



Memorandum

To: ISO Board of Governors and Western Energy Markets Governing Body

From: Eric Hildebrandt, Executive Director, Market Monitoring

Date: September 3, 2025

Re: Department of Market Monitoring report

This memorandum does not require ISO Board of Governors or WEM Governing Body action.

EXECUTIVE SUMMARY

This memo provides a short summary of prices and power flows for balancing areas in the Western Energy Imbalance Market (WEIM) for the second quarter (April through June) of 2025.

- Overall 15-minute market prices across the WEIM averaged \$26/MWh, up 12 percent compared to the second quarter of 2024, due to higher load and higher natural gas prices at most major Western hubs. Compared to Q2 last year, prices in Desert Southwest balancing areas were up 40 percent, Pacific Northwest prices were up 14 percent and Powerex prices dropped 18 percent.
- Average natural gas prices at most major Western hubs were up significantly compared to the second quarter of 2024. However, natural gas prices at the Northwest Sumas hub near the border of Washington and British Columbia decreased by 19 percent.
- Total system load averaged 74.7 GW, an increase of about 1.4 percent compared to the second quarter of 2024.
- Price differences between different balancing areas due to congestion was less pronounced compared to the second quarter of 2024.
- The overall congestion trend remained largely from southern areas to northern areas. This decreases prices in Southern California and many Desert Southwest balancing areas relative to prices in Northern California, the Intermountain West, and the Pacific Northwest.
- The average volume of transfers across the WEIM system was around 4,730 MW, down 40 MW from the second quarter of 2024.
- Transfers were mainly out of the Intermountain West and Desert Southwest during non-solar hours, and out of the CAISO balancing area during mid-day solar hours.

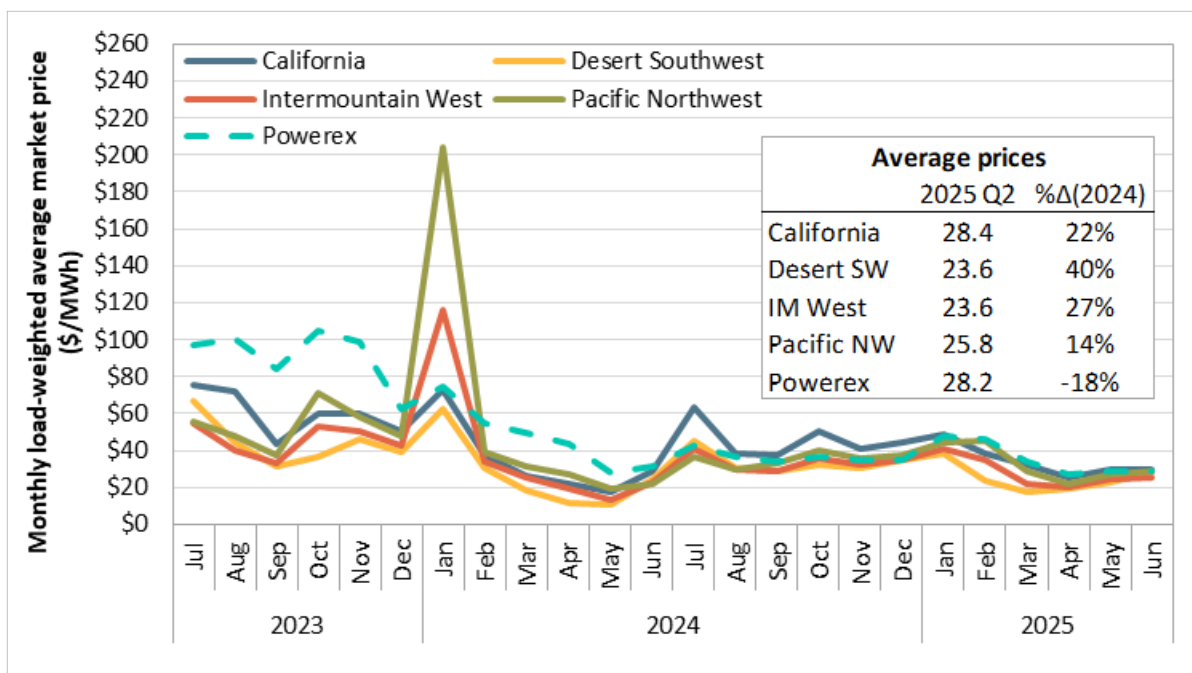
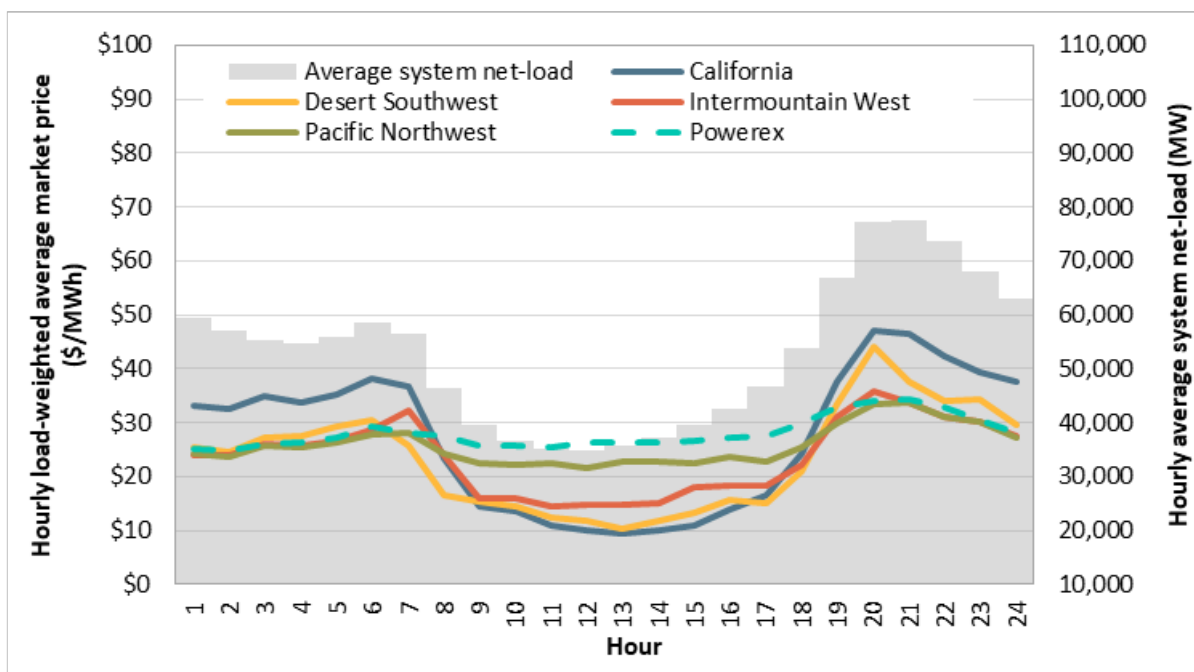
MARKET TRENDS

15-minute market prices by region

Figure 1 shows weighted average monthly prices for the 15-minute market across regions from July 2023 through June 2025.¹ Figure 2 shows second quarter 2025 weighted average hourly 15-minute market prices by region.

- Across the WEIM, 15-minute market prices averaged \$26/MWh, up 12 percent from Q2 2024 due to higher natural gas prices in much of the West and higher load.
- Year-over-year changes varied significantly by region, with Desert Southwest balancing area prices up 40 percent, Pacific Northwest prices up 14 percent, and Powerex prices down 18 percent. These differences were due to less electric transmission congestion into Powerex, and natural gas prices decreasing at major Pacific Northwest hubs while increasing at major natural gas hubs in other Western regions.
- During mid-day solar hours, transmission congestion from southern areas to northern areas caused prices to be lower in the California, Desert Southwest, and Intermountain West regions, and higher in the Pacific Northwest and Powerex.
- During evening and early morning non-solar hours, prices were higher on average in California balancing areas due mainly to California greenhouse gas pricing.
- Congestion into four of the seven Desert Southwest balancing areas elevated that region's prices relative to other regions during evening peak net load hours.

¹ The California region includes CAISO, BANC, TIDC, and LADWP. The Desert Southwest region includes NEVP, AZPS, TEPC, SRP, PNM, WALC, and EPE. The Intermountain West includes PACE, IPCO, NWMT, and AVA. The Pacific Northwest includes AVRN, BPA, TWPR, PGE, PSEI, and SCL. Powerex is categorized separately due to transmission limitations that frequently isolate it from the rest of the WEIM system.

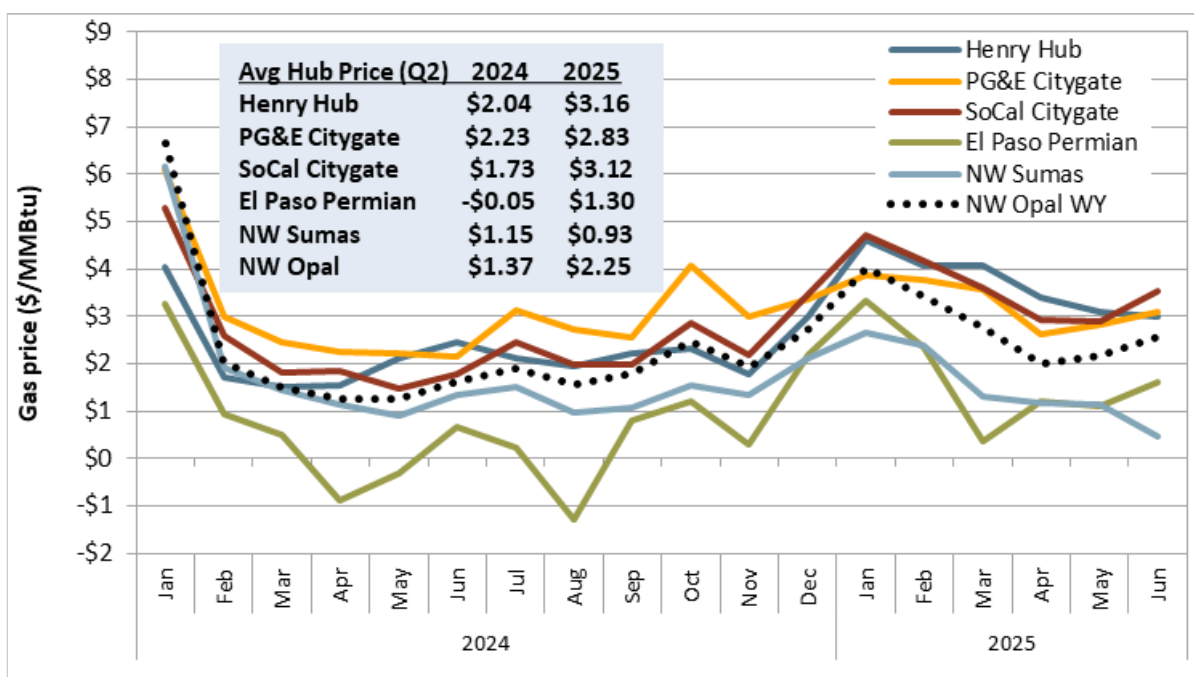
Figure 1. Weighted average monthly 15-minute market prices by region**Figure 2. Weighted average hourly 15-minute market prices by region (April–June 2025)**

Natural gas prices

Figure 3 shows monthly average natural gas prices at major hubs around the West, as well as at the Henry Hub, which serves as a national reference point.

- Average natural gas prices at most major Western hubs were up significantly compared to the second quarter of 2024. Average prices at Henry Hub, PG&E Citygate, SoCal Citygate, and NW Opal Wyoming increased by 55 percent, 27 percent, 80 percent, and 64 percent, respectively, compared to the second quarter of 2024. El Paso Permian prices increased from a quarterly average of $-\$0.05/\text{MMBtu}$ in Q2 2024 to $\$1.30/\text{MMBtu}$.
- However, average natural gas prices at the Northwest Sumas hub near the border of Washington and British Columbia decreased by 19 percent.
- The variation in regional year-over-year gas price changes contributed to the variation in regional year-over-year electricity price changes described above.

Figure 3. Monthly average natural gas prices

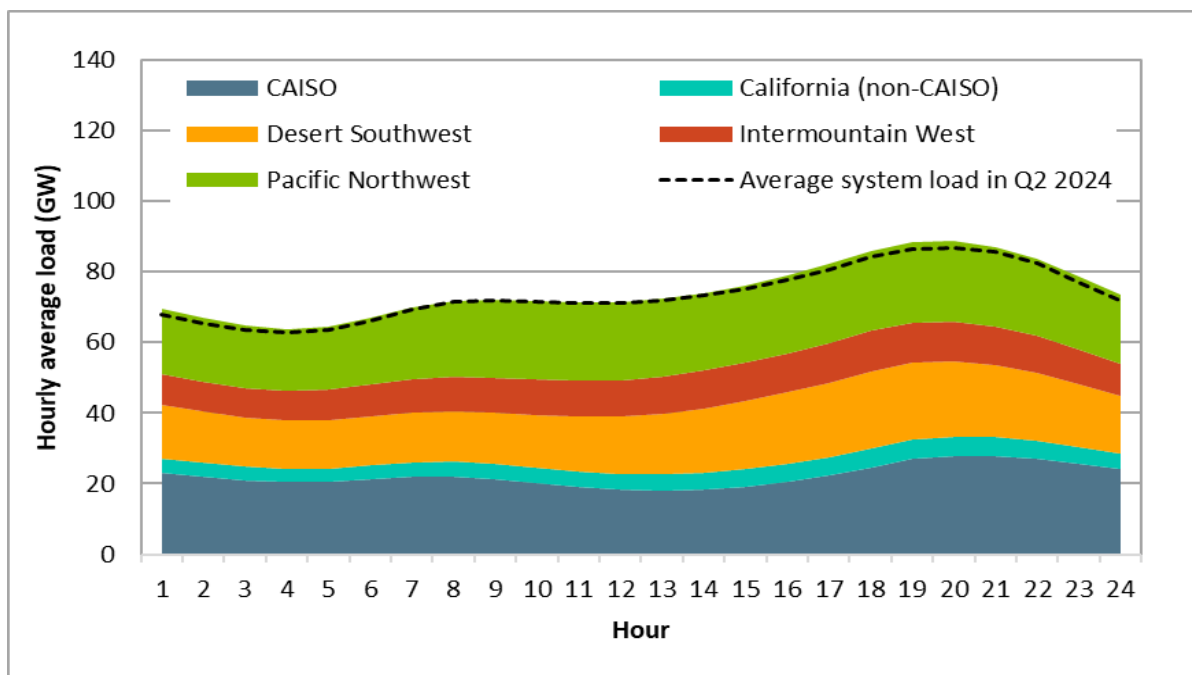


Load

Figure 4 shows hourly average 5-minute market load by region for the second quarter of 2025, along with the hourly average system load for the second quarter of 2024.

- Total system load averaged 74.7 GW, an increase of about 1.4 percent compared to the second quarter of 2024. This contributed to higher prices across the WEIM.
- Pacific Northwest load (green) averaged 20.9 GW, a 1 percent increase from Q2 2024.
- CAISO load (dark blue) averaged 22.3 GW, a 1.9 percent increase.
- Desert Southwest load (yellow) averaged 17.1 GW, a 0.9 percent increase.
- Intermountain West load (red) averaged 10.0 GW, up 2.6 percent.
- California non-CAISO load (light blue) averaged 4.5 GW, a 0.6 percent increase.
- Hour 19 had the highest average load for each region except for the CAISO balancing area, whose largest average load occurred during hour 20.

Figure 4. Hourly average 5-minute market load by region

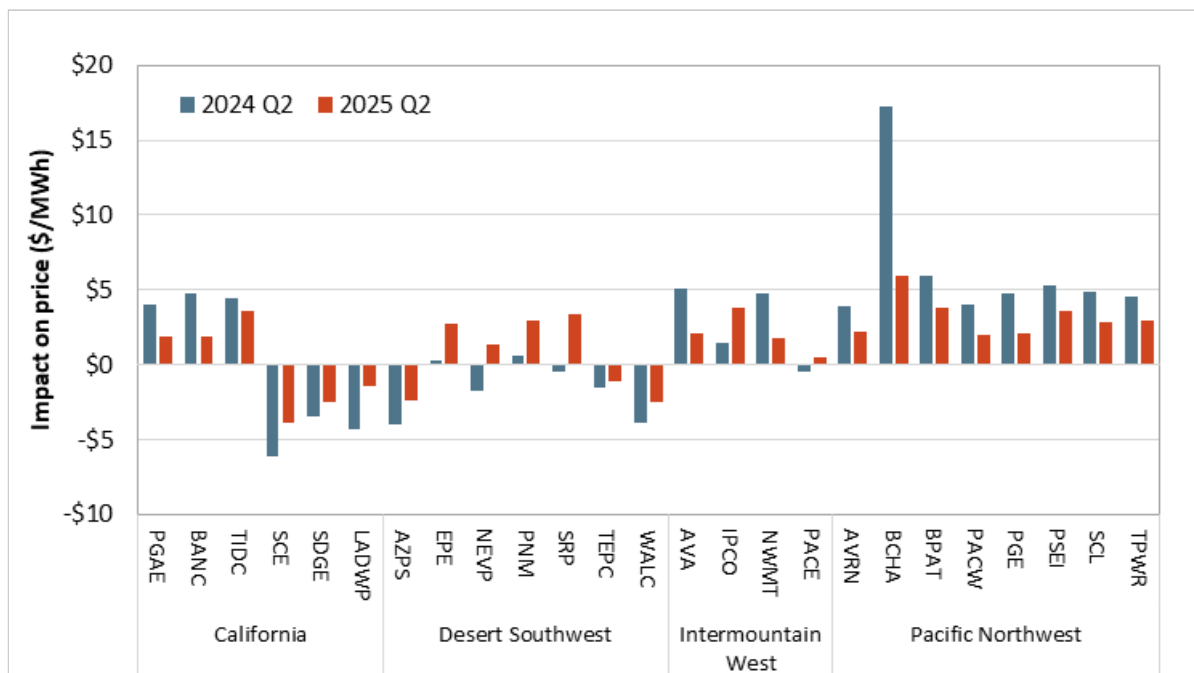


Congestion

Figure 5 shows the average impact of transmission congestion on real-time market prices in the second quarter of 2024 and 2025.² Blue bars represent 2024, while red bars represent 2025. The congestion impact was calculated as the average price impact from WEIM transfer, intertie, and internal flow-based constraints across both the 15-minute and 5-minute markets for all intervals during the quarter.

- Total congestion impact on price separation between balancing areas was less pronounced compared to the second quarter of 2024.
- The impact of congestion on prices in the Powerex balancing area (BCHA) was significantly lower in the second quarter of 2025 than in Q2 2024. This contributed to limiting the overall average increase in prices across the WEIM.
- The congestion trend was mainly from south to north, decreasing prices in Southern California and many Desert Southwest balancing areas relative to prices in Northern California, the Intermountain West, and the Pacific Northwest.
- Congestion into four of the seven Desert Southwest balancing areas elevated that region's prices relative to other regions during evening peak net load hours.

Figure 5. Average impact of total congestion on real-time market price



² The impact of the California greenhouse gas constraint price on price separation between balancing areas has been removed. This contributed to decreasing prices in balancing areas outside of California by an average of \$5.64/MWh over the second quarter of 2025.

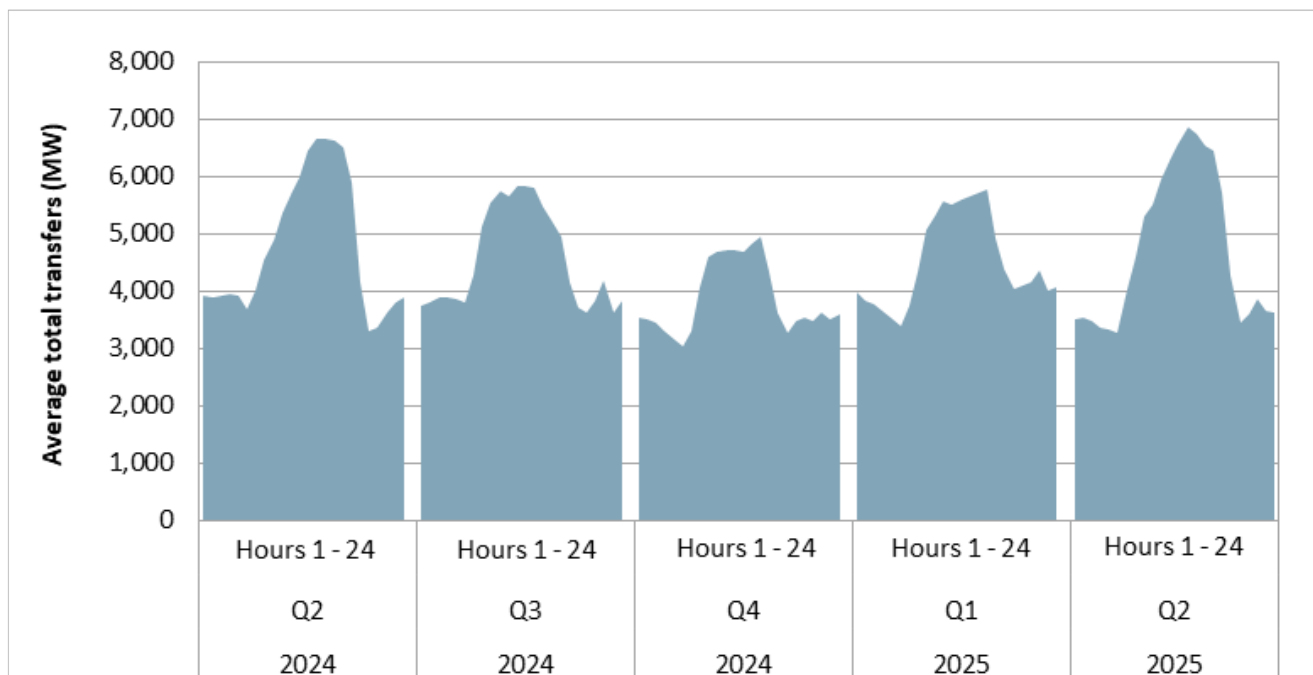
Western Energy Imbalance Market transfers

Figure 6 summarizes the average volume of WEIM transfers in the 5-minute market by hour during the last five quarters.³ Over the second quarter of 2025, the average volume of transfers across the system was around 4,730 MW, down 40 MW from the average transfers during the second quarter of 2024.

Figure 7 shows average inter-regional transfers from the last five quarters. The bars show *net* WEIM transfers for each region by hour. Net WEIM imports for a region are shown as positive and net WEIM exports for a region are shown as negative.

- During the mid-day hours, regional WEIM transfers were typically highest, with significant levels of exports from the CAISO balancing area.
- During the peak hours—when net load in the WEIM system was highest—regional WEIM transfers were relatively low.
- Over the last two quarters, transfers out of the Intermountain West region increased during morning and evening non-solar hours compared to prior quarters. This coincided with increased generation from coal resources in the region.

Figure 6. Average dynamic WEIM transfer volume by hour and quarter (5-minute market, Q2 2024 – Q2 2025)



³ WEIM transfers in this section exclude the fixed bilateral transactions between WEIM entities (base WEIM transfer schedules), and therefore reflect only *dynamic* WEIM transfer schedules optimized in the market.

**Figure 7. Average dynamic inter-regional WEIM transfers by hour
(5-minute market, Q2 2024 – Q2 2025)**

