ERCOT Monthly Operational Overview
(April 2024)

ERCOT Public
May 16, 2024

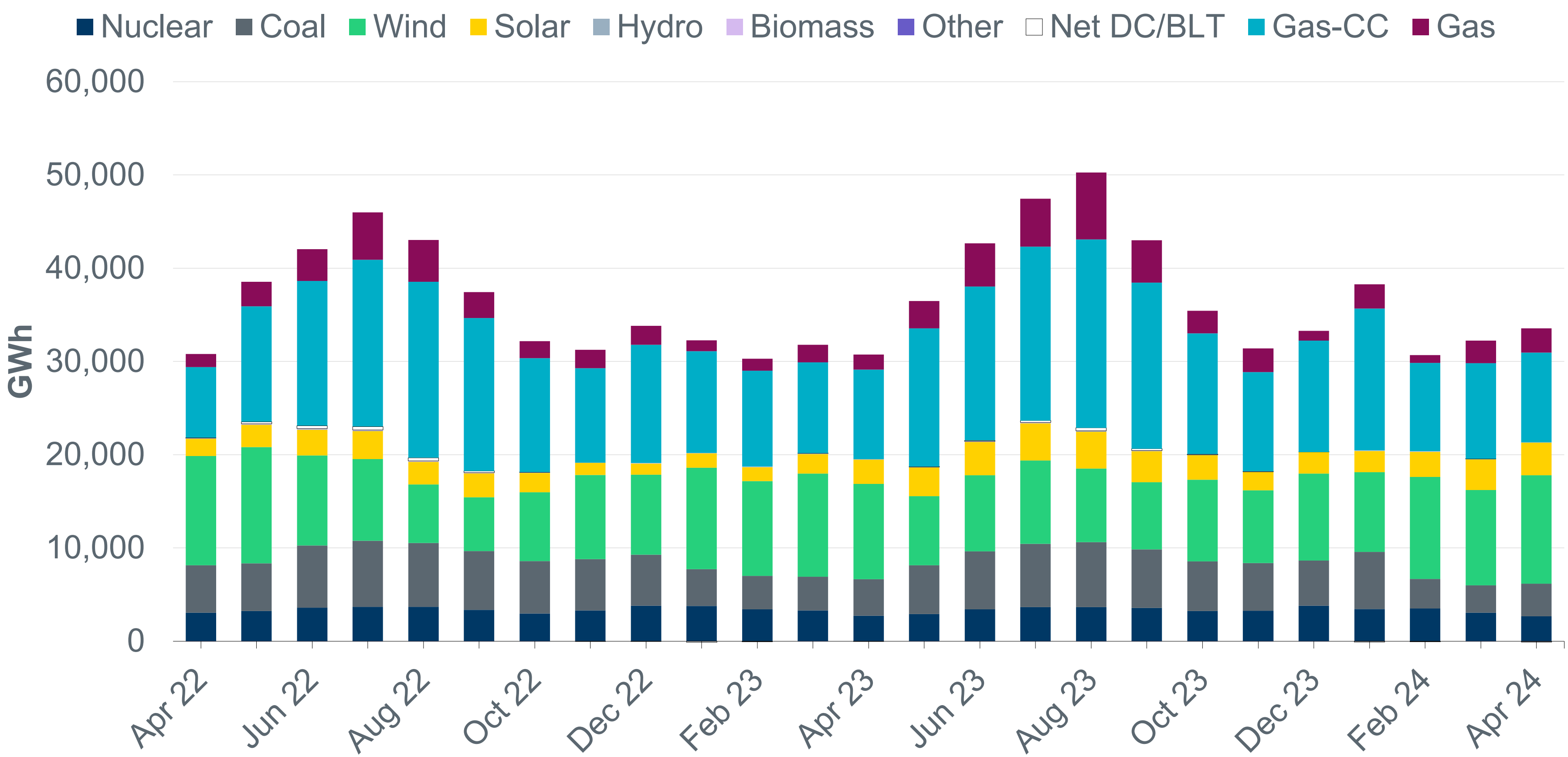
Highlights, Records and Notifications

- ERCOT's maximum peak demand for the month of April was 63,997 MW* on 4/30/2024; this is 3,002 MW more than the April 2023 peak demand of 60,995 MW set on 4/03/2023.

- ERCOT issued 5 notifications
  - 2 OCNs due to issued AANs due to a possible future Emergency Conditions of reserve capacity deficiency
  - 1 Advisory due to ERCOTs Voltage Security Assessment Tool being unavailable
  - 1 Advisory due to a Geomagnetic Disturbance
  - 1 Watch due to the failure of the SCED process

* Preliminary value from May Demand and Energy 2024 report.

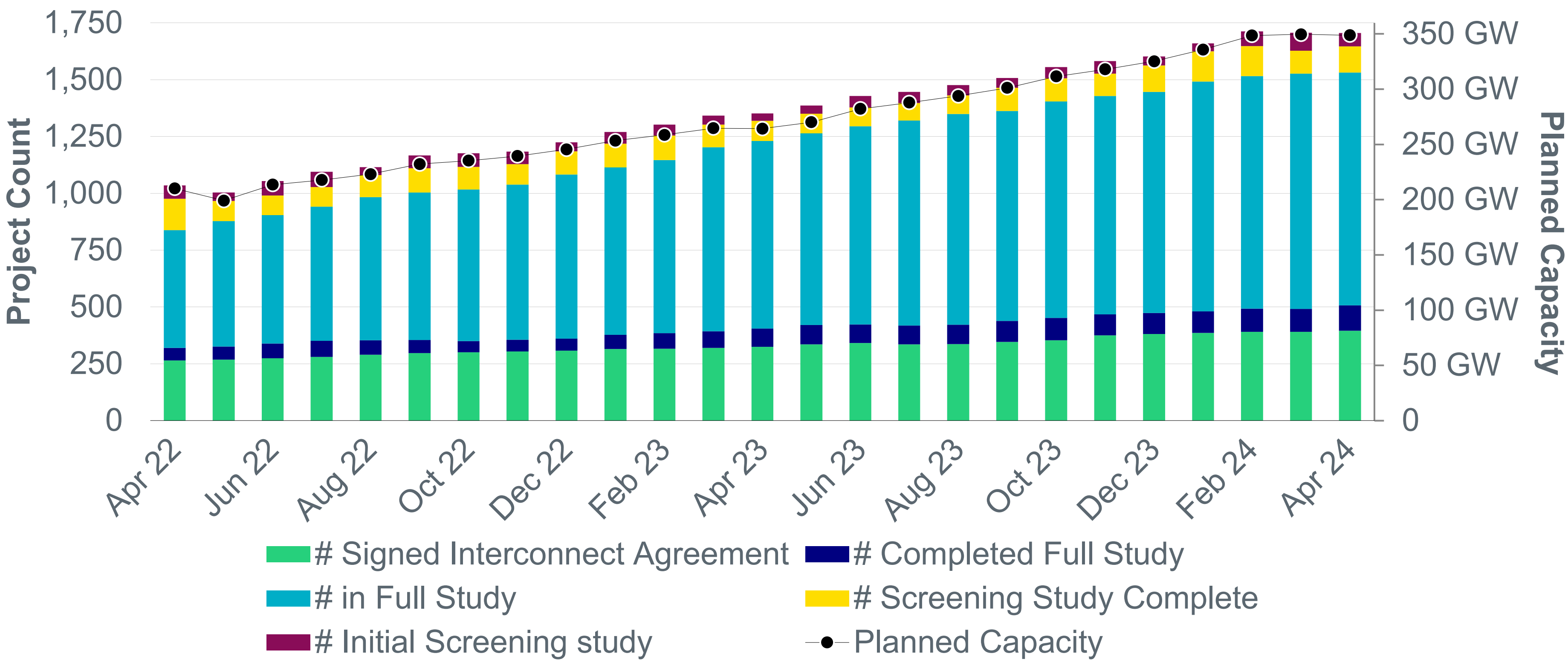
Monthly energy generation increased by 9% year-over-year to 33,457 GWh in April 2024, compared to 30,698 GWh in April 2023



Data for latest two months are based on preliminary settlements.

Generation Interconnection activity by project phase

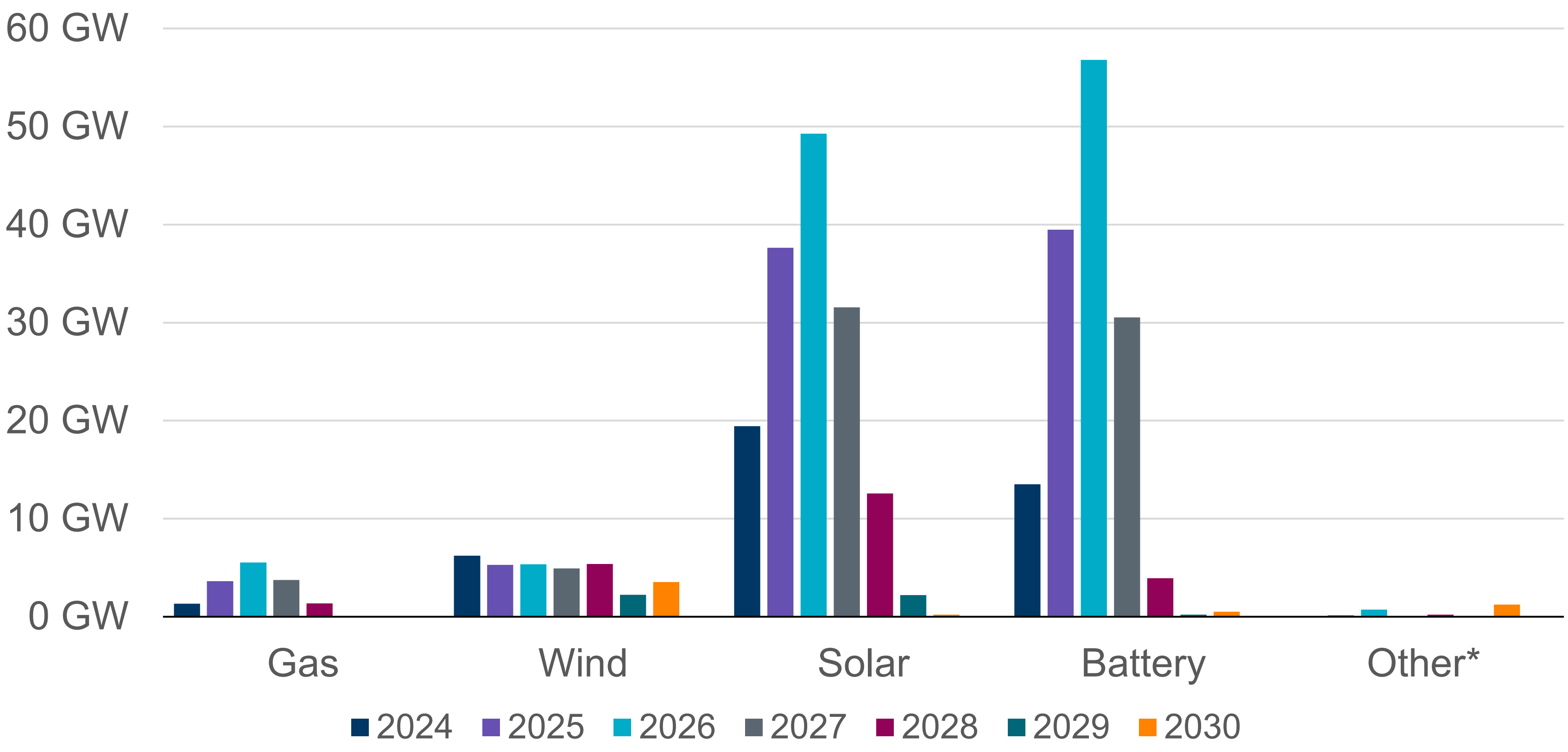
(Excludes capacity associated with projects designated as Inactive per Planning Guide Section 5.7.6)



- There are an additional 33 “Small Generator” projects totaling 306 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 153 GW (43.8%), Wind 33 GW (9.4%), Gas 16 GW (4.5%), Battery 145 GW (41.6%)
(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 1,780 active generation interconnection requests totaling 348,778 MW as of April 30. This includes 152,917 MW of solar, 32,956 MW of wind, 145,000 MW of battery, and 15,573 MW of gas projects; 89 projects were categorized as inactive, up from 86 inactive projects in March 2024.

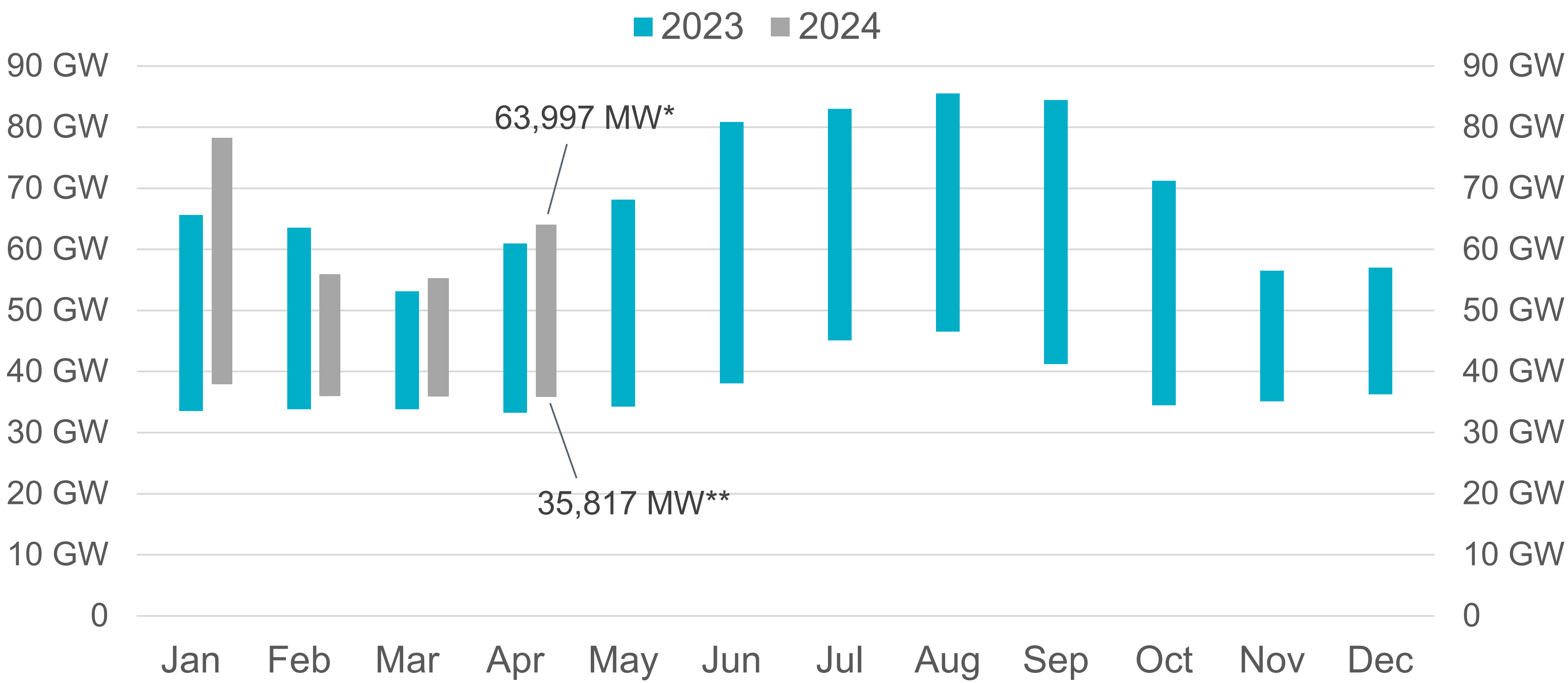
- ERCOT is currently reviewing proposed transmission improvements with a total estimated cost of $2.182 billion as of April 30, 2024.

- Transmission Projects endorsed in 2024 total $918.80 million as of April 30, 2024.

- All projects (in engineering, routing, licensing and construction) total approximately $13.933 billion as of February 1, 2024.

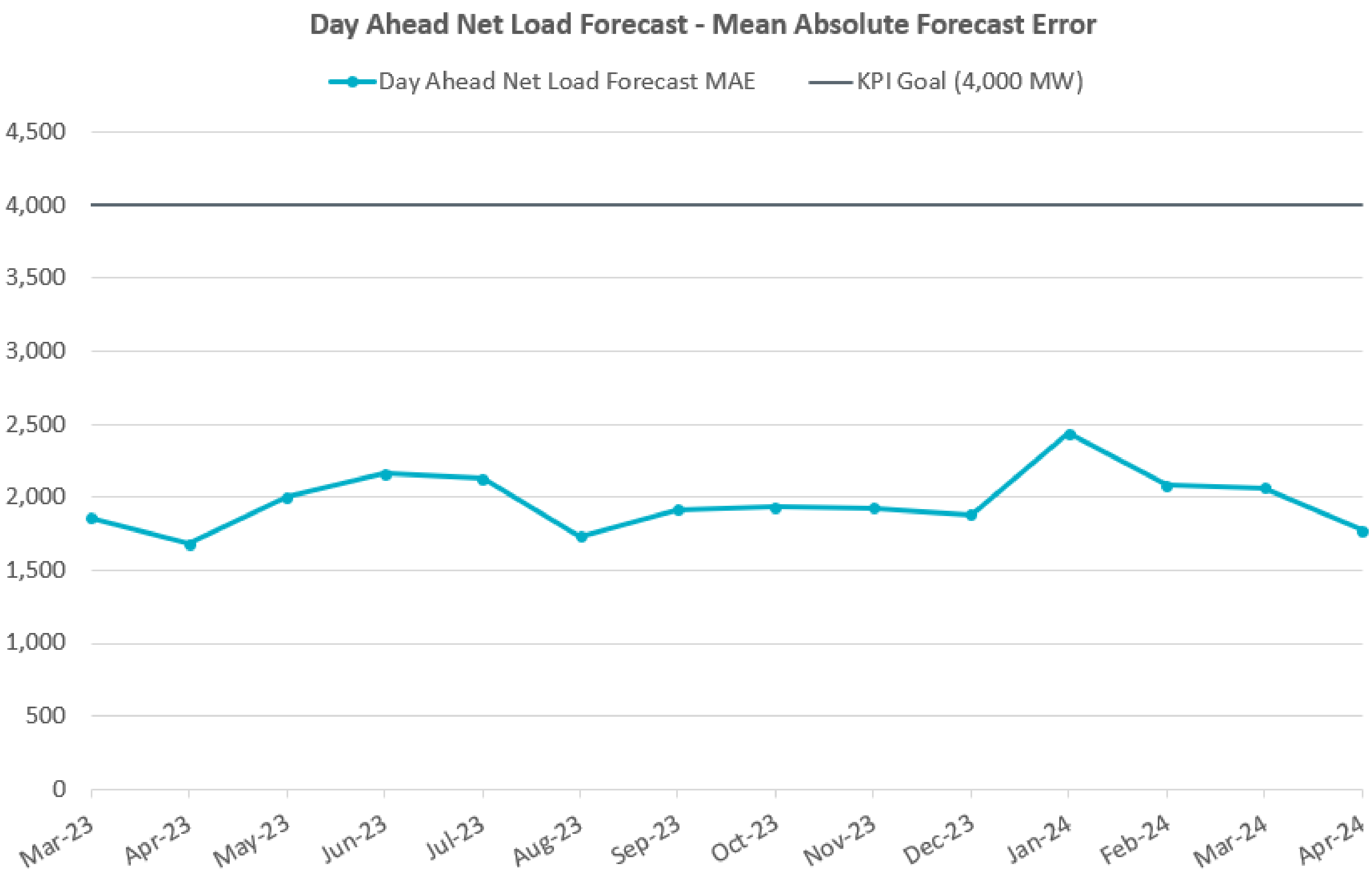
- Transmission Projects energized in 2024 total approximately $789.5 million as of February 1, 2024.

ERCOT set a new all-time record of 63,997 MW* for the month of April on 4/30/2024; This is 3,002 MW more than the April 2023 demand of 60,995 MW.

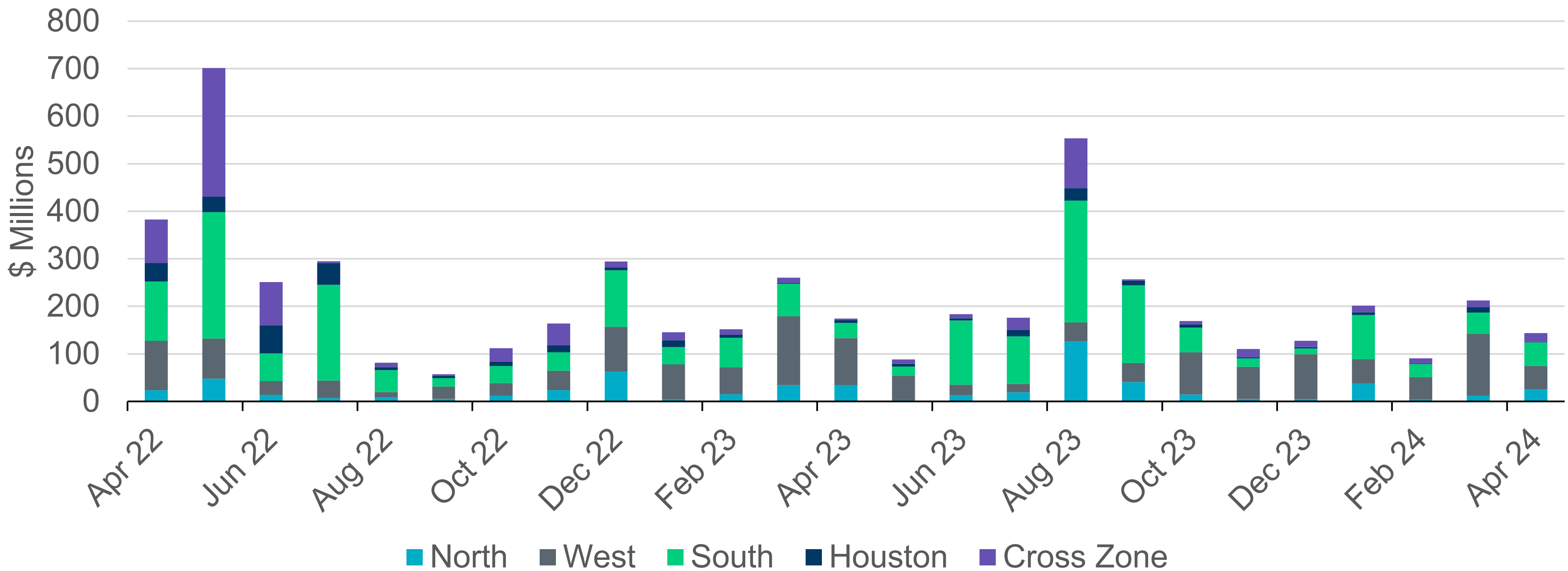


*Based on the maximum net system hourly value from the April 2024 Demand and Energy report.
**Based on the minimum net system 15-minute interval value from the April 2024 Demand and Energy report.
Data for latest two months are based on preliminary settlements.

Net Load Forecast Performance

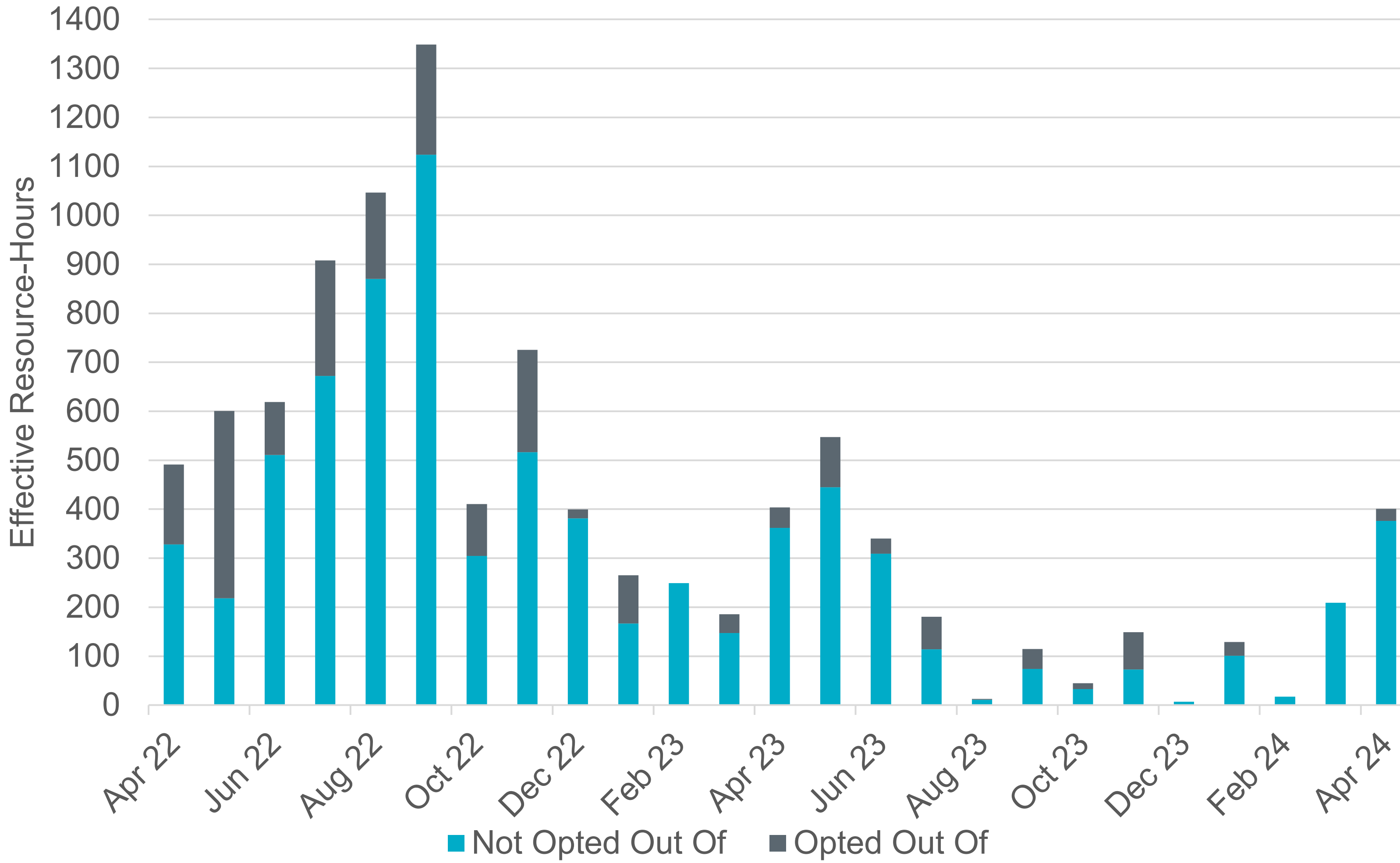


Real-Time Congestion Rent by Zone



- 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.
- Total Real-Time congestion rent decreased in April compared to March, with the highest congestion rent in the South and West Zones.
  - Congestion rent in the South Zone was primarily driven by the North Edinburg to Lobo Generic Transmission Constraint.
  - 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.
- The “Cross Zone” category consists of cases in which the substations on either end of the constraint are in different zones.

Twenty-Nine Resources were Committed in April for Capacity and Congestion



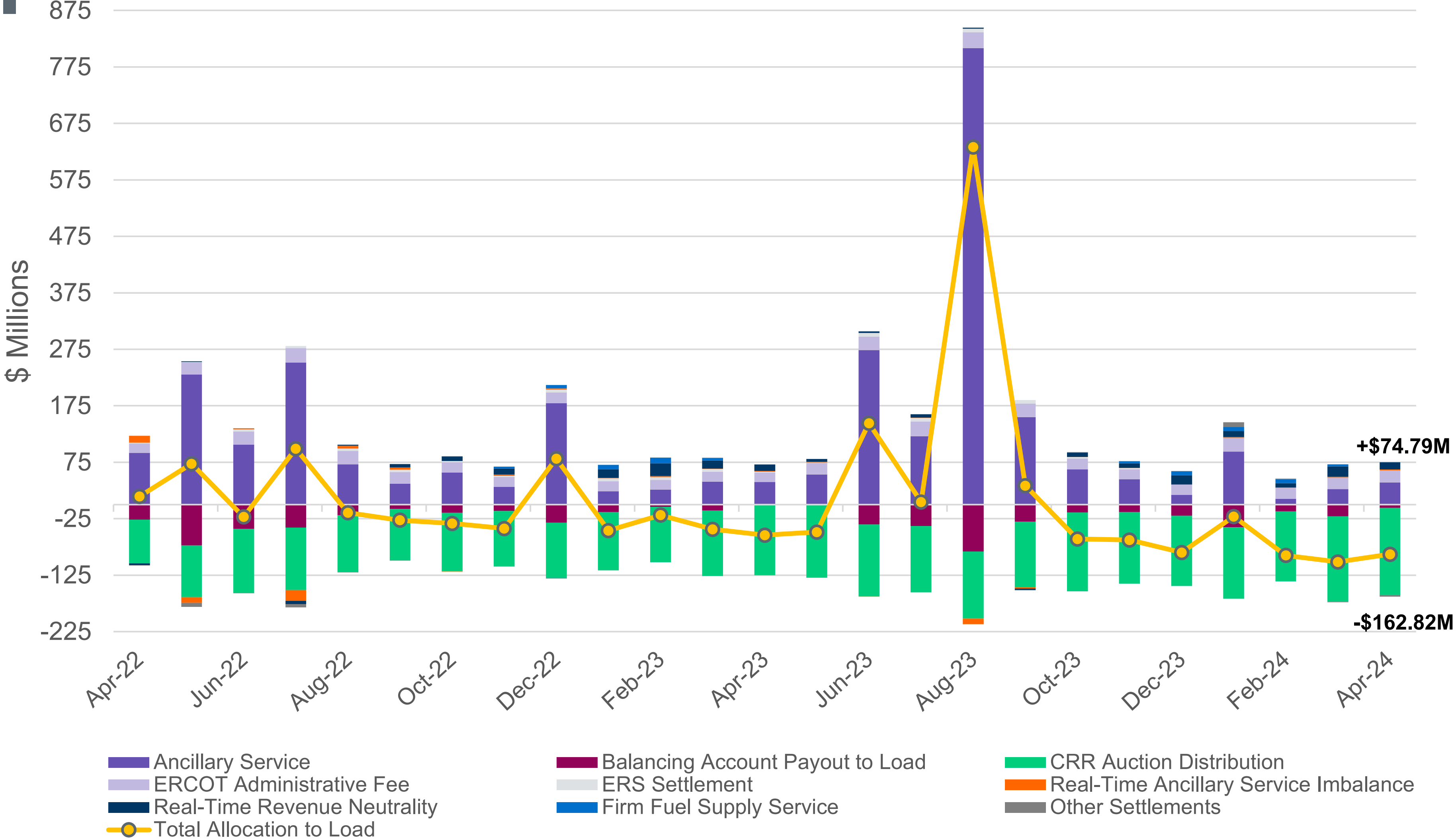
"Effective Resource-Hours" excludes any period during a Reliability Unit Commitment hour when the RUC-committed Resource was starting up, shutting down, off-line, or otherwise not available for dispatch by SCED.

Twenty-Nine Resources were Committed in April for Capacity and Congestion

Resource #	Effective Resource-hours	Non-Opt Out (Effective Hours)	Opt Out (Effective Hours)
1	10.9	10.9	0.0
2	14.7	14.7	0.0
3	6.0	0.0	6.0
4	5.0	5.0	0.0
5	45.9	45.9	0.0
6	46.7	46.7	0.0
7	9.0	0.0	9.0
8	4.9	4.9	0.0
9	2.0	2.0	0.0
10	4.0	4.0	0.0
11	6.0	0.0	6.0
12	2.0	2.0	0.0
13	5.0	5.0	0.0
14	68.7	68.7	0.0
15	3.0	3.0	0.0
16	2.0	2.0	0.0
17	12.0	12.0	0.0
18	14.9	14.9	0.0
19	3.0	3.0	0.0
20	1.0	1.0	0.0

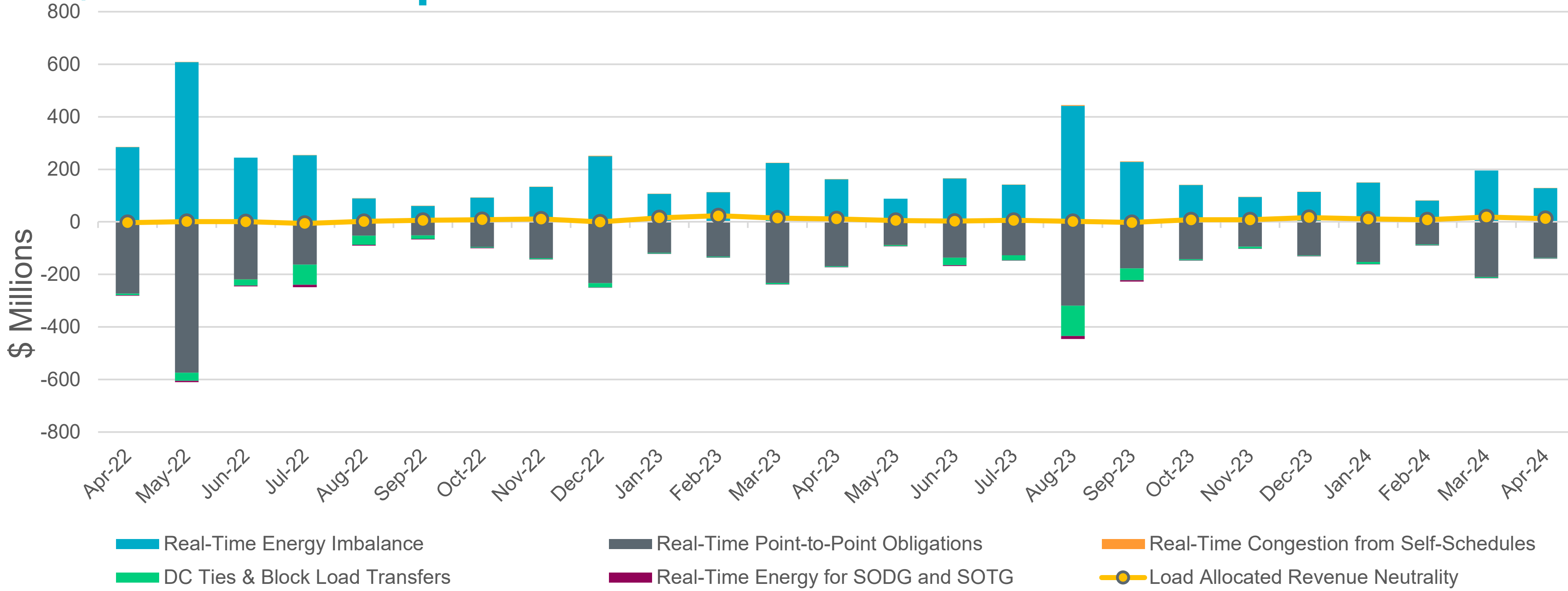
Resource #	Effective Resource-hours	Non-Opt Out (Effective Hours)	Opt Out (Effective Hours)
21	1.0	1.0	0.0
22	1.0	1.0	0.0
23	1.0	1.0	0.0
24	1.0	1.0	0.0
25	4.0	4.0	0.0
26	9.0	5.0	4.0
27	7.0	7.0	0.0
28	109.3	109.3	0.0
29	1.0	1.0	0.0
Total	**401.0**	**376.0**	**25.0**

Net Allocation to Load in April 2024 was ($88.04) Million



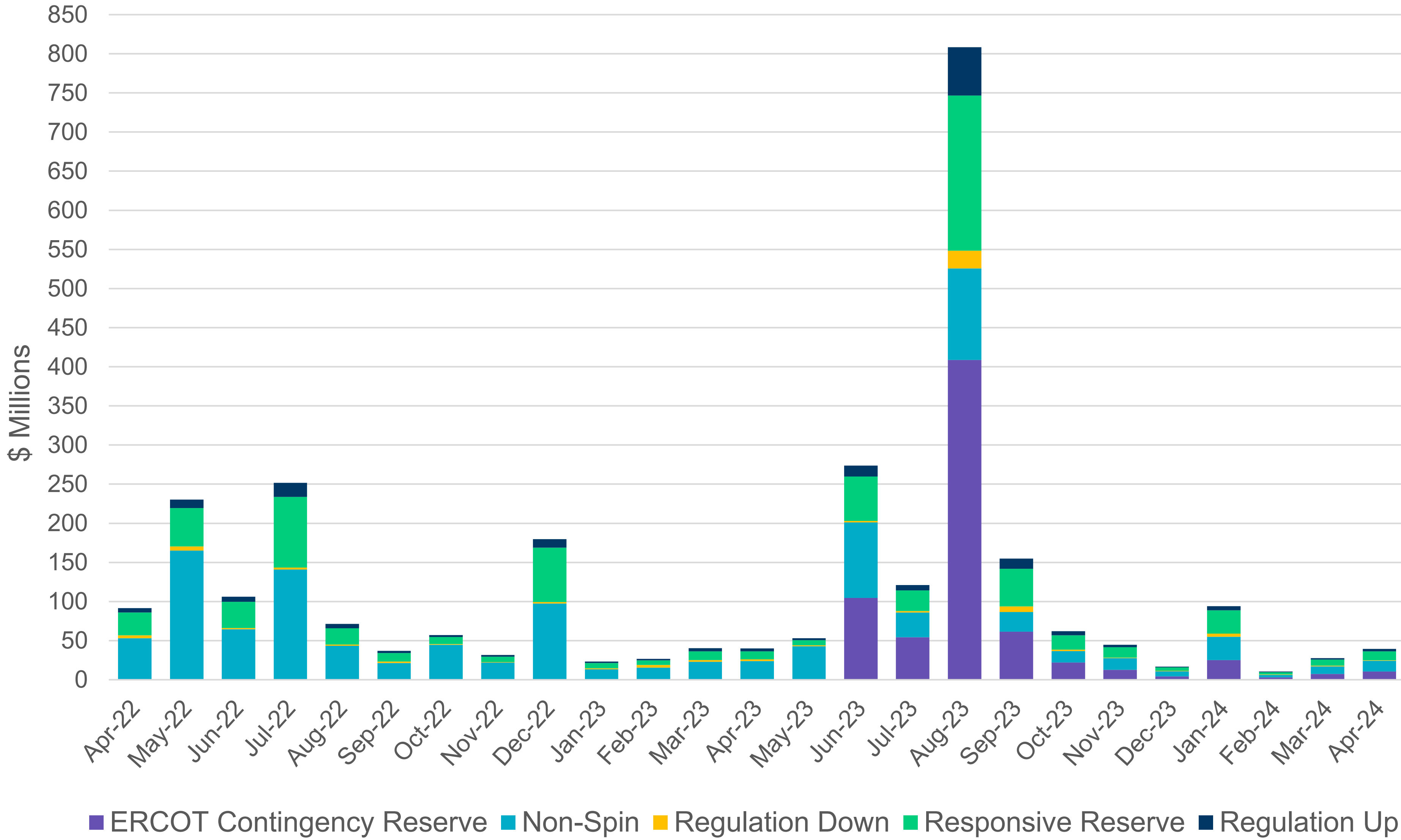
This information is available in tabular form in the Settlement Stability Report presented quarterly to the [Wholesale Market Subcommittee]

Real-Time Revenue Neutrality Allocated to Load was $12.63M for April 2024

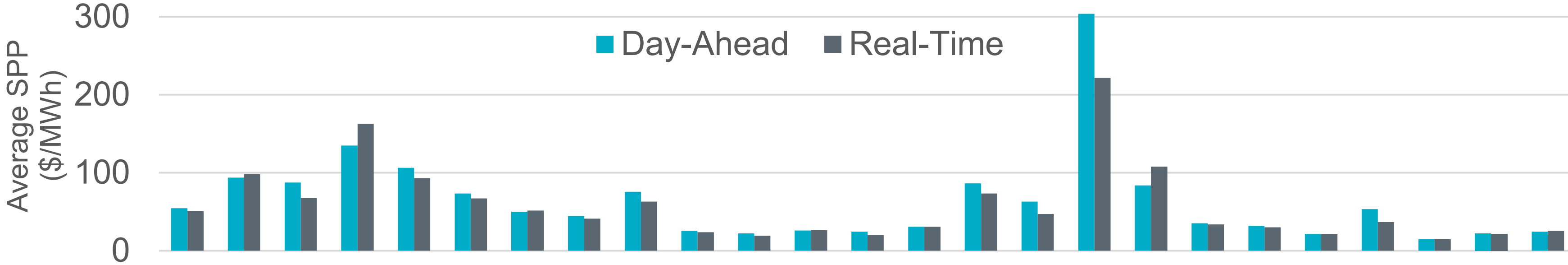


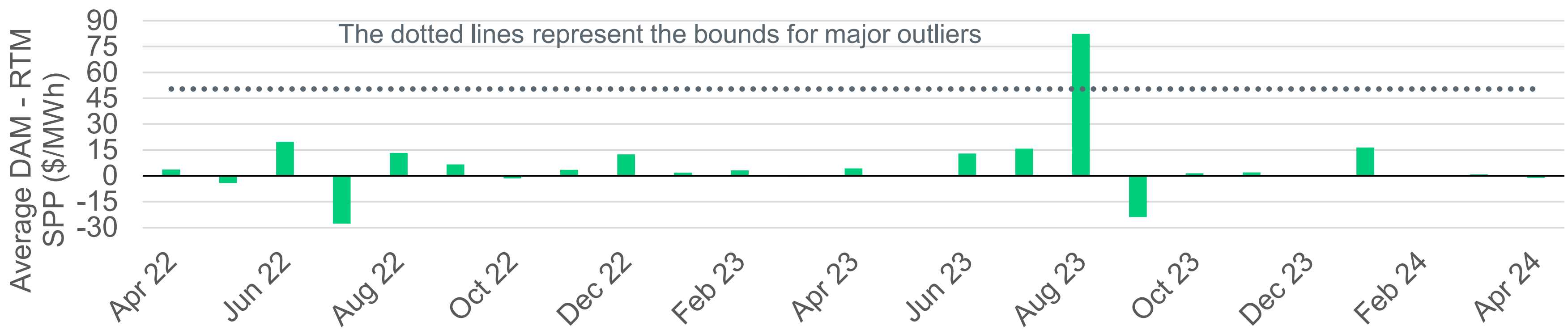
	April 2024 ($M)
Real-Time Energy Imbalance	$127.72
Real-Time Point-to-Point Obligation	($137.23)
Real-Time Congestion from Self-Schedules	$0.32
DC Tie & Block Load Transfer	($2.71)
Real-Time Energy for SODG and SOTG	($0.73)
Load Allocated Revenue Neutrality	**$12.63**

Ancillary Services for April 2024 totaled $39.44M



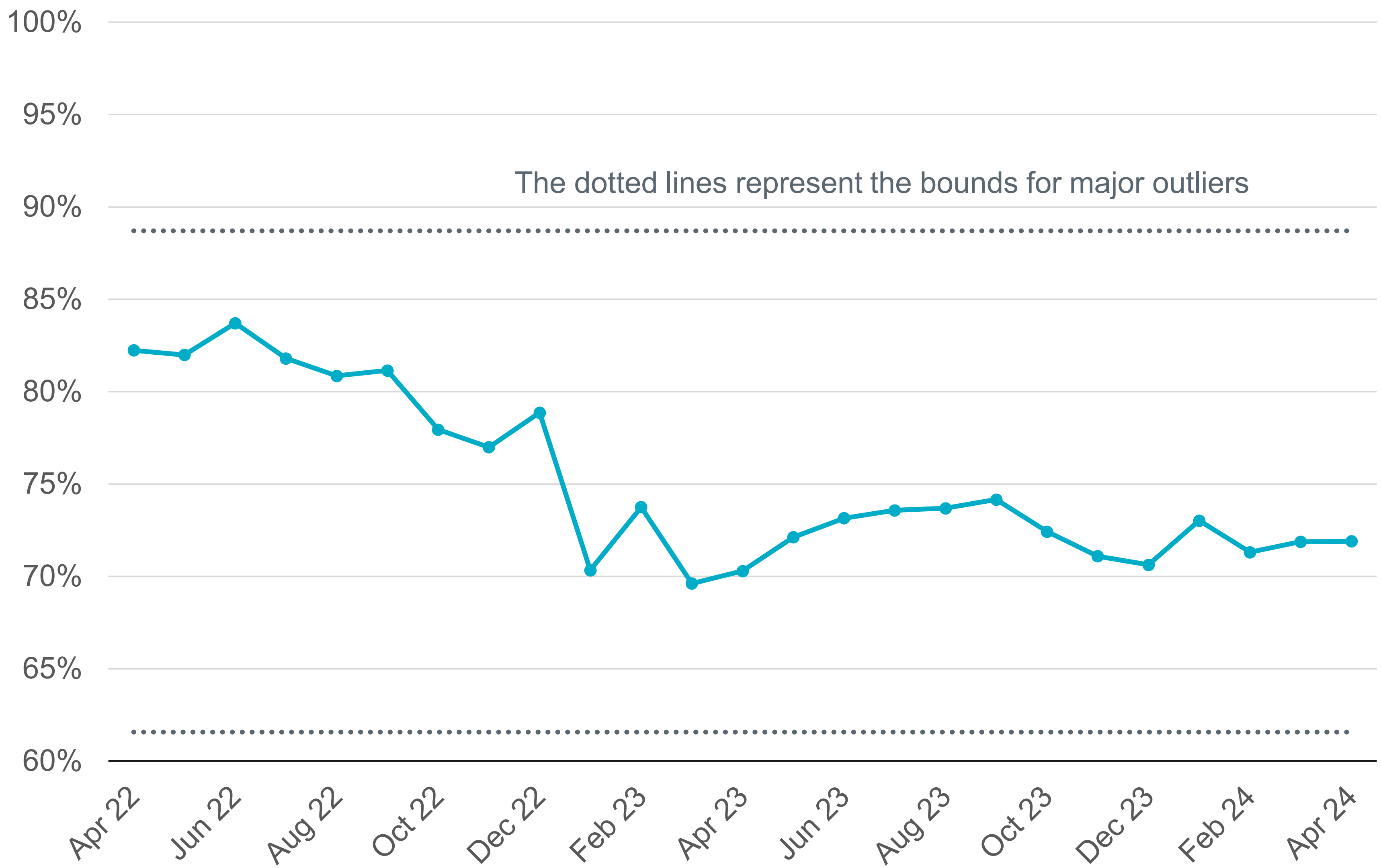
Day-Ahead and Real-Time Market Price Differences





*Averages are weighted by Real-Time Market Load

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



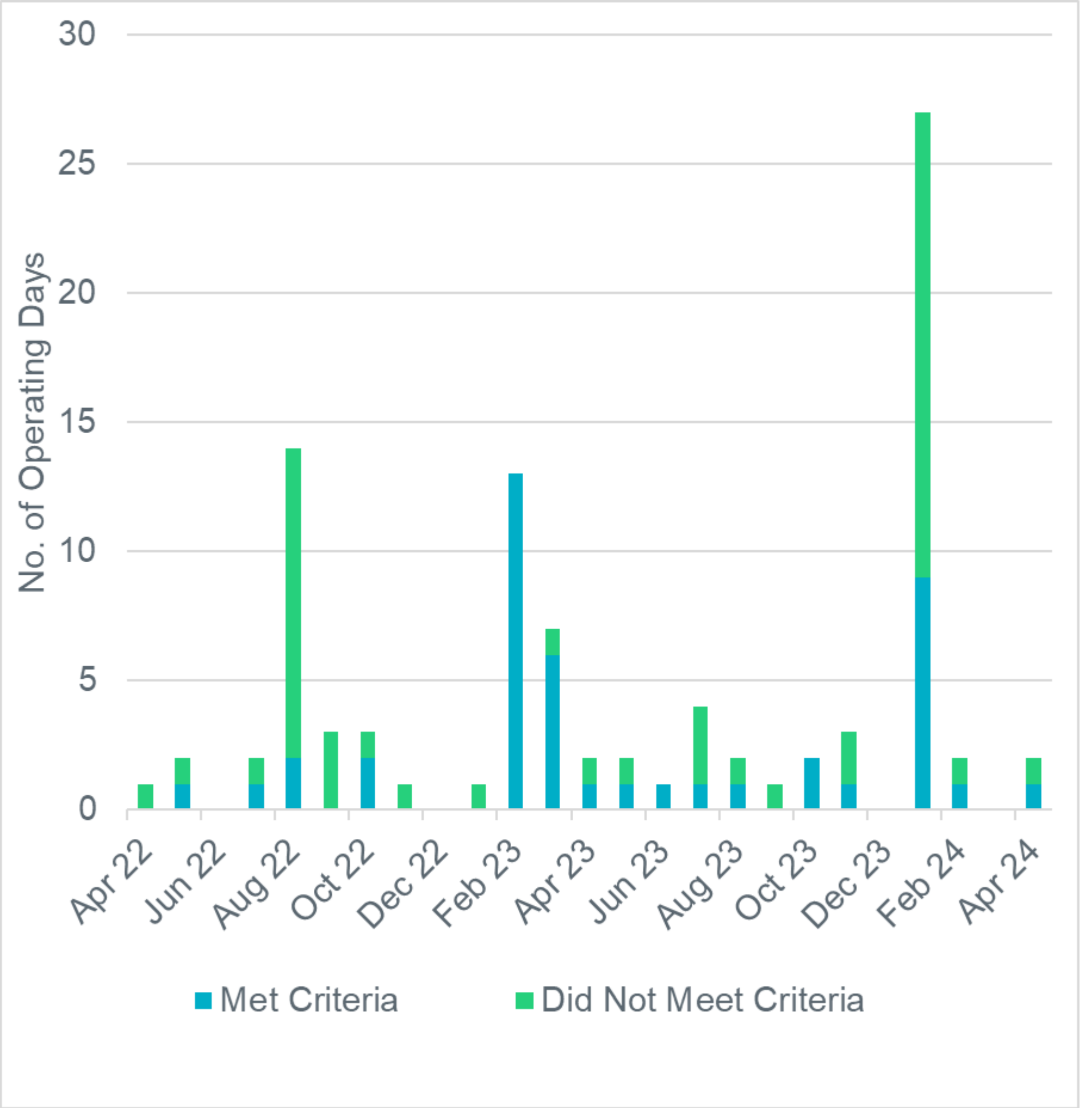
CRR Value and Cost Differences

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 and;

- Days that were not corrected because they did not meet the criteria for “significance” under NPRR1024.



Details for April Price Corrections Review

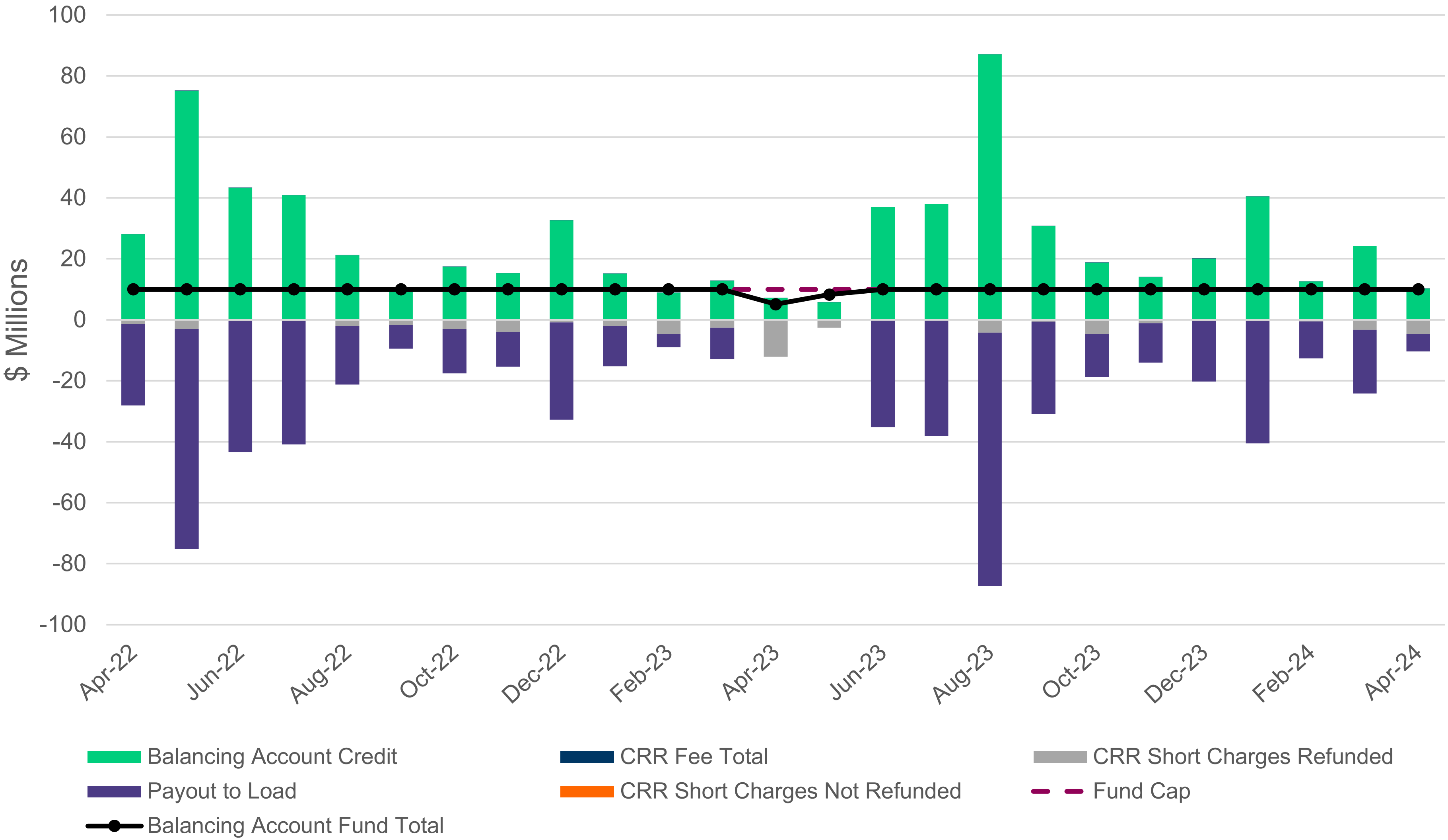
Operating Days Meeting Significance Criteria

- On April 2, 2024, SCED encountered an issue and failed to run when it was unable to process invalid telemetry from a resource. SCED failed to run for intervals 11:10 – 11:30 AM. In accordance with ERCOT Protocol Section 6.5.9.2 paragraph (2), in the event of a SCED failure, the Locational Marginal Prices (LMPs) from the last valid SCED run (11:05) will be held for all impacted SCED intervals including a 15-minute period after the first valid SCED run after the issue is resolved (11:32). The estimated total dollar impact was approximately $16,326.

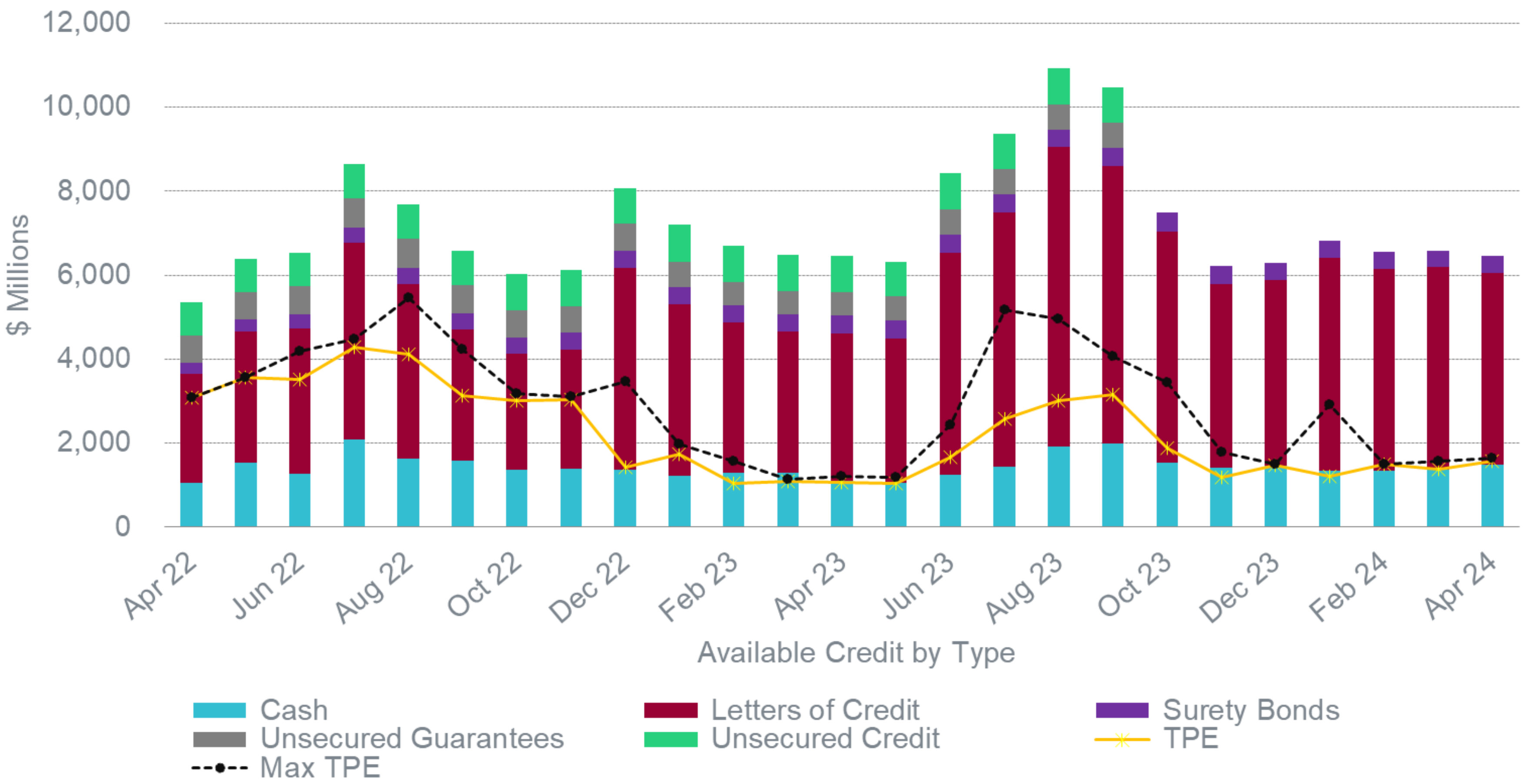
Operating Days Not Meeting Significance Criteria

- On April 29, 2024, the Emergency Basepoint Flag was activated during planned maintenance of the Market Management System. The estimated total dollar impact was approximately $231.

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 – April 2024

	Year-To-Date		Transactions Received	
Transaction Type	**April 2024**	**April 2023**	**April 2024**	**April 2023**
Switches	451,201	382,377	145,509	78,600
Acquisitions	0	0	0	0
Move - Ins	1,099,514	1,011,466	251,888	245,045
Move - Outs	453,553	436,554	120,430	107,304
Continuous Service Agreements (CSA)	121,373	142,616	30,727	35,897
Mass Transitions	0	0	0	0
Total	**2,125,641**	**1,973,013**	**548,554**	**466,846**