

Memorandum

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

From: Eric Hildebrandt, Executive Director, Market Monitoring

Date: February 24, 2026

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 market performance and trends in the Western Energy Imbalance Market (WEIM) for 2025.

- Across the WEIM, 15-minute market prices averaged \$34/MWh, down 14 percent from 2024 despite higher natural gas prices. Prices in 2024 were driven up by high prices under tight conditions in January and July 2024 that did not materialize in 2025.
- Year-over-year price changes varied significantly by region. Desert Southwest and California balancing area prices were down 6 and 7 percent, respectively. Pacific Northwest prices were down 26 percent, and Intermountain West prices were down 16 percent.
- The average impact of WEIM transfer limits on prices in Pacific Northwest balancing areas decreased by \$4.28/MWh in 2025 compared to 2024. The impact of this congestion on prices in Intermountain West balancing areas decreased by \$2.59/MWh.
- Average natural gas prices at most major Western hubs increased in 2025 relative to very low 2024 prices, but continued to be low relative to most other recent years.
- Natural gas and hydro resources continued to be the dominant sources of supply across the WEIM. Average hourly natural gas generation was 23,110 MW, down about 1,900 MW compared to 2024. Average hourly hydro generation was 22,120 MW, an increase of about 920 MW. Solar was the third largest source of supply at 10,410 MW, and was up about 1,540 MW.
- Battery capacity across all balancing areas at the end of 2025 was over 25,600 MW, up more than 7,600 MW (42 percent) from 2024. Hourly net battery discharge during hours 18 to 23 increased by an average of about 2,540 MW compared to 2024. Higher solar generation contributed to increased battery charging during mid-day solar hours, while greater battery discharge during evening hours contributed to decreased natural gas generation.

- Total WEIM system load was almost identical in 2025 and 2024, averaging 78.3 GW in both years. Load increased in the Pacific Northwest, Intermountain West, and Desert Southwest regions in 2025 compared to 2024. However, load was down significantly in California, with most of this decrease coming during solar hours and evening peak net load hours.
- Transfers across the WEIM system averaged about 4,500 MW, up 100 MW from 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.
- Transmission ratepayer losses in the CAISO balancing area from the congestion revenue rights (CRR) auction were about \$47.6 million in 2025. Since changes were made to reduce auction losses in 2019, losses have continued to average about \$61 million per year.
- Since 2019, congestion revenue rights sold in the auction by the ISO have sold for about 70 percent of the value of these rights, compared to about 50 percent prior to 2019.

MARKET TRENDS

15-minute market prices by region

Figure 1 shows weighted average monthly prices for the 15-minute market across regions from January 2024 through December 2025.¹ Figure 2 shows 2025 weighted average hourly 15-minute market prices by region.

- Across the Western Energy Imbalance Market, 15-minute market prices averaged \$34/MWh, down 14 percent from 2024 despite higher natural gas prices. This was due mainly to high prices caused by tight conditions in January and July 2024 that did not materialize in 2025.
- Year-over-year changes varied significantly by region, with Desert Southwest balancing area prices down 6 percent, Pacific Northwest prices down 26 percent, and Intermountain West prices down 16 percent.
- During mid-day solar hours, abundant solar production in southern areas contributed to transmission congestion from southern areas to northern areas. This resulted in lower prices in Southern California, Desert Southwest, and Intermountain West balancing areas relative to the Pacific Northwest.
- During evening and morning non-solar hours, prices were higher on average in California balancing areas due mainly to California greenhouse gas pricing.

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, BCHA, BPA, TWPR, PGE, PSEI, and SCL.

Figure 1. Weighted average monthly 15-minute market prices by region

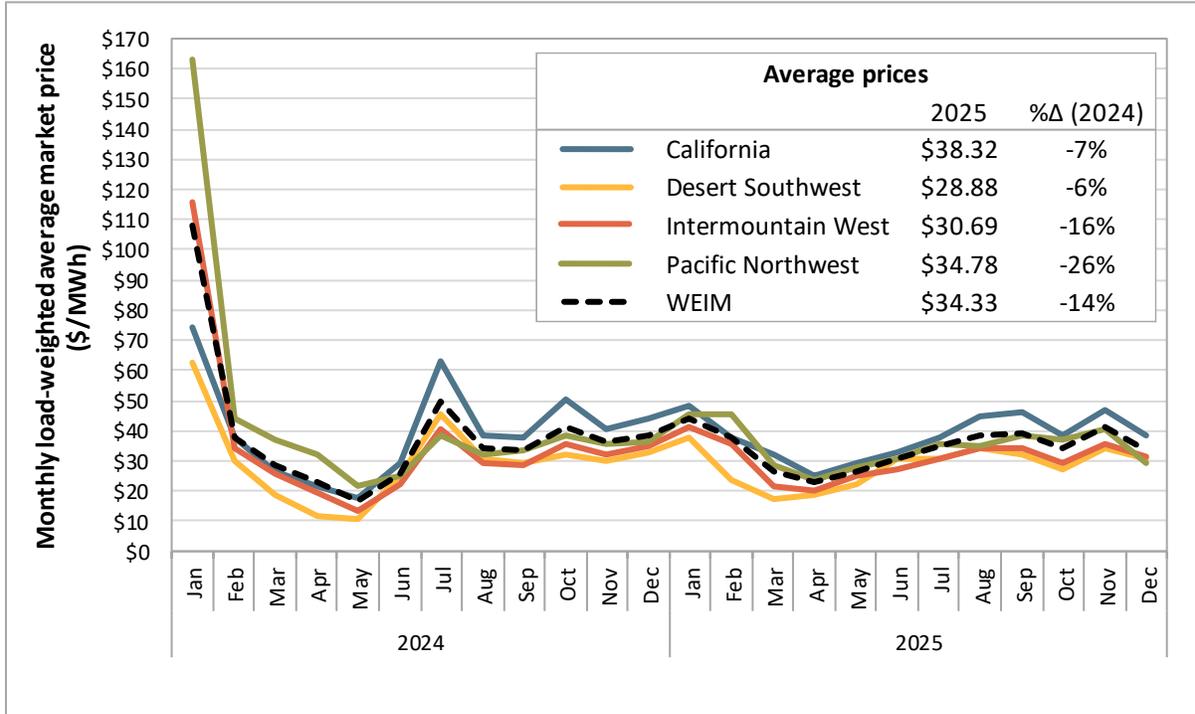
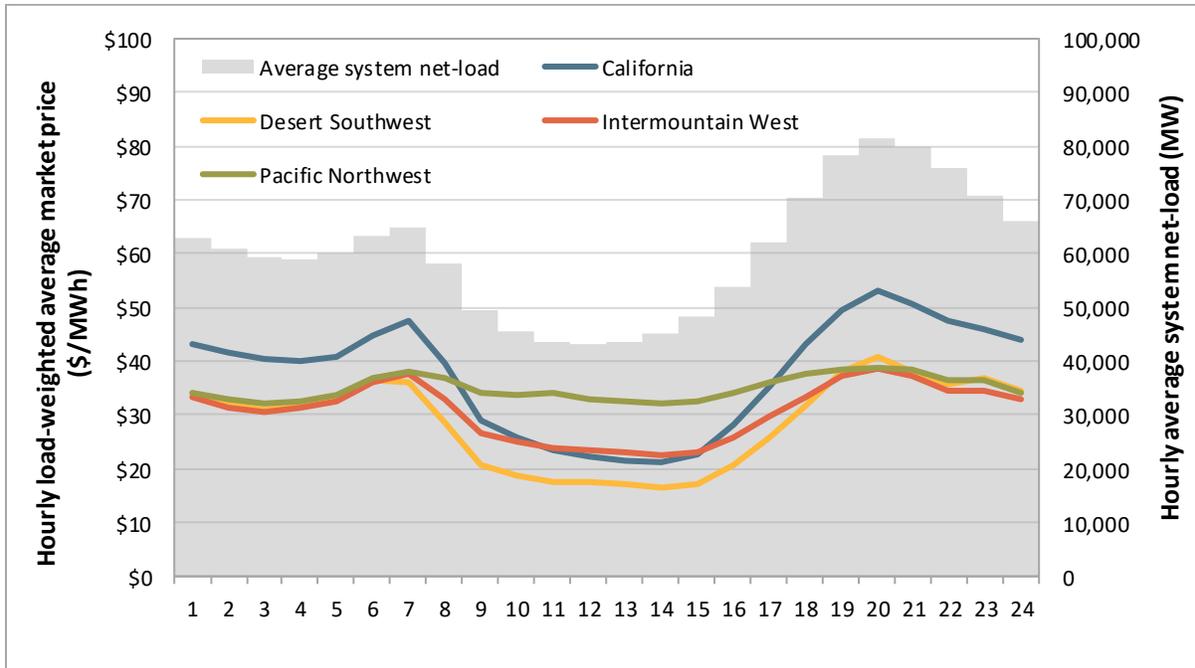


Figure 2. Weighted average hourly 15-minute market prices by region (2025)



15-minute market prices by balancing area

Figure 3 shows the average 15-minute market price by component for each balancing authority area in 2025. Figure 4 shows the change in each balancing area's average price in 2025 compared to 2024. These figures highlight how price differences between regions are determined by differences in greenhouse gas compliance costs (green) congestion on transfer constraints (red), congestion on constraints within the balancing area (yellow), and congestion on constraints from other balancing areas (turquoise).

- California greenhouse gas compliance costs continued to be the most significant driver of price differences between areas. These costs caused prices to be lower in WEIM balancing areas outside of California relative to WEIM balancing areas in California.
- The average impact of WEIM transfer constraint congestion on prices in Pacific Northwest balancing areas decreased by \$4.28/MWh in 2025 compared to 2024. The impact of transfer constraint congestion on prices in Intermountain West balancing areas decreased by \$2.59/MWh.
- The impact on prices in Pacific Northwest balancing areas from congestion on transmission constraints in other balancing areas decreased by \$1.55/MWh in 2025 compared to 2024. The impact of external transmission constraints on prices in Desert Southwest balancing areas increased by \$2.20/MWh.
- The system component of energy prices decreased by \$2.64/MWh in 2025 compared to 2024.

Figure 3. Average 15-minute market prices by balancing area

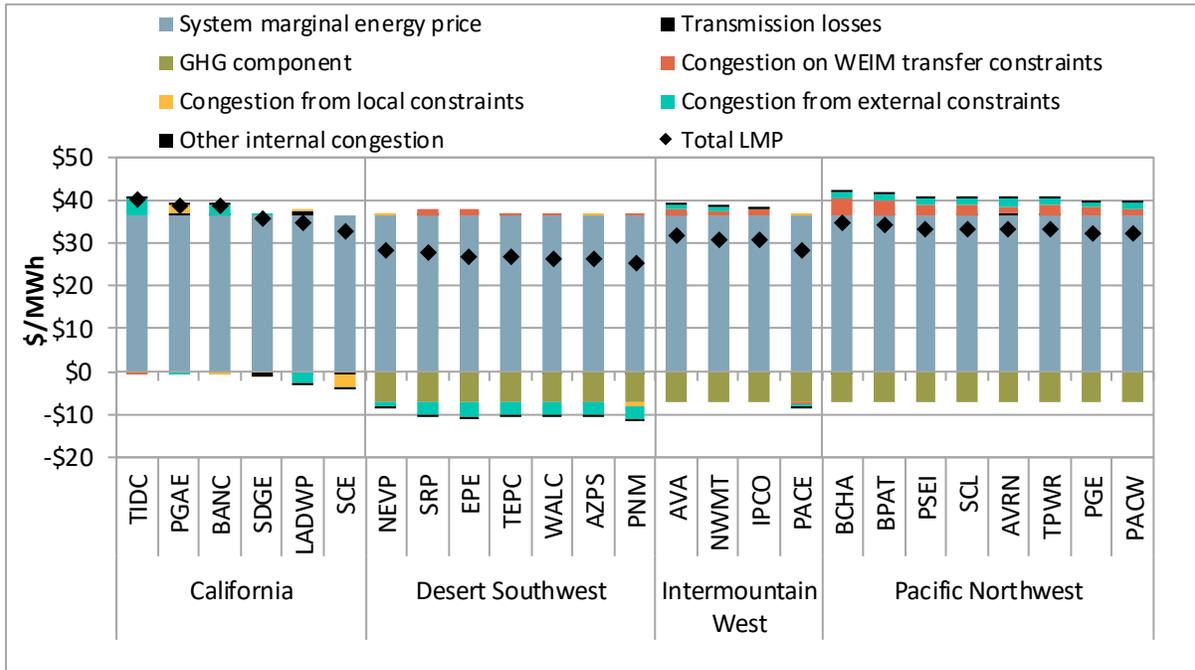
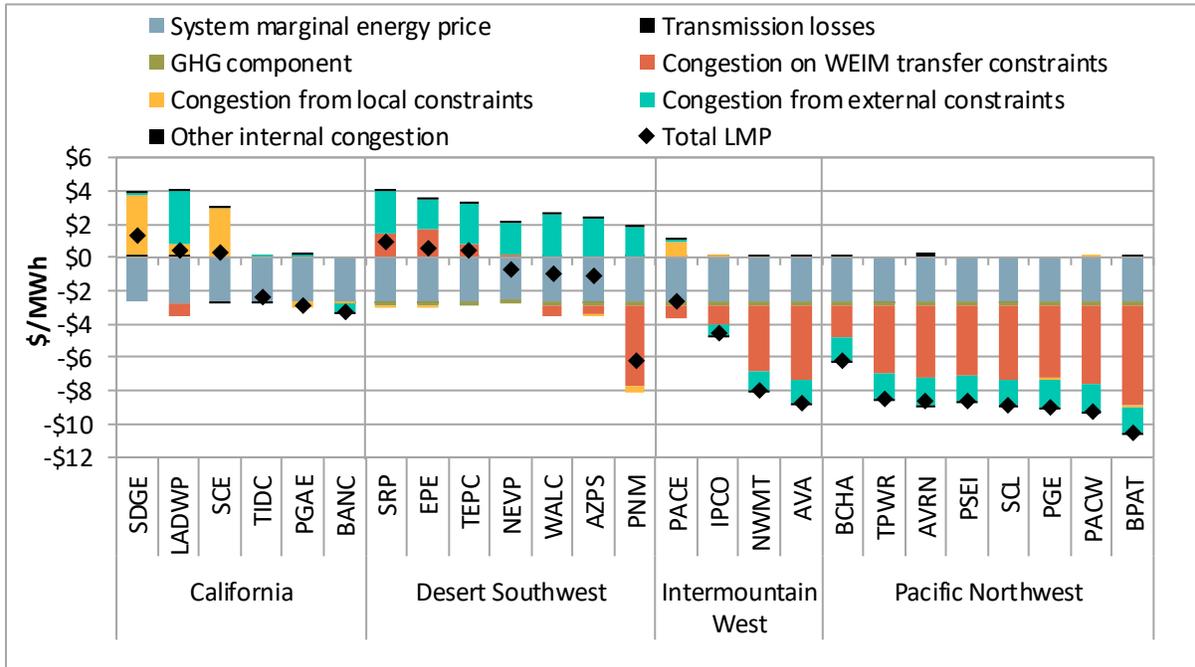


Figure 4. Change in average 15-minute market prices (2025 vs. 2024)

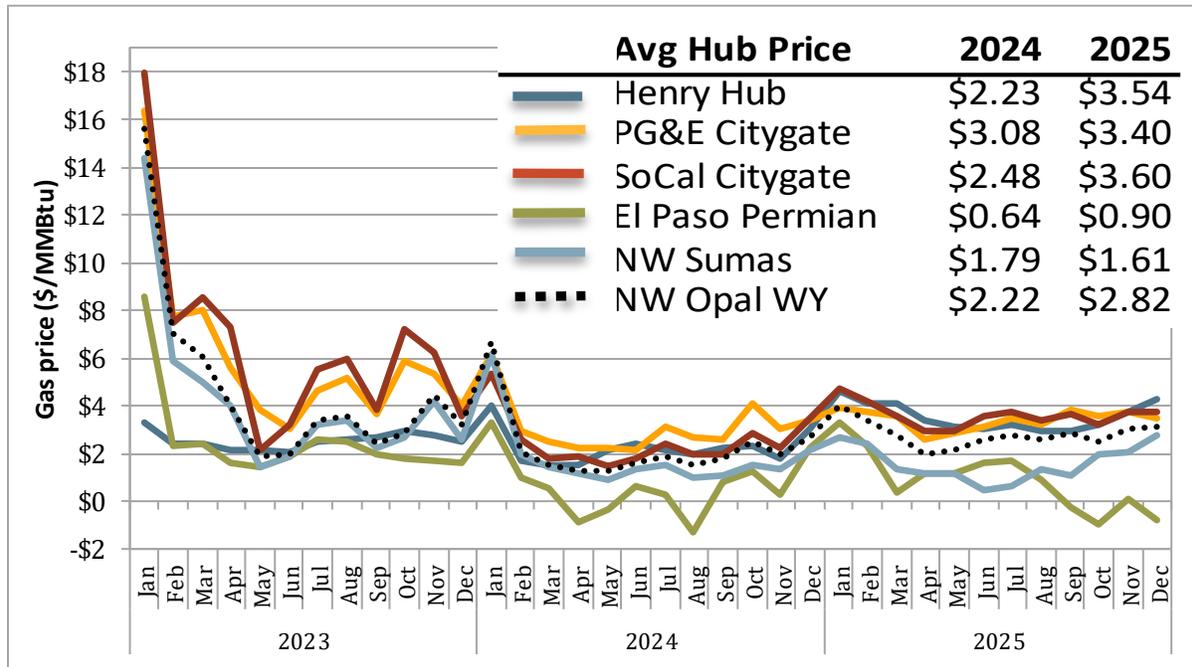


Natural gas prices

Figure 5 shows monthly average natural gas prices at major hubs around the West, as well as at Henry Hub, which serves as a national reference point.

- Average natural gas prices at most major Western hubs in 2025 increased relative to very low 2024 prices, but they continued to be low relative to most other recent years.
- Prices at Henry Hub were up 59 percent compared to 2024. Prices at El Paso Permian and SoCal Citygate were up 41 percent and 45 percent, respectively. Prices at NW Opal WY were up 27 percent, and prices at PG&E Citygate were up 10 percent.
- However, average natural gas prices at the Northwest Sumas hub near the border of Washington and British Columbia decreased by 10 percent due to record high production, low regional demand for gas-fired electricity, and increased renewable output.²

Figure 5. Monthly average natural gas prices



² US Energy Information Administration, *Northwest U.S. natural gas prices remain historically low in 2025*: <https://www.eia.gov/todayinenergy/detail.php?id=66084>

Generation by fuel type

Figure 6 shows the average hourly generation by fuel type across the WEIM. Figure 7 shows the change in average hourly WEIM generation by fuel type in 2025 compared to 2024.

- Natural gas and hydro resources continued to be the dominant sources of supply across the WEIM. Average hourly natural gas generation was 23,110 MW, down about 1,900 MW compared to 2024. Average hourly hydro generation was 22,120 MW, an increase of about 920 MW.
- Solar and wind were the second and third largest sources of generation, averaging about 10,410 MW and 8,210 MW, respectively. Hourly average solar generation increased by about 1,540 MW, while wind generation increased by about 240 MW.
- Hourly net battery discharge during hours 18 to 23 increased by about 2,540 MW on average compared to 2024. Higher solar generation contributed to increased battery charging during mid-day solar hours, and greater battery discharge during evening hours contributed to decreased natural gas generation.

Figure 6. Average hourly generation by fuel type (2025)

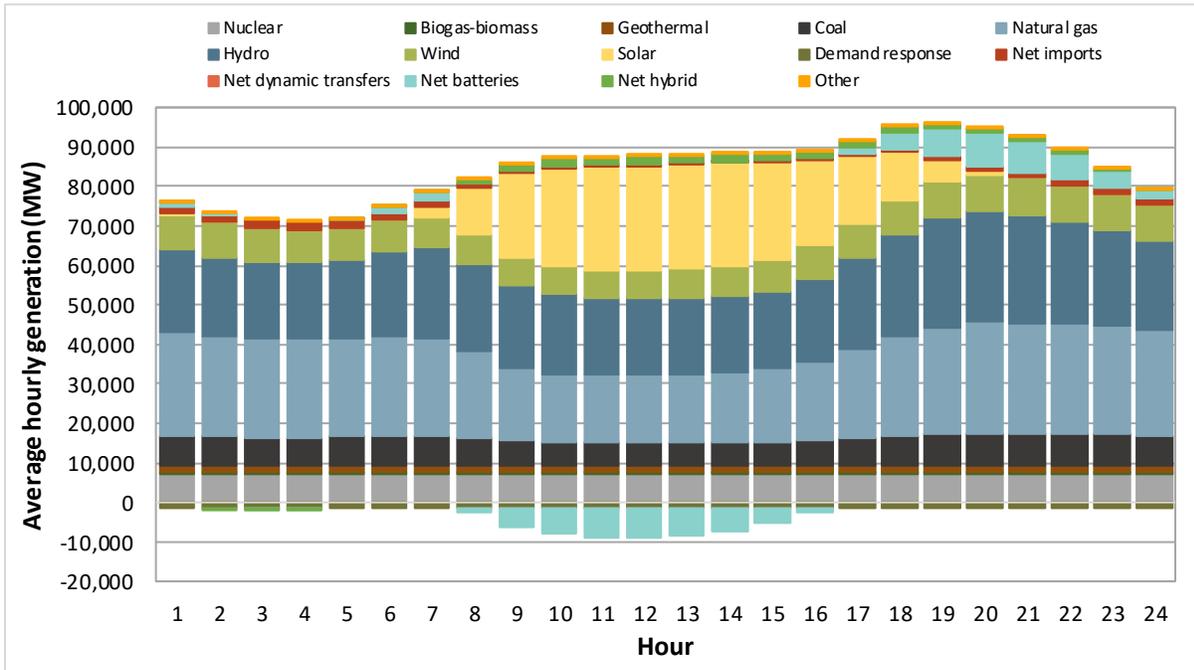
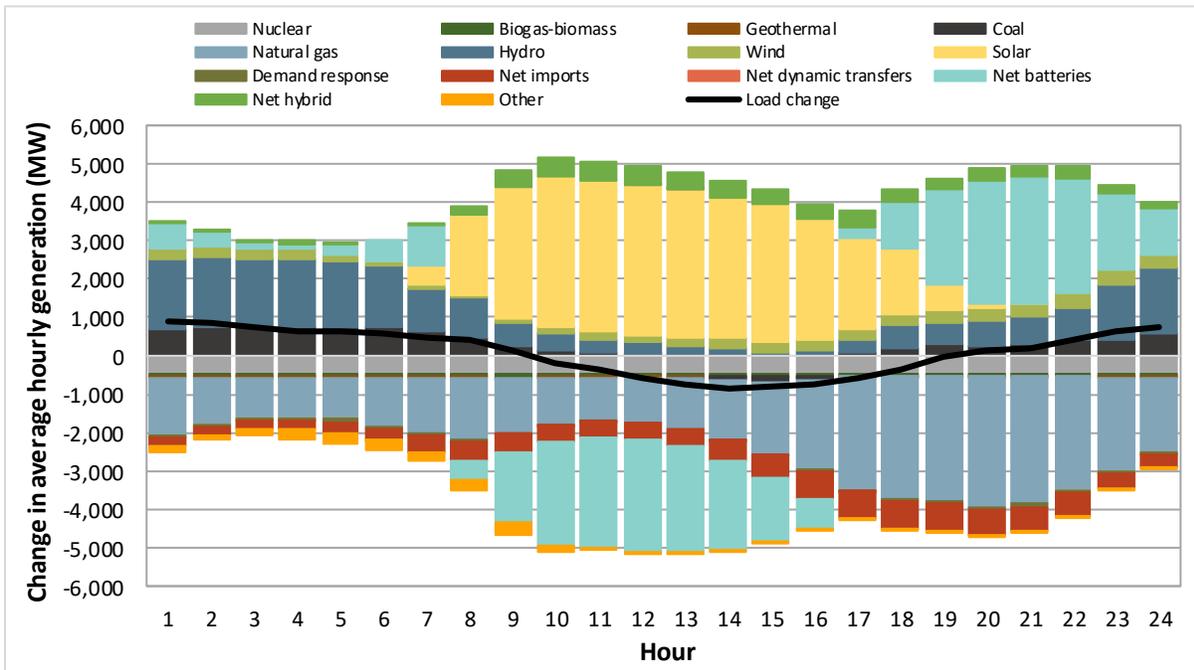


Figure 7. Change in average hourly generation by fuel type (2025 vs. 2024)

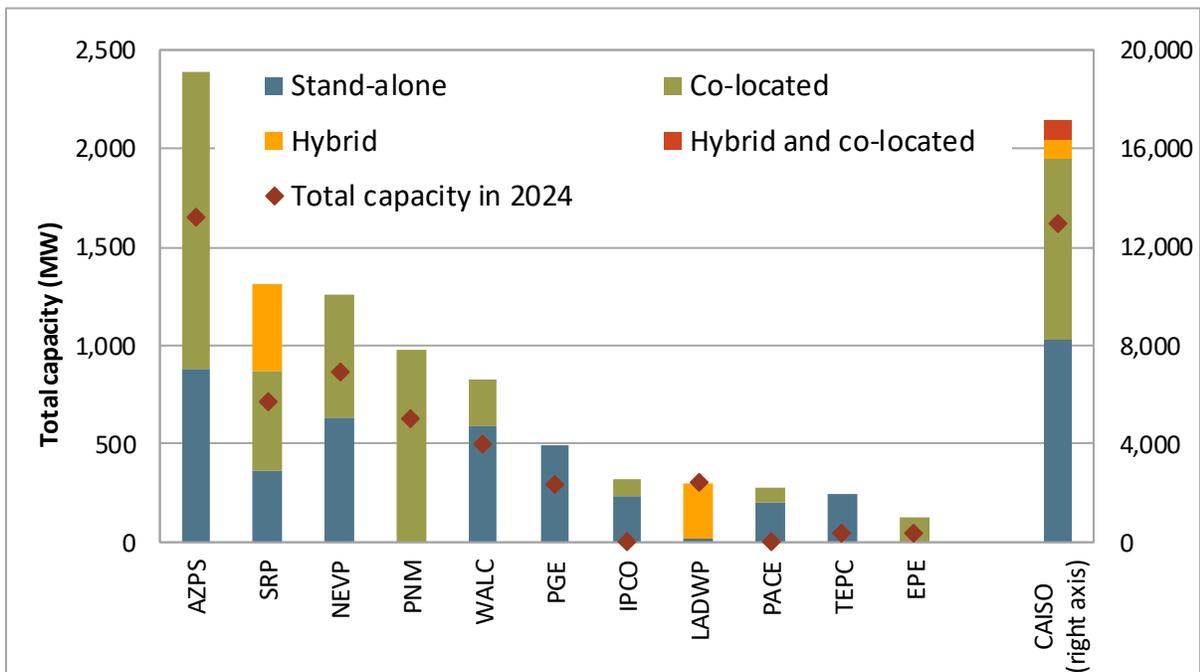


Battery capacity

Figure 8 shows battery capacity for each balancing area at the end of 2025, broken out by model type. The diamonds show battery capacity for each balancing area at the end of 2024.

- Battery capacity across all WEIM balancing areas at the end of 2025 was over 25,600 MW, up 42 percent from December 31, 2024.
- Battery capacity in WEIM balancing areas besides the CAISO balancing area was 8,500 MW at the end of 2025, an increase of 69 percent compared to late 2024. CAISO balancing area battery capacity increased 32 percent to about 17,100 MW.

Figure 8. Battery capacity by model type (December 2025)



Load

Figure 9 shows hourly average 5-minute market load by region for 2025, along with the hourly average system load for 2025 and 2024. Figure 10 shows hourly average percent change in load by region from 2024 to 2025.

- Total WEIM system load was almost identical in 2025 and 2024, averaging 78.3 GW in both years.
- Load in all regions besides California increased in 2025 compared to 2024. Load in the Pacific Northwest increased 1.9 percent to 23.2 GW. Load in the Intermountain West increased 0.8 percent to 10.3 GW, and load in the Desert Southwest increased 0.2 percent to 16.9 GW.
- Load in California decreased 2 percent compared to 2024, down to 27.9 GW. Most of this decrease came during mid-day solar hours and evening peak net load hours.

Figure 9. Hourly average 5-minute market load by region

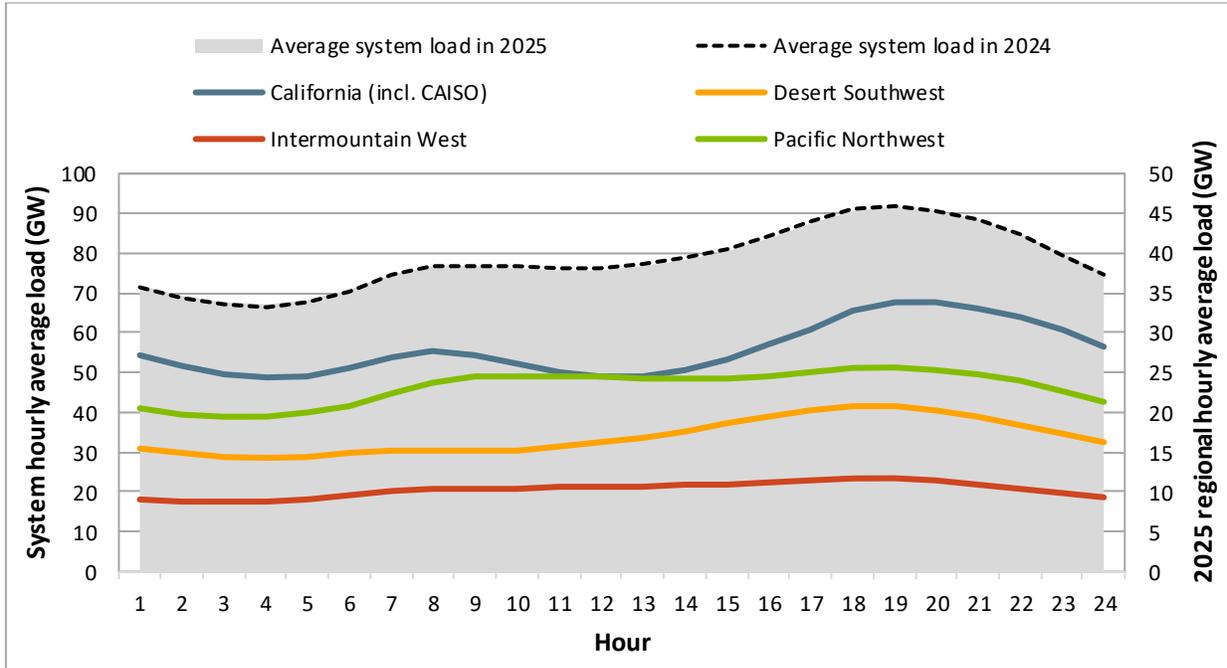
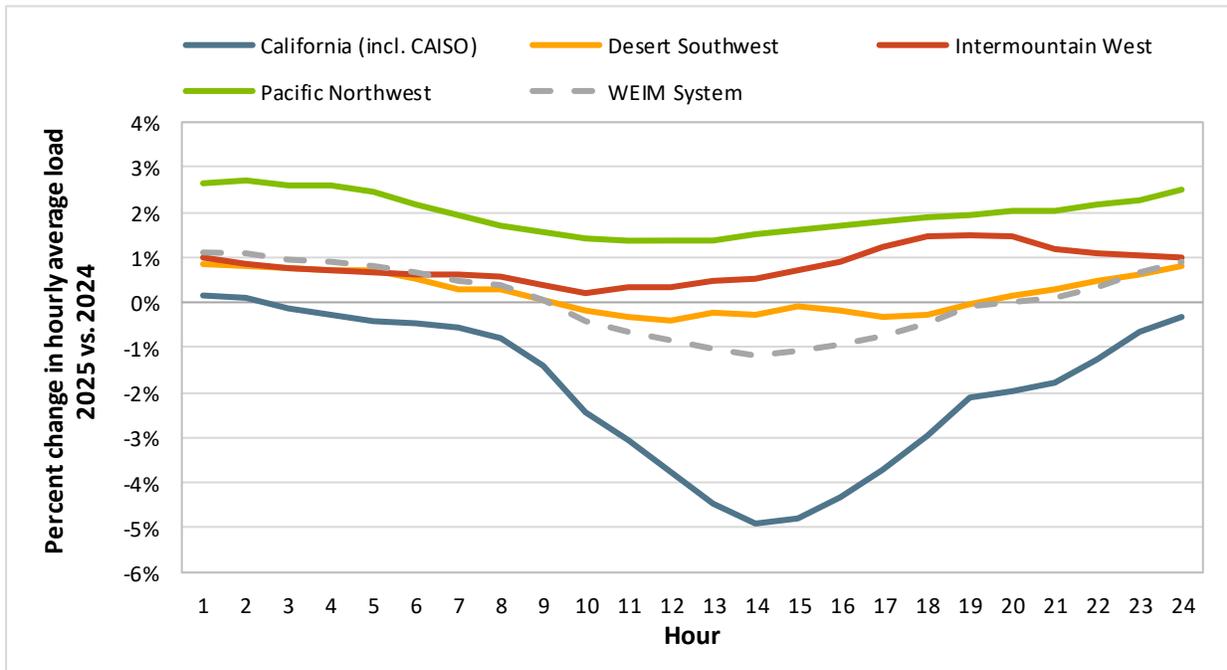


Figure 10. Percent change in hourly average 5-minute market load by region (2025 vs. 2024)



Western Energy Imbalance Market transfers

Figure 11 summarizes the average volume of WEIM transfers in the 5-minute market by hour during the last two years.³ In 2025, the average volume of transfers across the system was around 4,480 MW, about 100 MW higher than 2024.

Figure 12 shows average inter-regional transfers in the last two years. 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 evening hours—when net load in the WEIM system was highest—regional WEIM transfers were relatively low.
- In 2025, transfers out of the Intermountain West region increased during morning and evening non-solar hours compared to the previous year. This coincided with increased generation from coal resources in the region.

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

Figure 11. Average WEIM transfer volume by hour and quarter (5-minute market, 2024-2025)

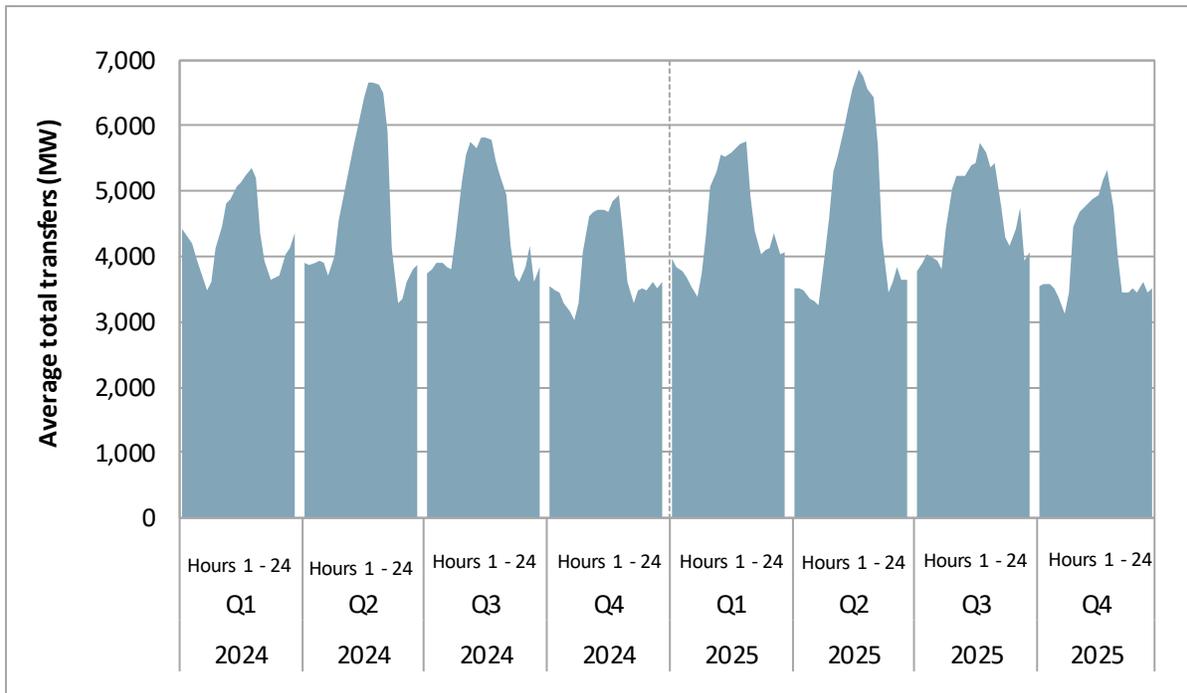
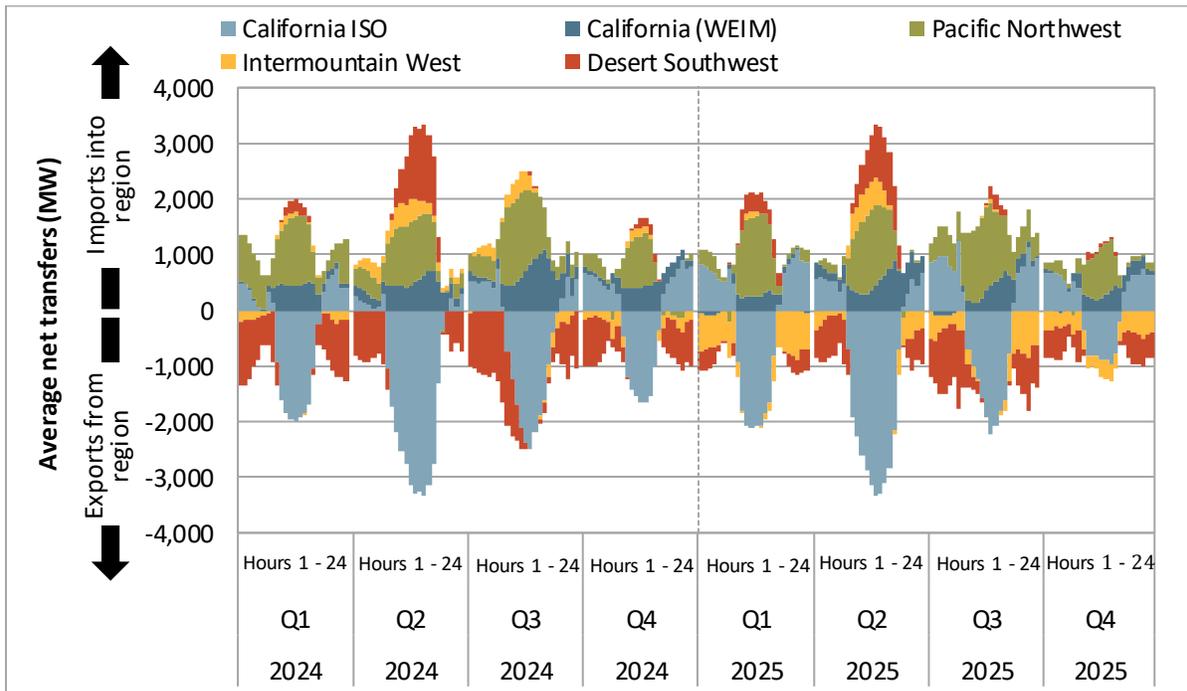


Figure 12. Average inter-regional WEIM transfers by hour (5-minute market, 2024-2025)



Congestion revenue rights

Figure 13 shows losses to CAISO balancing area transmission ratepayers from the ISO's congestion revenue right auction design (gold lines). These losses are the difference between net payments, based on day-ahead market congestion rents, made to non-load serving entities owning congestion revenue rights (green bars), and auction revenues received by load serving entities from congestion revenue rights sold in the auction (blue bars).

As shown in Figure 13:

- Transmission ratepayer losses in the CAISO balancing area from the congestion revenue rights auction were about \$47.6 million in 2025.
- Since changes were made to reduce auction losses in 2019, losses have continued to average about \$61 million per year.
- Since 2019, congestion revenue rights sold in the auction by the ISO have sold for about 70 percent of the value of these rights, compared to about 50 percent prior to 2019.

Figure 13. Congestion revenue right auction revenues and payments to non-load serving entities

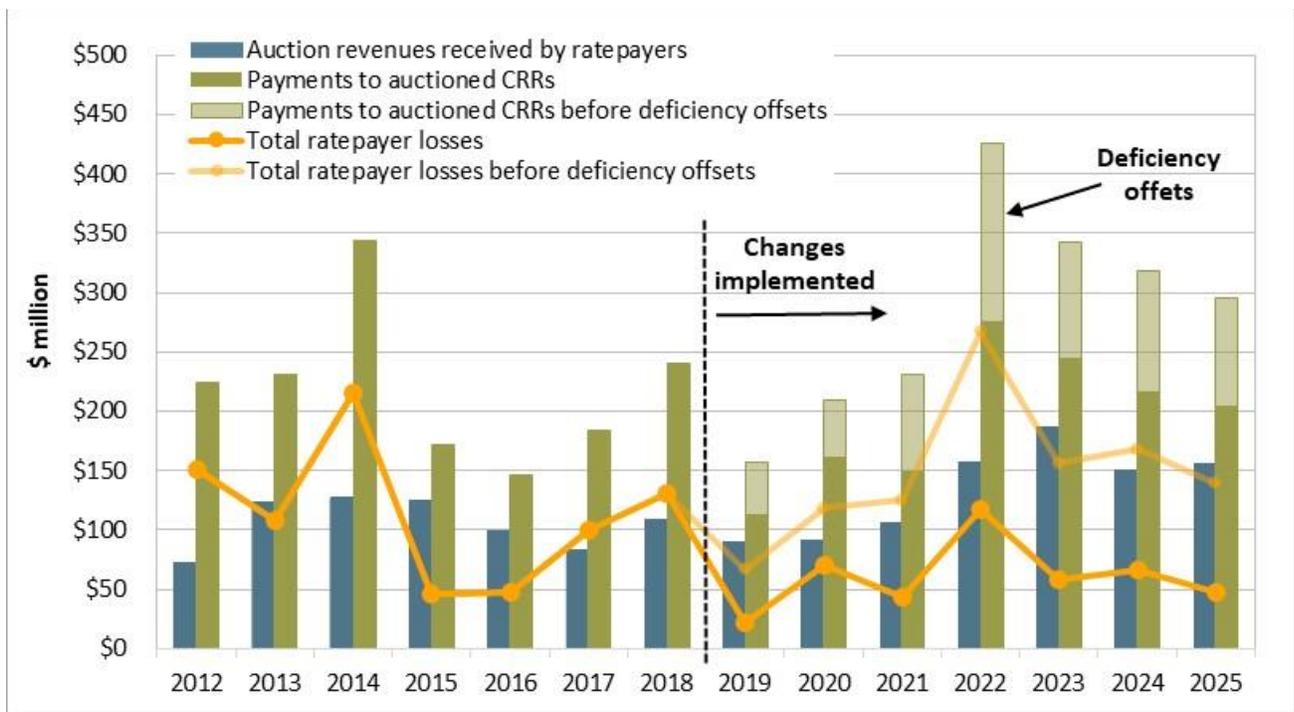


Figure 13 also shows deficiency offsets (translucent green bar) and an estimate of what transmission ratepayer losses would have been in the absence of deficiency offsets (translucent gold line). Deficiency offsets are the reduction in payments to CRR holders as implemented under Track 1B reforms. Deficiency offsets occur when day-ahead market congestion rents are not sufficient to cover “nominal payments” to auctioned CRRs. Nominal payments are those that would be made to CRRs based only on the quantity of CRRs over a path and the difference between source and sink congestion prices.

Deficiency offsets reduced payouts to non-load serving entities by about \$91.9 million in 2025. DMM estimates that deficiency offset reforms have reduced ratepayer losses by over \$600 million since their 2019 implementation.