



California ISO

WESTERN ENERGY IMBALANCE MARKET (WEIM)

# Q2 2024 Report on Market Issues and Performance

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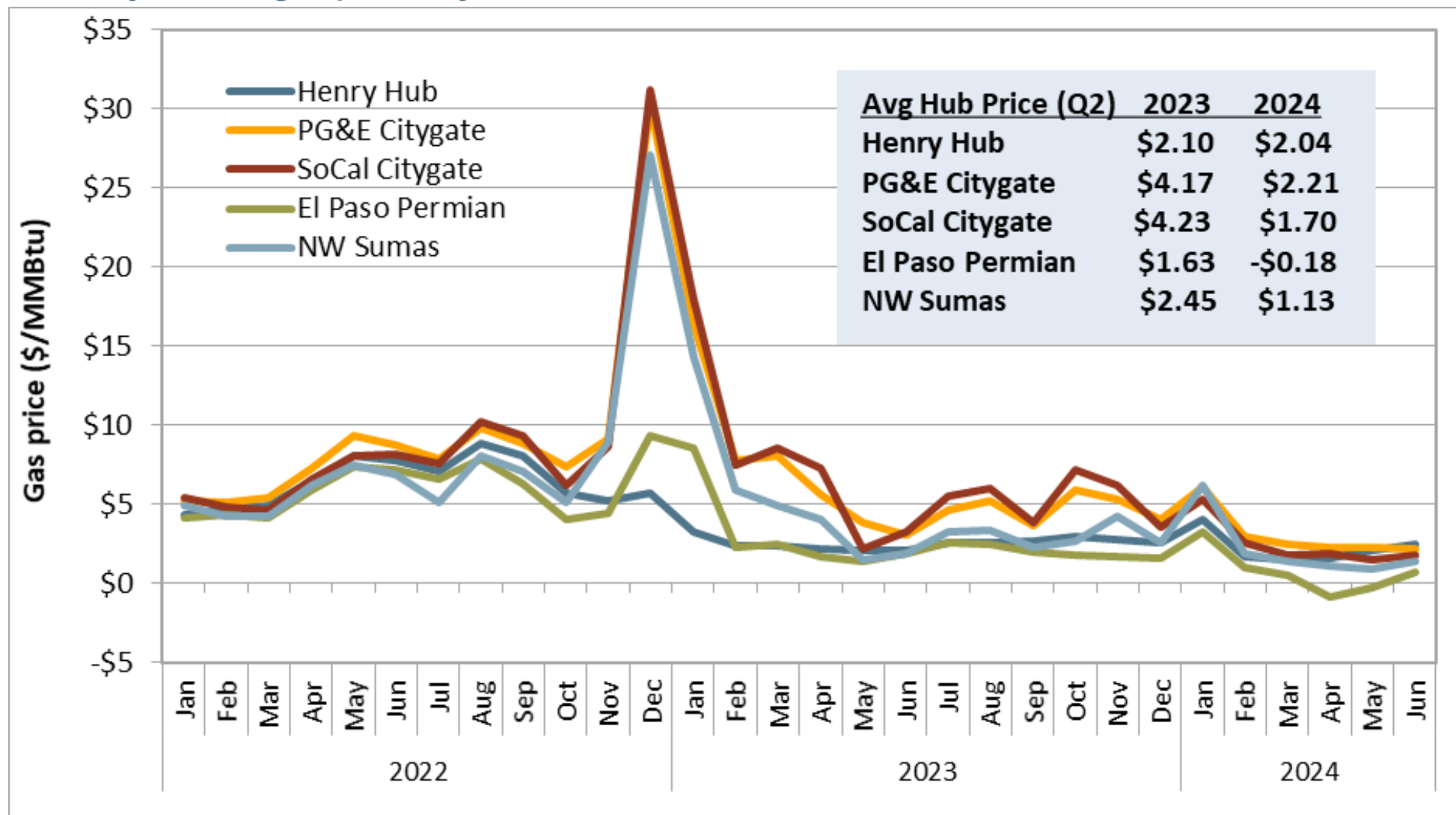
Department of Market Monitoring

November 26, 2024

<https://www.caiso.com/documents/2024-second-quarter-report-on-market-issues-and-performance-nov-22-2024.pdf>

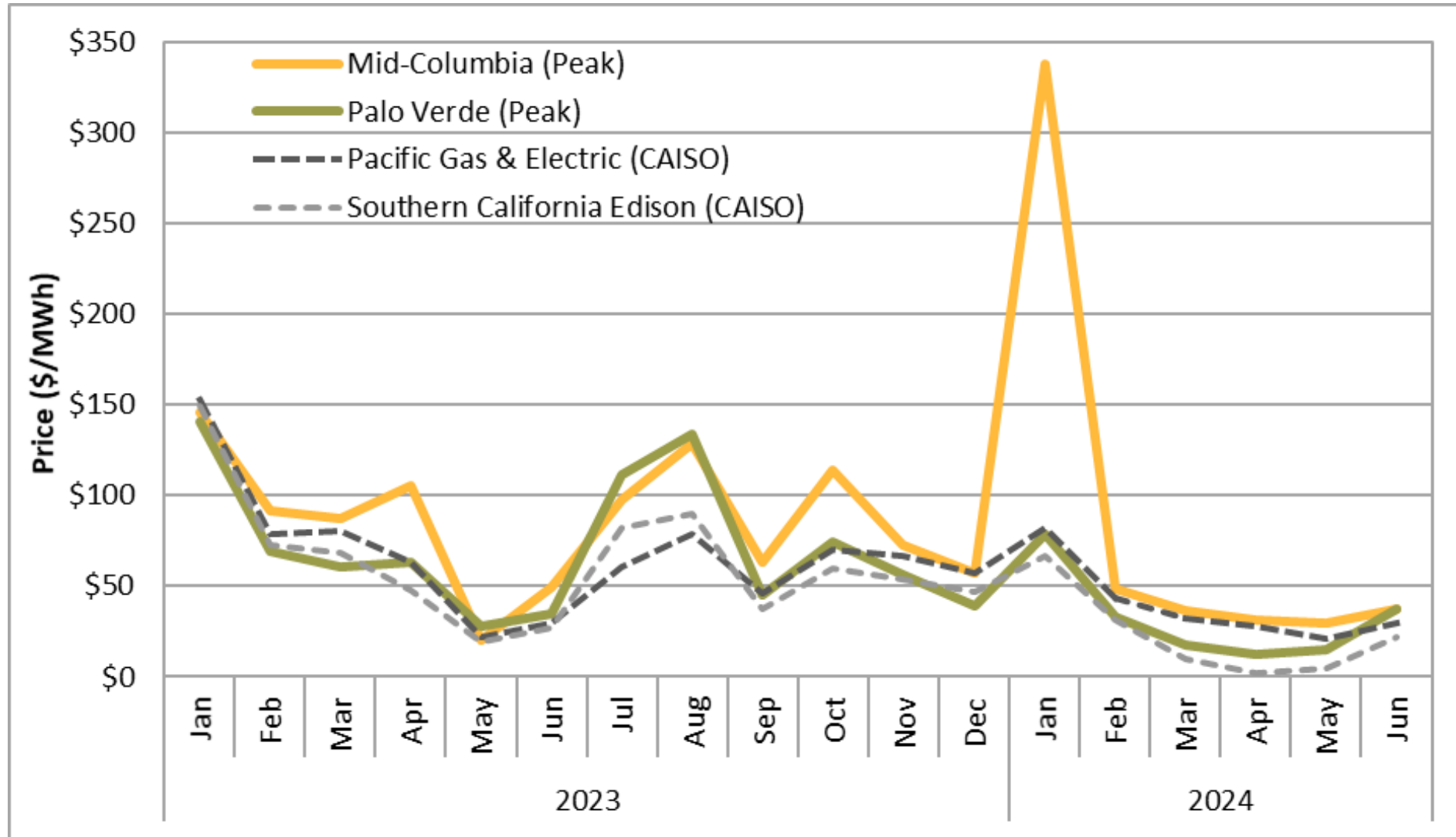
# Gas prices down significantly from Q2 2023

Average monthly natural gas prices by hub



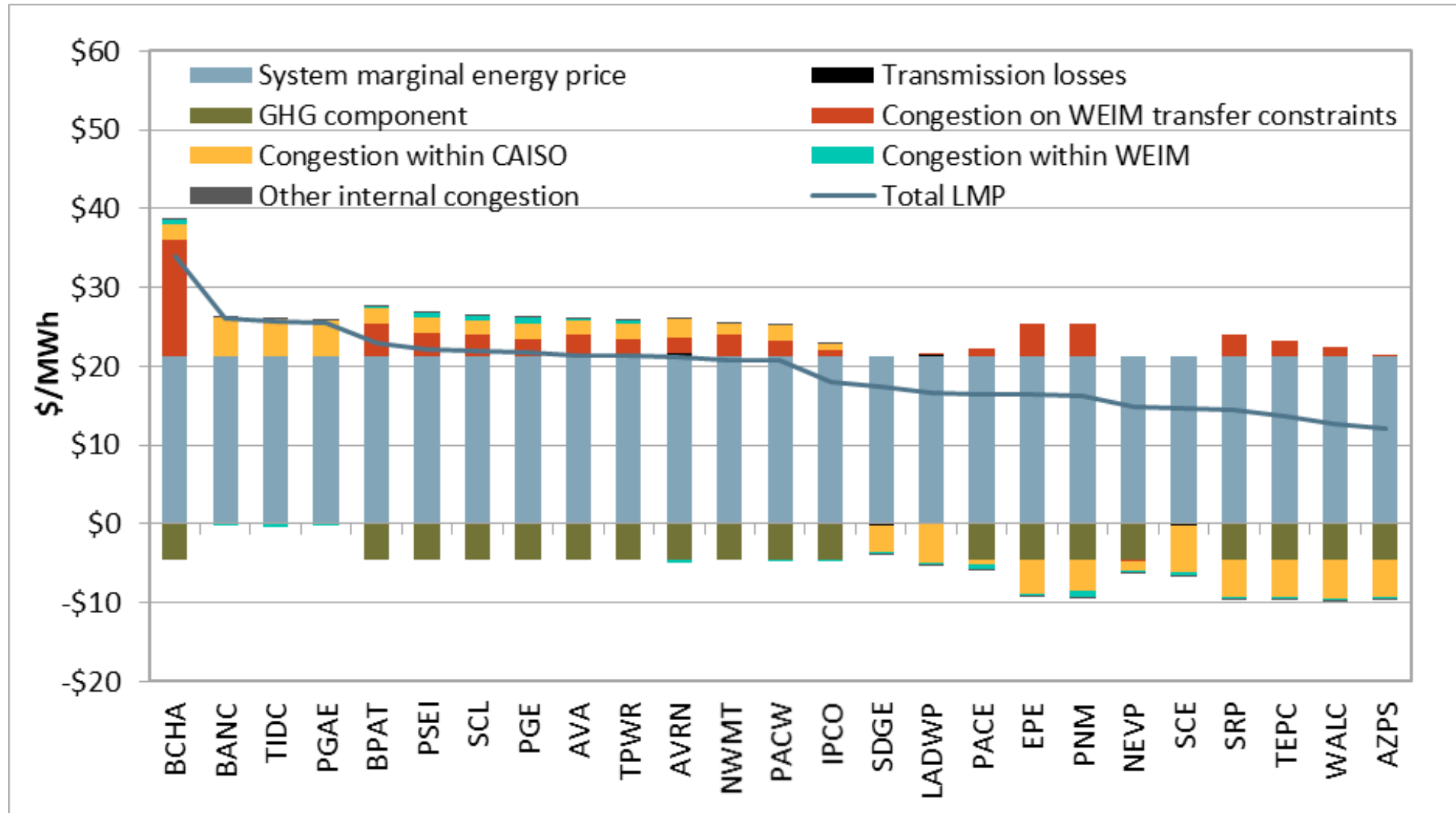
# Day-ahead prices in West decreased with the lower gas prices

Monthly average peak day-ahead CAISO and bilateral market prices



# Prices higher in northern areas and lower in southern areas

Average 15-minute market prices by component (April - June 2024)



# Price separation from south to north during mid-day solar hours

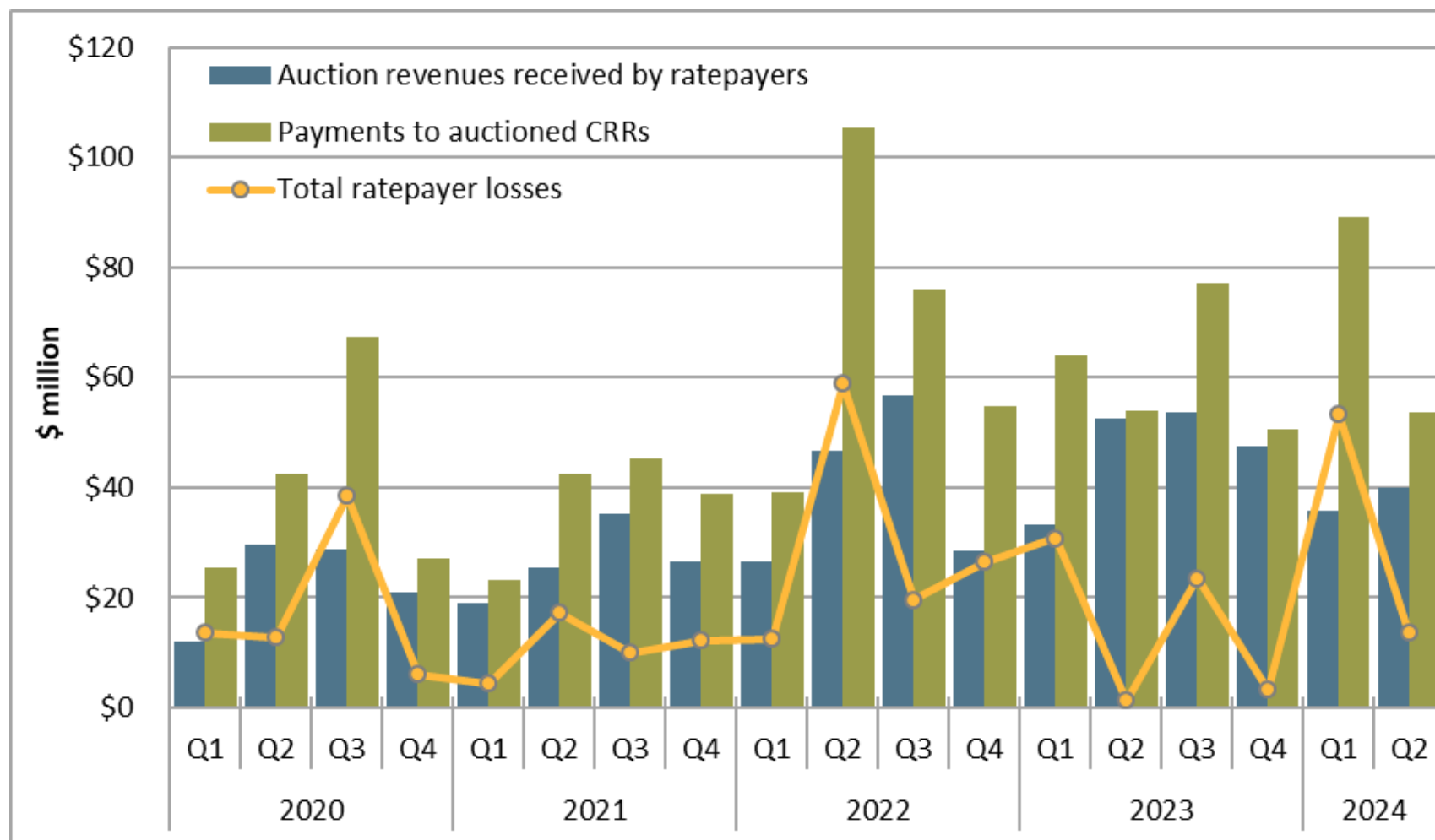
Hourly average 15-minute market prices (April – June 2024)

SMEC	\$31	\$29	\$28	\$28	\$29	\$34	\$32	\$15	\$8	\$4	\$3	\$2	\$2	\$2	\$2	\$4	\$9	\$16	\$33	\$45	\$46	\$39	\$34	\$32
PG&E (CAISO)	\$32	\$30	\$29	\$29	\$30	\$35	\$34	\$23	\$18	\$14	\$10	\$9	\$7	\$8	\$9	\$11	\$17	\$24	\$35	\$48	\$49	\$41	\$35	\$33
SCE (CAISO)	\$32	\$30	\$29	\$28	\$30	\$35	\$32	\$7	-\$8	-\$12	-\$12	-\$13	-\$13	-\$13	-\$13	-\$10	-\$7	\$5	\$32	\$45	\$46	\$39	\$34	\$32
BANC	\$32	\$31	\$30	\$30	\$31	\$36	\$34	\$21	\$16	\$13	\$11	\$10	\$8	\$8	\$10	\$13	\$19	\$24	\$36	\$48	\$50	\$42	\$36	\$33
Turlock ID	\$32	\$30	\$29	\$29	\$30	\$35	\$34	\$21	\$17	\$14	\$13	\$12	\$10	\$11	\$12	\$15	\$20	\$22	\$34	\$45	\$47	\$40	\$34	\$32
LADWP	\$35	\$30	\$28	\$28	\$29	\$35	\$32	\$13	-\$4	-\$8	-\$10	-\$11	-\$10	-\$9	-\$9	-\$5	-\$2	\$9	\$32	\$47	\$46	\$39	\$34	\$32
NV Energy	\$24	\$22	\$21	\$21	\$23	\$25	\$20	\$10	\$0	-\$1	-\$3	-\$2	-\$3	-\$1	\$0	\$2	\$4	\$12	\$30	\$38	\$36	\$29	\$28	\$24
Arizona PS	\$23	\$21	\$21	\$21	\$22	\$25	\$21	\$5	-\$5	-\$8	-\$8	-\$9	-\$6	-\$8	-\$7	-\$5	-\$2	\$8	\$30	\$36	\$34	\$28	\$28	\$23
Tucson Electric	\$22	\$20	\$19	\$19	\$21	\$24	\$19	\$4	-\$4	-\$7	-\$7	-\$5	-\$4	-\$1	\$2	\$4	\$10	\$13	\$28	\$40	\$34	\$28	\$28	\$23
Salt River Project	\$23	\$21	\$20	\$21	\$22	\$25	\$18	\$1	-\$5	-\$3	-\$7	\$0	-\$2	\$2	\$2	\$7	\$4	\$10	\$32	\$35	\$33	\$28	\$33	\$26
PSC New Mexico	\$28	\$21	\$19	\$20	\$27	\$34	\$31	\$19	\$10	-\$6	-\$8	-\$7	-\$7	-\$7	-\$6	\$1	-\$1	\$19	\$33	\$49	\$40	\$28	\$28	\$23
WAPA - Desert SW	\$31	\$31	\$20	\$21	\$22	\$25	\$20	\$5	-\$5	-\$8	-\$9	-\$9	-\$9	-\$9	-\$8	-\$6	-\$3	\$7	\$27	\$38	\$35	\$28	\$37	\$24
El Paso Electric	\$23	\$19	\$17	\$18	\$19	\$24	\$22	\$6	-\$1	-\$2	-\$3	-\$1	\$2	\$3	\$1	\$15	\$11	\$30	\$38	\$39	\$34	\$27	\$27	\$23
PacifiCorp East	\$23	\$21	\$20	\$21	\$22	\$25	\$21	\$12	\$7	\$5	\$3	\$3	\$2	\$2	\$3	\$5	\$7	\$14	\$27	\$36	\$35	\$29	\$28	\$24
Idaho Power	\$23	\$21	\$20	\$21	\$22	\$25	\$27	\$14	\$10	\$9	\$6	\$6	\$5	\$5	\$7	\$5	\$10	\$15	\$28	\$36	\$36	\$30	\$28	\$24
North Western	\$22	\$21	\$20	\$20	\$22	\$25	\$22	\$17	\$16	\$15	\$15	\$15	\$15	\$14	\$14	\$16	\$17	\$22	\$28	\$34	\$34	\$28	\$28	\$23
Avista Utilities	\$22	\$20	\$19	\$20	\$21	\$24	\$22	\$18	\$18	\$16	\$16	\$17	\$16	\$16	\$16	\$18	\$18	\$23	\$27	\$33	\$33	\$28	\$27	\$23
Avangrid	\$22	\$20	\$19	\$20	\$21	\$24	\$21	\$18	\$17	\$16	\$16	\$17	\$16	\$16	\$17	\$18	\$19	\$21	\$26	\$32	\$32	\$28	\$27	\$23
BPA	\$22	\$21	\$20	\$20	\$21	\$24	\$27	\$25	\$22	\$18	\$20	\$19	\$18	\$18	\$18	\$19	\$22	\$25	\$29	\$33	\$32	\$28	\$29	\$24
Tacoma Power	\$24	\$20	\$19	\$20	\$21	\$24	\$21	\$17	\$17	\$16	\$17	\$19	\$19	\$17	\$18	\$19	\$20	\$21	\$25	\$31	\$31	\$27	\$26	\$23
PacifiCorp West	\$22	\$20	\$19	\$20	\$21	\$23	\$21	\$18	\$17	\$16	\$16	\$17	\$16	\$16	\$16	\$18	\$19	\$20	\$25	\$31	\$31	\$27	\$26	\$23
Portland GE	\$22	\$20	\$19	\$20	\$21	\$23	\$21	\$18	\$17	\$16	\$19	\$19	\$18	\$18	\$19	\$20	\$21	\$21	\$28	\$33	\$31	\$28	\$26	\$23
Puget Sound Energy	\$22	\$20	\$19	\$20	\$21	\$24	\$22	\$23	\$18	\$16	\$18	\$18	\$18	\$18	\$18	\$19	\$22	\$26	\$26	\$31	\$34	\$30	\$28	\$23
Seattle City Light	\$22	\$20	\$19	\$20	\$21	\$24	\$22	\$17	\$16	\$15	\$18	\$18	\$20	\$18	\$19	\$19	\$20	\$29	\$25	\$31	\$31	\$30	\$26	\$25
Powerex	\$34	\$31	\$30	\$29	\$31	\$33	\$36	\$33	\$33	\$32	\$32	\$32	\$33	\$33	\$33	\$33	\$34	\$35	\$38	\$40	\$40	\$39	\$36	\$35
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	Hour																							



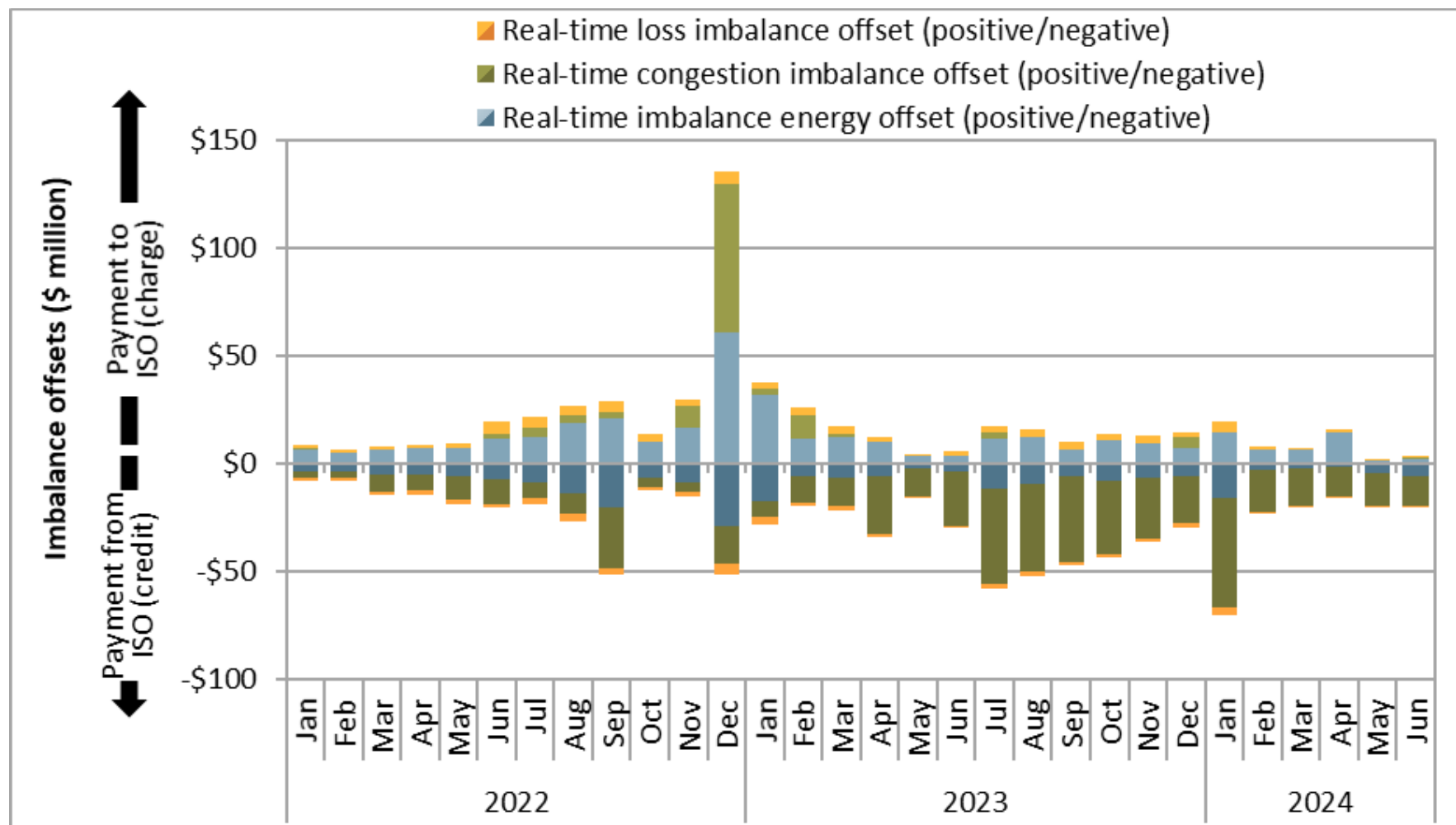
# Transmission ratepayers lost about \$14 million from auctioned CRRs in Q2 2024, up from \$1 million in Q2 2023

Auction revenues and payments to non-load serving entities



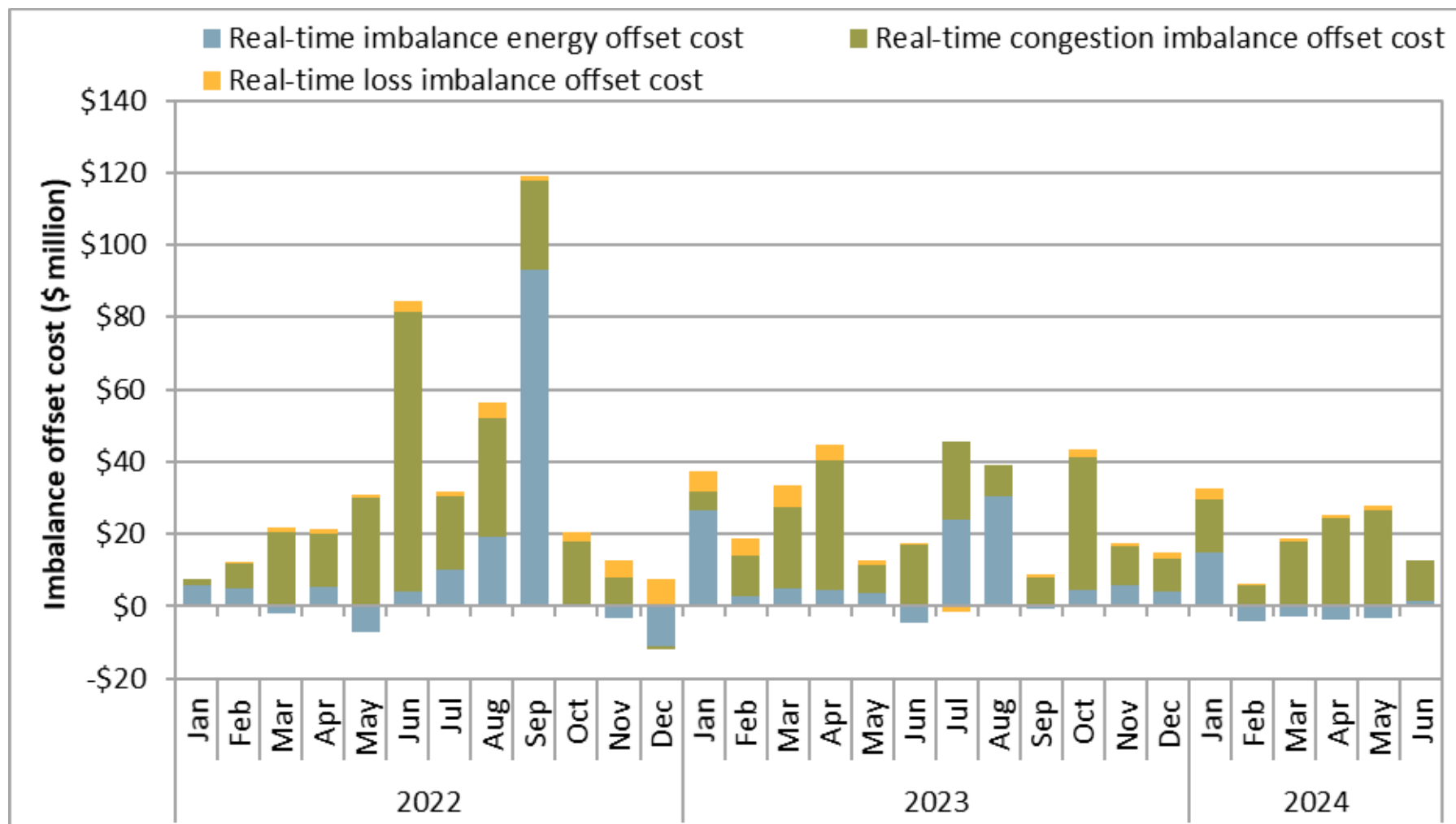
# Real-time imbalance offsets in WEIM areas only participating in real-time were \$33 million credit to entities, down from \$58 million in Q2 2023

Monthly WEIM real-time imbalance offsets



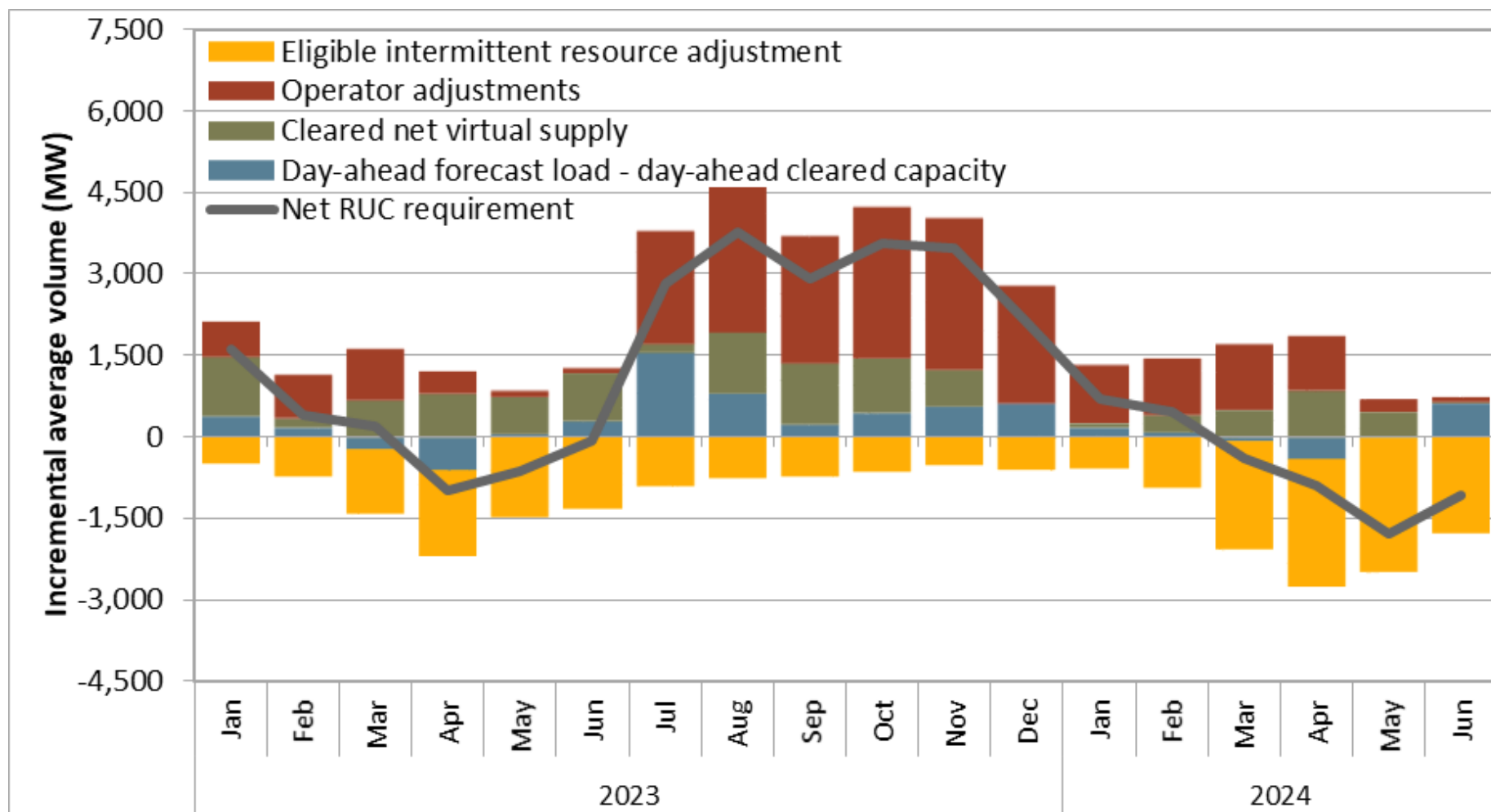
# Real-time imbalance offset costs in areas participating in day-ahead market were \$59 million, down from \$71 million in Q2 2023

Monthly California ISO real-time imbalance offset costs



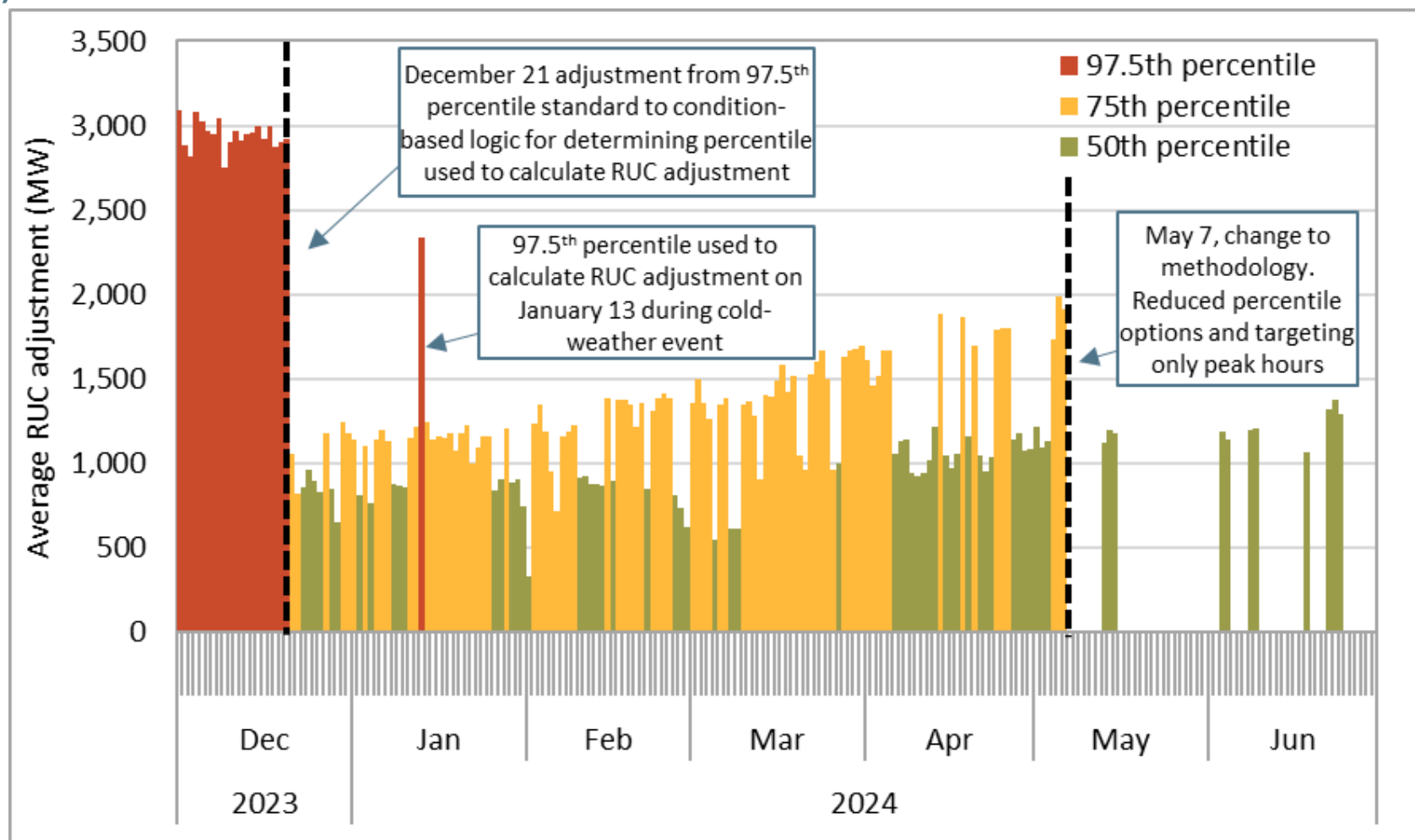
# RUC load adjustments increased compared to Q2 2023 but decreased compared to Q4 2023

Determinants of residual unit commitment procurement



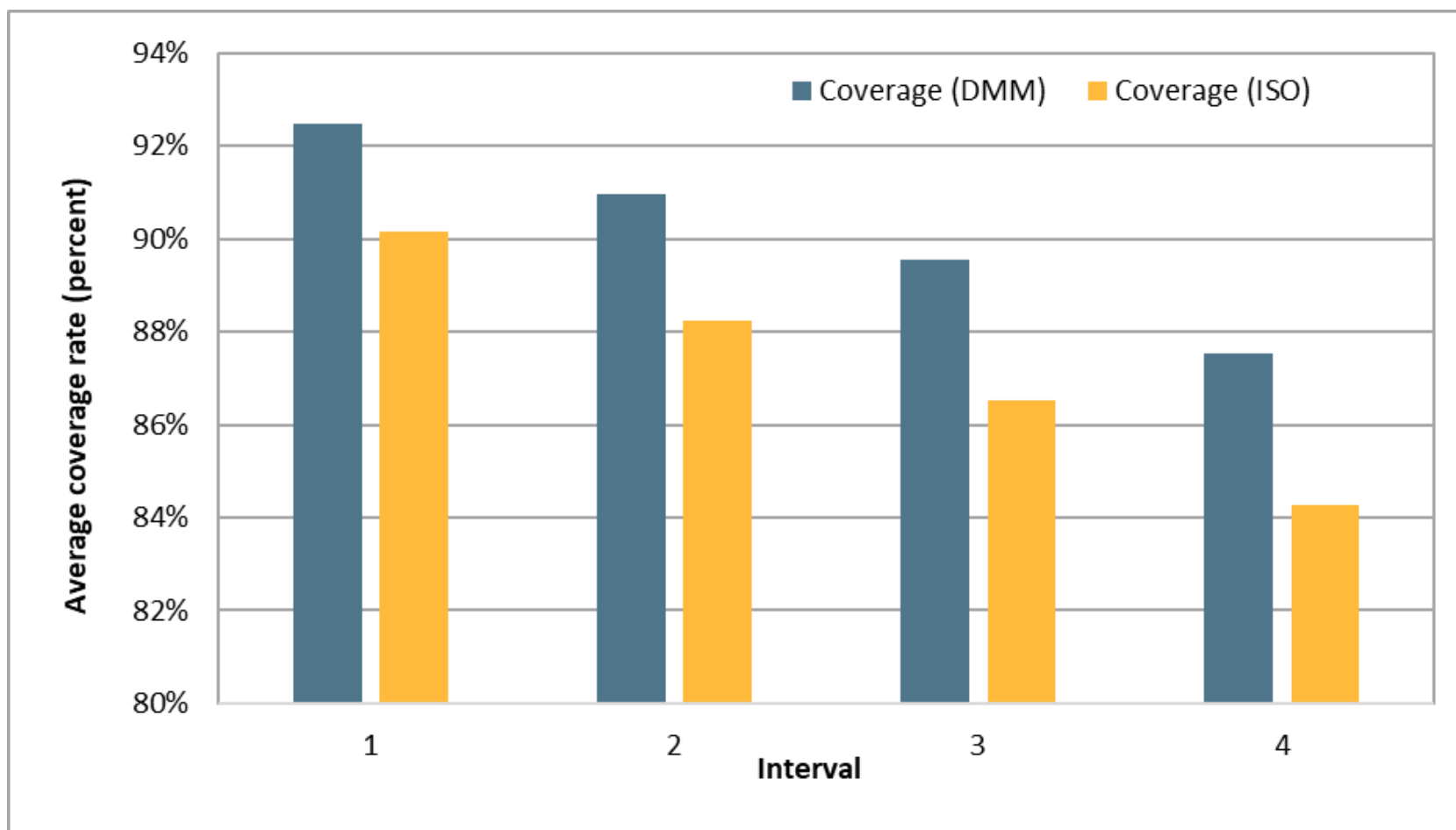
# CAISO shifted to condition-based logic for determining percentile used to calculate RUC adjustment on December 21, 2023 – further refinements May 7

Average residual unit commitment adjustment by day (peak morning and evening hours, December 1, 2023 to June 30, 2024)



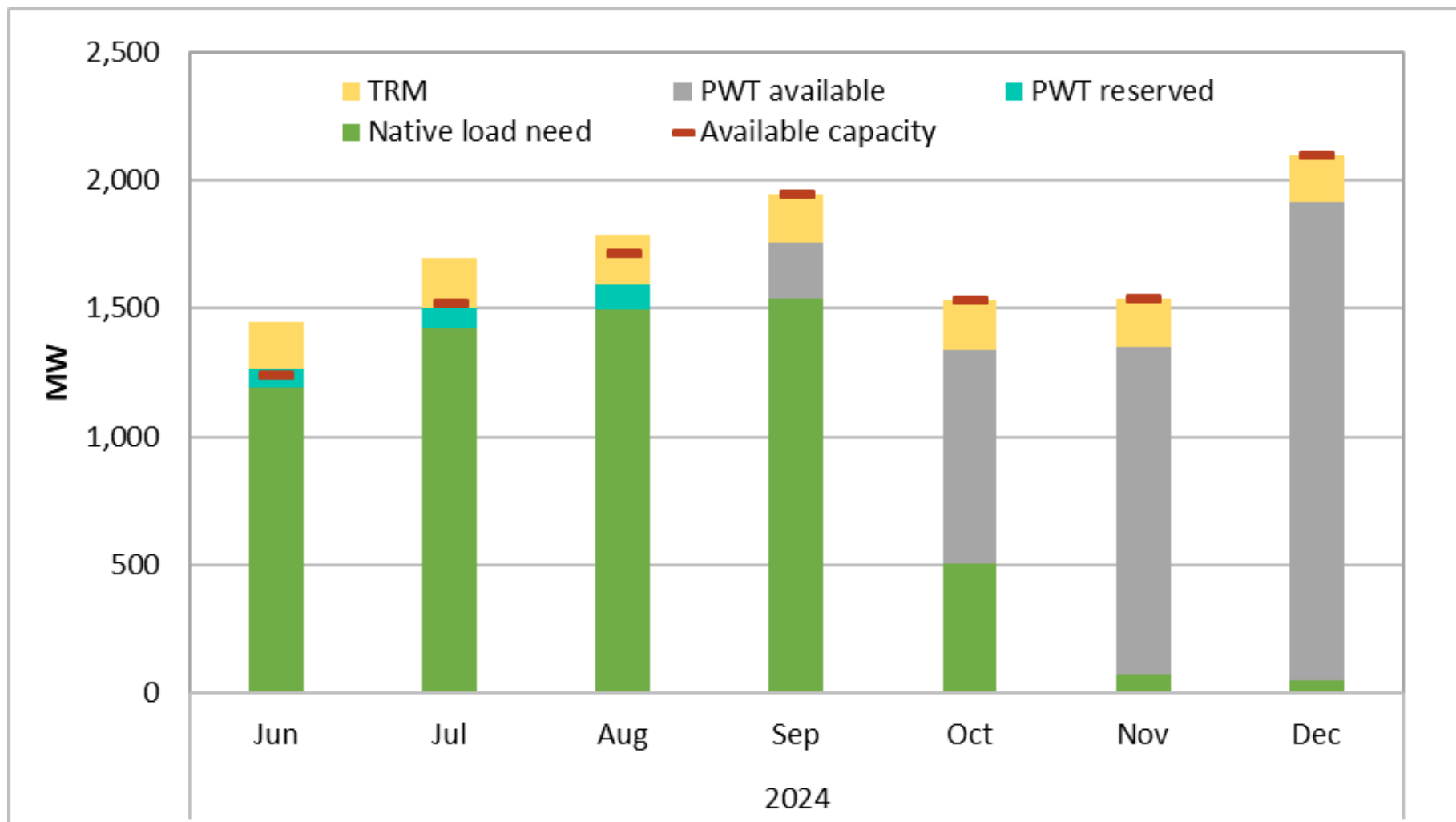
# Mosaic quantile regression model's predicted uncertainty for RSE covered realized uncertainty much less for intervals at the end of the hour than for intervals at the beginning of the hour

Average coverage rate by interval in RSE (April 4 – June 30, 2024)



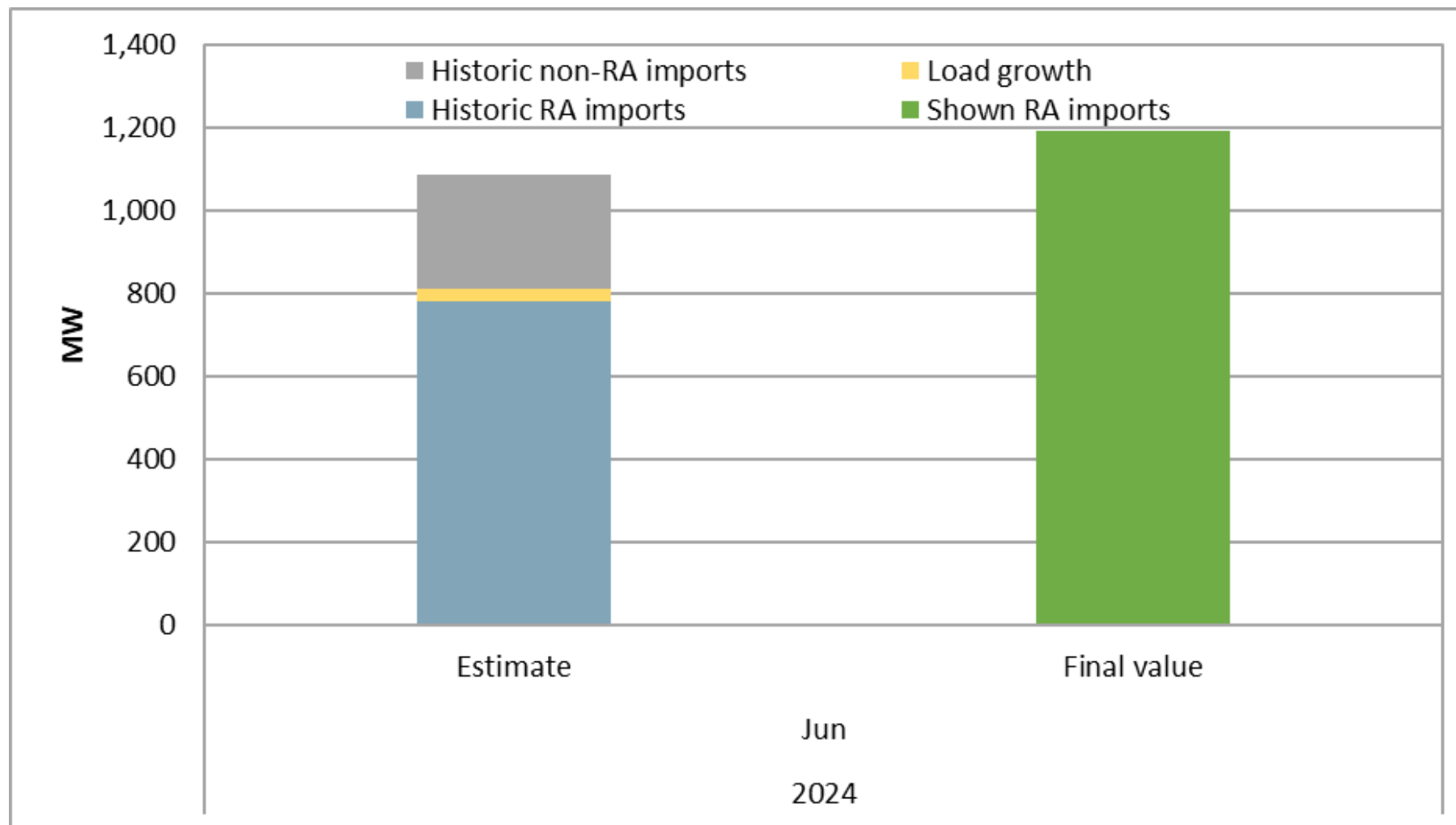
# Overview of new priority wheel-through process implemented for June

Monthly transmission capacity values at MALIN500



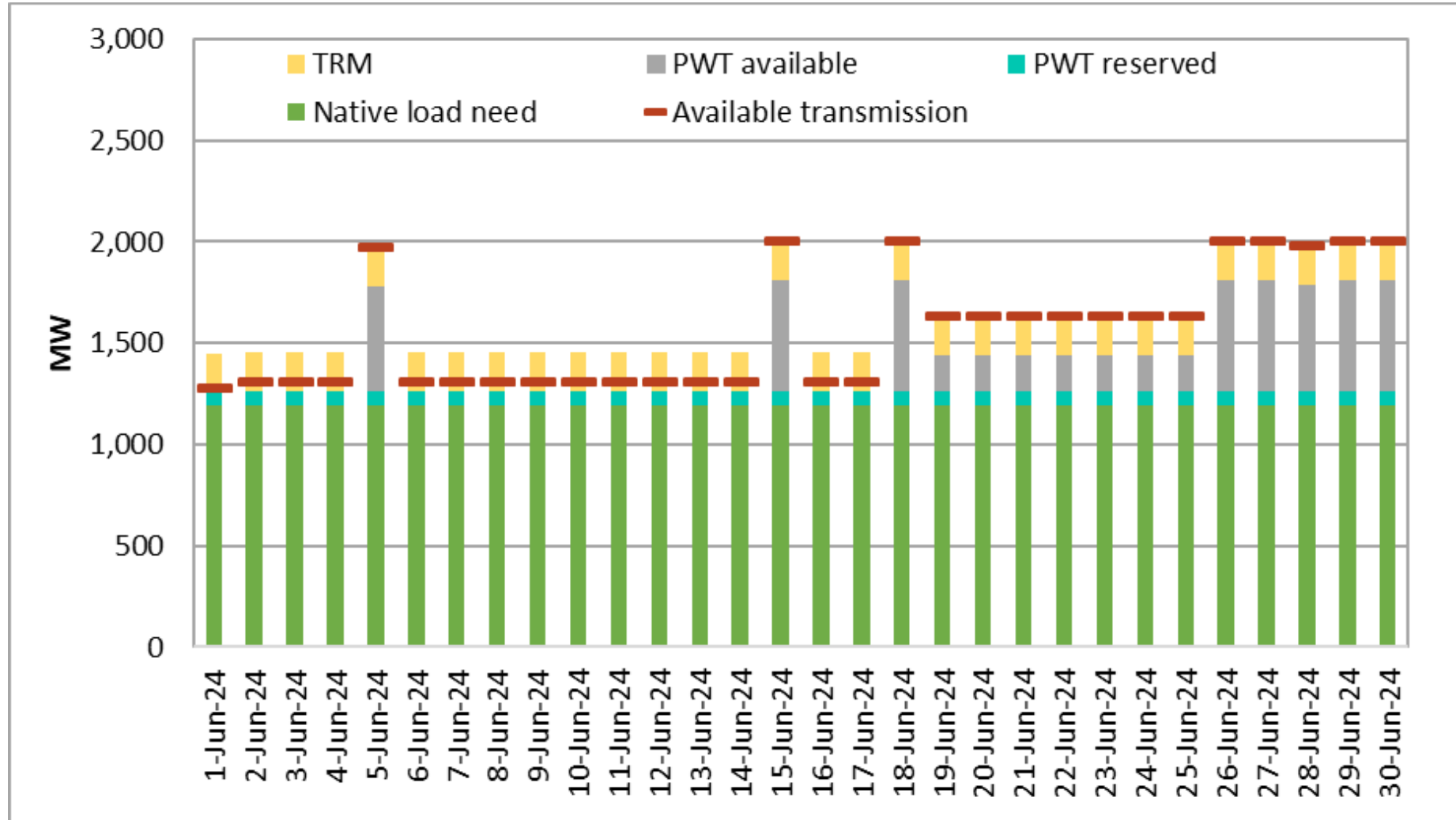
# CAISO BA underestimated native load needs over Malin in first reservation window

Native load need vs. final import RA at MALIN500



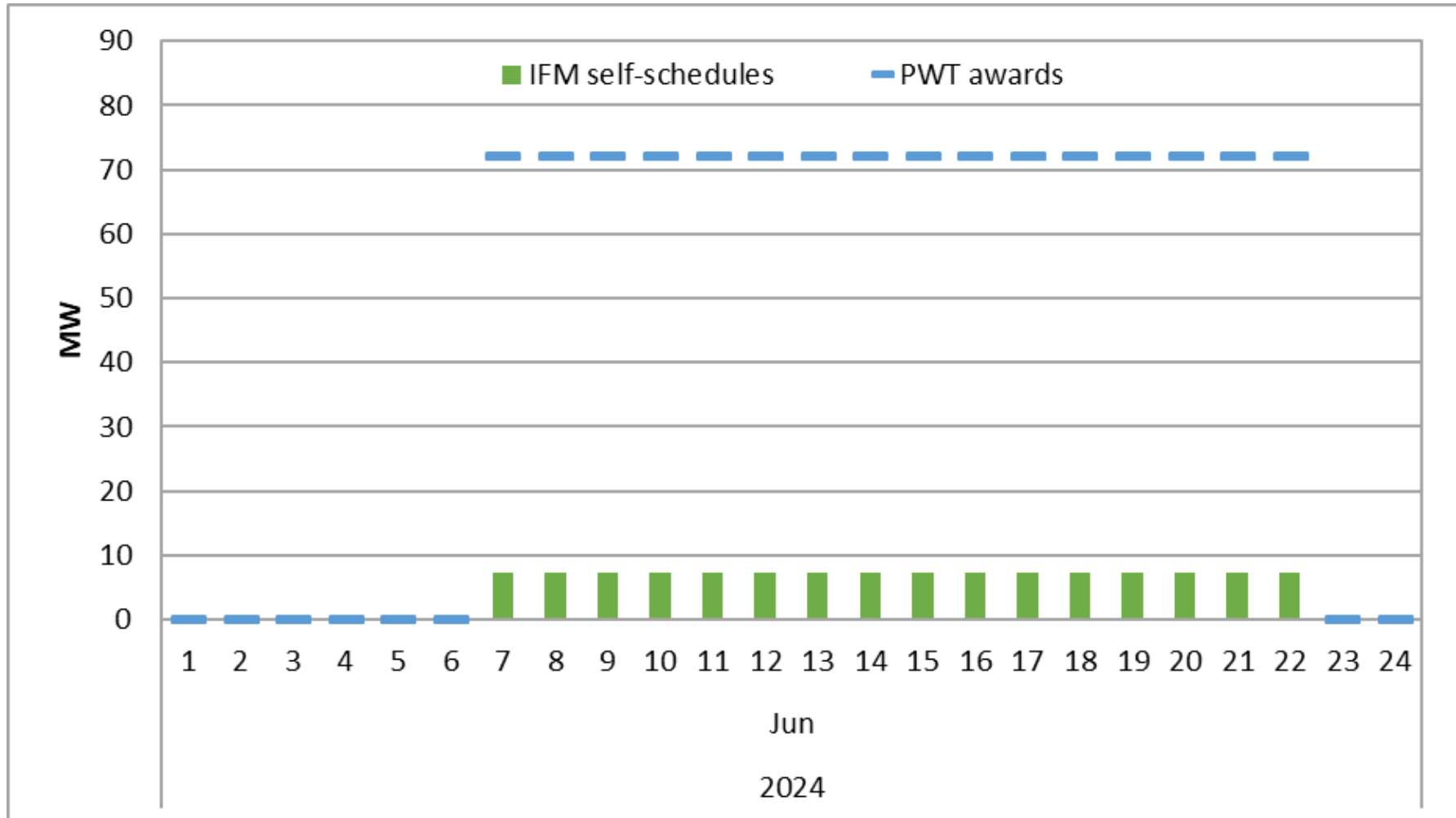
# CAISO BA underestimated transmission outages

Daily transmission capacity values at MALIN500 (June 2024)



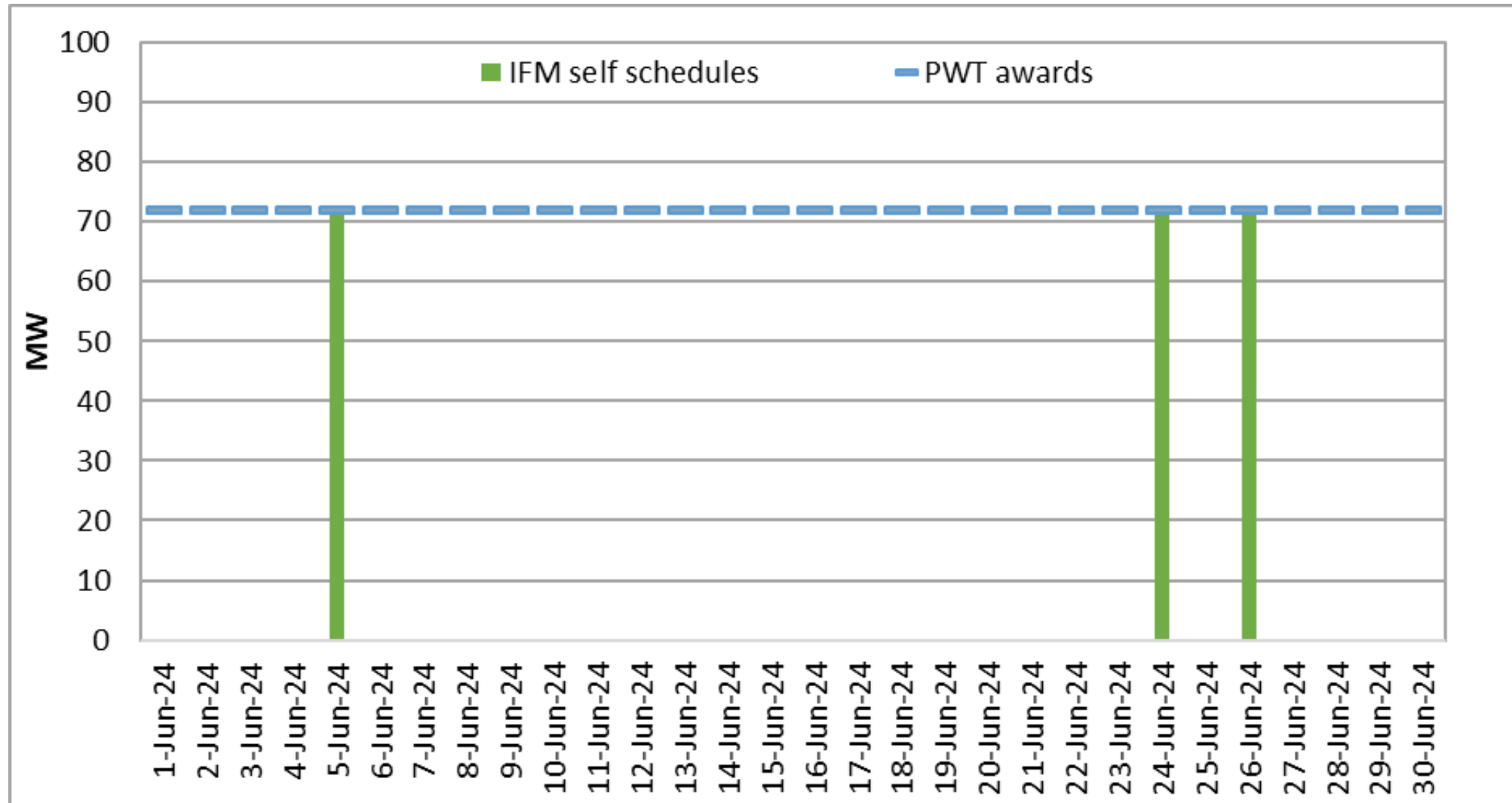
# Average use of priority wheel reservations below 72 MW awarded

Average hourly PWT reservations vs. IFM self-schedules at MALIN500



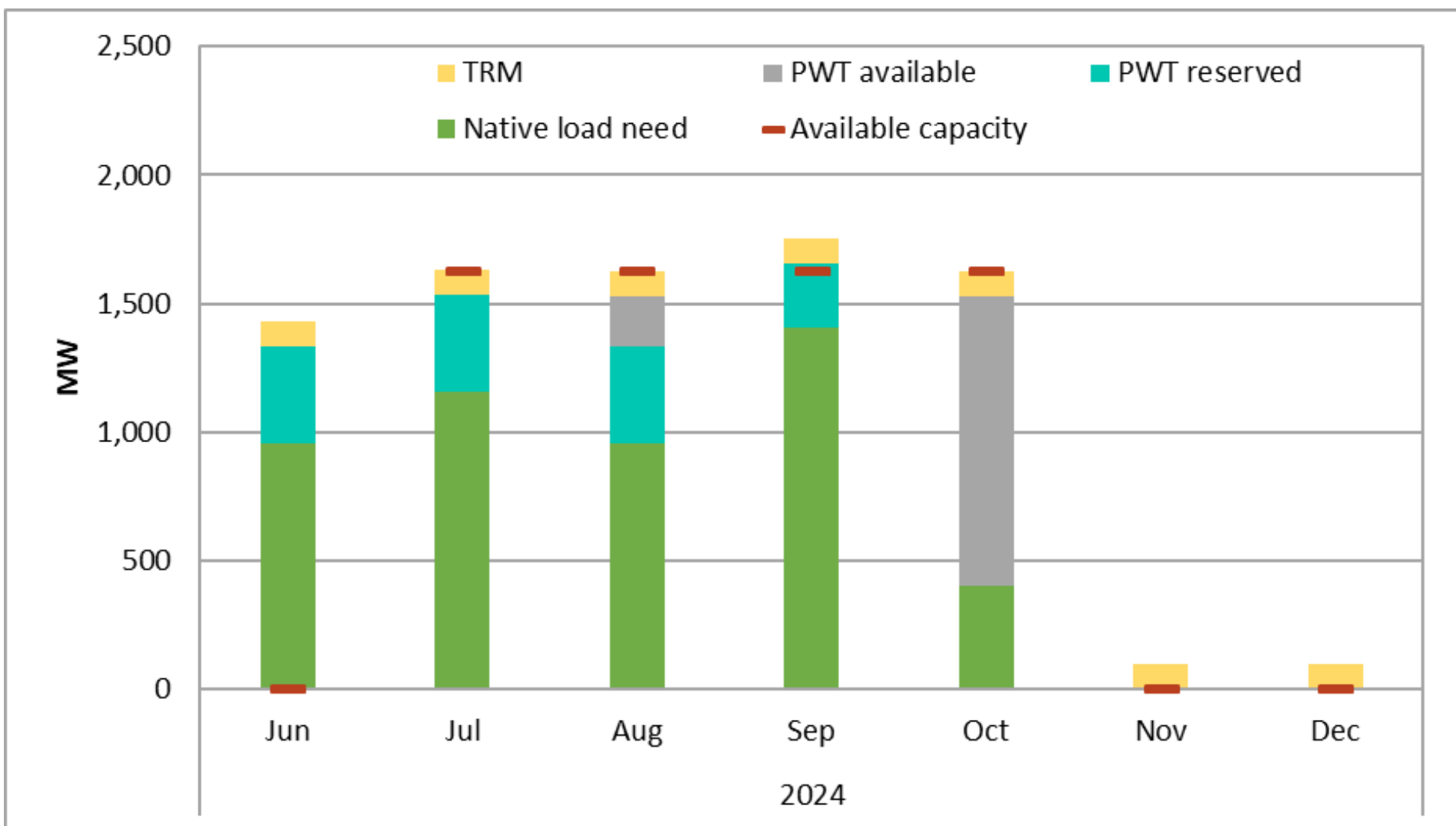
# Low average use due to infrequent scheduling of full award quantity

Hour-ending 19 PWT reservations vs. IFM self-schedules at MALIN 500



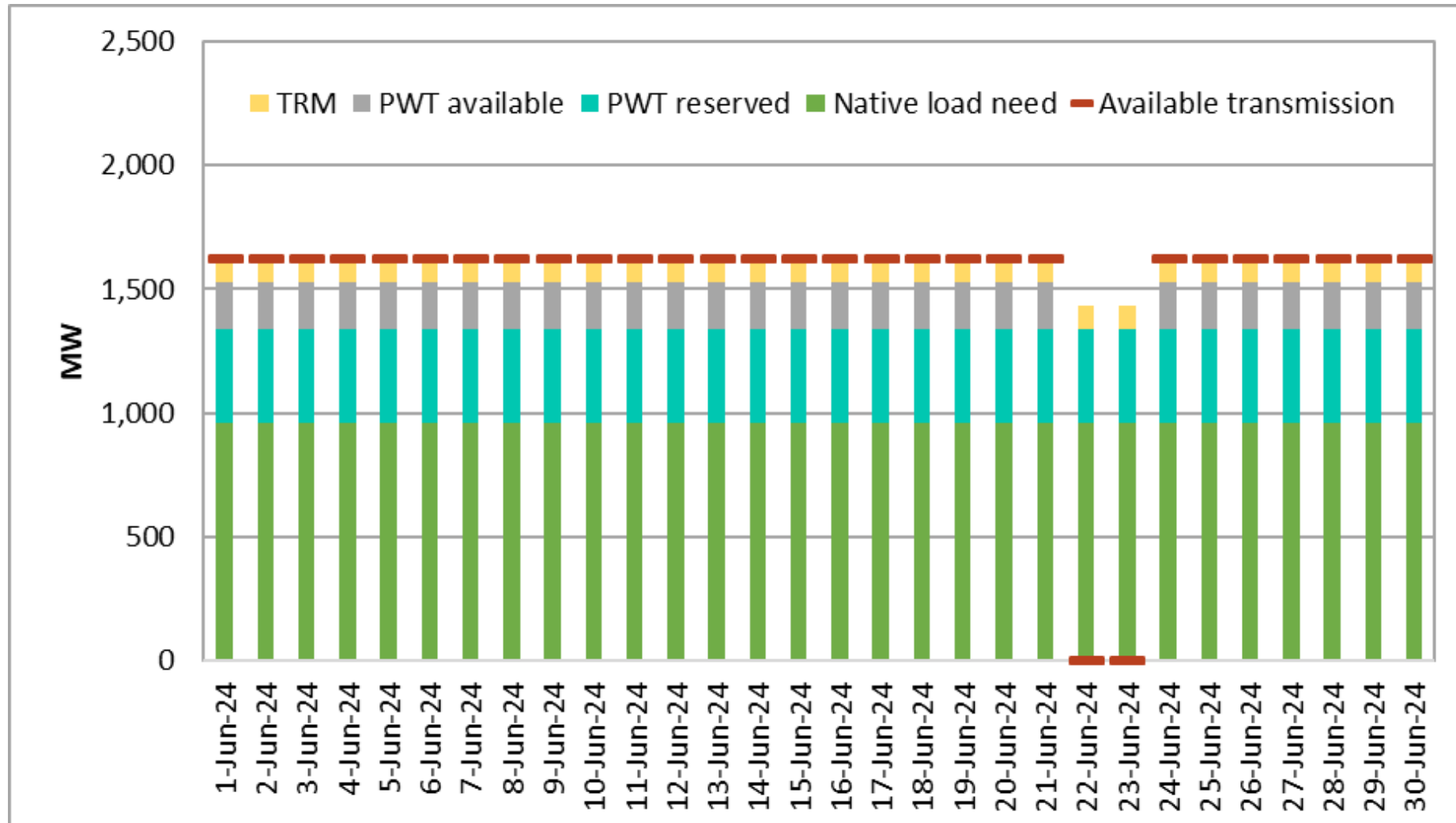
# NOB intertie became oversubscribed for June after an outage materialized

Monthly capacity values at NOB



# NOB had extra capacity available on almost every day in June

Daily transmission capacity values at NOB



## For more information .....

- Q2 2024 report on market issues and performance
  - <https://www.caiso.com/documents/2024-second-quarter-report-on-market-issues-and-performance-nov-22-2024.pdf>
- Department of Market Monitoring webpage
  - <http://https://www.caiso.com/market-operations/market-monitoring>
- CAISO Tariff, Appendix P
  - [http://www.caiso.com/Documents/AppendixP\\_CAISODepartmentOfMarketMonitoring\\_asof\\_Apr1\\_2017.pdf](http://www.caiso.com/Documents/AppendixP_CAISODepartmentOfMarketMonitoring_asof_Apr1_2017.pdf)
- Email questions to:
  - Ryan Kurlinski, [rkurlinski@caiso.com](mailto:rkurlinski@caiso.com)
  - DMM, [DMM@caiso.com](mailto:DMM@caiso.com)