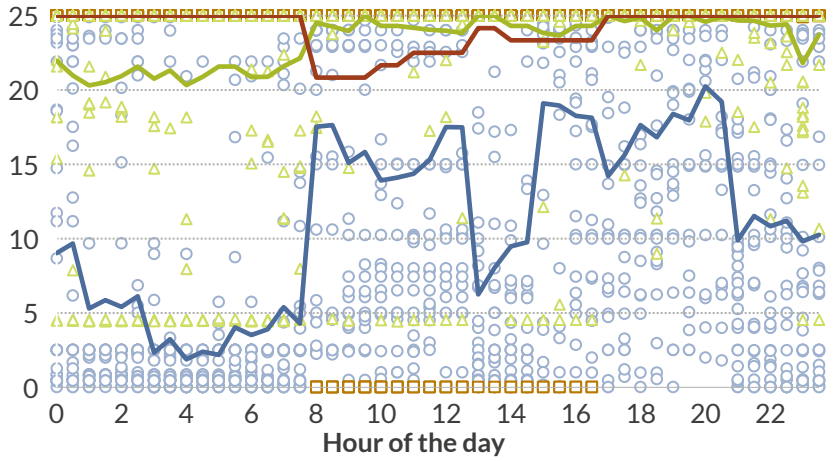
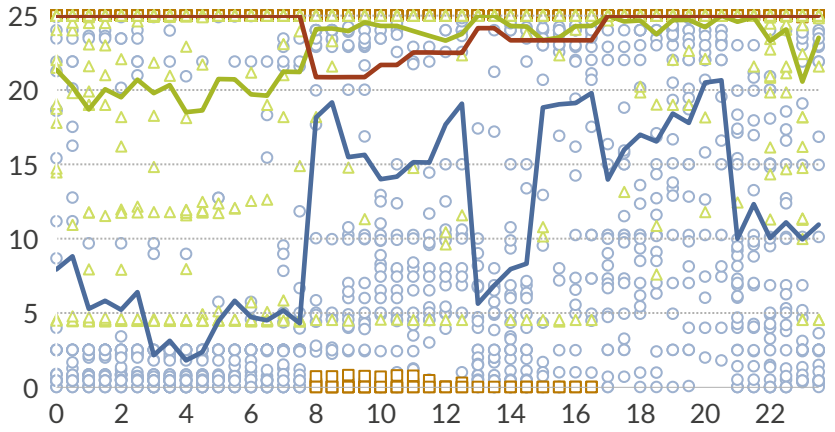
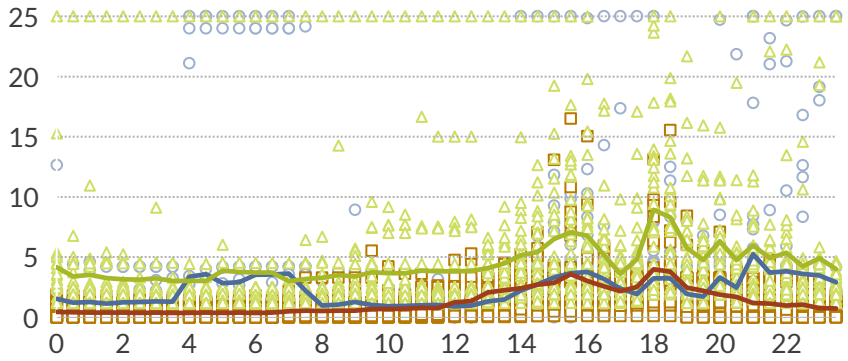
Time-of-day average regulation raise reserve price
Thousand ₱/MW/h



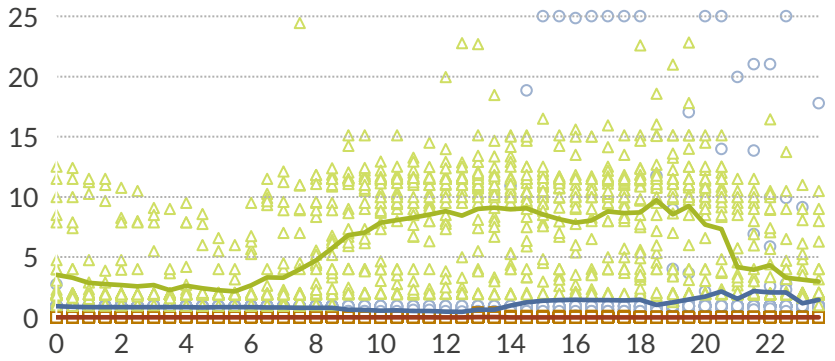
Time-of-day average regulation lower reserve price
Thousand ₱/MW/h



Time-of-day average contingency reserve price
Thousand ₱/MW/h



Time-of-day average dispatchable reserve price
Thousand ₱/MW/h



Average[1] Half hourly price[2]
Luzon Visayas Mindanao Luzon Mindanao Visayas

1) Average prices at each half-hour of a day for the month, calculated using the simple average of reserve clearing prices in RTD Regional Reserve Prices published by IEMOP. 2) Half hourly prices are calculated by taking the simple average of 5-minute reserve prices in each half hourly interval.

Sources: Aurora Energy Research, IEMOP

Comments

- Regulation reserve prices are the highest among the different reserve services in the Philippines, with Mindanao and Visayas frequently clearing above 20,000 ₱/MW/h.
- In particular, time-of-day regulation reserve prices in Mindanao averages close to the reserve offer price cap for more than 12 hours in a 24-hour period.
- In Luzon, regulation prices tended to be lowest overnight, while contingency/dispatchable prices tended to fall around midday.

Each point on the scatter plot represents the half-hourly average price of a single day for each reserve service, in each region at that half hourly interval.

Monthly Reserve Market price by region

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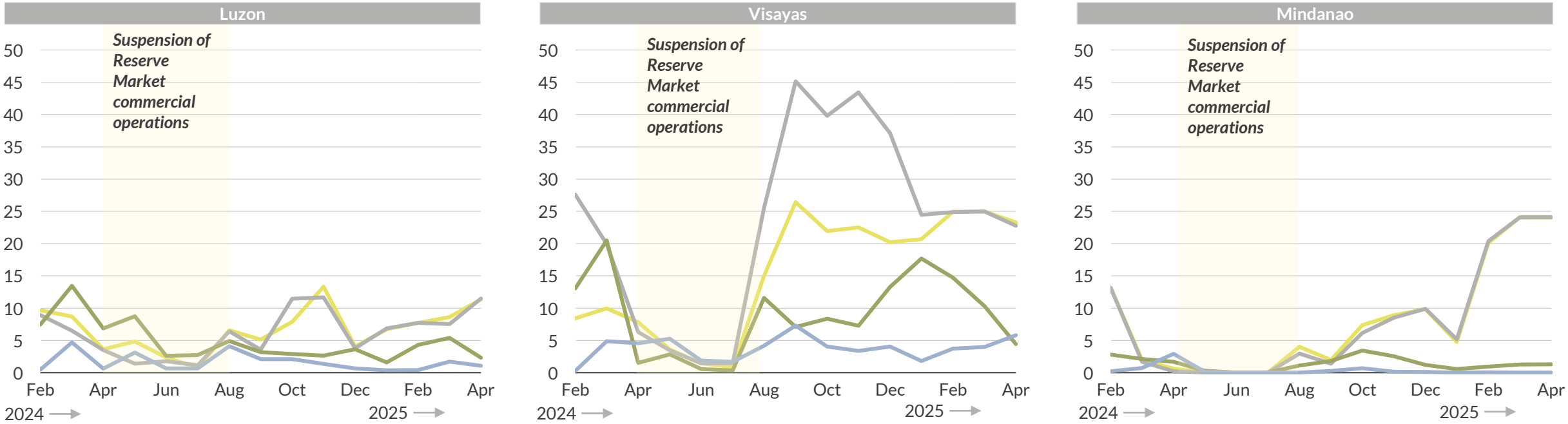
Average monthly Reserve Market spot price[1]

₱/kW/hr[2], nominal



- At the start of the market's commercial operations on 26th January 2024, a surge in price is seen with more frequent and higher price spikes at the 5-min trading intervals.
- Surge in prices resulted in suspension of Reserve Market operations on 26th March 2024, with partial lifting of the suspension in May and full resumption on 5th August 2024

- Following full resumption of Reserve Market operations, prices have been steadily increasing to pre-suspension levels, particularly in Visayas.
- In Dec 2024, the ERC set the reserve offer price cap at 25,000 ₱/MW/hr.

- Based on the findings published by the Ancillary Services Technical Working Group (AS-TWG), high Reserve Market prices were driven by a combination of insufficient reserve capacity and expensive technologies scheduled to provide ancillary services.
- Consequently, the DOE is drafting a new framework to allow for Ancillary service capacity to be procured in a faster and more efficient manner.

1) Monthly average Reserve Market spot prices are calculated using original RTD Regional Reserve Prices published by IEMOP, taking a simple average of the 5-min reserve clearing price data for each month (i.e., a time-weighted average of the reserve clearing price for each of the reserve services); 2) Interchangeable with ₱/kWh.

Sources: Aurora Energy Research, IEMOP, PEMC

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