ERCOT Monthly Operational Overview
(October 2023)

ERCOT Public
November 17, 2023

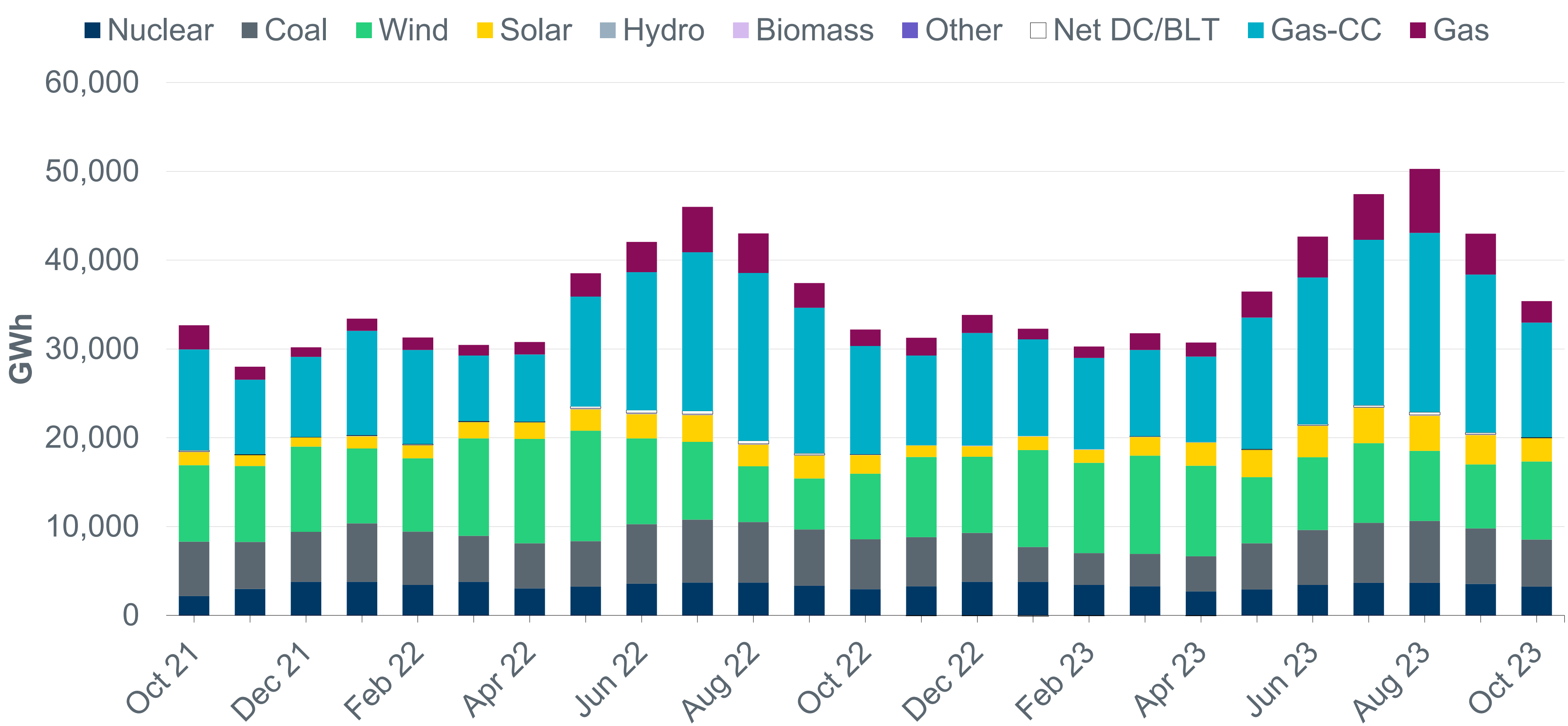
Highlights, Records and Notifications

- ERCOT set a new record of 71,181 MW* for the month of October on 10/04/2023; This is 5,028 MW more than the October 2022 demand of 66,153 MW.

- ERCOT issued 11 notifications:
  - 2 OCNs for WESTEX IROL due to planned outage and topology change
  - 1 OCN due to extreme hot weather forecasted in North Central and South Central weather zones
  - 2 AANs due to possible future Emergency Condition of reserve capacity deficiency
  - 2 notifications of executing the OSA process due to possible future Emergency Conditions of reserve capacity deficiency projected for OSA periods
  - 1 Advisory due to an issue with the Voltage Security Assessment tool not solving
  - 1 Advisory due to timeline deviation of the Day Ahead Market
  - 1 Watch due to DAM not completing by 1800 due to DAM timeline deviation
  - 1 Watch due to HRUC failure

* Preliminary value from November release of Demand and Energy 2023 report.

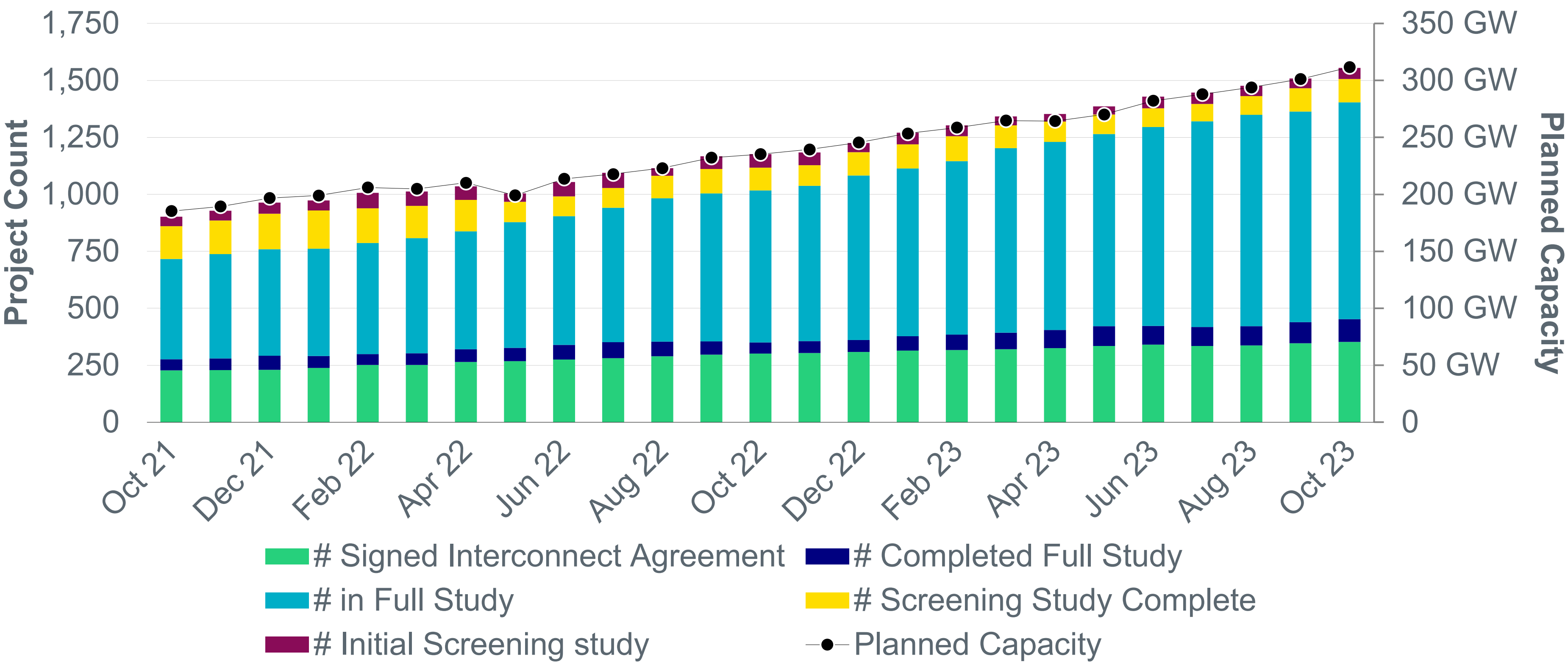
Monthly energy generation increased by 10% year-over-year to 35,386 GWh in October 2023, compared to 32,179 GWh in October 2022



Data for latest two months are based on preliminary settlements.

Generation Interconnection activity by project phase

(Excludes capacity associated with projects designated as Inactive per Planning Guide Section 5.7.6)

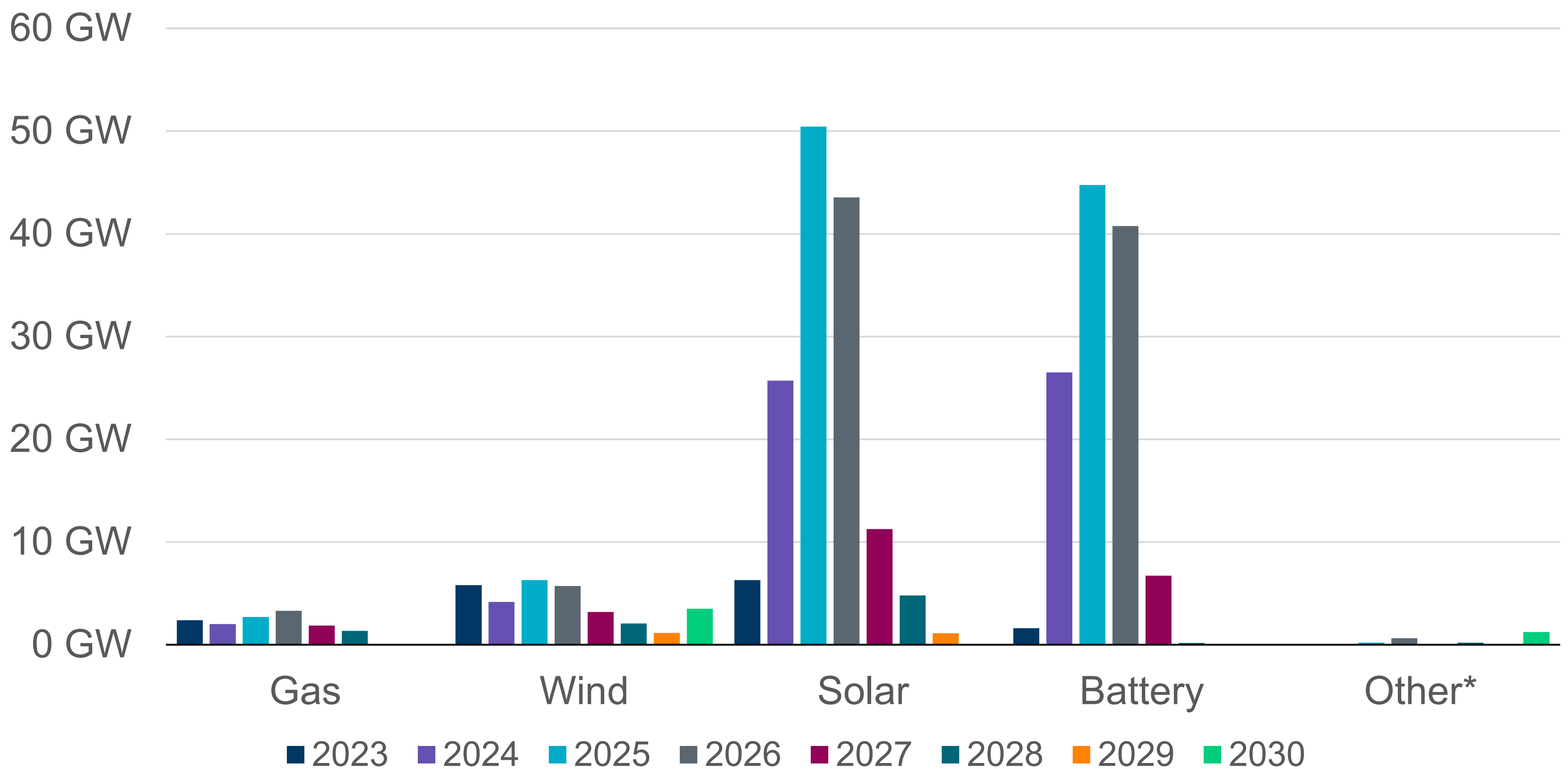


- There are an additional 32 “Small Generator” projects totaling 304 MW that are going through the simplified interconnection process.

A break-out by fuel type can be found in the monthly Generator Interconnection Status (GIS) reports available on the ERCOT Resource Adequacy Page: http://www.ercot.com/gridinfo/resource

Interconnection Queue Capacity by Fuel Type

Queue totals: Solar 143 GW (46%), Wind 32 GW (10.2%), Gas 14 GW (4.4%), Battery 121 GW (38.7%)
(Excludes capacity associated with projects designated as Inactive per Planning Guide Section 5.7.6)



A break-out by zone can be found in the monthly Generator Interconnection Status (GIS) reports available on the ERCOT Resource Adequacy Page: http://www.ercot.com/gridinfo/resource

* Other includes petroleum coke (pet coke), hydroelectric, fuel oil, geothermal energy, other miscellaneous fuels reported by developers, and fuel cells that use fuels other than natural gas.

Planning Summary

- ERCOT is tracking 1,628 active generation interconnection requests totaling 311,597 MW as of October 31. This includes 143,221 MW of solar, 31,916 MW of wind, 120,534 MW of battery, and 13,638 MW of gas projects; 80 projects were categorized as inactive, down from 82 inactive projects in September 2023.

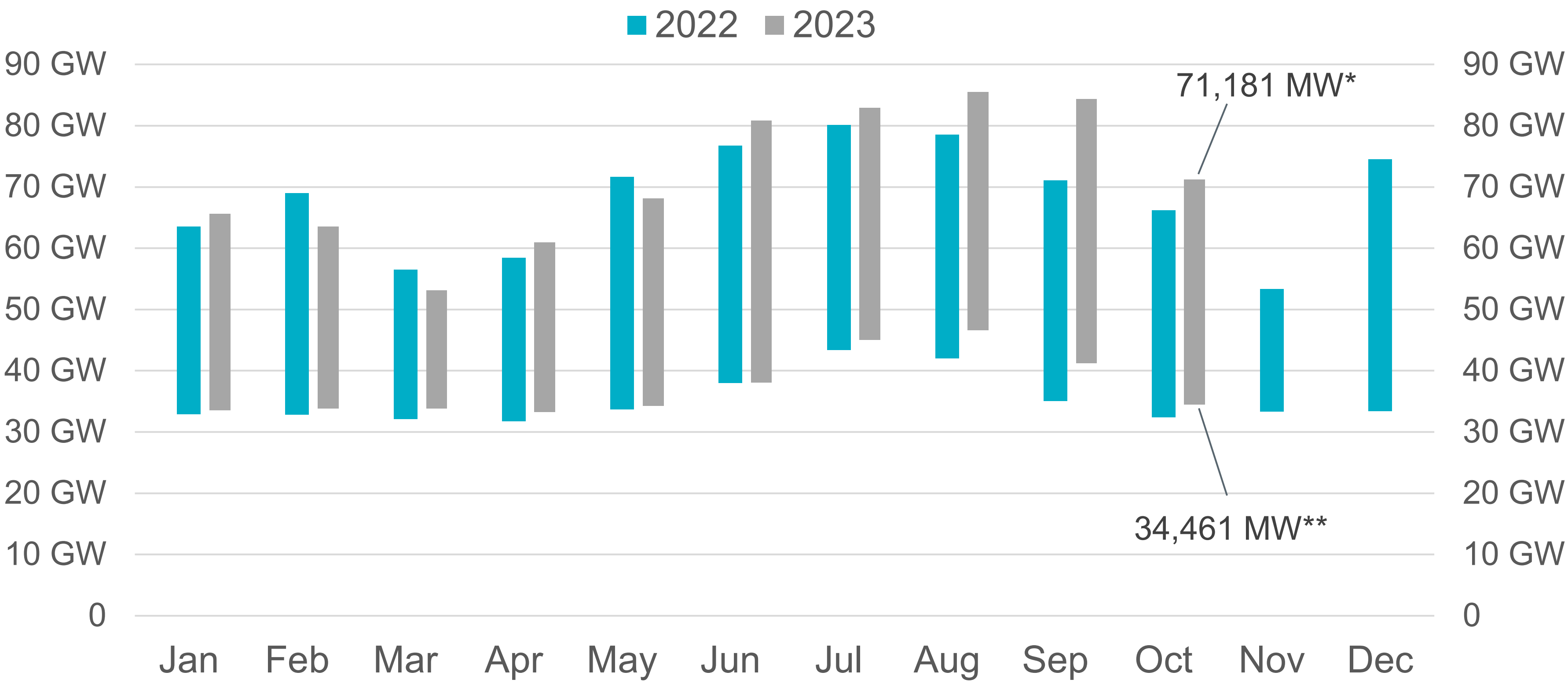
- ERCOT is currently reviewing proposed transmission improvements with a total estimated cost of $1.702 billion as of October 31, 2023.

- Transmission Projects endorsed in 2023 total $1.959 billion as of October 31, 2023.

- All projects (in engineering, routing, licensing and construction) total approximately $13.537 billion as of October 12, 2023.

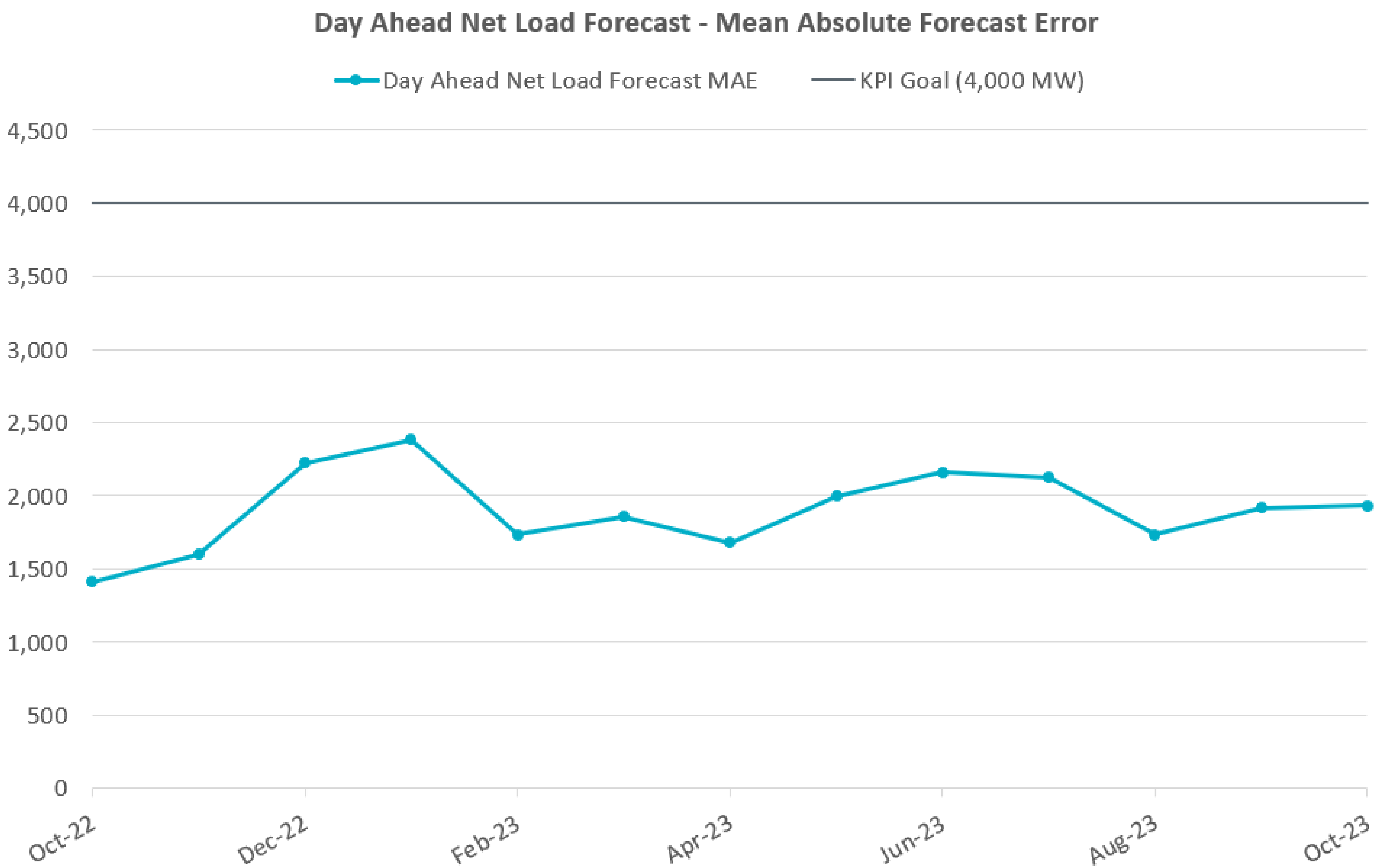
- Transmission Projects energized in 2023 total approximately $1.553 billion October 12, 2023.

ERCOT set a new all-time record of 71,181 MW* for the month of October on 10/04/2023; This is 5,028 MW more than the October 2022 demand of 66,153 MW.

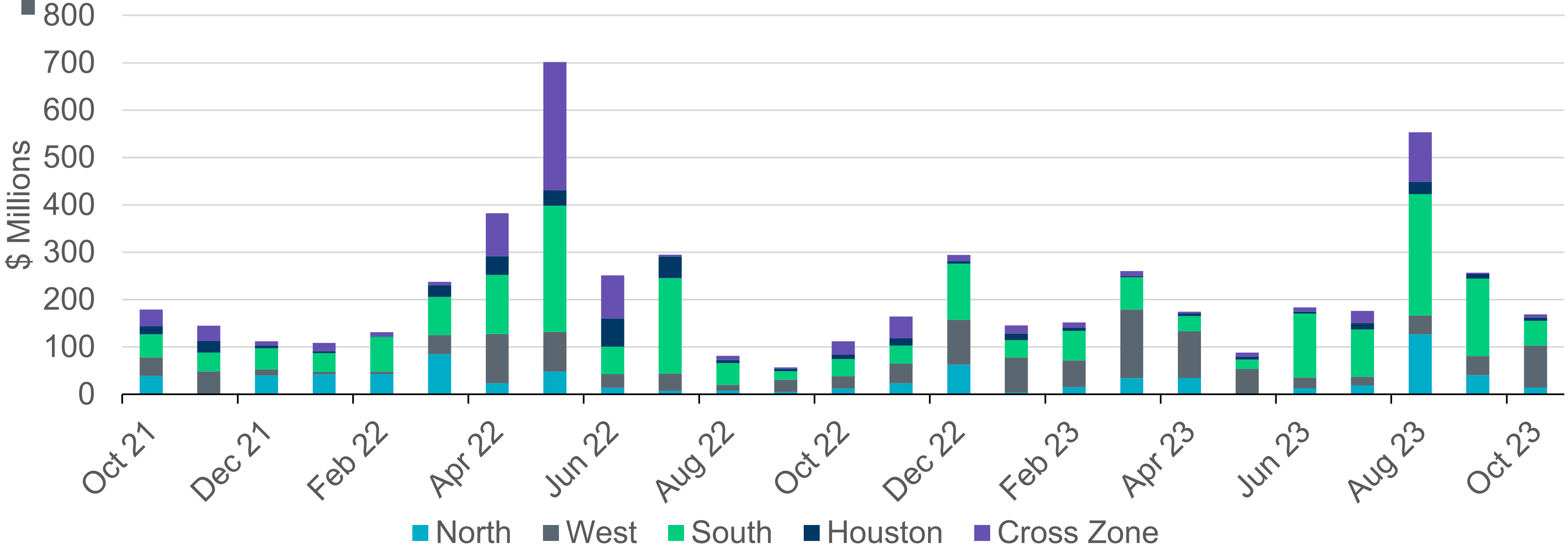


*Based on the maximum net system hourly value from the October Demand and Energy 2023 report.
**Based on the minimum net system 15-minute interval value from the October Demand and Energy 2023 report.
Data for latest two months are based on preliminary settlements.

Net Load Forecast Performance

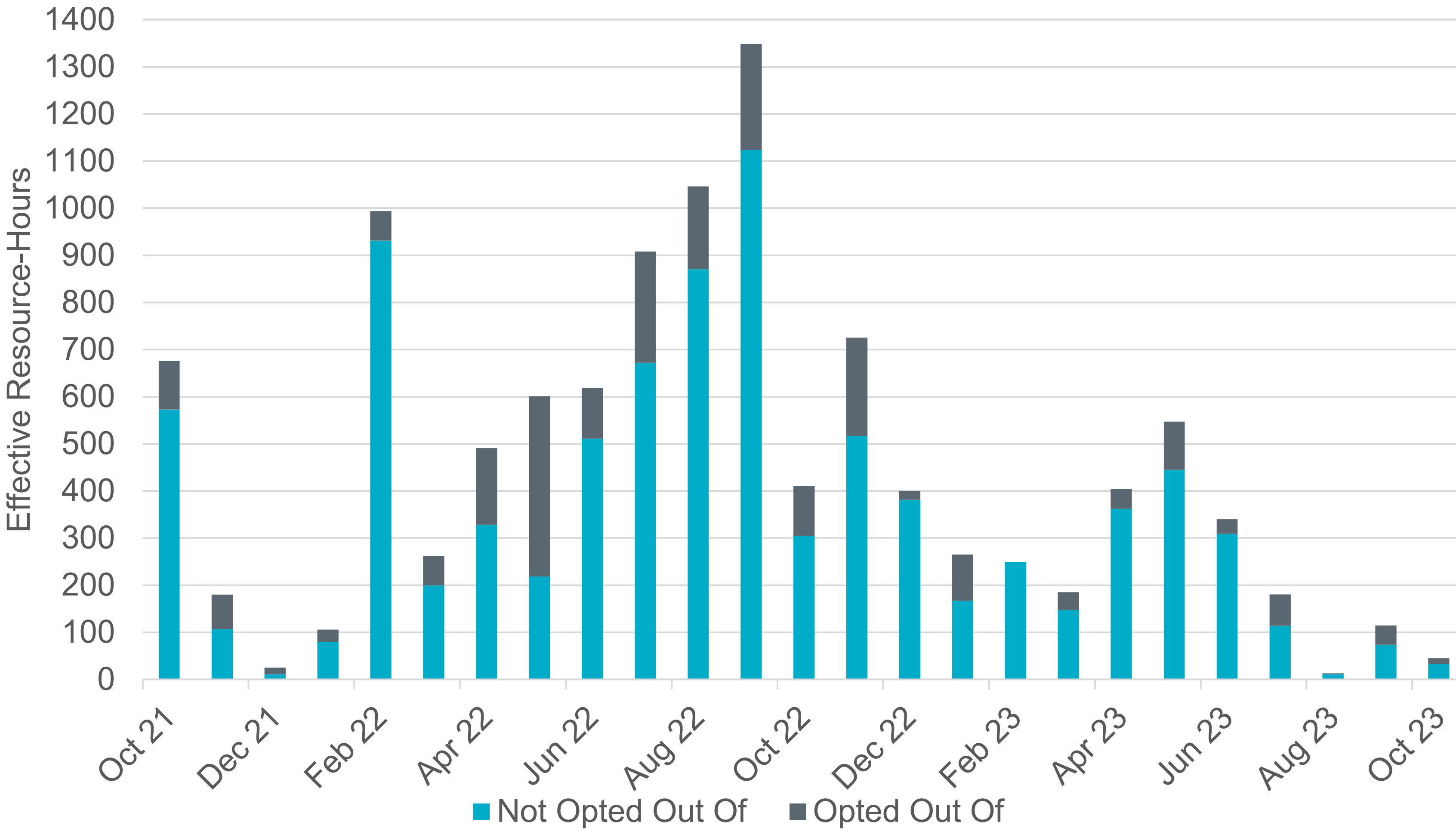


Real-Time Congestion Rent by Zone



- Overall congestion rent was lower in October, as compared to September, with the largest month-to-month changes being in the West and South Zones.
- The two zones with the highest congestion rent were the West and South Zones.
  - Congestion rent in the West Zone was primarily driven by the loss of the 345 kV contingency from Morgan Creek to Champion Creek and Bitter Creek to Morgan Creek overloading the 345 kV transmission line from Morgan Creek to Tonkawa Switch.
  - Congestion rent in the South Zone was primarily driven by the loss of the Arroz to El Campo 138 kV manual contingency overloading the 138 kV transmission line from Blessing to Pavlov.
- Congestion Rent is determined using the shadow prices and MW flows for individual constraints in SCED as well as the length in time of SCED intervals.
- The “Cross Zone” category consists of cases in which the substations on either end of the constraint are in different zones.

Seven Resources were Committed in October for Capacity and Congestion

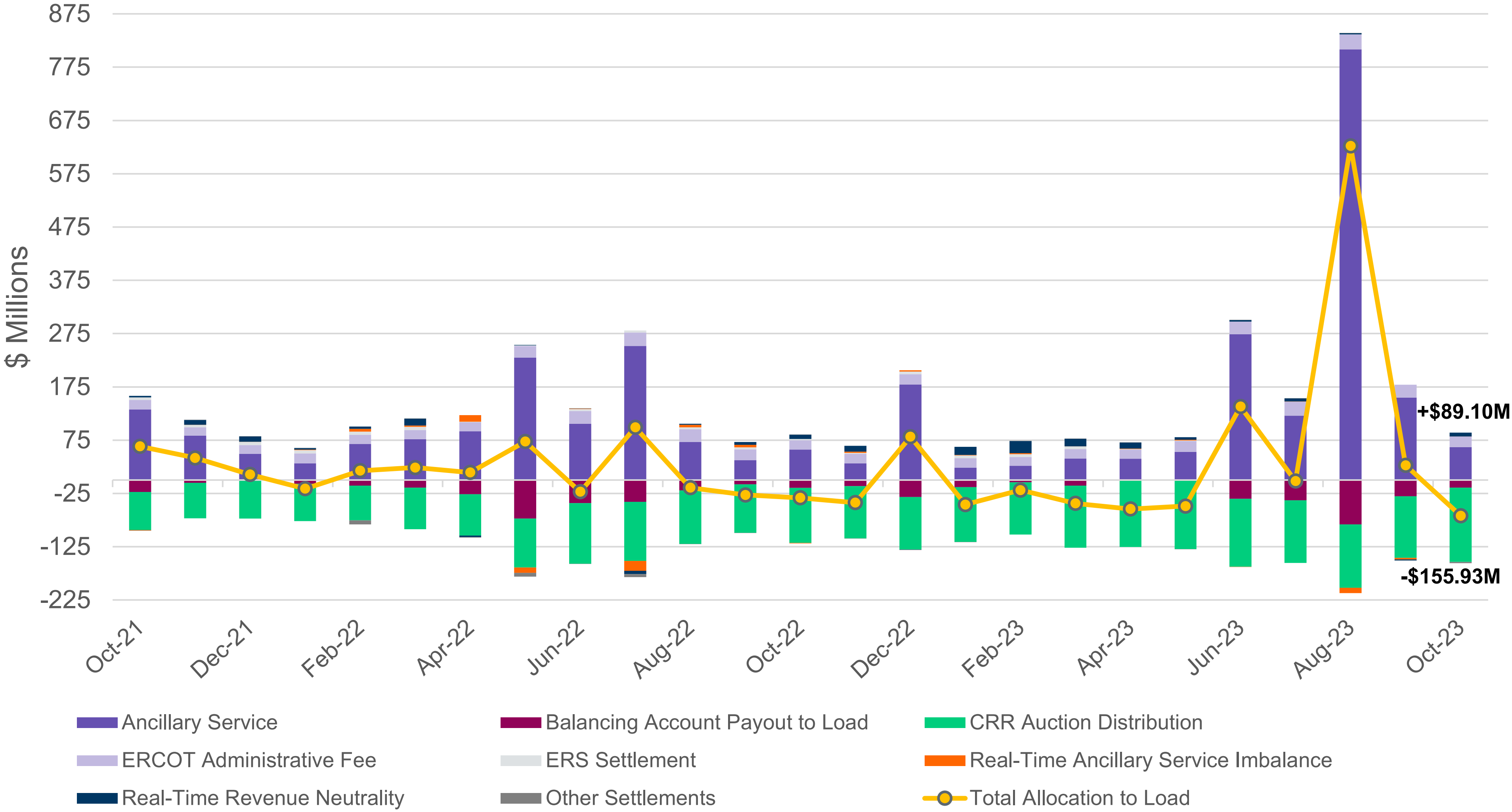


"Effective Resource-Hours" excludes any period during a Reliability Unit Commitment hour when the RUC-committed Resource was starting up, shutting down, off-line, or otherwise not available for dispatch by SCED.

Seven Resources were Committed in October for Capacity and Congestion

Resource #	Effective Resource-hours	Non-Opt Out (Effective Hours)	Opt Out (Effective Hours)
1	6.0	0.0	6.0
2	6.0	0.0	6.0
3	12.0	12.0	0.0
4	3.0	3.0	0.0
5	7.0	7.0	0.0
6	6.0	6.0	0.0
7	4.9	4.9	0.0
Total	**44.9**	**32.9**	**12.0**

Net Allocation to Load in October 2023 was ($66.84) Million

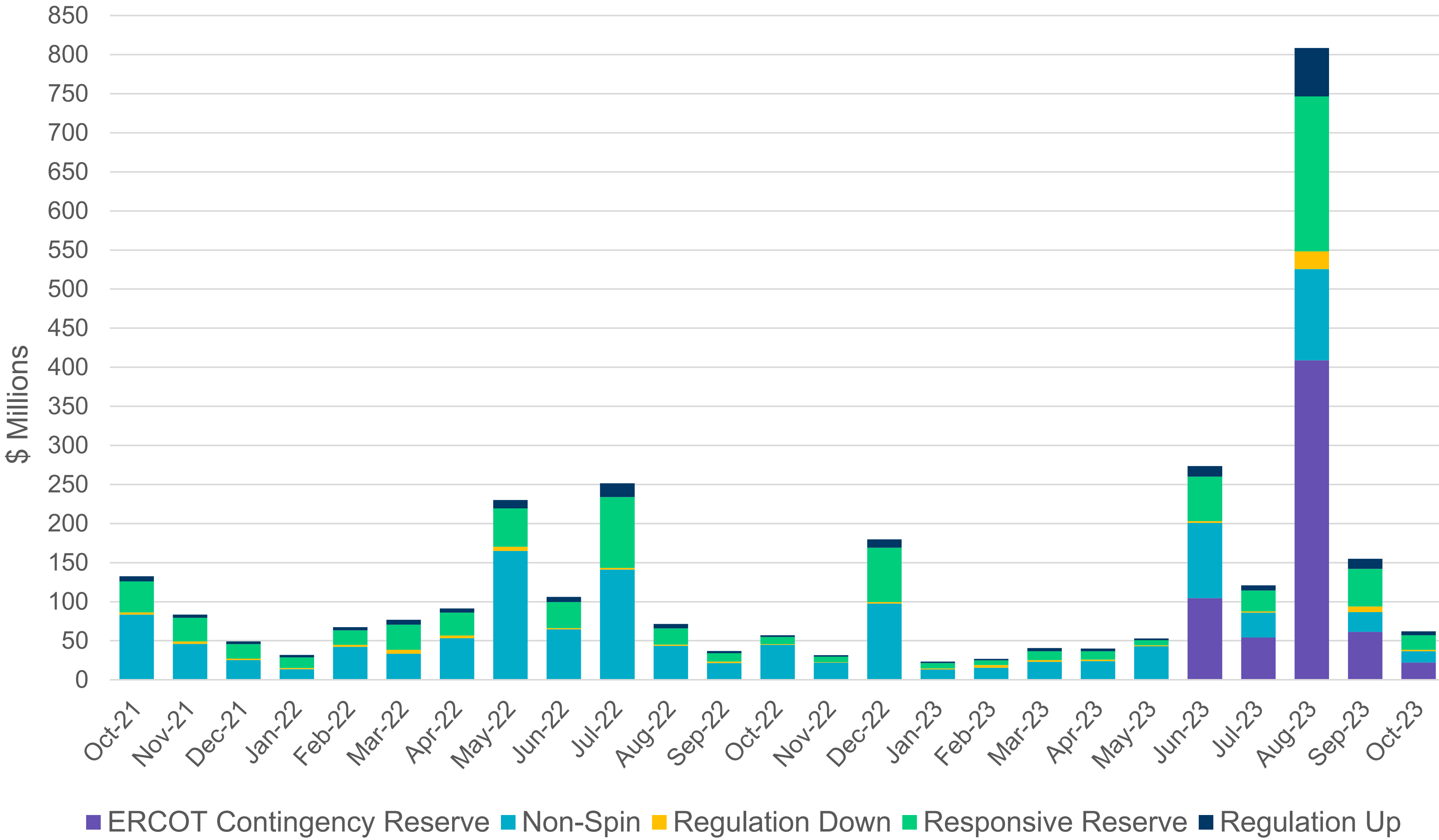


This information is available in tabular form in the Settlement Stability Report presented quarterly to the [Wholesale Market Subcommittee]

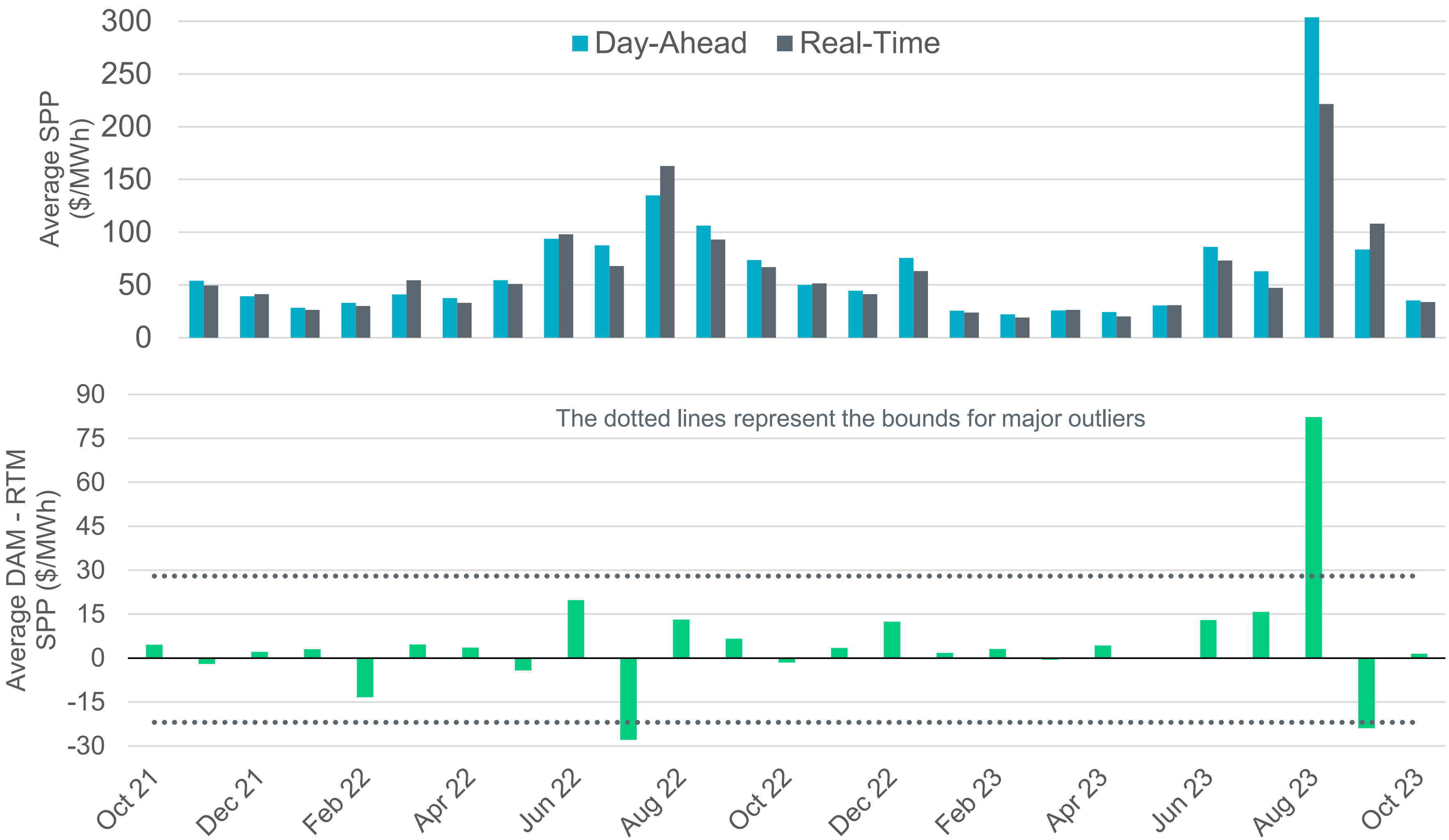
Real-Time Revenue Neutrality Allocated to Load was $7.00M for October 2023

	October 2023 ($M)
Real-Time Energy Imbalance	$147.71
Real-Time Point-to-Point Obligation	($149.28)
Real-Time Congestion from Self-Schedules	$0.23
DC Tie & Block Load Transfer	($4.70)
Real-Time Energy for SODG and SOTG	($0.95)
Load Allocated Revenue Neutrality	**$7.00**

Ancillary Services for October 2023 totaled $62.23M

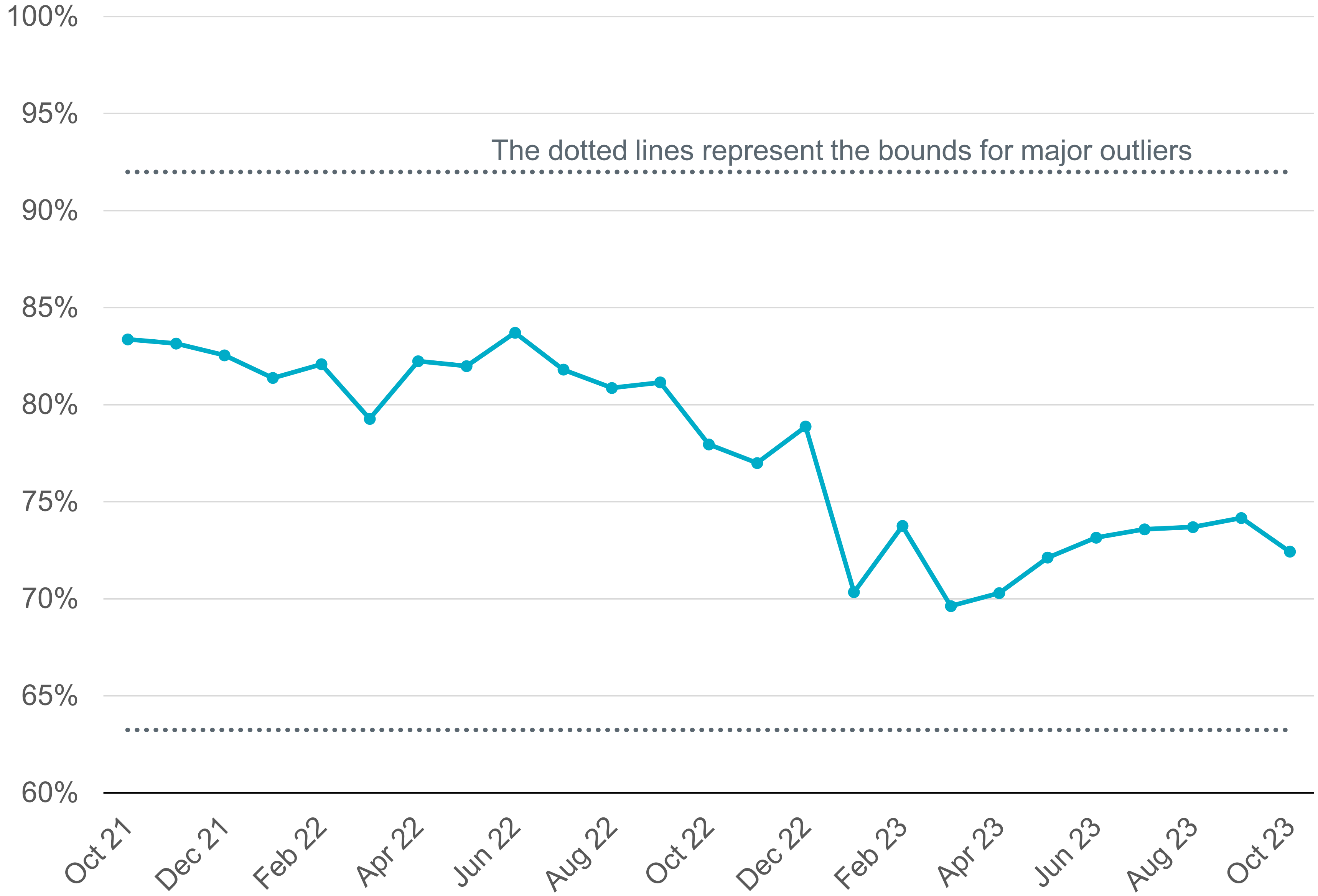


Day-Ahead and Real-Time Market Price Differences



*Averages are weighted by Real-Time Market Load

Percentage of Real-Time Load Transacted in the Day-Ahead Market

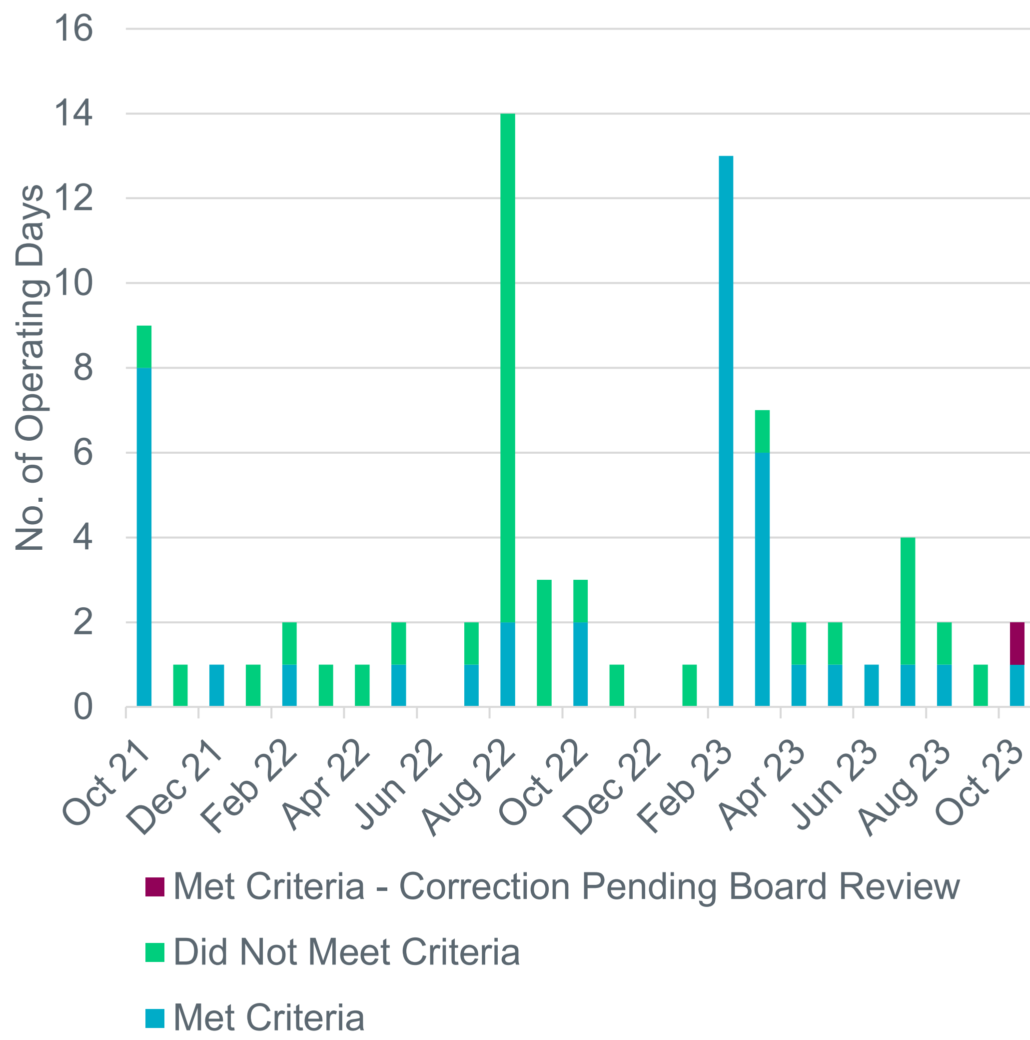


CRR Value and Cost Differences

Price Issues and the Impact of Nodal Protocol Revision Request (NPRR) 1024 on Price Corrections

This graph looks at the recent history of price issues in the RTM or DAM and breaks the impacted Operating Days into three categories:

- Days that met the criteria for "significance" under NPRR1024 and were corrected;
- Days that were not corrected because they did not meet the criteria for "significance" under NPRR1024; and
- Days that met criteria for "significance" under NPRR1024 and are pending ERCOT Board of Directors' approval.



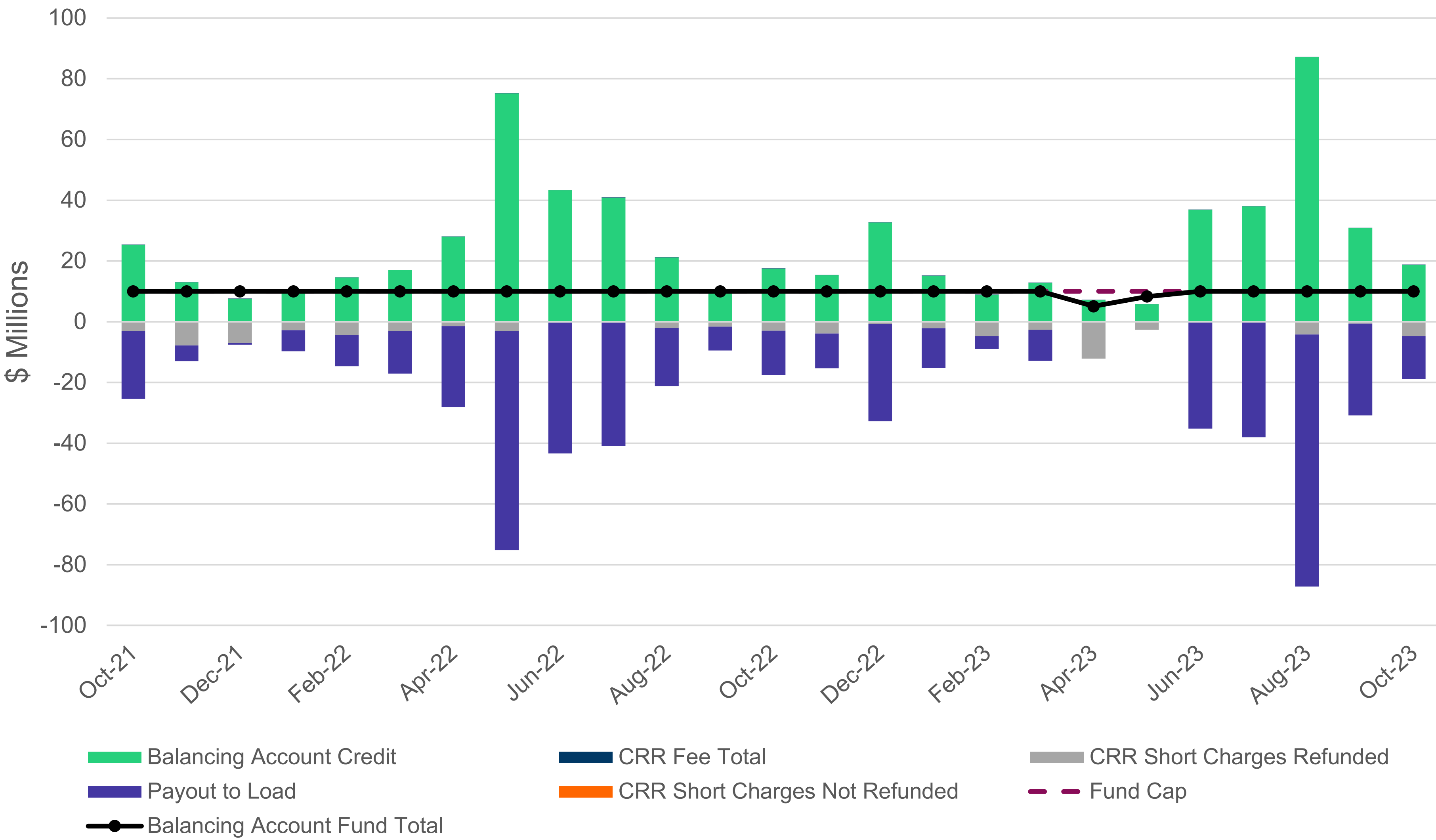
Details for Price Corrections Review

Operating Days Meeting Significance Criteria

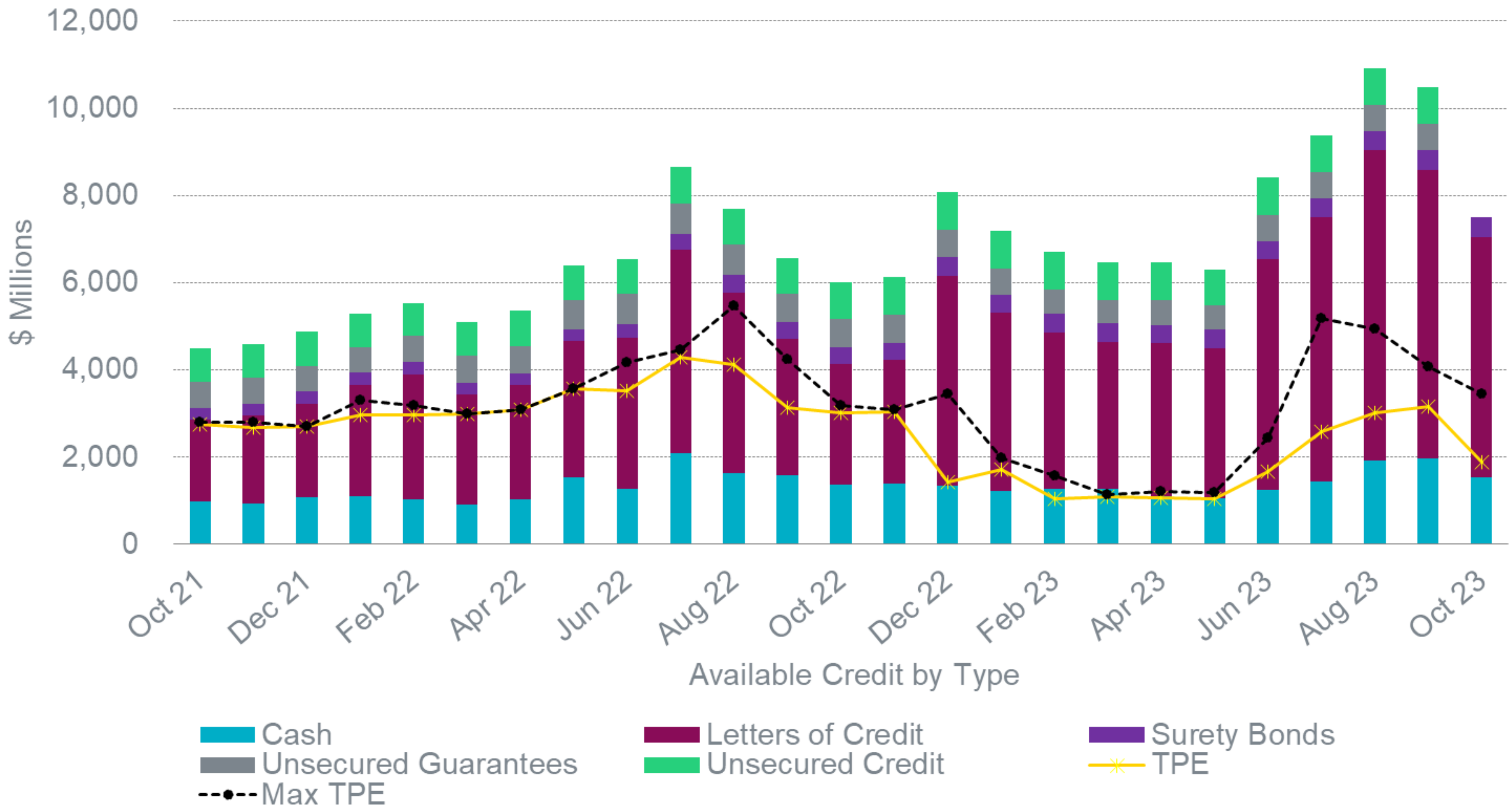
- On October 12, 2023, Emergency Basepoints were activated during a planned upgrade to the EMS system. The resulting impact analysis showed that this day had met criteria for price correction, with an estimated total dollar impact of $607.37.

- On October 22, 2023, a technical issue impacted the ability of SCED to read in energy offer curves. This resulted in significantly high prices that were unable to be corrected before the prices became final. Files that contain the Real-Time Market price correction data for Operating Day October 22, 2023, have been posted on the ERCOT website; ERCOT will present these to the Technical Advisory Committee (TAC) and to the ERCOT Board of Directors (Board) for their review. These files are currently available on the TAC meeting page for December 4, 2023. Additional presentation material will be posted to the TAC meeting page closer to the date of the meeting.

The CRR Balancing Account was fully-funded and excess amounts were allocated to Load



Available Credit by Type Compared to Total Potential Exposure (TPE)



*Numbers are as of month end except for Max TPE

Retail Transaction Volumes – Summary – October 2023

	Year-To-Date		Transactions Received	
Transaction Type	October 2023	October 2022	October 2023	October 2022
Switches	957,294	1,041,526	91,334	75,040
Acquisitions	0	0	0	0
Move - Ins	2,635,493	2,633,636	262,154	261,008
Move - Outs	1,195,975	1,185,081	126,436	114,404
Continuous Service Agreements (CSA)	378,125	614,332	31,771	45,555
Mass Transitions	0	24,463	0	0
Total	5,166,887	5,499,038	511,695	496,007