ERCOT Monthly Operational Overview
(May 2022)

ERCOT Public
June 17, 2022

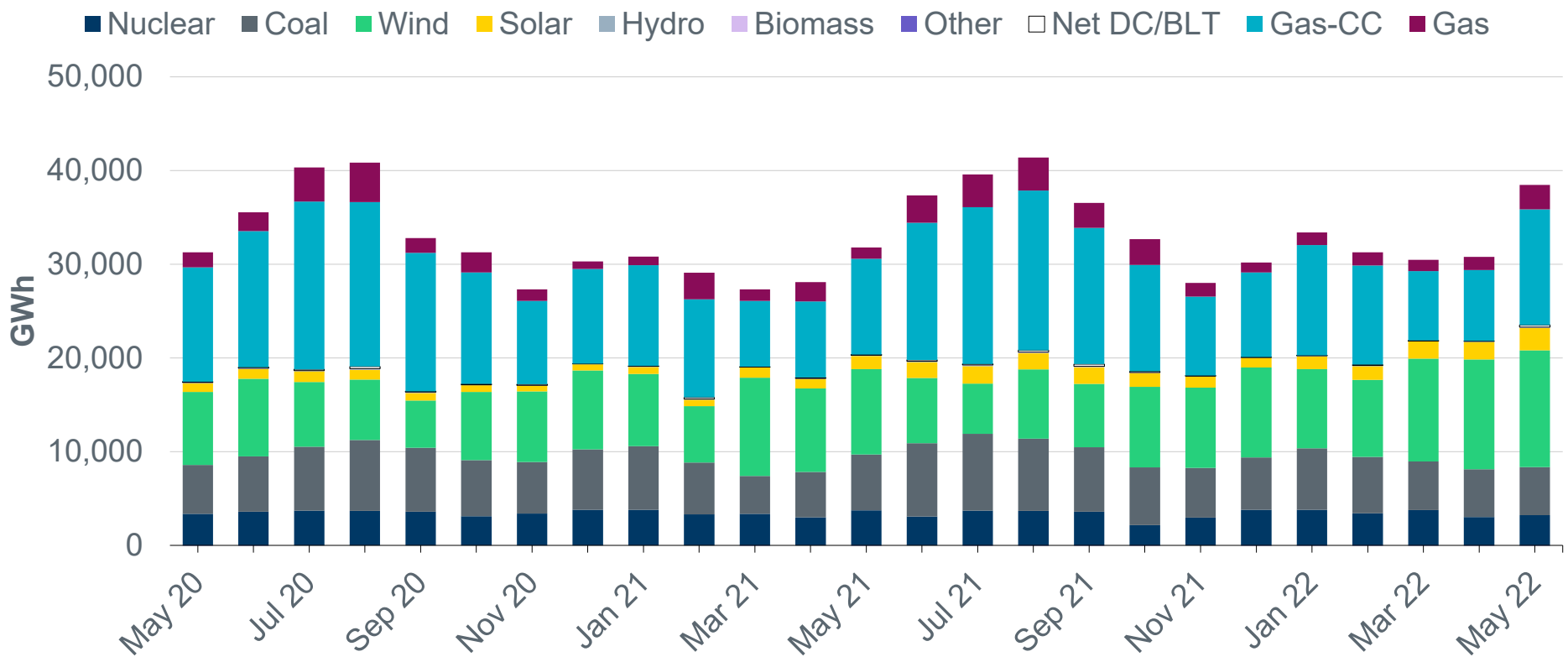
Highlights, Records and Notifications

- ERCOT set an all-time maximum peak demand record of 71,632 MW* for the month of May on 5/31/2022, which is 8,800 MW more than the May 2021 demand of 62,832 MW.

- ERCOT issued 9 notifications:
  - 1 Advisory for postponing the deadline for the posting of the DAM solution, due to long running solution.
  - 3 AANs for possible future emergency conditions.
  - 5 OCNs issued for extreme hot weather with forecasted temperatures above 94 degrees in the North Central and South Central weather zones.

* Preliminary value from June release of Demand and Energy 2022 report.

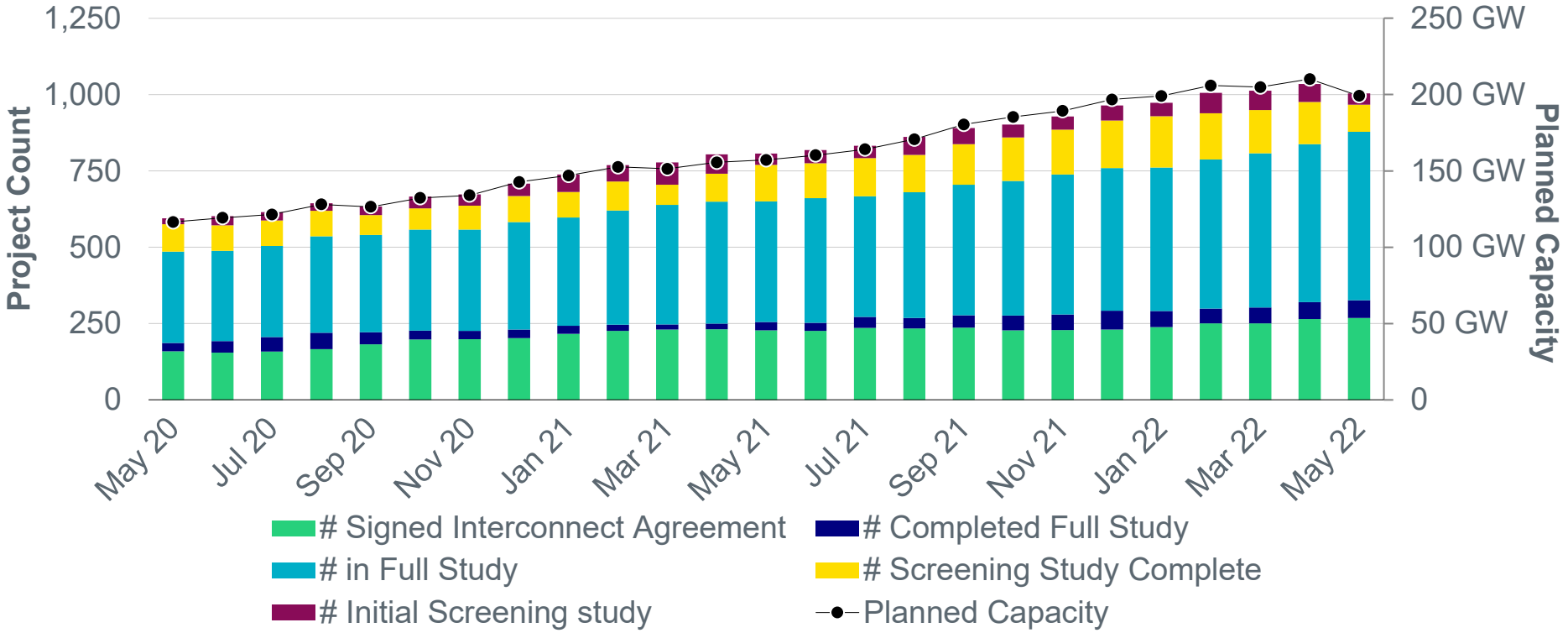
Monthly energy generation increased by 21% year-over-year to 38,444 GWh in May 2022, compared to 31,785 GWh in May 2021



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)

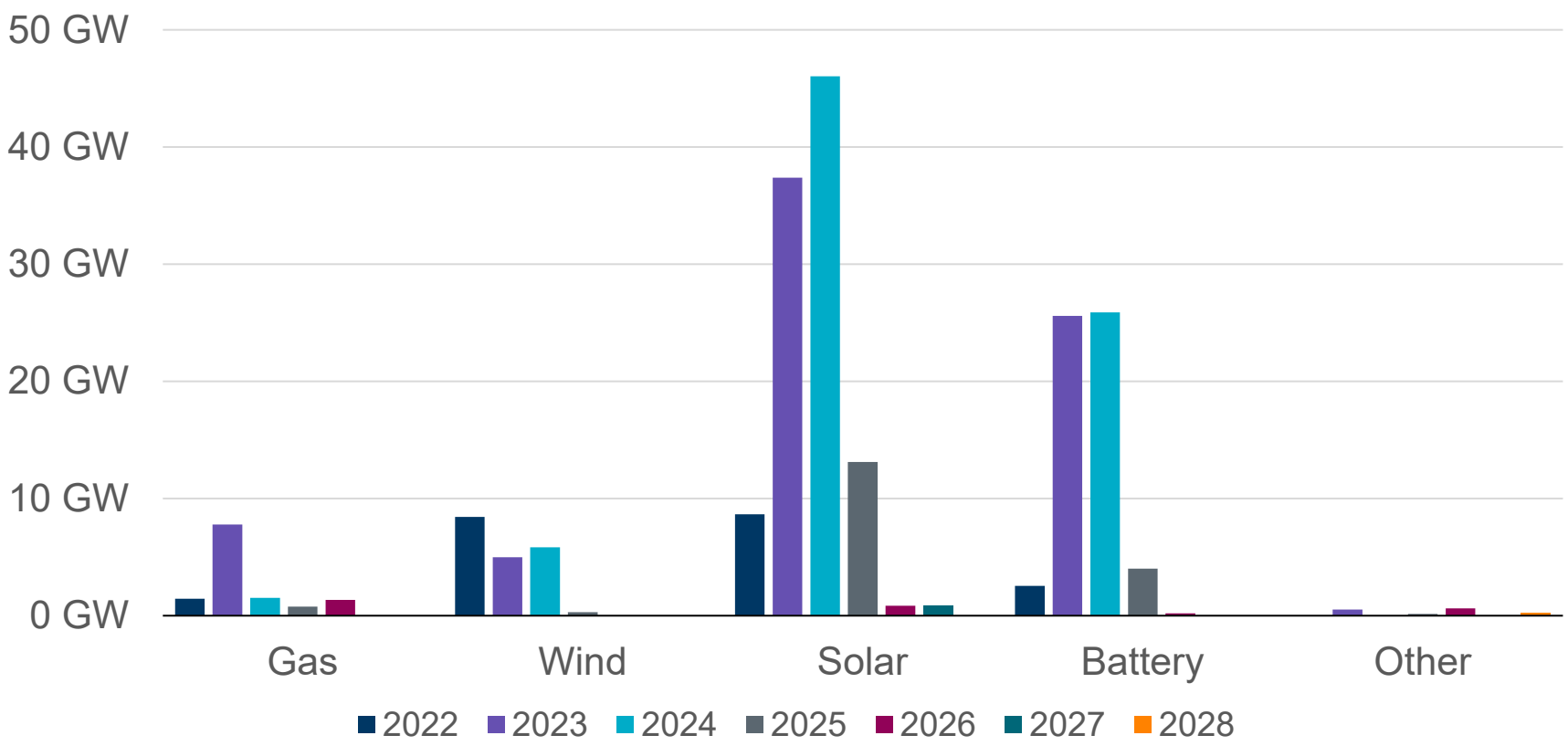


- There are an additional 9 “Small Generator” projects (87 MW) that are going through the simplified interconnection process.

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 107 GW (53.7%), Wind 20 GW (9.8%), Gas 13 GW (6.5%), Battery 58 GW (29.3%)
(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

Planning Summary

- ERCOT is tracking 1,017 active generation interconnection requests totaling 199,119 MW as of May 31. This includes 106,920 MW of solar, 19,544 MW of wind, 58,249 MW of battery, and 12,888 MW of gas projects; 64 projects were categorized as inactive, up from 57 inactive projects in April 2022.

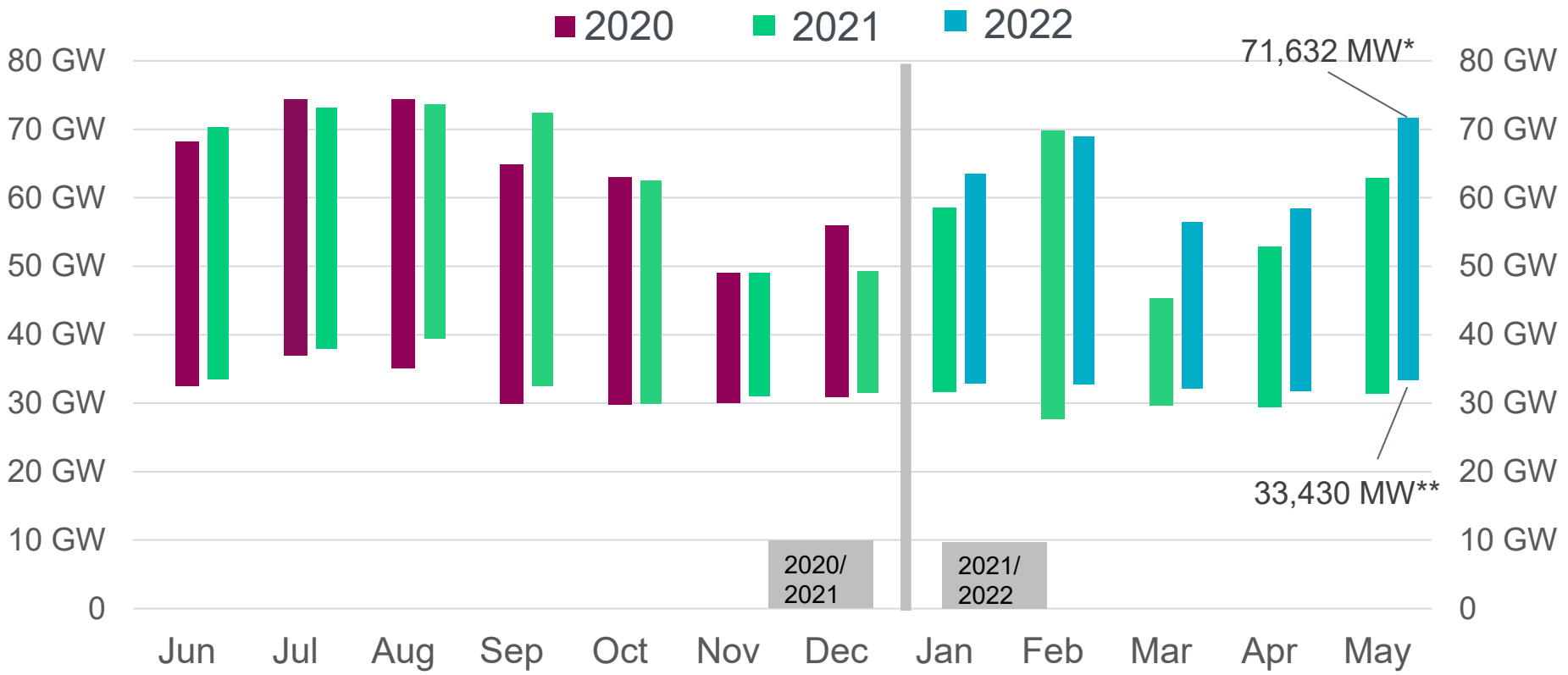
- ERCOT is currently reviewing proposed transmission improvements with a total estimated cost of $1,345.3 Million as of May 31, 2022.

- Transmission Projects endorsed in 2022 total $739.97 Million as of May 31, 2022.

- All projects (in engineering, routing, licensing and construction) total approximately $8.03 Billion as of February 1, 2022.

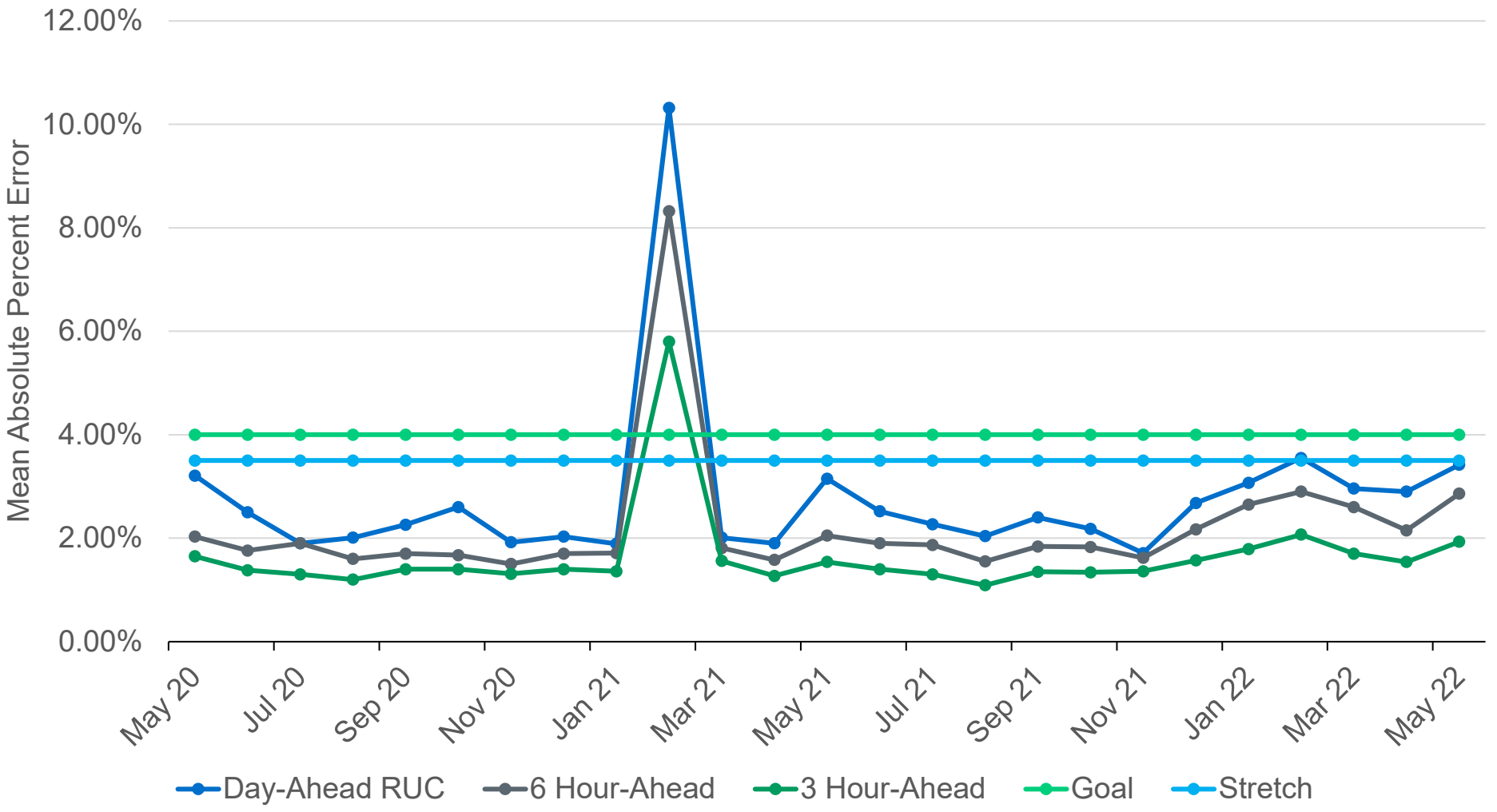
- Transmission Projects energized in 2022 total about $105.48 Million as of February 1, 2022.

ERCOT set an all-time maximum peak demand of 71,632 MW* for the month of May on 5/31/2022, which is 8,800 MW more than the May 2021 demand of 62,832 MW



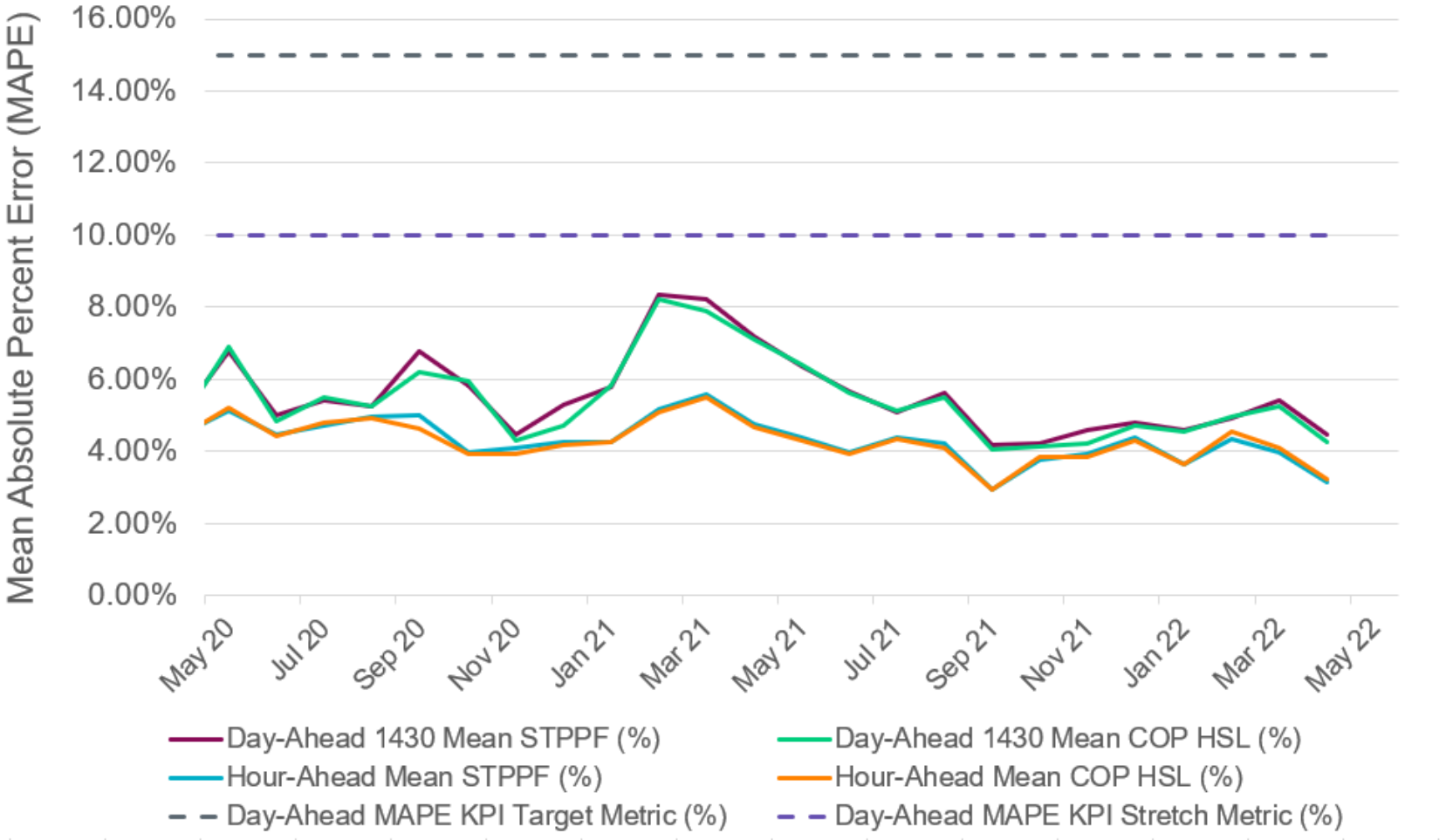
*Based on the maximum net system hourly value from June release of Demand and Energy 2022 report.
**Based on the minimum net system 15-minute interval value from June release of Demand and Energy 2022 report.
Data for latest two months are based on preliminary settlements.

Mid-Term Load Forecast Performance



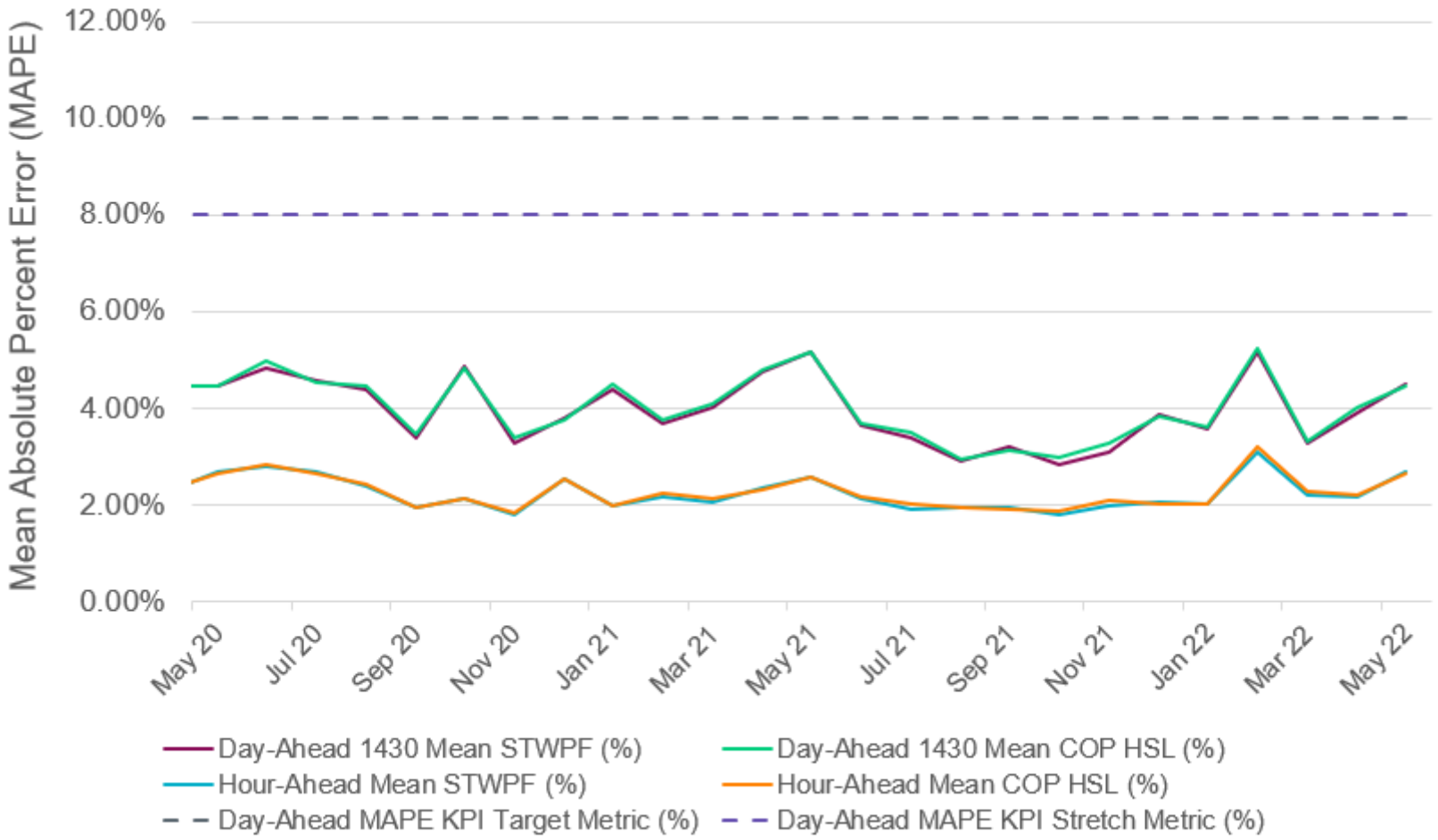
The Mid-Term Load Forecast is an hourly forecast that looks 7 days into the future

Solar Forecast Performance



The Short-Term Photovoltaic Power Forecast (STPPF) is an ERCOT-produced hourly 50% probability of exceedance forecast of the generation in MWh per hour from each PVGR.

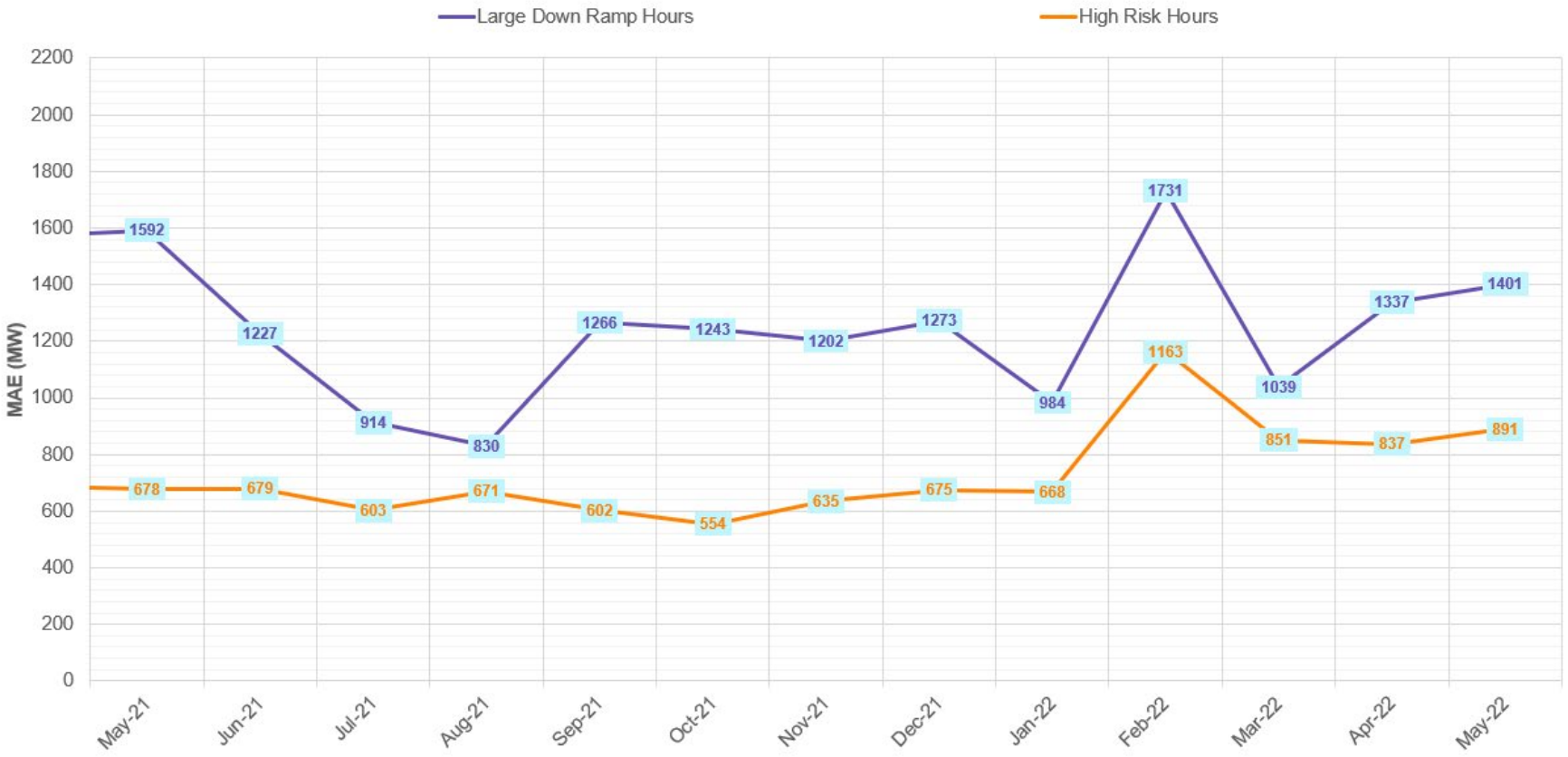
Wind Forecast Performance



The Short-Term Wind Power Forecast (STWPF) is an ERCOT produced hourly 50% probability of exceedance forecast of the generation in MWh per hour from each Wind Generation Resource.

Hour-Ahead Wind Forecast Performance

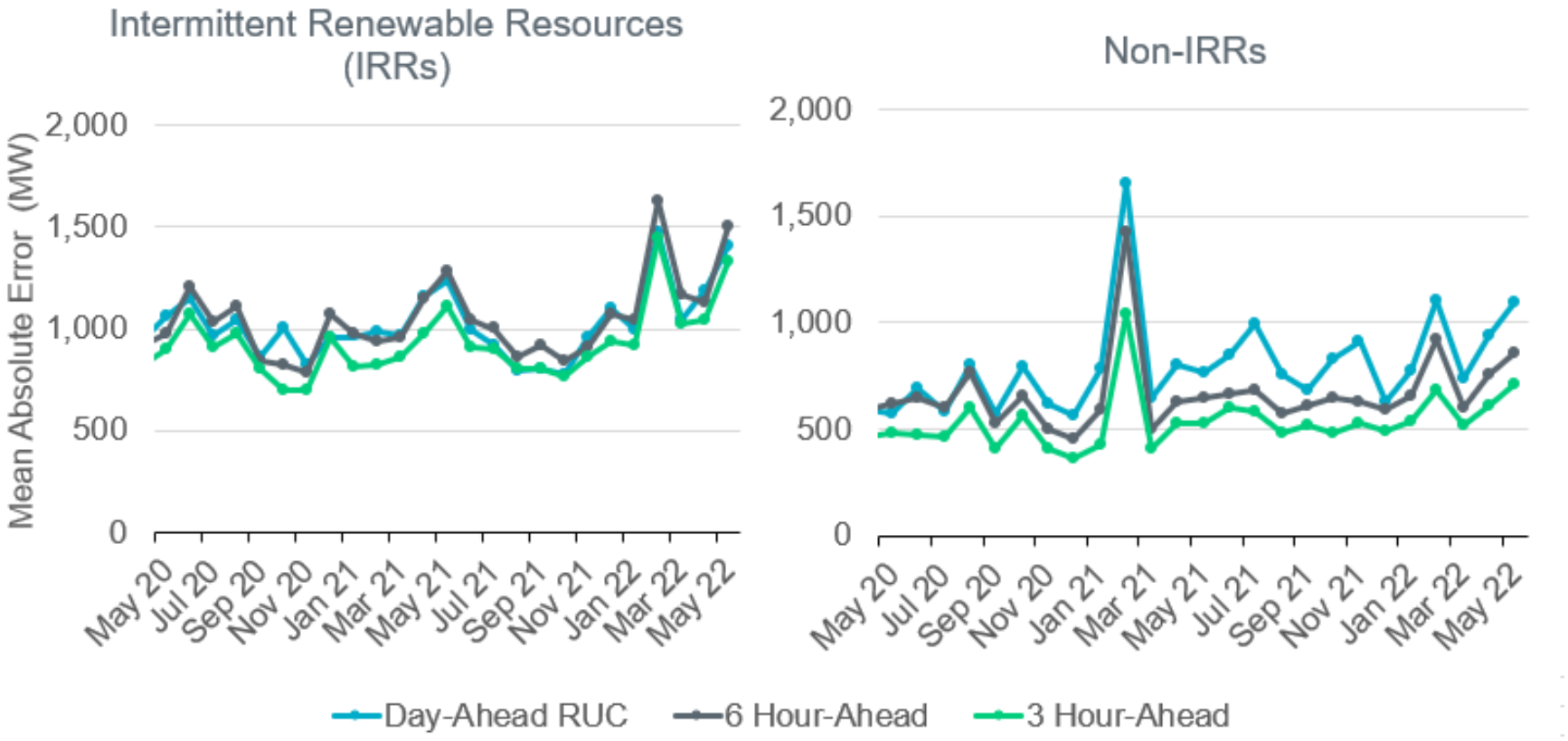
Hour-Ahead Mean Absolute Error (MAE) During Large Down Ramp (> 2000 MW) and High Risk Hours*



**ERCOT's performance-based payment structure for Wind Forecasts with both vendors incentivizes improvements in forecast performance during hours that are of more importance to operational reliability. This approach is a paradigm shift from the "traditional" methodology of measuring wind forecast performance as a singular monthly average metric.*

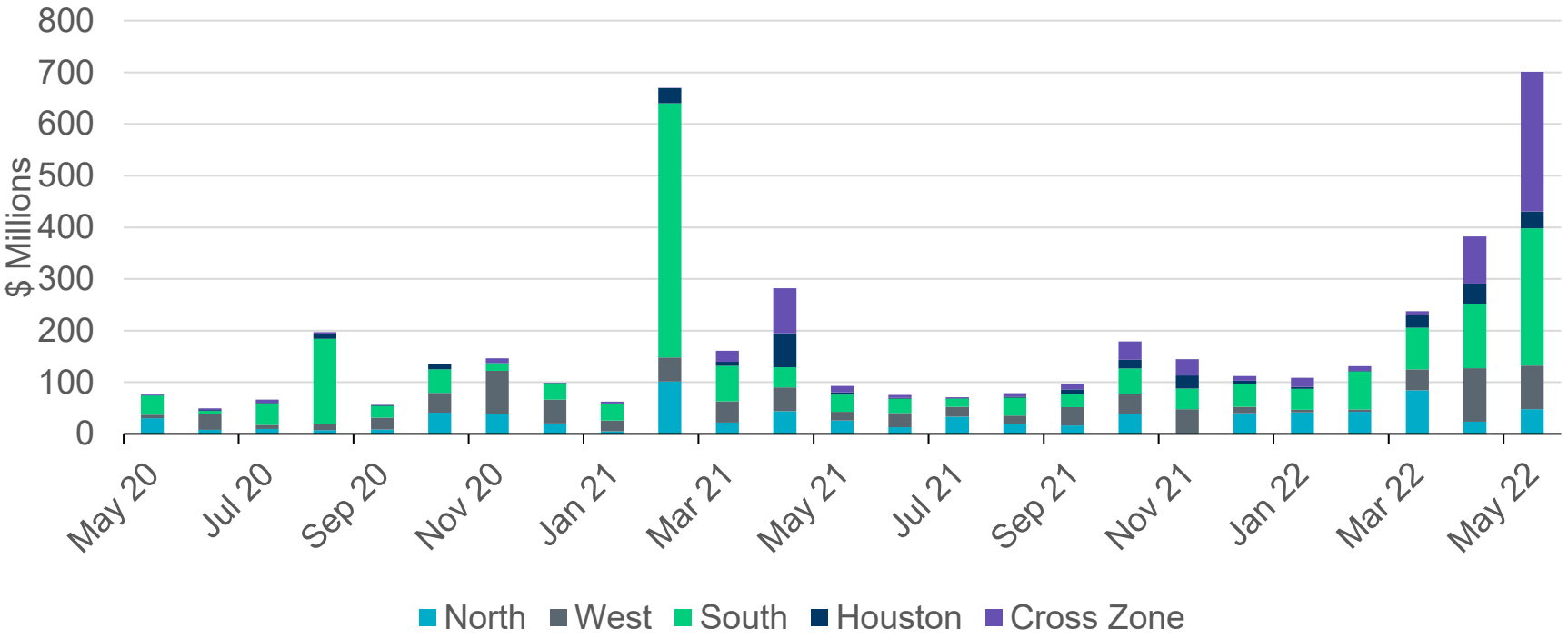
Forecast performance during large down ramp (wind ramp > 2000 MW) hours and high risk hours (historic risk of load ramping up and wind ramping down is high) is focused upon. Note that for the purposes of forecast performance measurement every hour in a month is classified as either a large down ramp hour or a high risk hour or something else. Any hour that is a high risk hour wherein a large down ramp was experienced will be tracked as a large down ramp hour.

Current Operating Plan (COP) Performance



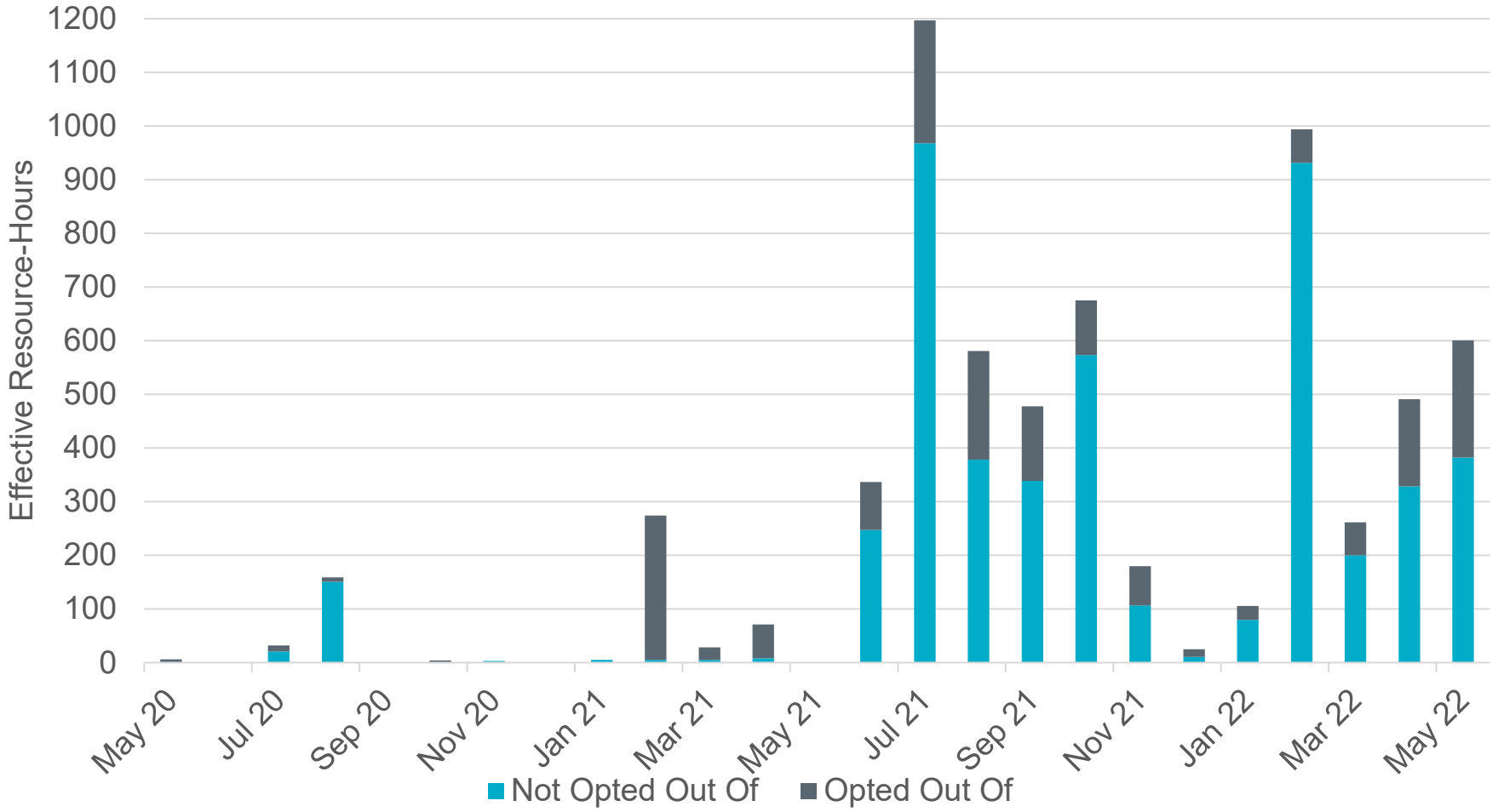
- COPs for IRRs are derived from wind and solar forecasts from ERCOT with any adjustments from Qualified Scheduling Entities.
- The installed capacity of approved Wind Units is 35,644 MW (as of May 31, 2022).
- The installed capacity of approved Solar Units is 11,440 MW (as of May 31, 2022).

Real-Time Congestion Rent by Zone



- Congestion rent in the North, South, and Cross Zones increased in May 2022 compared to April 2022.
- Congestion rent in the Cross Zone was primarily driven by the constraints DTOKJK_5: 260_A_1, BASE CASE: N_TO_H, and BASE CASE: WESTEX. Congestion rent in the South Zone was primarily driven by the constraints DSTPRED5: CKT_3124_1 and BASE CASE: NE_LOB.
- 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.

Fifty-One Resources were Committed in May for Capacity, Minimum Run Time, and Congestion



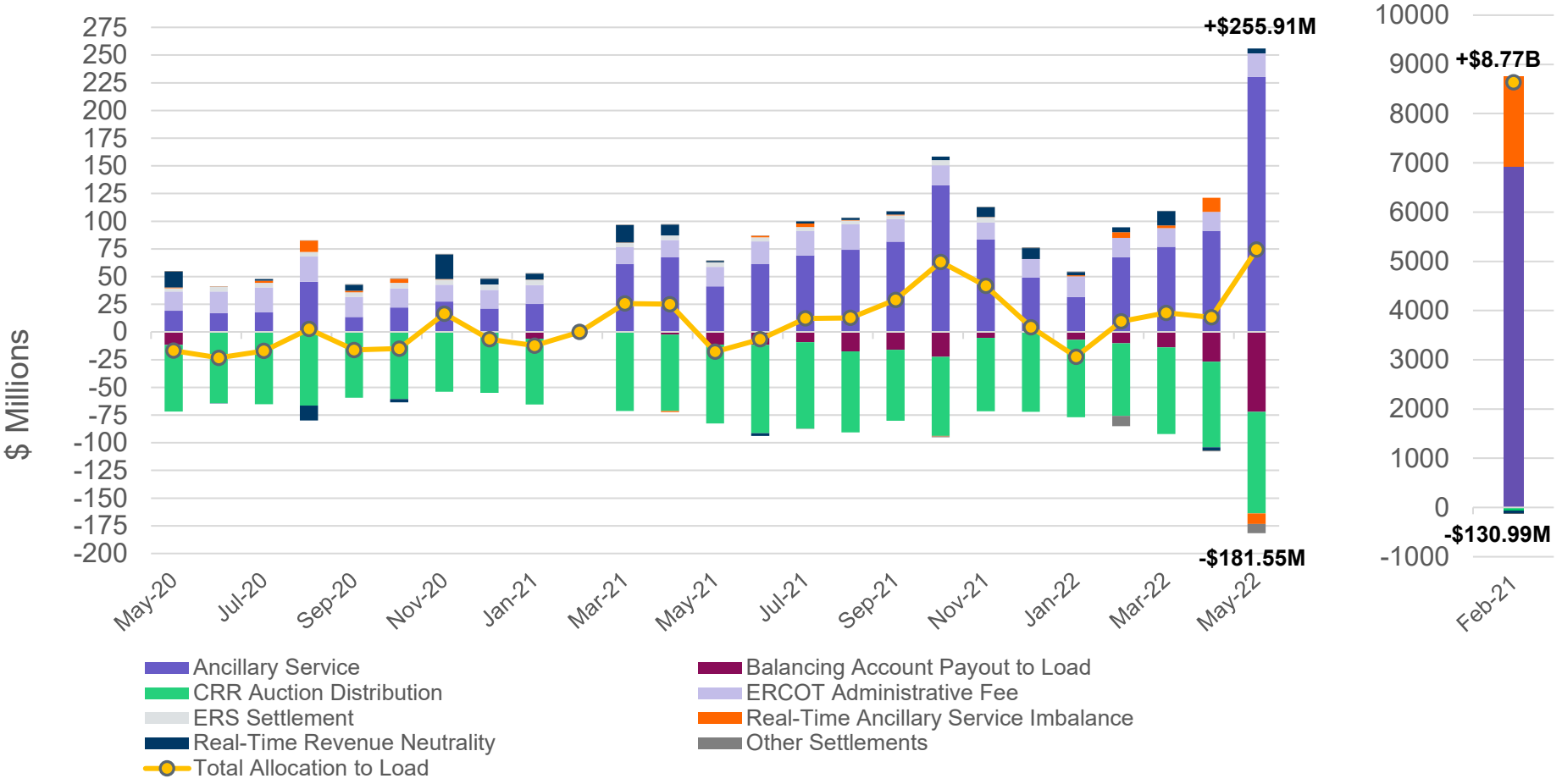
"Effective Resource-Hours" excludes any period during a Reliability Unit Commitment hour when the RUC-committed Resource was starting up, shutting down, off-line, or otherwise not available for dispatch by SCED.

Fifty-One Resources were Committed in May for Capacity, Minimum Run Time, and Congestion

Resource #	Effective Resource-hours	Non Opt Out (Effective Hours)	Opt Out (Effective Hours)
1	2.0	2	0
2	6.0	0	6
3	31.0	21	10
4	4.7	0	4.7
5	18.8	18.8	0
6	2.9	2.9	0
7	0.0	0	0
8	2.7	0	2.7
9	2.0	2	0
10	21.0	3	18
11	9.9	0	9.9
12	7.0	7	0
13	28.7	28.7	0
14	24.8	24.8	0
15	56.8	0	56.8
16	9.0	9	0
17	7.0	7	0
18	8.0	8	0
19	8.0	8	0
20	1.0	0	1
21	19.2	10.2	9
22	33.5	10.2	23.3
23	1.0	1	0
24	7.0	0	7
25	0.0	0	0
26	33.9	6	27.9

Resource #	Effective Resource-hours	Non Opt Out (Effective Hours)	Opt Out (Effective Hours)
27	2.8	2.8	0
28	9.2	9.2	0
29	23.7	23.7	0
30	6.0	6	0
31	1.0	0	1
32	7.0	7	0
33	8.9	8.9	0
34	6.5	6.5	0
35	0.9	0.9	0
36	0.9	0.9	0
37	28.0	7	21
38	28.2	28.2	0
39	14.9	5.9	9
40	11.5	11.5	0
41	28.0	28	0
42	19.6	19.6	0
43	0.0	0	0
44	2.0	2	0
45	19.9	19.9	0
46	9.0	4	5
47	5.0	0	5
48	1.0	0	1
49	12.1	12.1	0
50	1.0	1	0
51	7.4	7.4	0
Sum	**600.8**	382.3	218.5

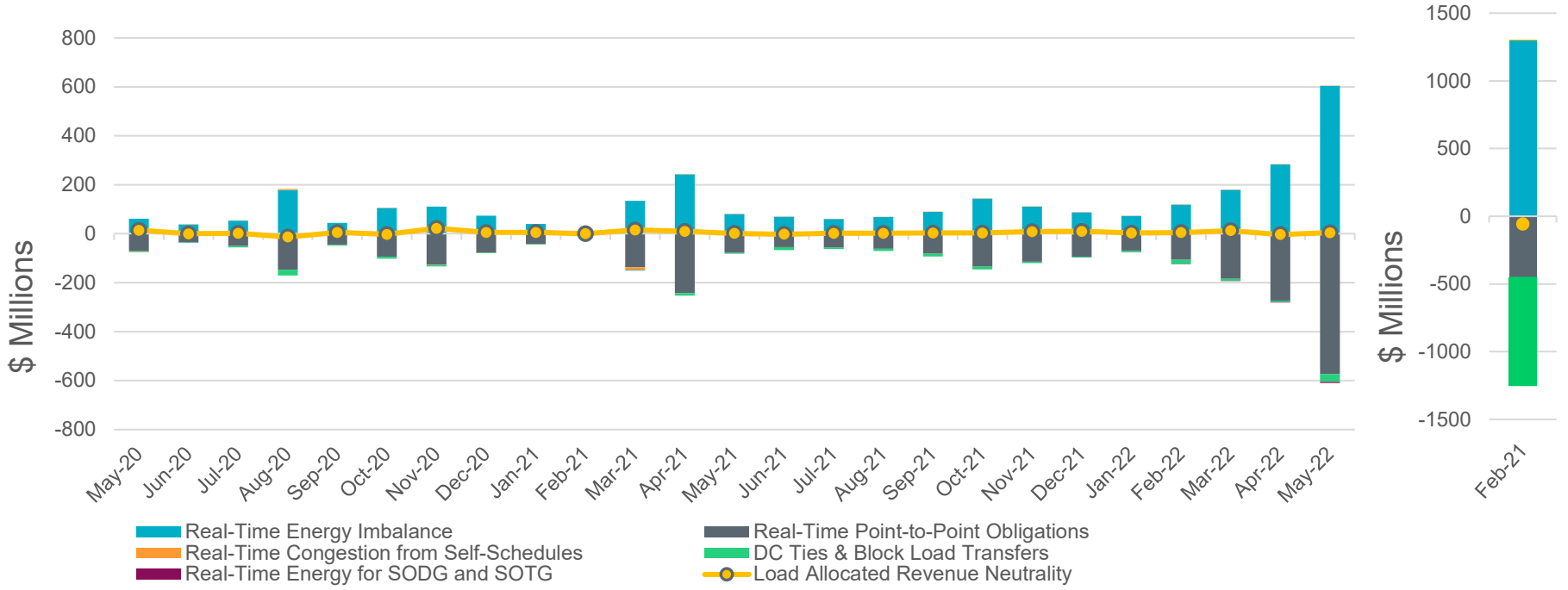
Net Allocation to Load in May 2022 was $74.36 Million



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

Note: For visual purposes, February 2021 has been separated into its own graph with different scaling. The legend applies for both graphs.

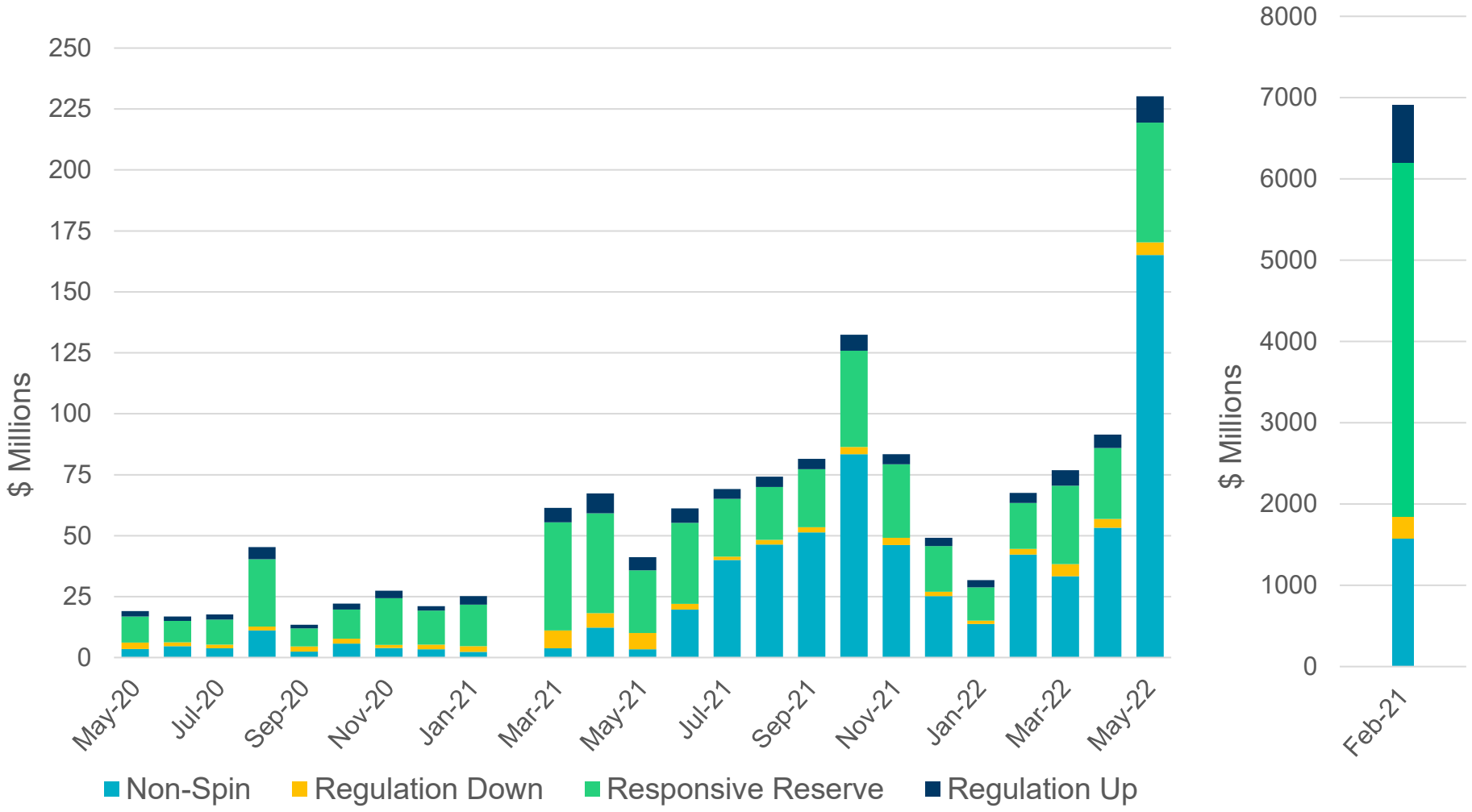
Real-Time Revenue Neutrality Allocated to Load was $4.34M for May 2022



	May 2022 ($M)
Real-Time Energy Imbalance	$604.23
Real-Time Point-to-Point Obligation	($574.23)
Real-Time Congestion from Self-Schedules	$0.98
DC Tie & Block Load Transfer	($30.76)
Real-Time Energy for SODG and SOTG	($4.55)
Load Allocated Revenue Neutrality	**$4.34**

Note: For visual purposes, February 2021 has been separated into its own graph with different scaling. The legend applies for both graphs.

Ancillary Services for May 2022 totaled $230.17M



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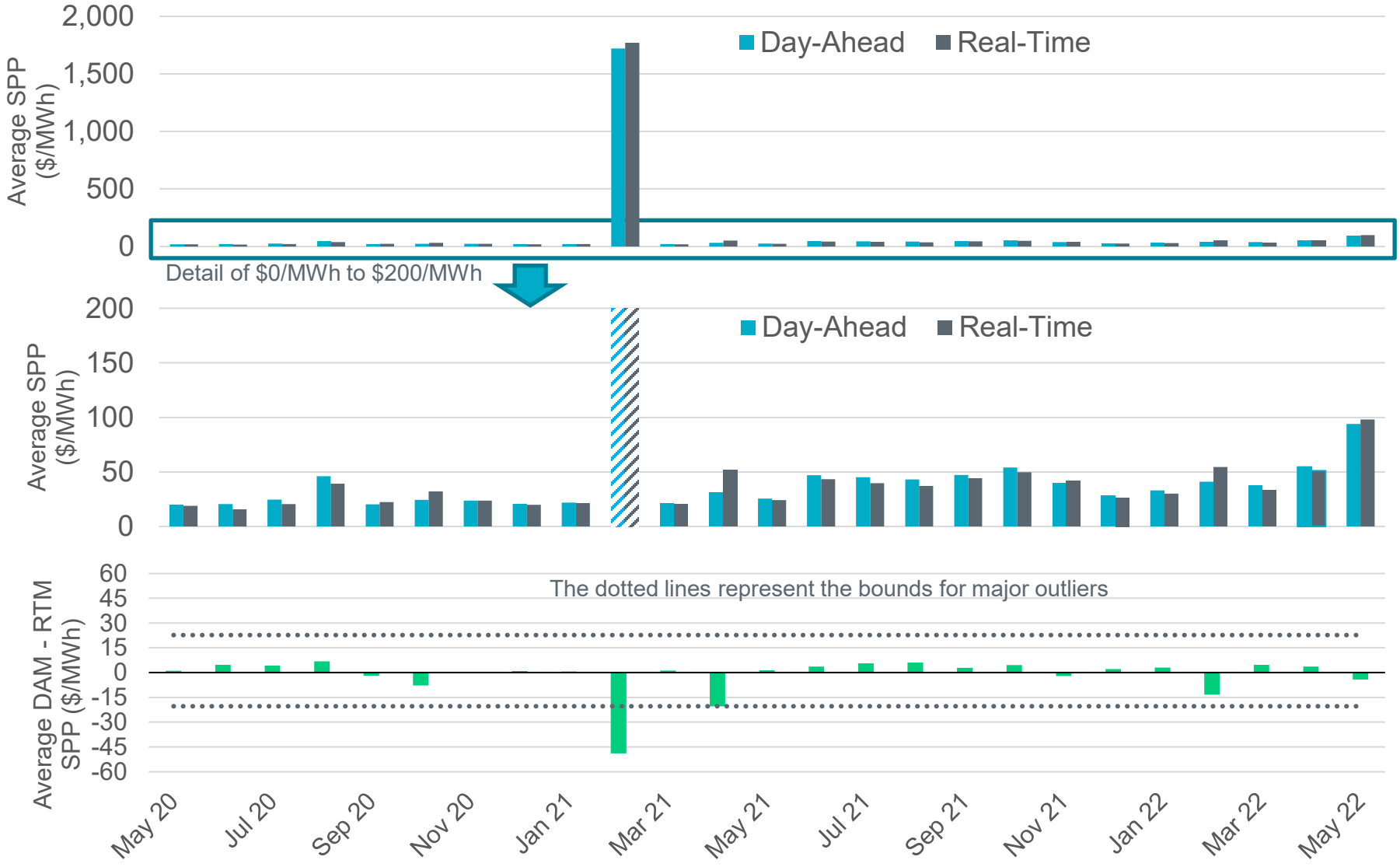
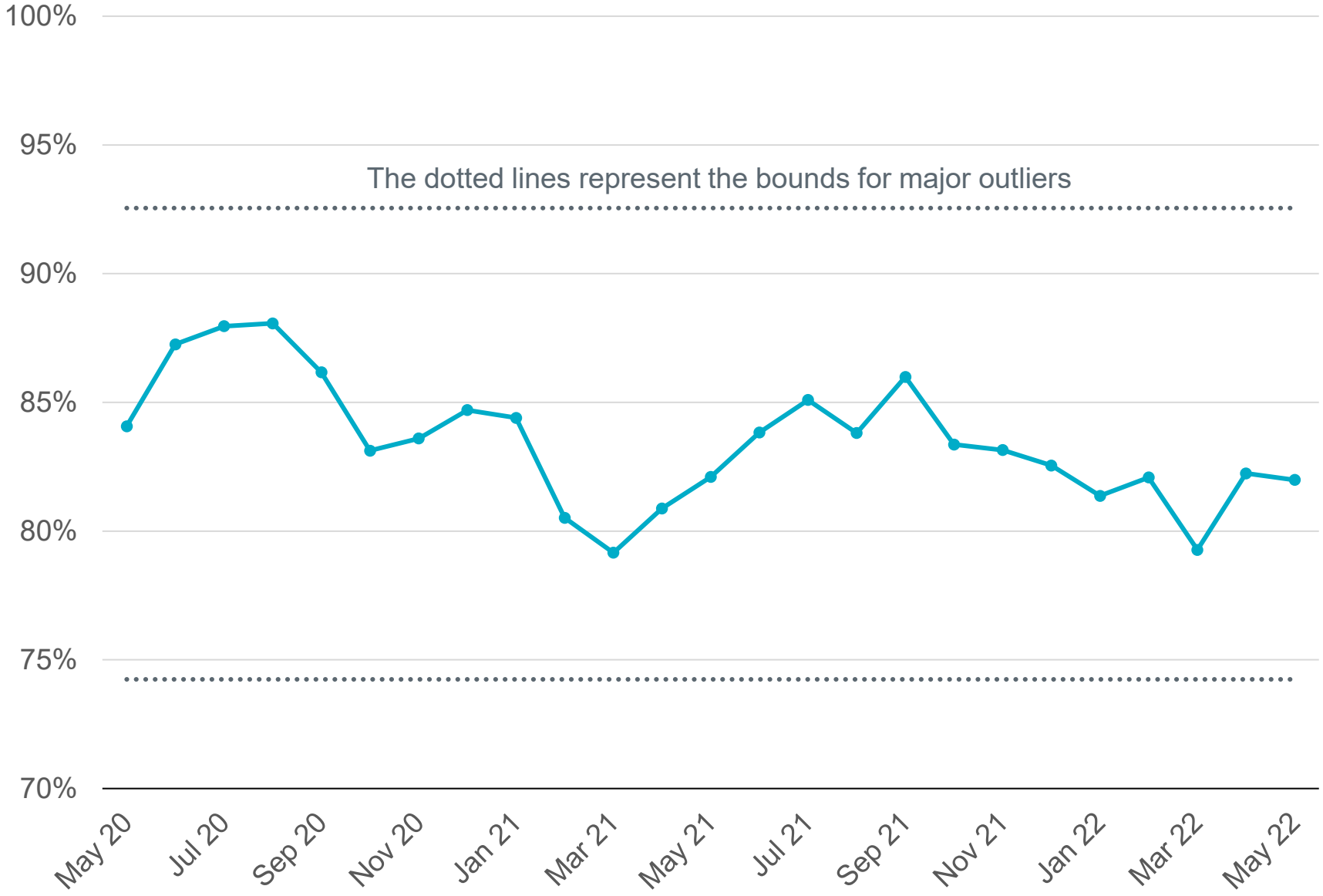
Day-Ahead and Real-Time Market Price Differences

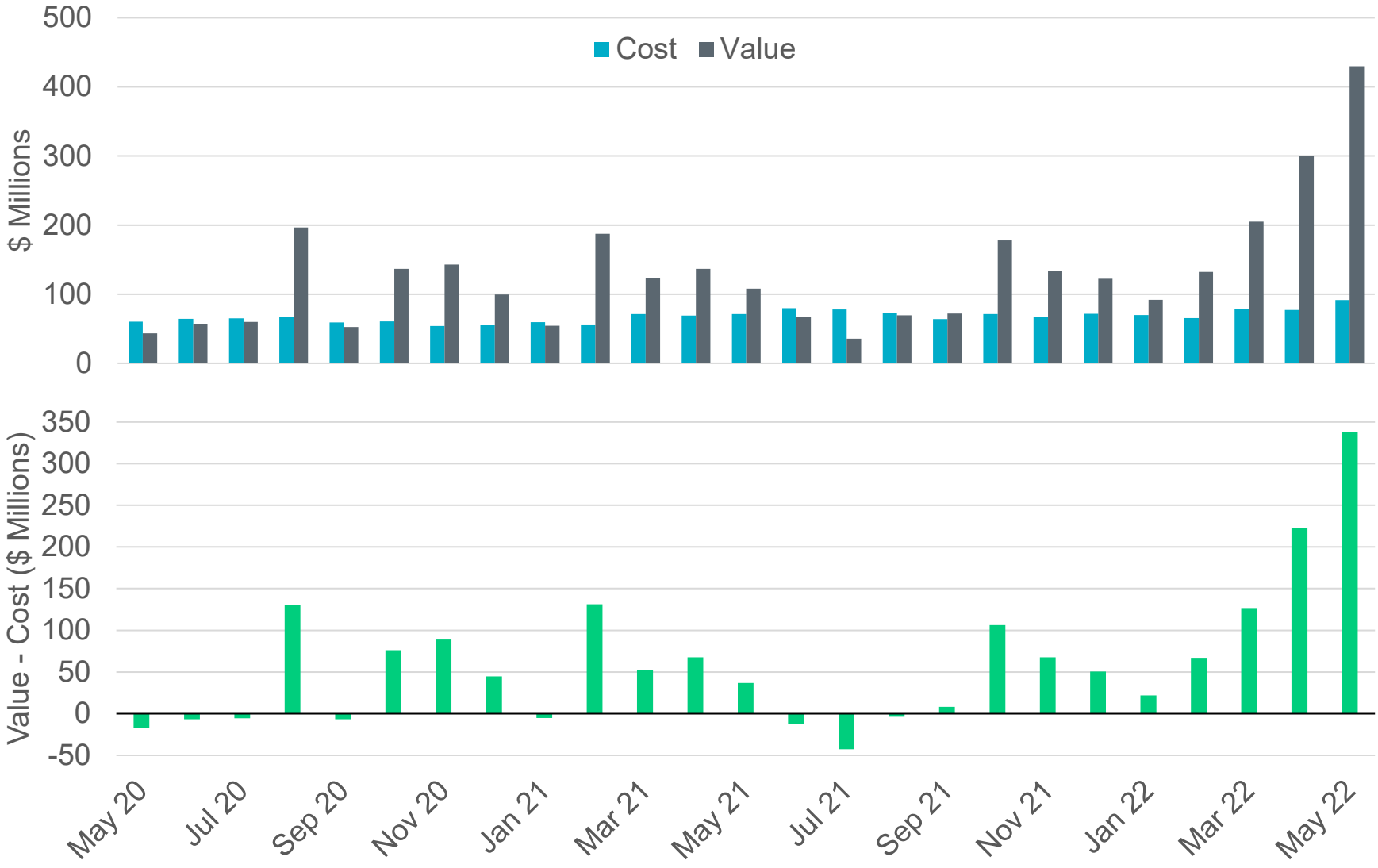


*Averages are weighted by Real-Time Market Load

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



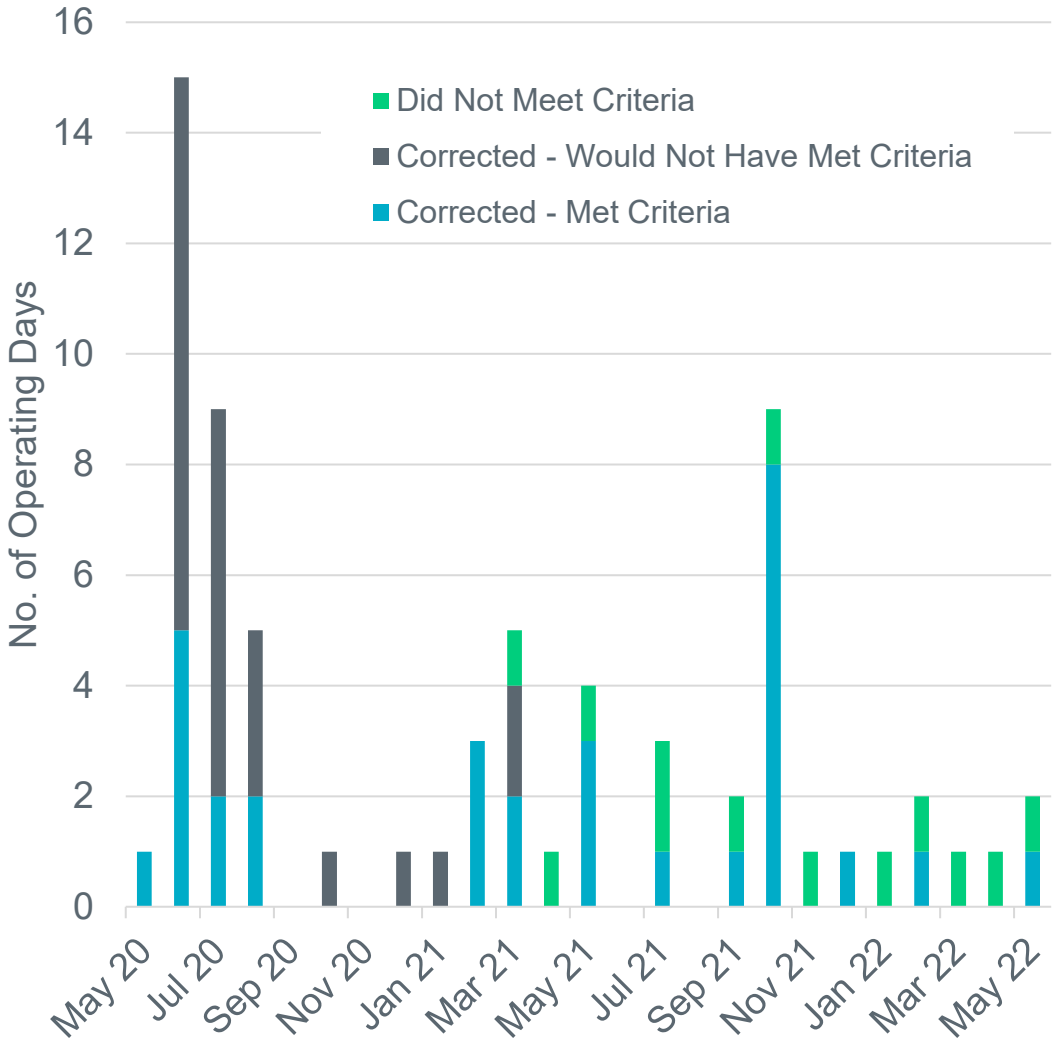
CRR Value and Cost Differences



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 would not have met the criteria for “significance” under NPRR1024, but were corrected because NPRR1024 was not yet in place; and
- Days that were not corrected because they did not meet the criteria for “significance” under NPRR1024.

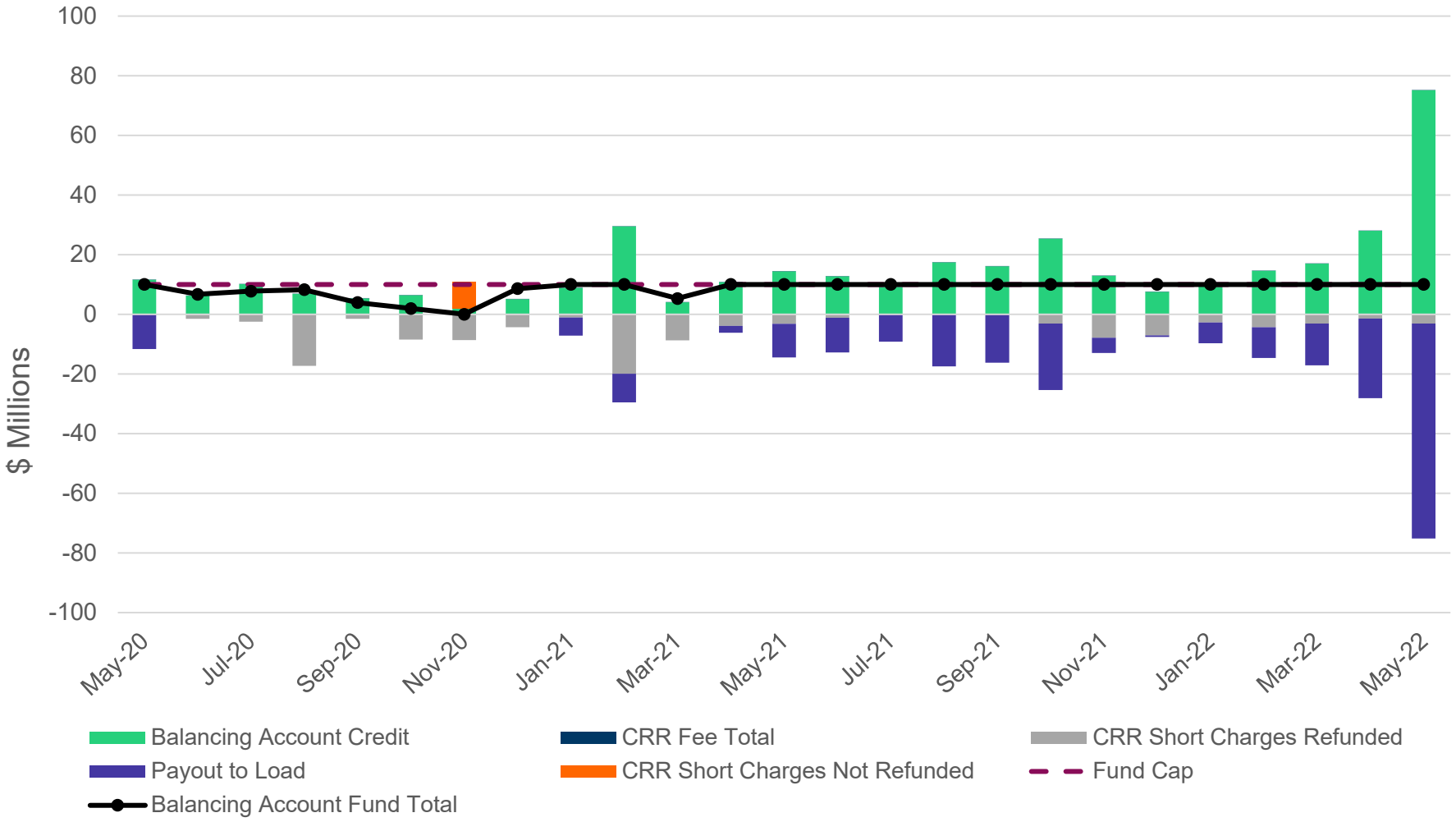


Details on Price Issues not Meeting the Criteria for Significance

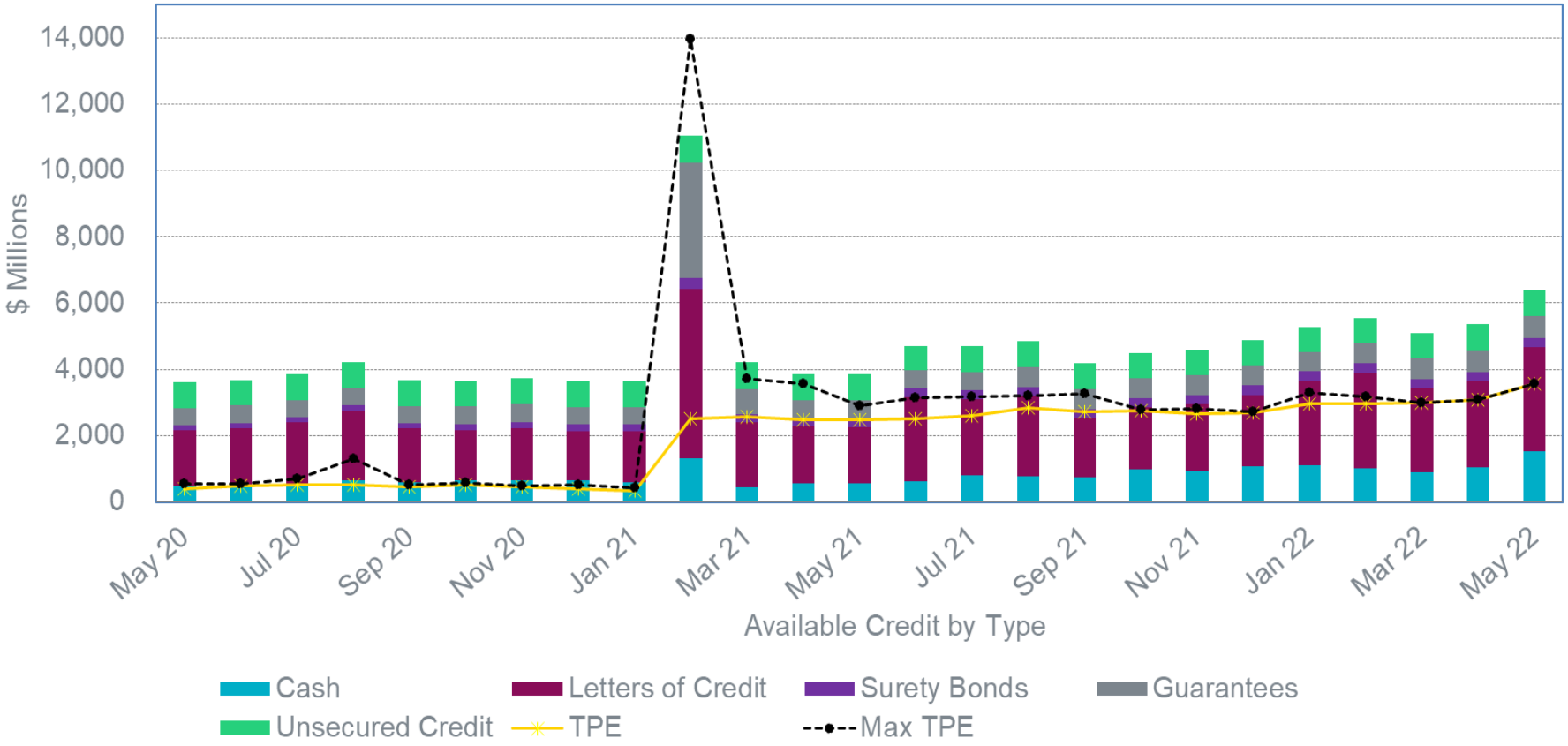
Operating Day May 26, 2022

- The price issue was driven by SCED executions that were missed during planned software maintenance.
- Impacts were minor and specific to Real-Time Prices for Energy Metered for Resources (RTRMPRs).
  - The total dollar impact was estimated as less than $10.

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 – May 2022

	Year-To-Date		Transactions Received	
Transaction Type	May 2022	May 2021	May 2022	May 2021
Switches	582,419	651,853	131,481	101,790
Acquisitions	0	48,862	0	0
Move - Ins	1,204,313	1,076,802	257,179	207,518
Move - Outs	545,669	499,615	130,031	100,343
Continuous Service Agreements (CSA)	319,820	300,424	120,894	33,874
Mass Transitions	23,435	26,584	23,435	6,172
Total	2,675,656	2,604,140	663,020	449,697