ERCOT Monthly Operational Overview
(June 2023)

ERCOT Public
July 19, 2023

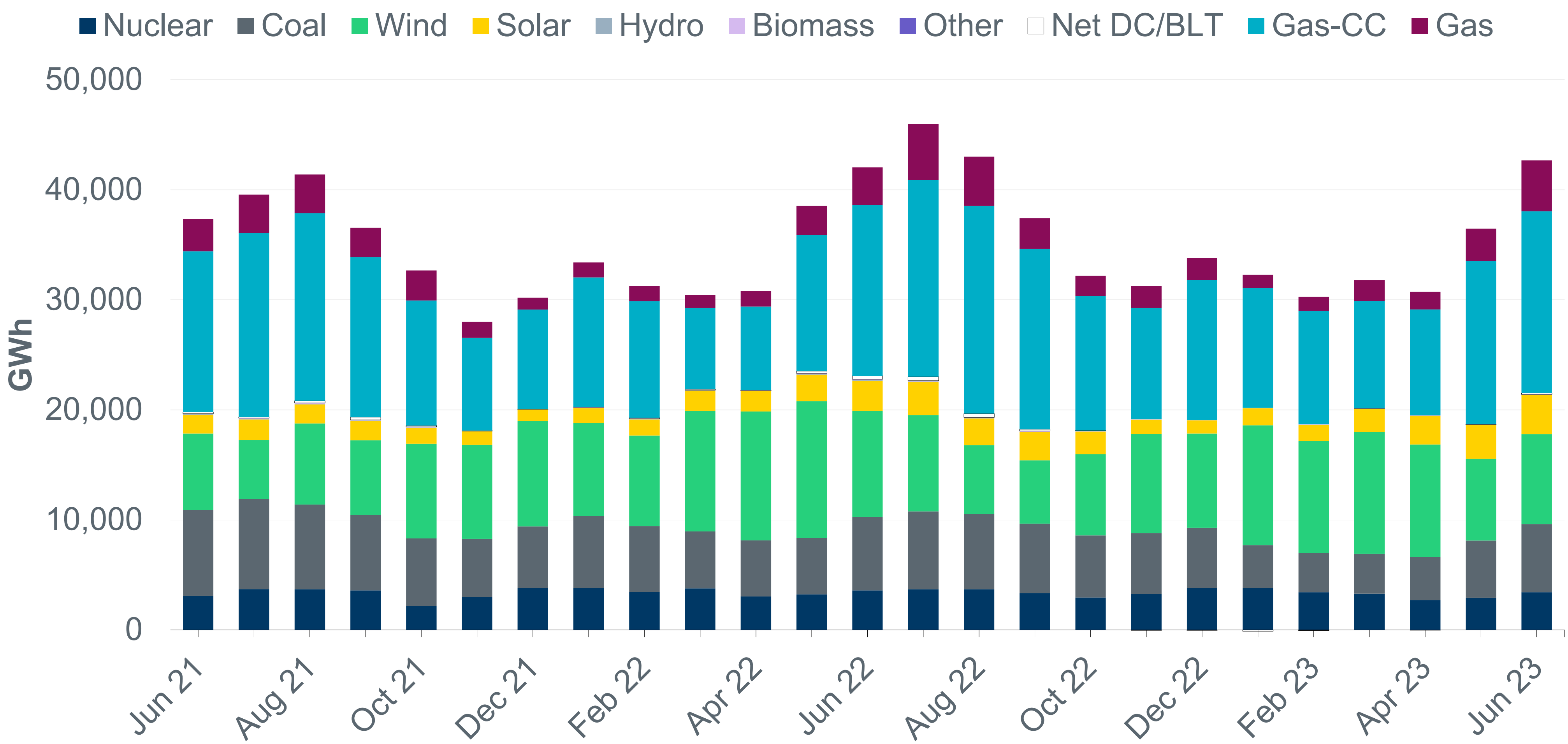
Highlights, Records and Notifications

- ERCOT Maximum peak demand was 80,787 MW* for the month of June on 6/27/2023; this was 4,069 MW more than the previous June record of 76,718 MW set on 6/23/2022 and 639 MW more than the previous all-time record of 80,148 set on 7/20/2022.

- ERCOT issued 8 notifications:
  - 2 OCN's due to extreme hot weather forecasted in North Central and South Central weather zones
  - 1 AAN's issued for possible future emergency condition
  - 1 Watch issued for a projected reserve capacity shortage with no market solution, which causes a risk for an EEA event
  - 2 DC Tie Curtailment Notices for DC_R due to a planned or unplanned outage
  - 2 DC Tie Curtailment Notices for DC_L due to a planned or unplanned outage

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

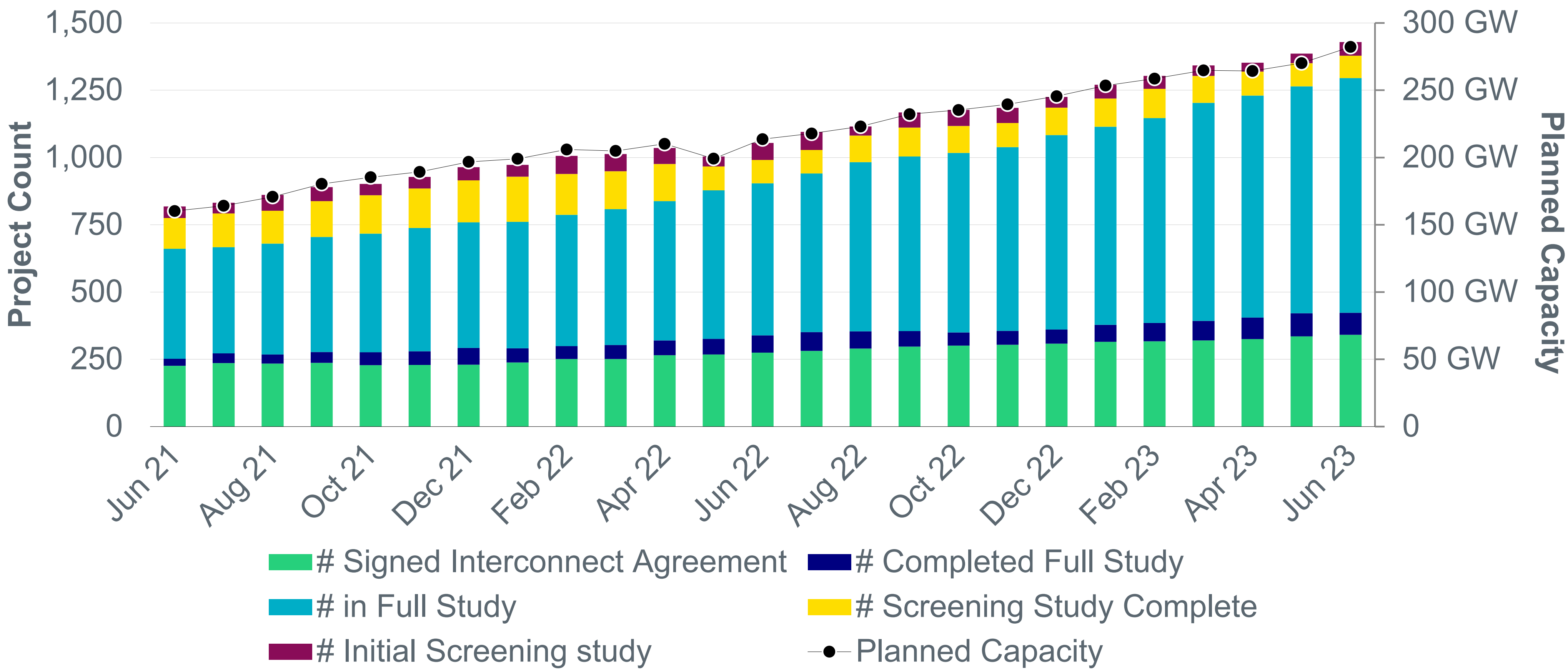
Monthly energy generation increased by 1.5% year-over-year to 42,661 GWh in June 2023, compared to 42,039 GWh in June 2022



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)

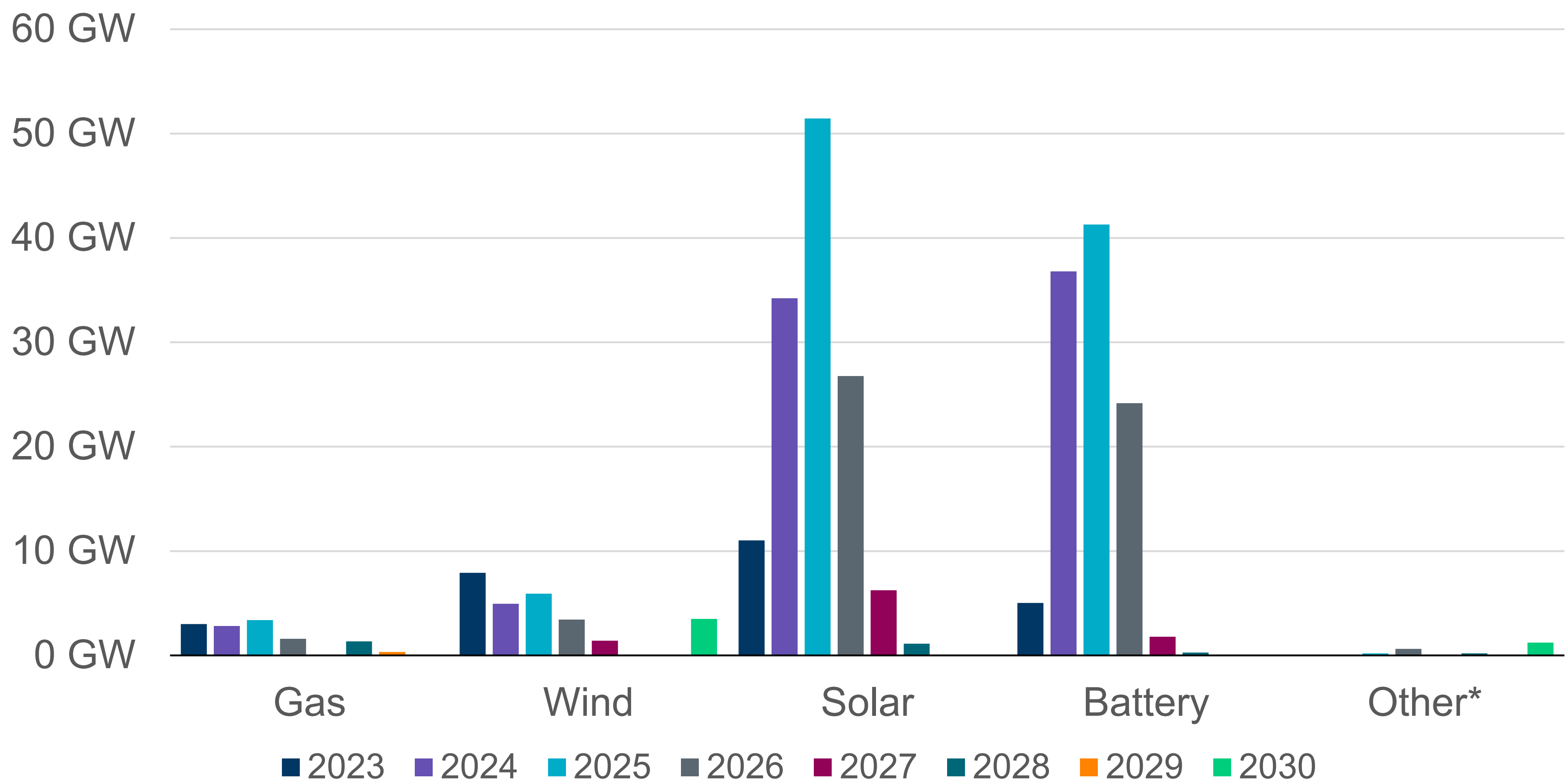


- There are an additional 22 “Small Generator” projects totaling 205 MW that are going through the simplified interconnection process.

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 131 GW (46.4%), Wind 27 GW (9.6%), Gas 12 GW (4.4%), Battery 109 GW (38.8%)
(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 1,479 active generation interconnection requests totaling 282,153 MW as of June 30. This includes 130,857 MW of solar, 27,152 MW of wind, 109,380 MW of battery, and 12,476 MW of gas projects; 70 projects were categorized as inactive, up from 66 inactive projects in May 2023.

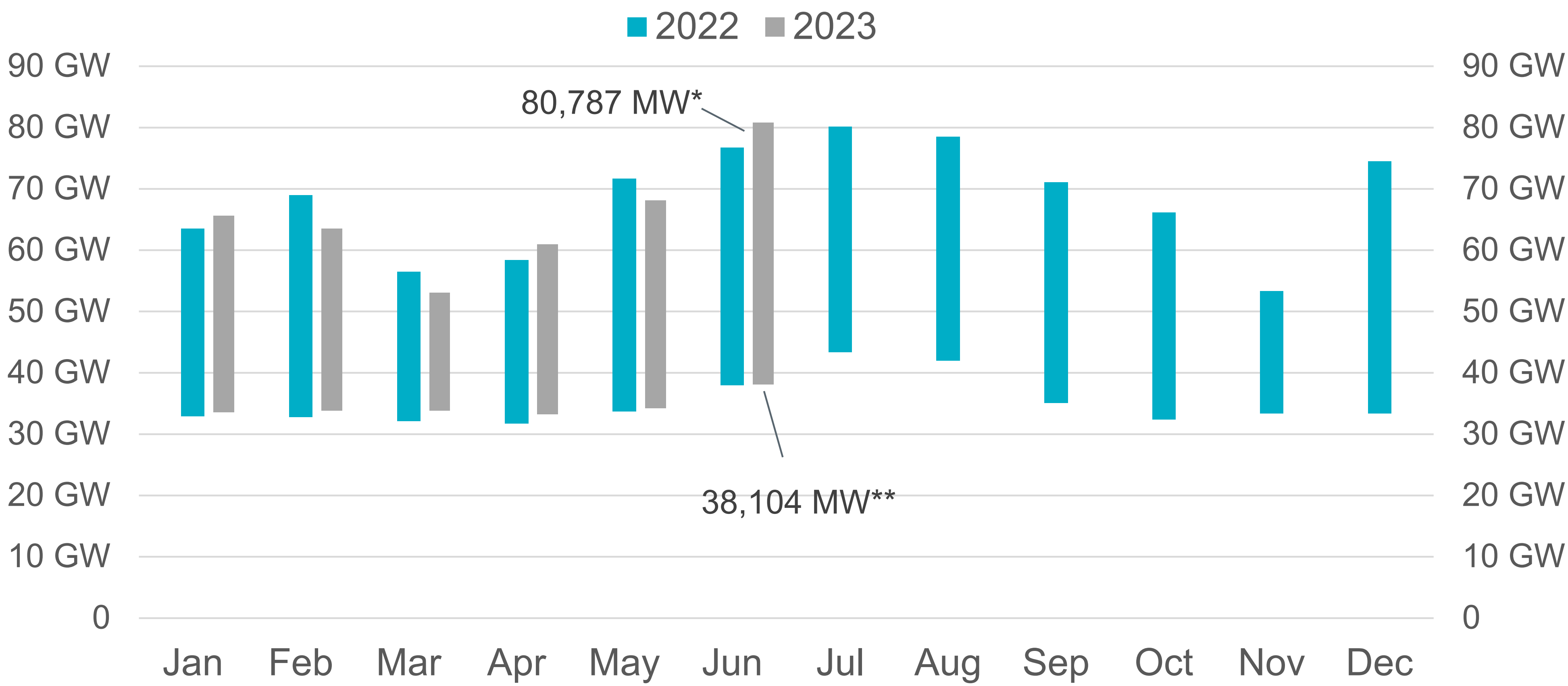
- ERCOT is currently reviewing proposed transmission improvements with a total estimated cost of $609.30 million as of June 30, 2023.

- Transmission Projects endorsed in 2023 total $978.43 million as of June 30, 2023.

- All projects (in engineering, routing, licensing and construction) total approximately $12.469 billion as of February 1, 2023.

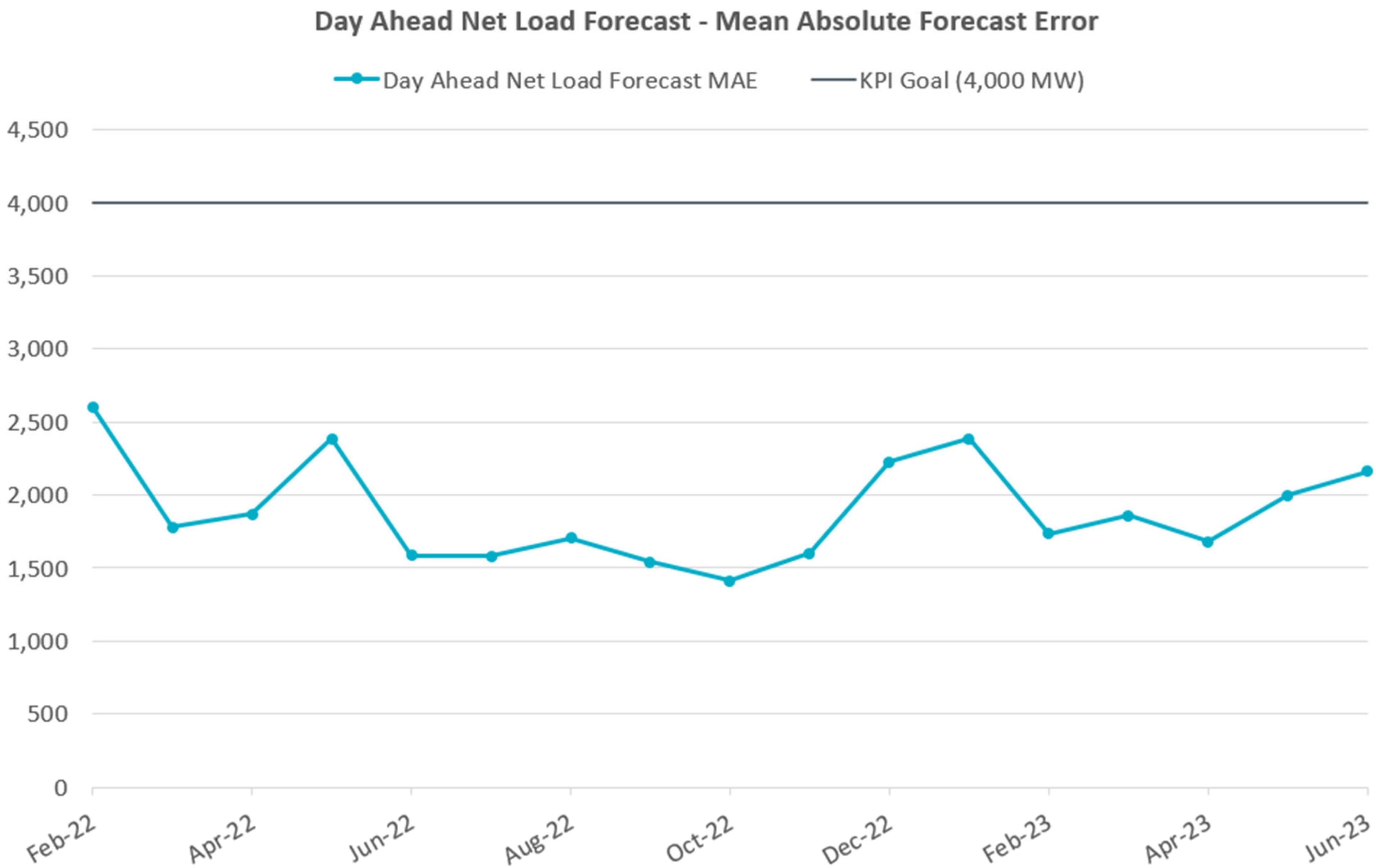
- Transmission Projects energized in 2023 total about $442 million as of May 12, 2023.

ERCOT set a new all-time record of 80,787 MW* for the month of June on 6/27/2023; this was 639 MW more than the previous all-time record of 80,148 MW set on 7/20/2022. This is 4,069 MW more than the June 2022 demand of 76,718 MW.

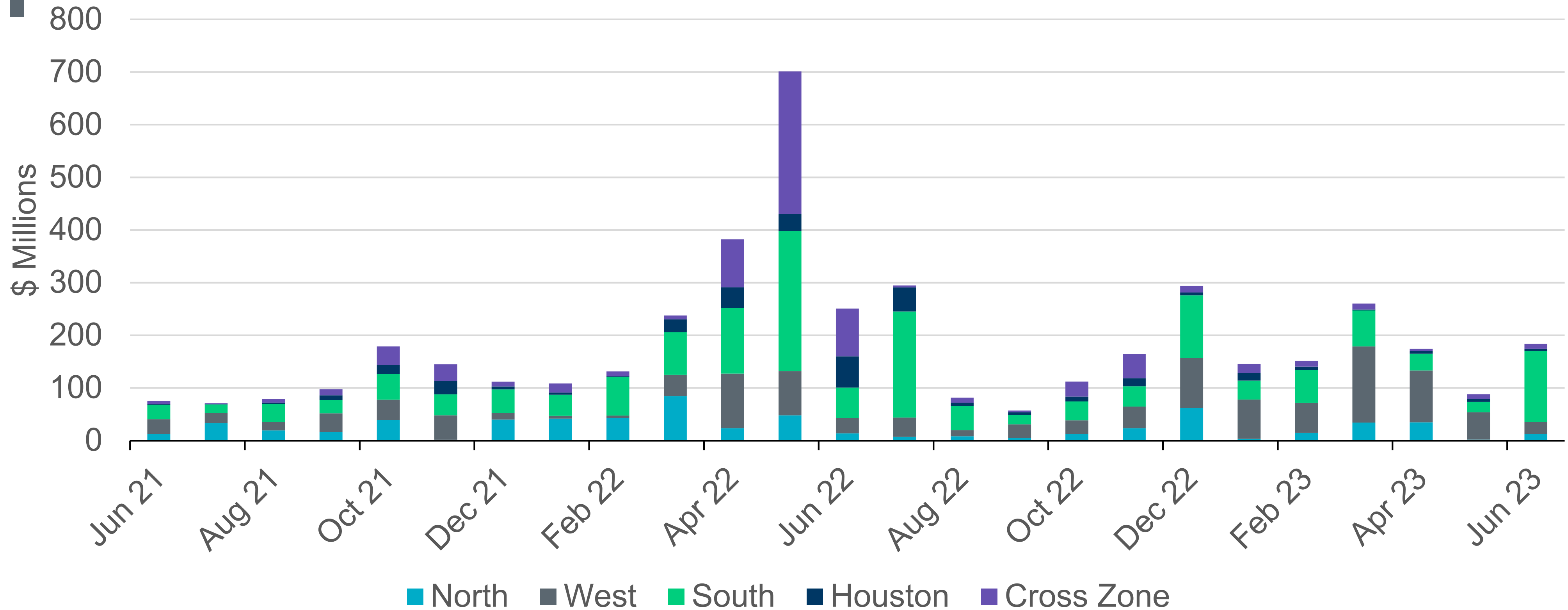


*Based on the maximum net system hourly value from the June Demand and Energy 2023 report.
**Based on the minimum net system 15-minute interval value from the June Demand and Energy 2023 report.
Data for latest two months are based on preliminary settlements.

Net Load Forecast Performance

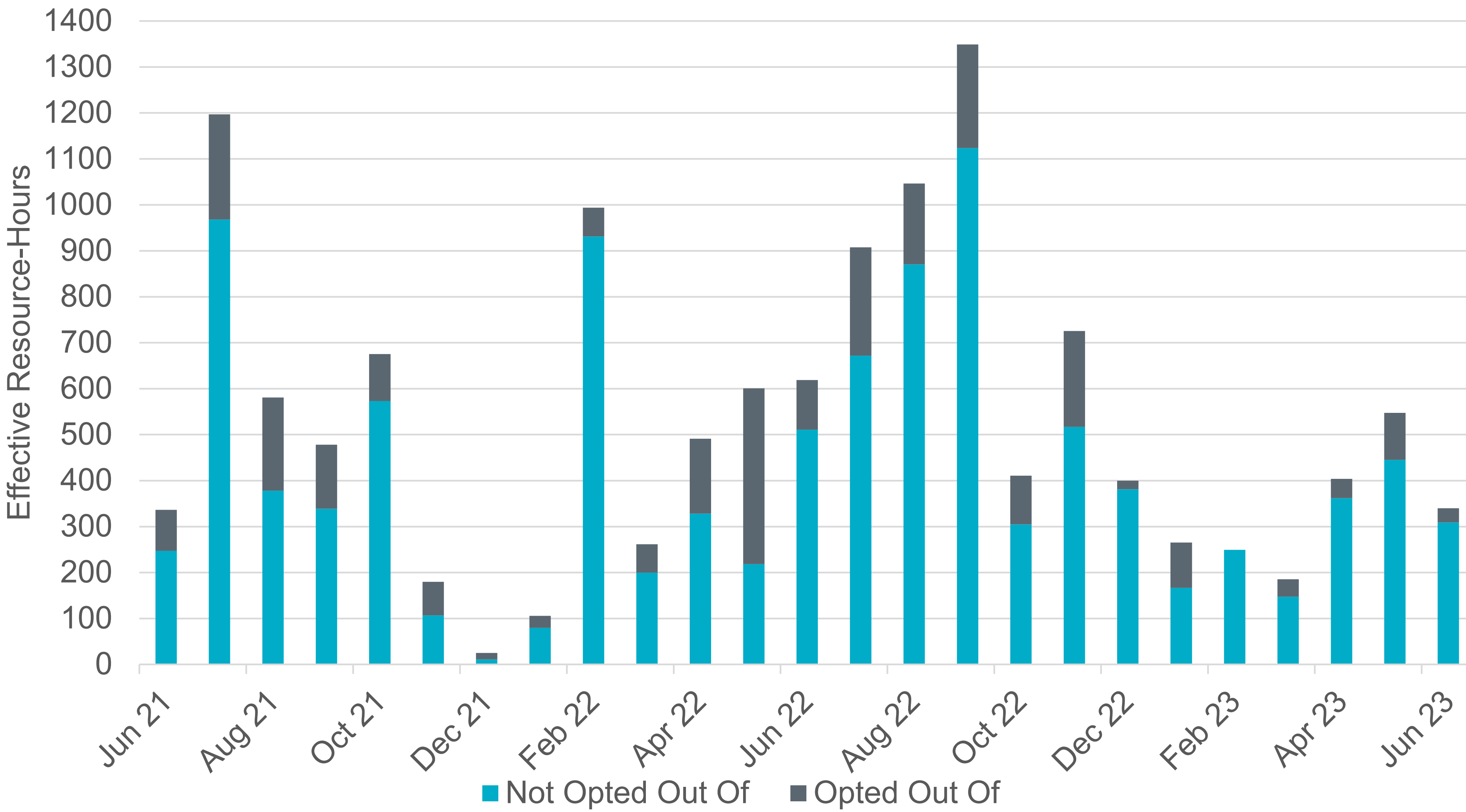


Real-Time Congestion Rent by Zone



- Congestion rent increased in the North and South Zones in June compared to May.
- The two zones with the highest congestion rent were the South and West Zones.
  - Congestion rent in the South Zone was primarily driven by the loss of the double circuit 345 kV contingency from Elmcreek to San Miguel Gen overloading the 345 kV transmission line from Pawnee Switching Station to Calaveras.
  - Congestion rent in the West Zone was primarily driven by the loss of the double circuit 345 kV contingency from Dermott Switch to Scurry County South Switch overloading the 345 kV transmission line from Knapp to Scurry Chevron.
- 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.

Twenty-three Resources were Committed in June for Capacity, Congestion, or Minimum Run Time

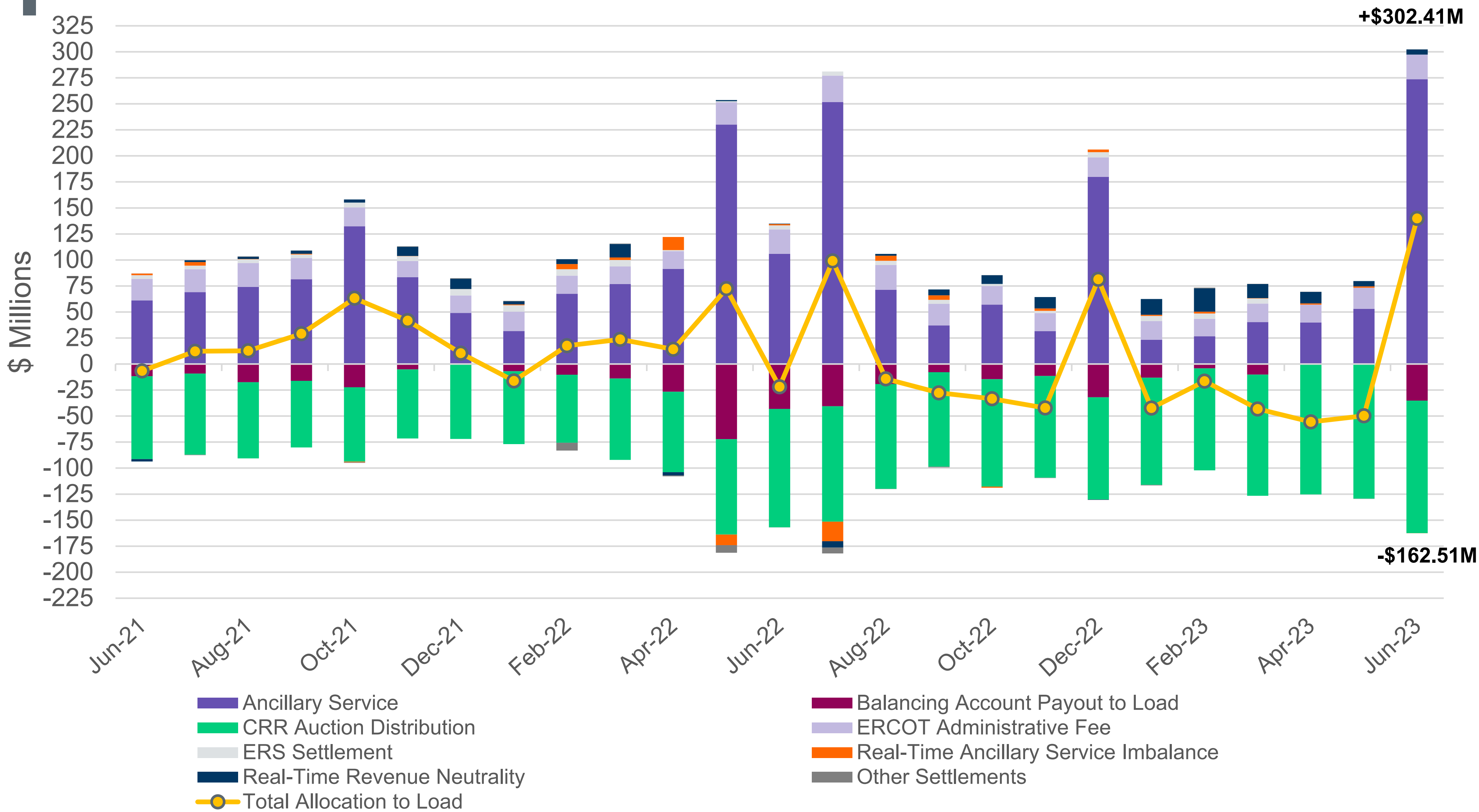


"Effective Resource-Hours" excludes any period during a Reliability Unit Commitment hour when the RUC-committed Resource was starting up, shutting down, off-line, or otherwise not available for dispatch by SCED.

Twenty-three Resources were Committed in June for Capacity, Congestion, or Minimum Run Time

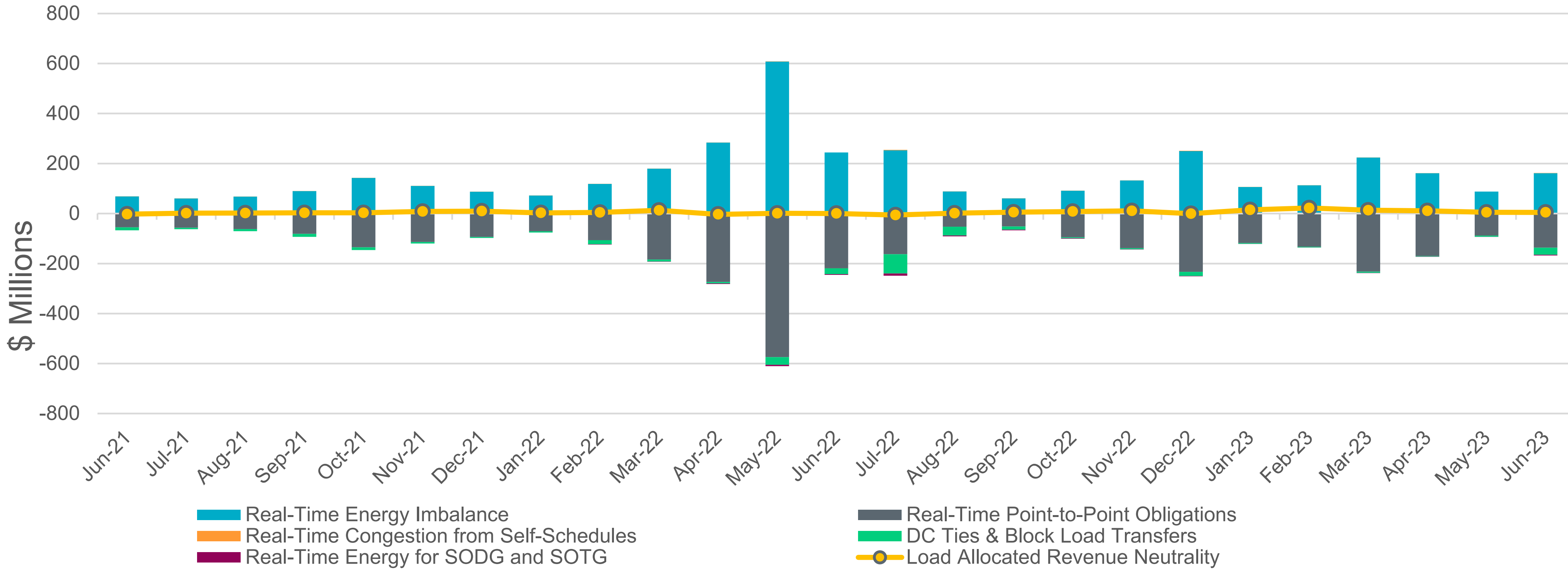
Resource #	Effective Resource-hours	Non-Opt Out (Effective Hours)	Opt Out (Effective Hours)
1	6.0	0.0	6.0
2	12.0	12.0	0.0
3	12.0	12.0	0.0
4	1.9	1.9	0.0
5	3.0	3.0	0.0
6	4.0	4.0	0.0
7	82.0	82.0	0.0
8	74.2	74.2	0.0
9	7.9	7.9	0.0
10	23.8	15.8	7.9
11	3.0	3.0	0.0
12	2.0	2.0	0.0
13	6.2	6.2	0.0
14	17.9	17.9	0.0
15	7.3	7.3	0.0
16	11.6	11.6	0.0
17	3.9	3.9	0.0
18	6.5	3.5	3.0
19	3.0	0.0	3.0
20	5.0	5.0	0.0
21	9.0	4.0	5.0
22	29.8	23.8	6.0
23	8.0	8.0	0.0
Total	**340.0**	**309.1**	**30.9**

Net Allocation to Load in June 2023 was $139.91 Million



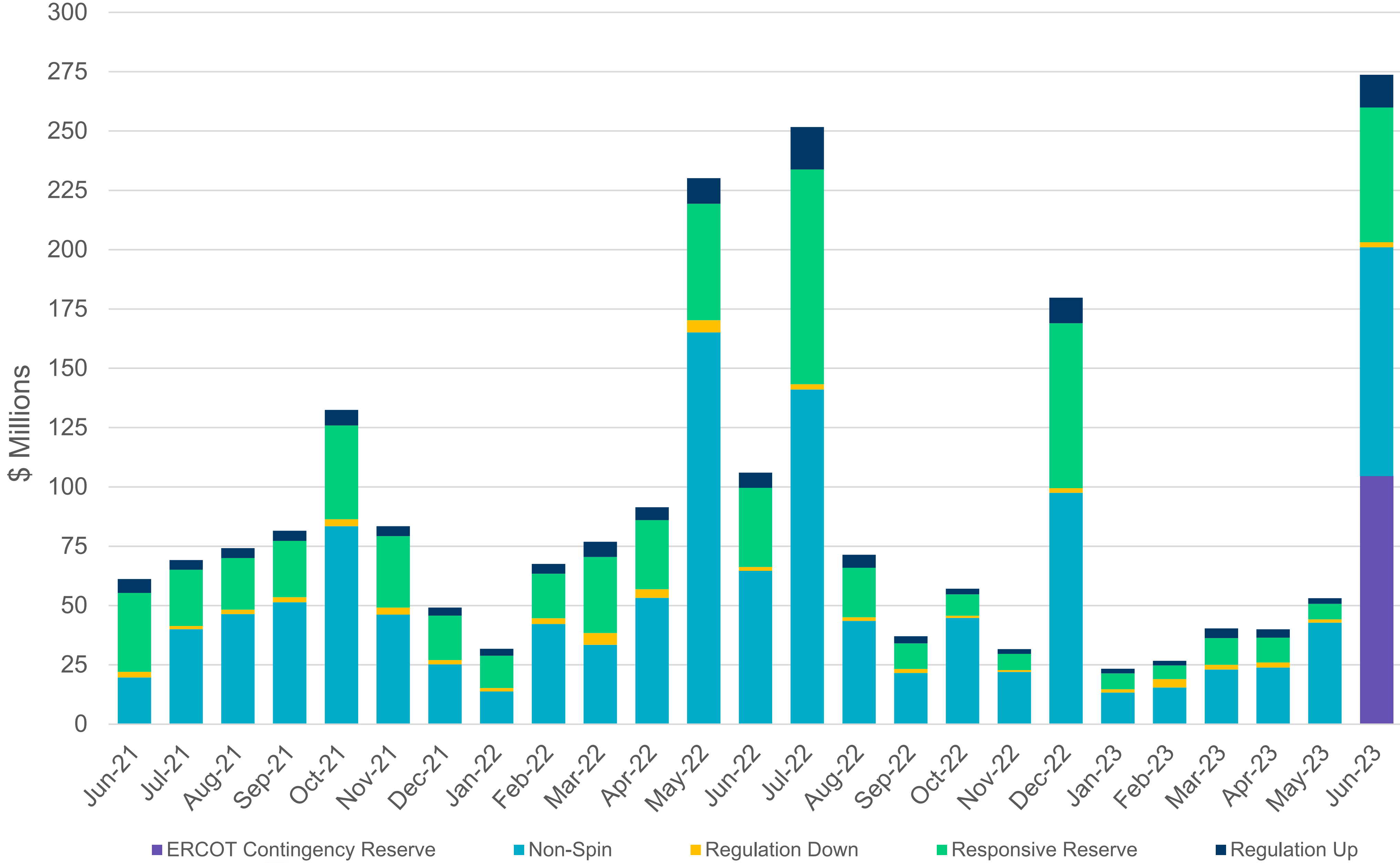
This information is available in tabular form in the Settlement Stability Report presented quarterly to the [Wholesale Market Subcommittee]

Real-Time Revenue Neutrality Allocated to Load was $4.93M for June 2023

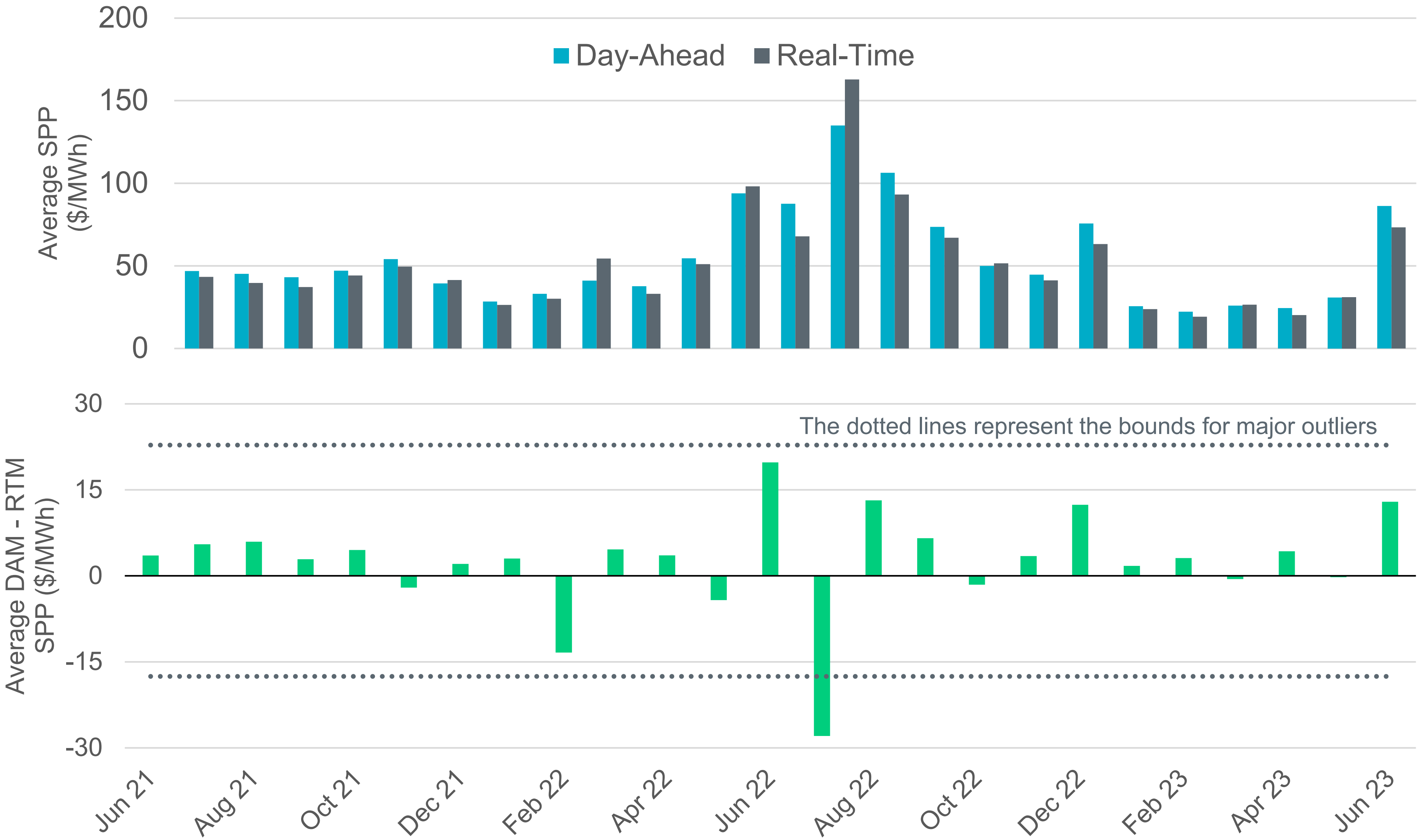


	June 2023 ($M)
Real-Time Energy Imbalance	$161.89
Real-Time Point-to-Point Obligation	($136.72)
Real-Time Congestion from Self-Schedules	$0.59
DC Tie & Block Load Transfer	($27.82)
Real-Time Energy for SODG and SOTG	($2.87)
Load Allocated Revenue Neutrality	**$4.93**

Ancillary Services for June 2023 totaled $273.70M

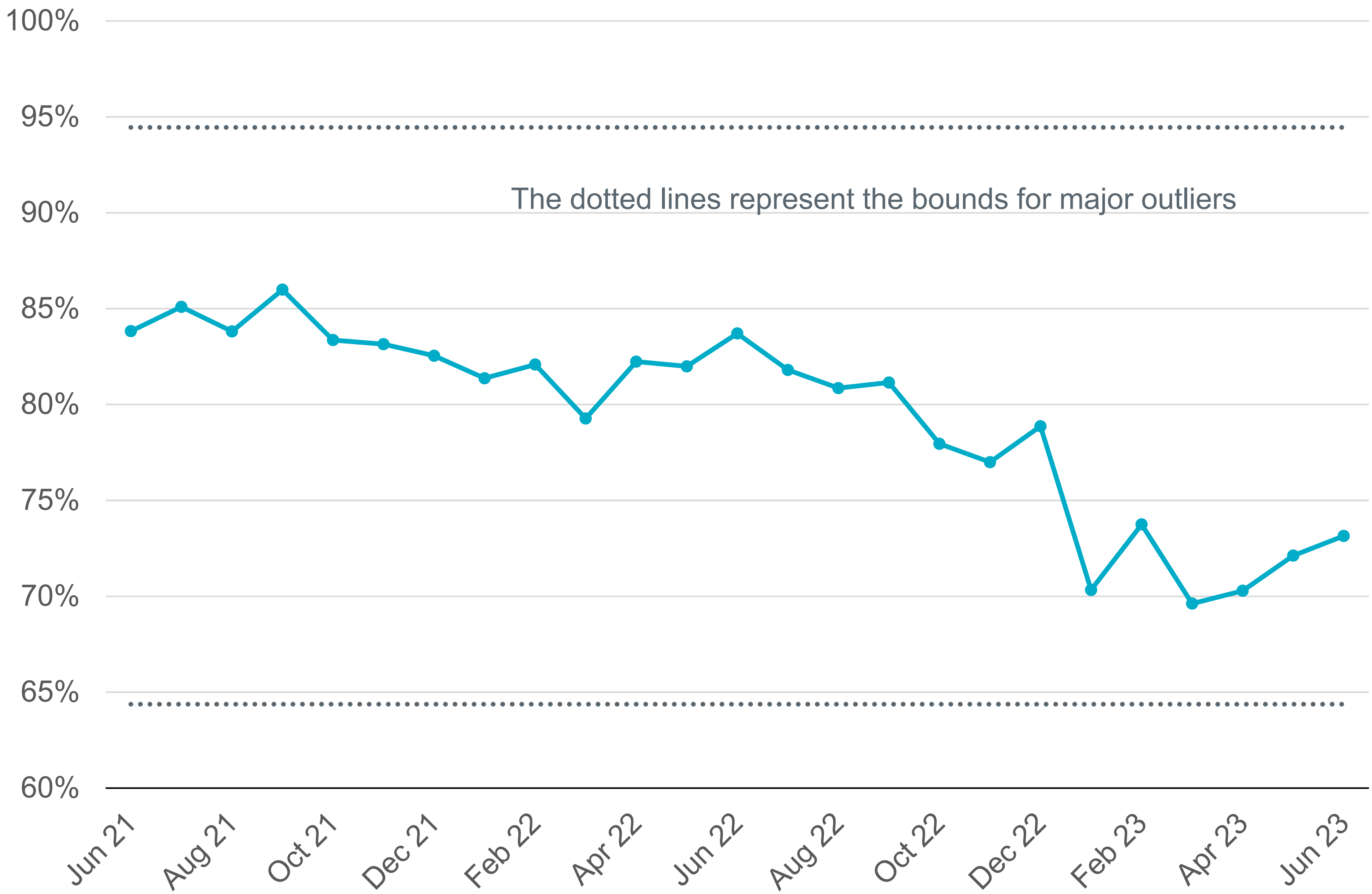


Day-Ahead and Real-Time Market Price Differences

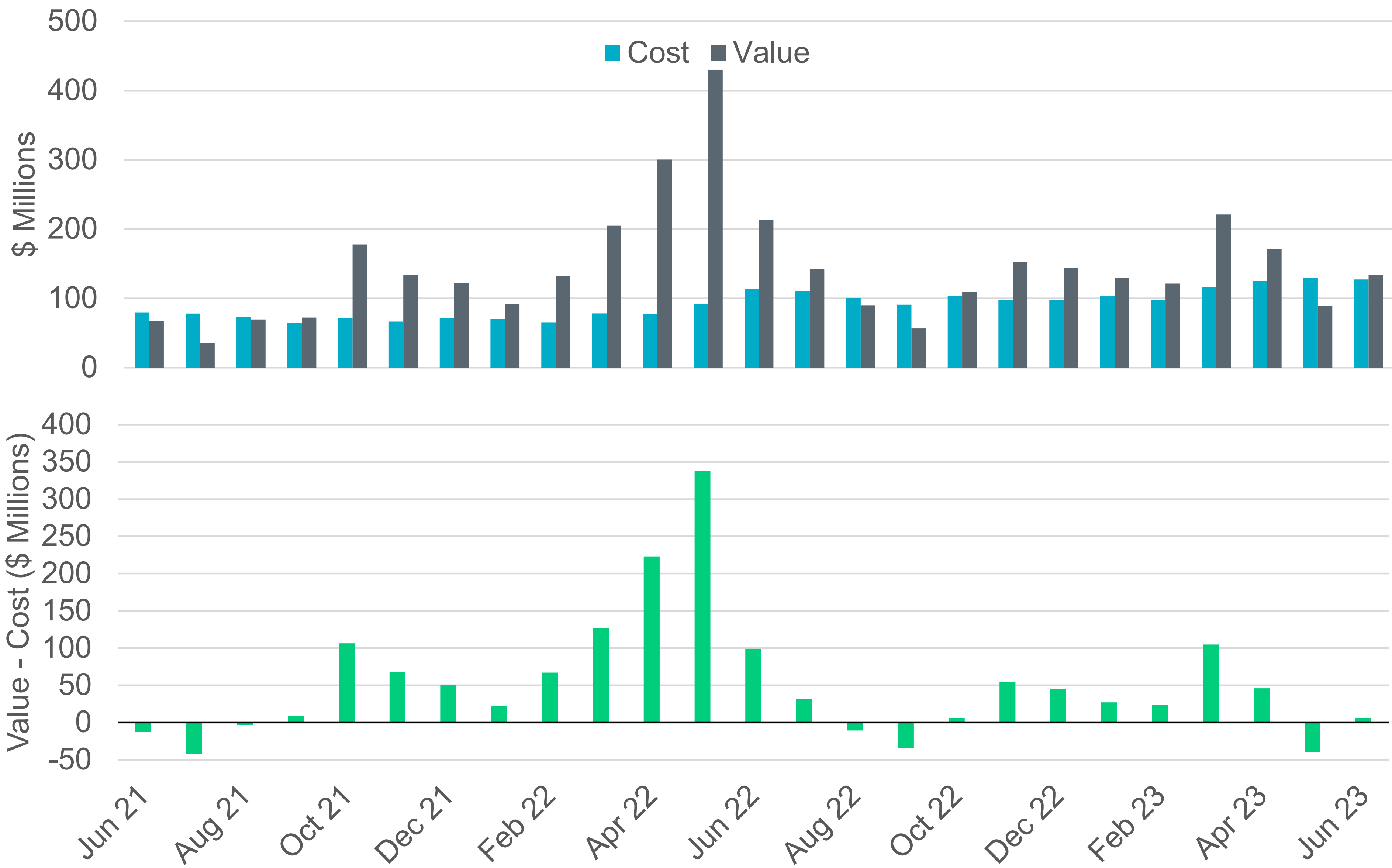


*Averages are weighted by Real-Time Market Load

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



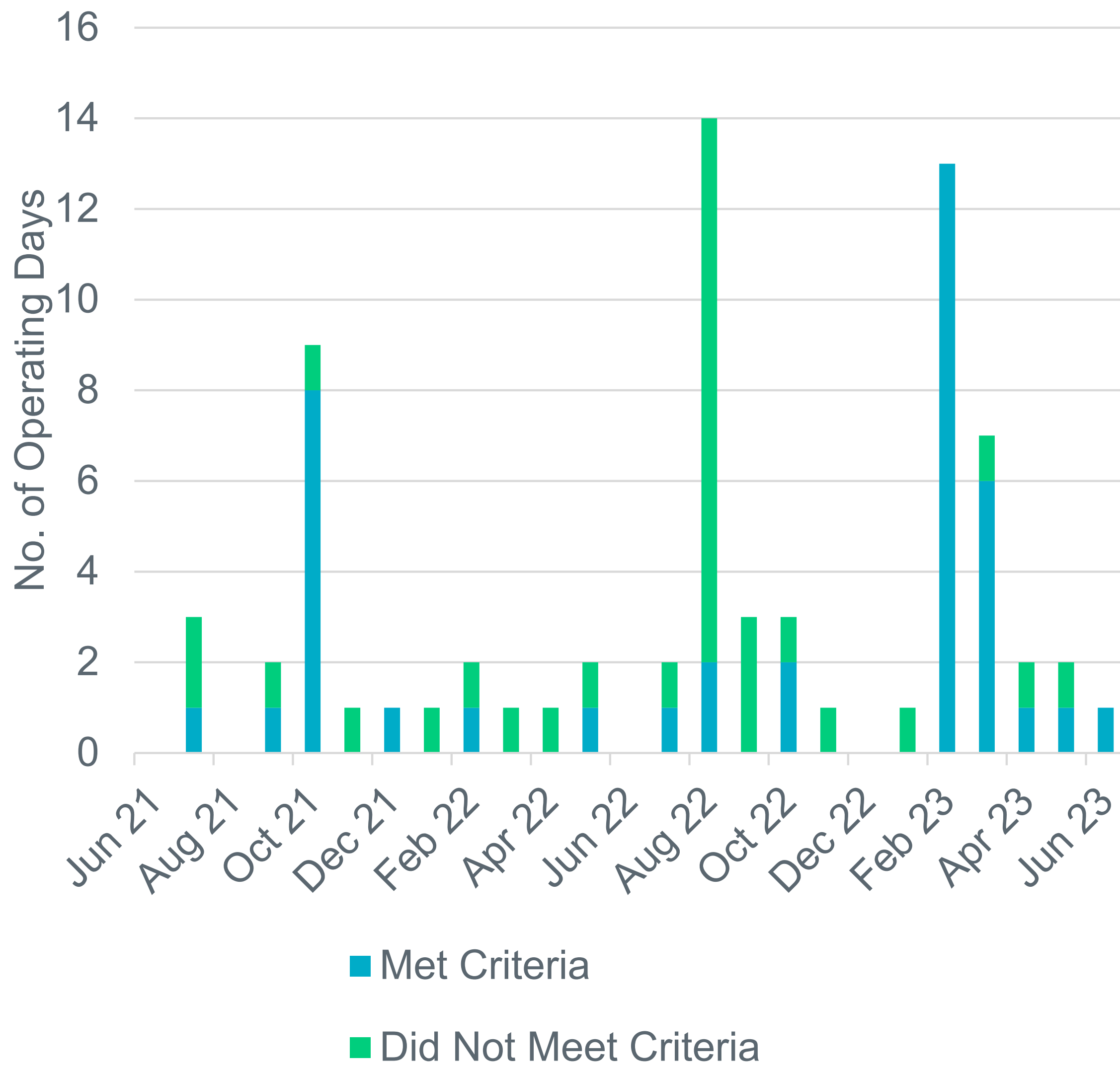
CRR Value and Cost Differences



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 two categories:

- Days that met the criteria for "significance" under NPRR1024 and were corrected; and
- Days that were not corrected because they did not meet the criteria for "significance" under NPRR1024.



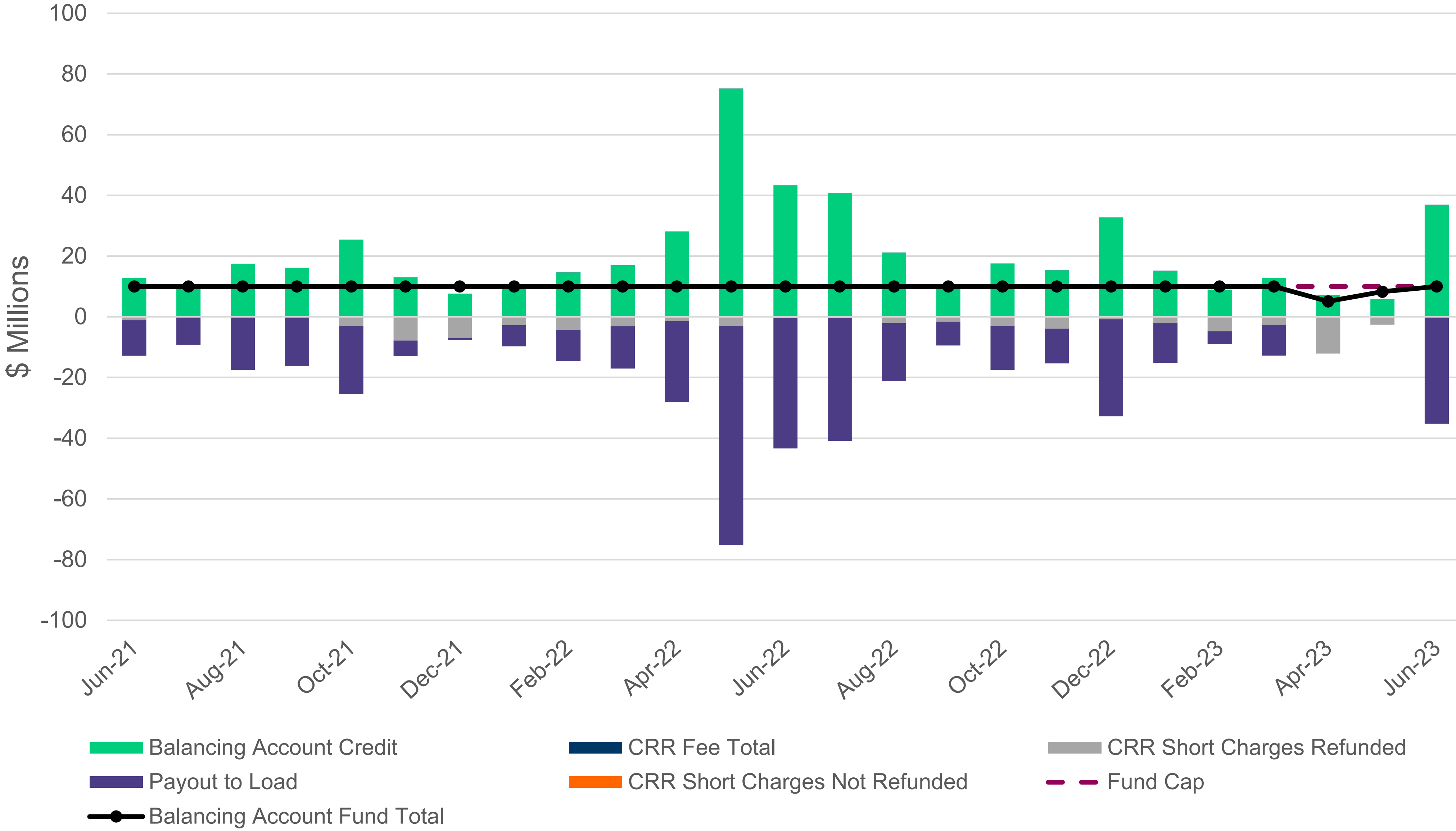
Details for Price Corrections Reviews

Operating Day Meeting Significance Criteria

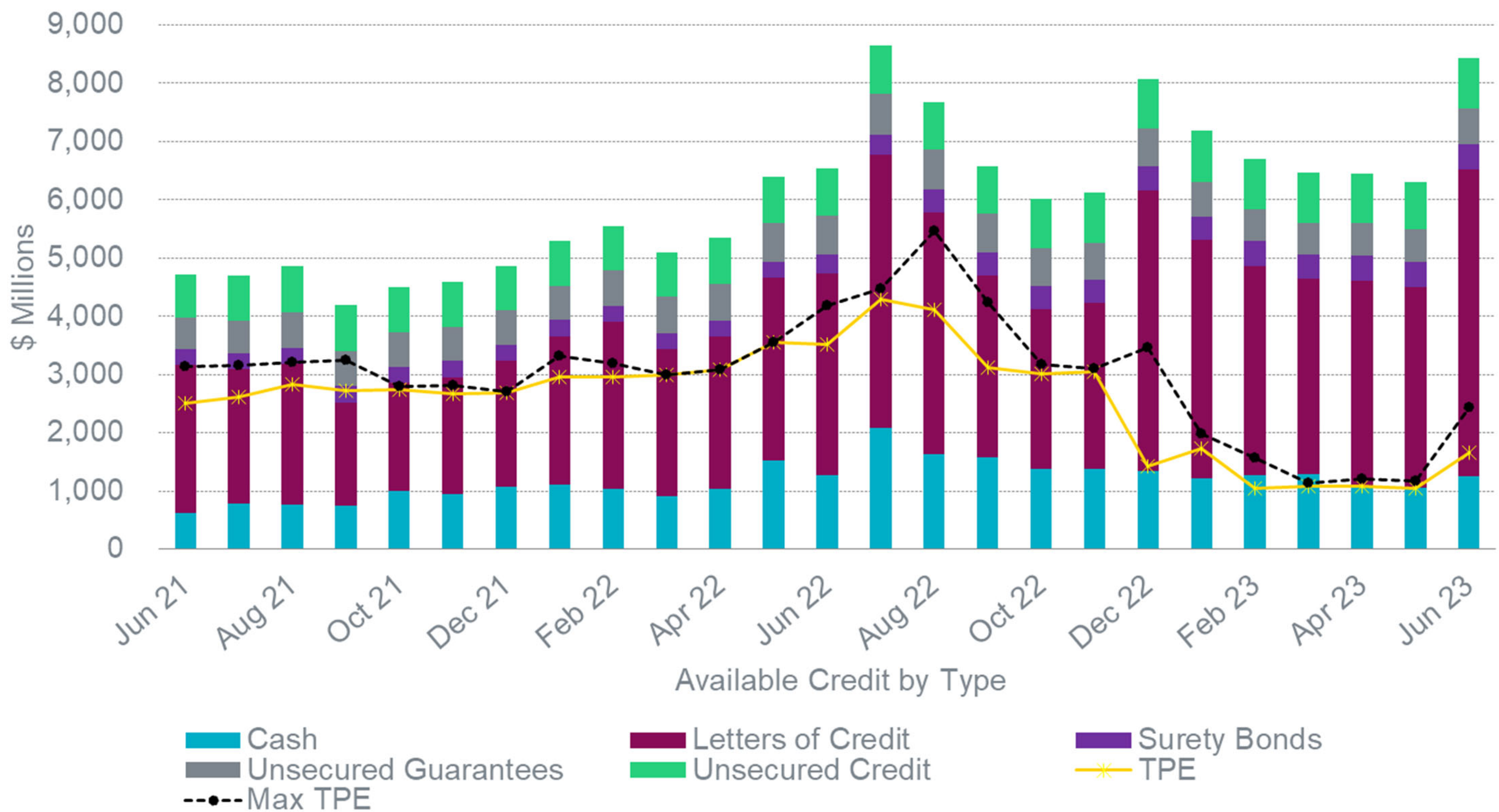
- On June 8, 2023, during the deployment of the ERCOT Contingency Reserve Service (ECRS), the Energy Management System (EMS) was incorrectly identifying some resources as not being qualified for Responsive Reserve Service (RRS). The RRS values affected are used in the Real-Time Online Reserve Capacity (RTOLCAP) calculation. This resulted in incorrect Real-Time Online and Offline Reserve Price Adders (RTORPA and RTOFFPA). After inserting the missing RRS values into the RTOLCAP, the RTORPA and RTOFFPA were recalculated as shown below.

Settlement Interval	Original RTORPA	New RTORPA	Original RTOFFPA	New RTOFFPA
1545	5.54	0.02	0.00	0.00
1600	37.99	0.11	0.00	0.00
1615	27.22	0.06	0.01	0.00
1630	23.37	0.05	0.04	0.00
1645	3.93	0.01	0.01	0.00

Congestion Revenue Rights settlement payments were fully funded. Excess amounts were used to replenish the CRR Balancing Account Fund and the remaining 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 – June 2023

	Year-To-Date		Transactions Received	
Transaction Type	**June 2023**	**June 2022**	**June 2023**	**June 2022**
Switches	573,520	686,066	98,957	103,647
Acquisitions	0	0	0	0
Move - Ins	1,552,659	1,490,412	273,254	286,099
Move - Outs	694,257	680,331	126,867	134,662
Continuous Service Agreements (CSA)	253,202	412,573	59,879	92,753
Mass Transitions	0	23,435	0	0
Total	**3,073,638**	**3,292,817**	**558,957**	**617,161**