ERCOT Monthly Operational Overview
(February 2022) Revised 04.25.22

ERCOT Public
March 25, 2022

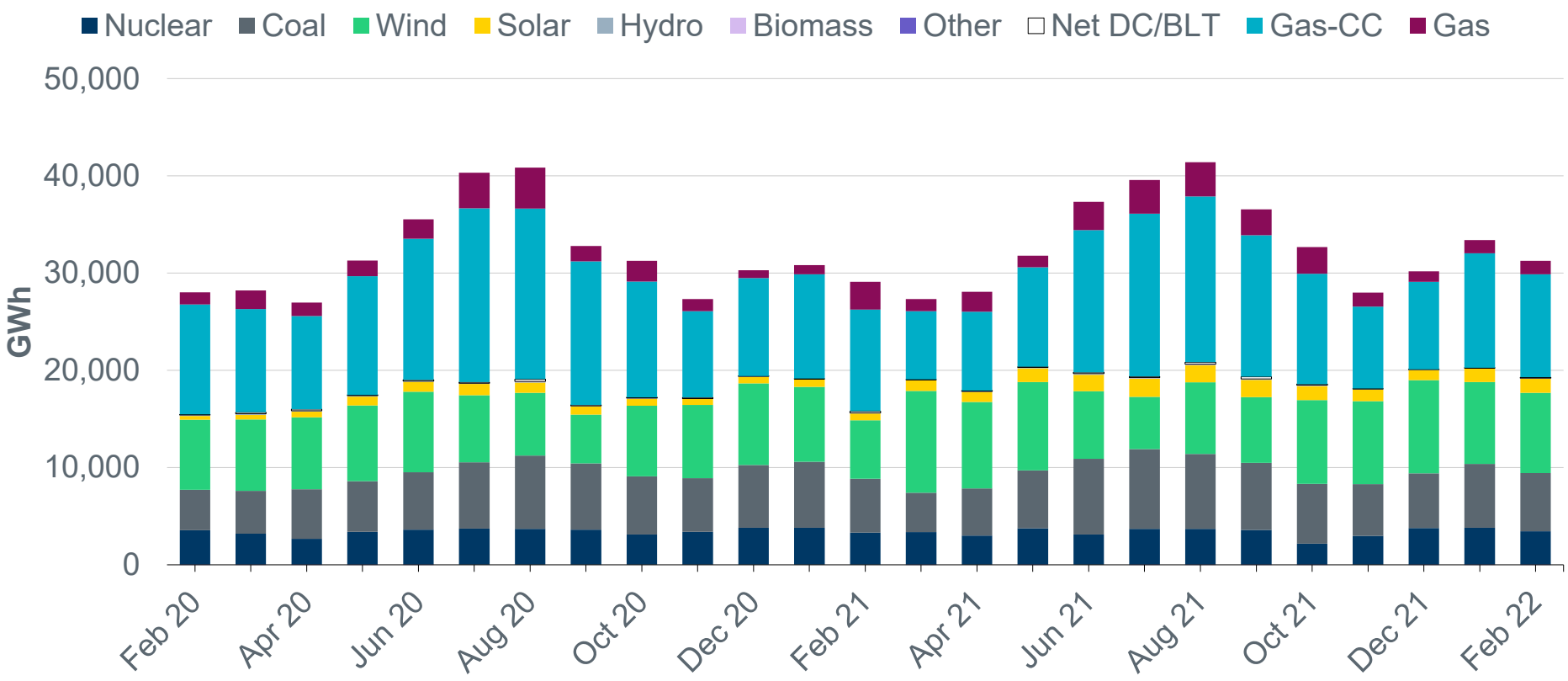
Highlights, Records and Notifications

- ERCOT set a maximum peak demand of 68,954 MW* for the month of February, which is 858 MW less than the February 2021 demand of 69,812 MW.

- ERCOT issued 6 notifications:
  - 1 OCN issued for the predicted extreme cold weather event for the ERCOT region.
  - 1 OCN issued for the potential of freezing precipitation over the West Texas area and much of North Central area including the DFW area.
  - 1 Advisory issued for the predicted extreme cold weather for the ERCOT region.
  - 1 Advisory issued for the potential of freezing precipitation over the West Texas area and much of North Central area including the DFW area.
  - 1 Advisory for delay in posting of DAM Solution.
  - 1 Watch issued for the predicted extreme cold weather for the ERCOT region.

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

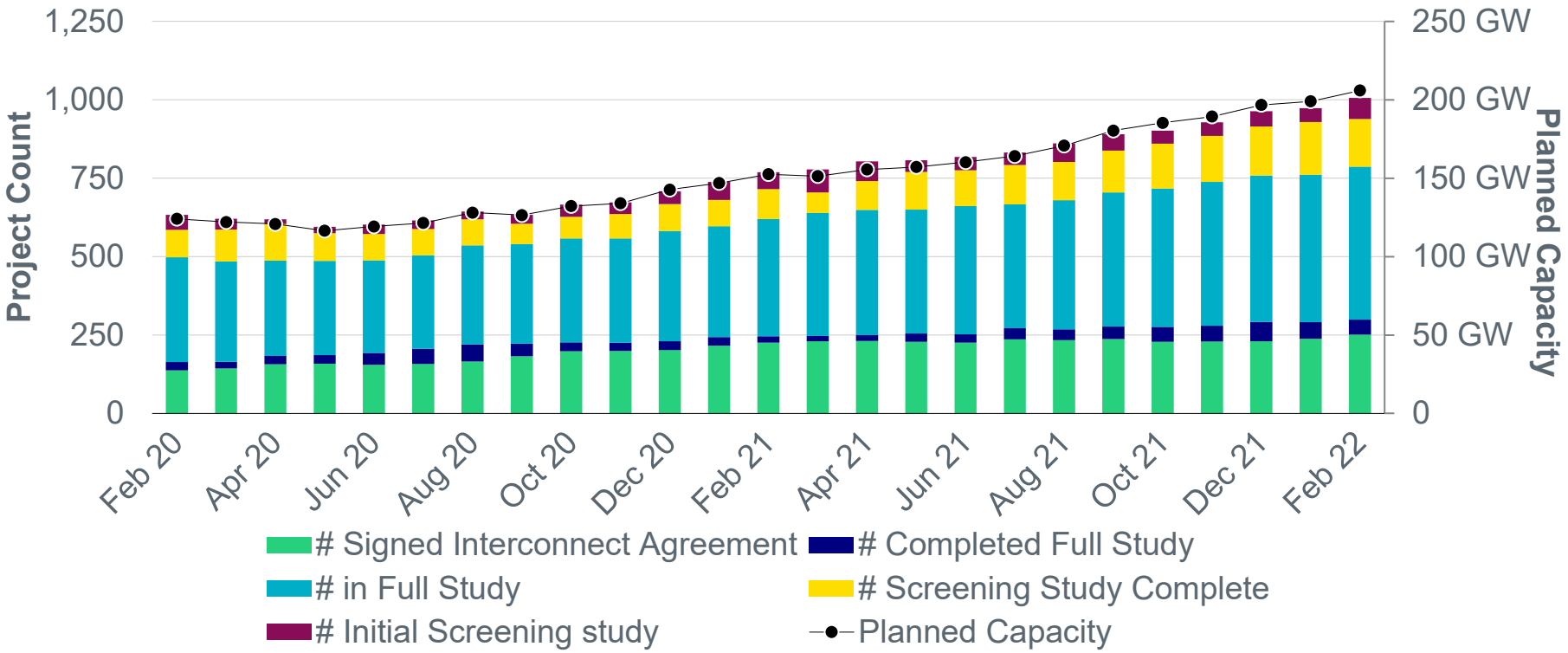
Monthly energy generation increased by 7.5% year-over-year to 31,270 GWh in February 2022, compared to 29,096 GWh in February 2021



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)

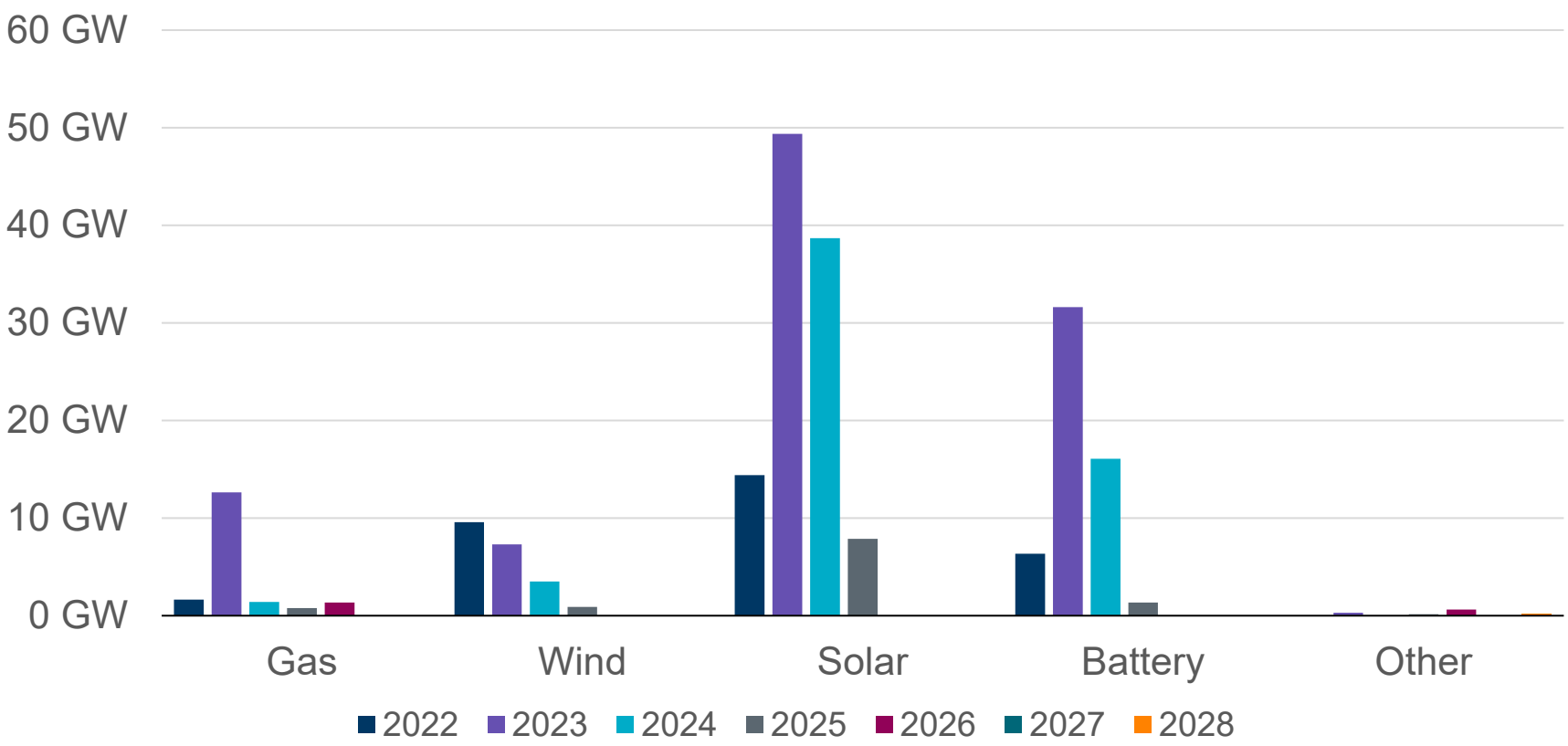


- There is an additional 12 “Small Generator” projects (120 MW) that go through a simplified interconnection process.

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 110 GW (53.6%), Wind 21 GW (10.3%), Gas 18 GW (8.6%), Battery 55 GW (26.9%)
(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 1,018 active generation interconnection requests totaling 205,952 MW as of February 28. This includes 110,323 MW of solar, 21,262 MW of wind, 55,337 MW of battery, and 17,764 MW of gas projects; 55 projects are categorized as inactive, this is similar to the inactive projects in January 2022.

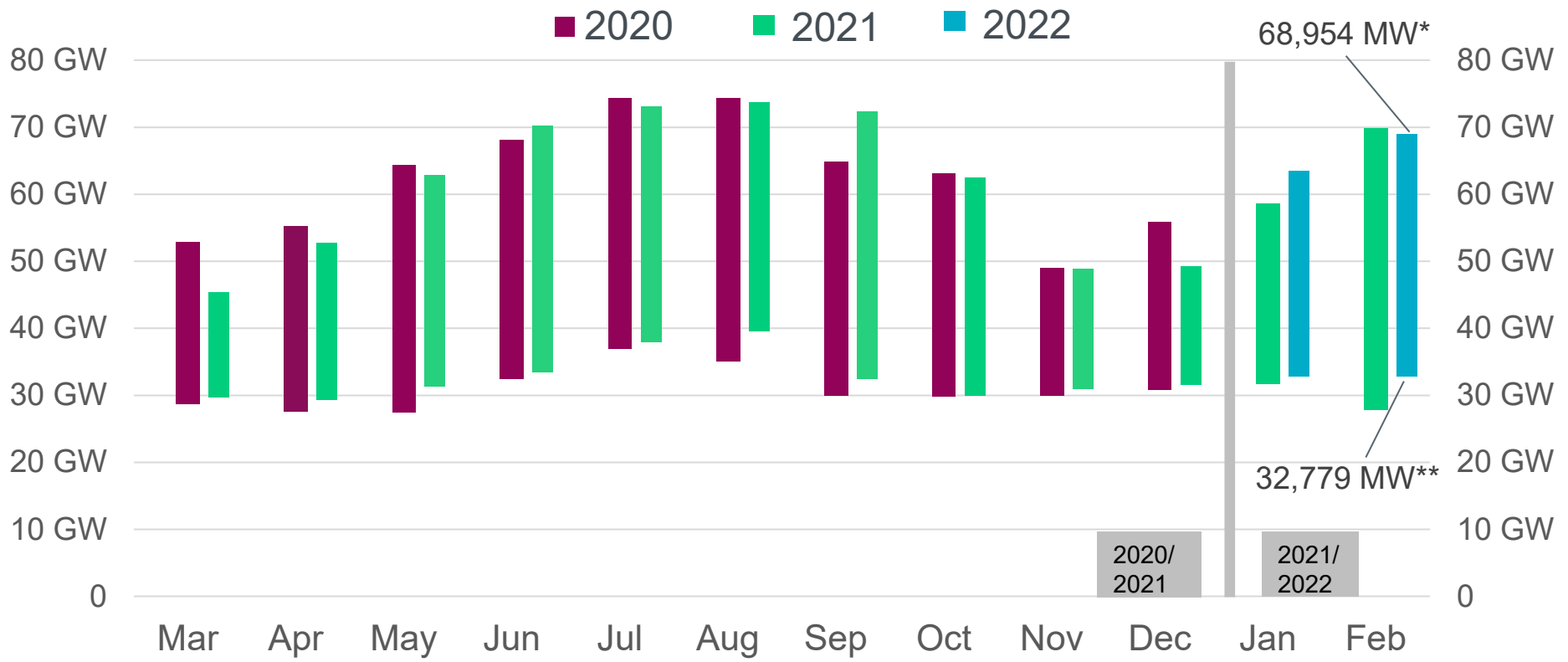
- ERCOT is currently reviewing proposed transmission improvements with a total estimated cost of $464.36 Million as of February 28, 2022.

- Transmission Projects endorsed in 2022 total $245.40 Million as of February 28, 2022.

- All projects (in engineering, routing, licensing and construction) total approximately $8.00 Billion as of October 1, 2021.

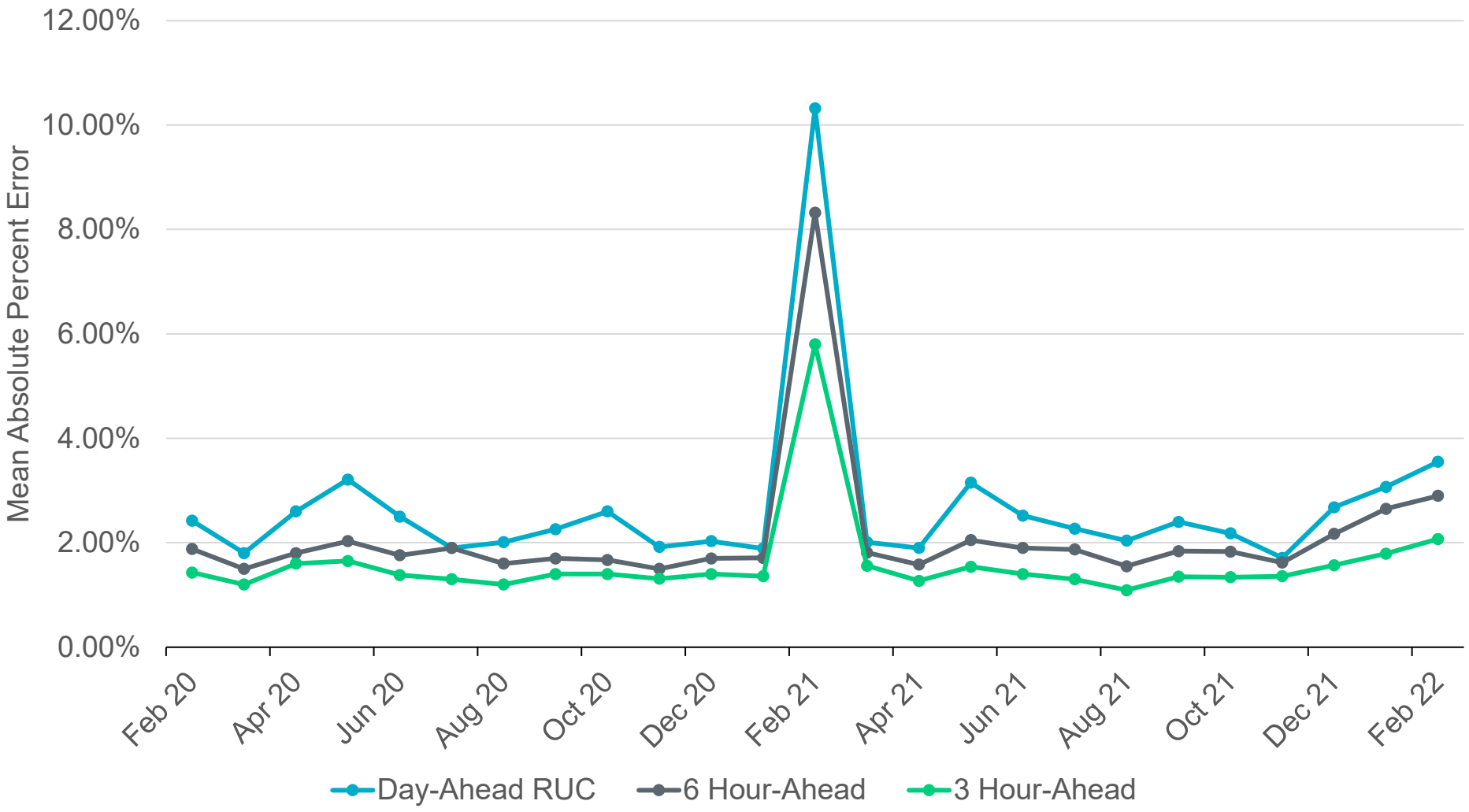
- Transmission Projects energized in 2021 total about $1.438 Billion as of October 1, 2021.

ERCOT set a maximum peak demand of 68,954 MW* for the month of February, which is 858 MW less than the February 2021 demand of 69,812 MW



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

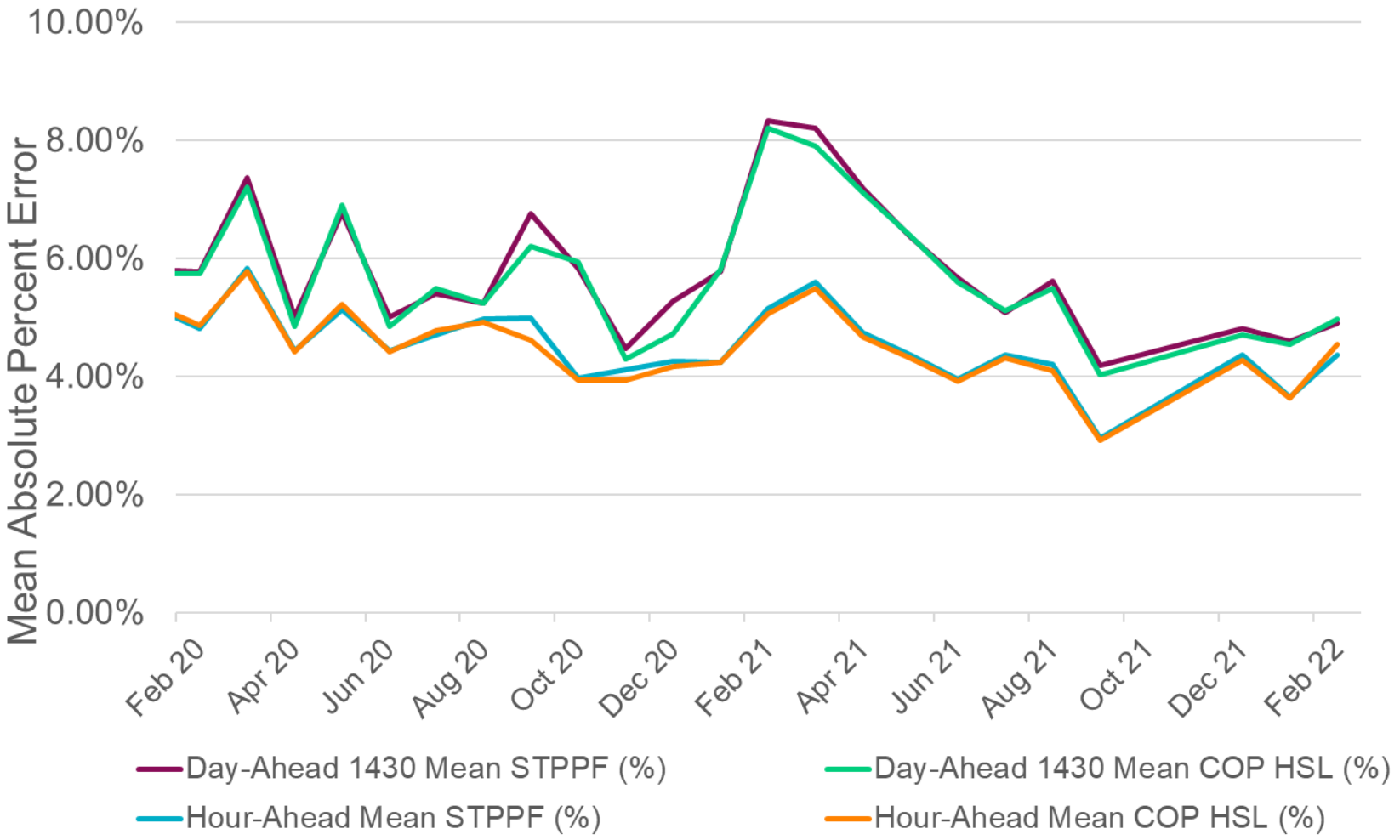
Mid-Term Load Forecast Performance



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

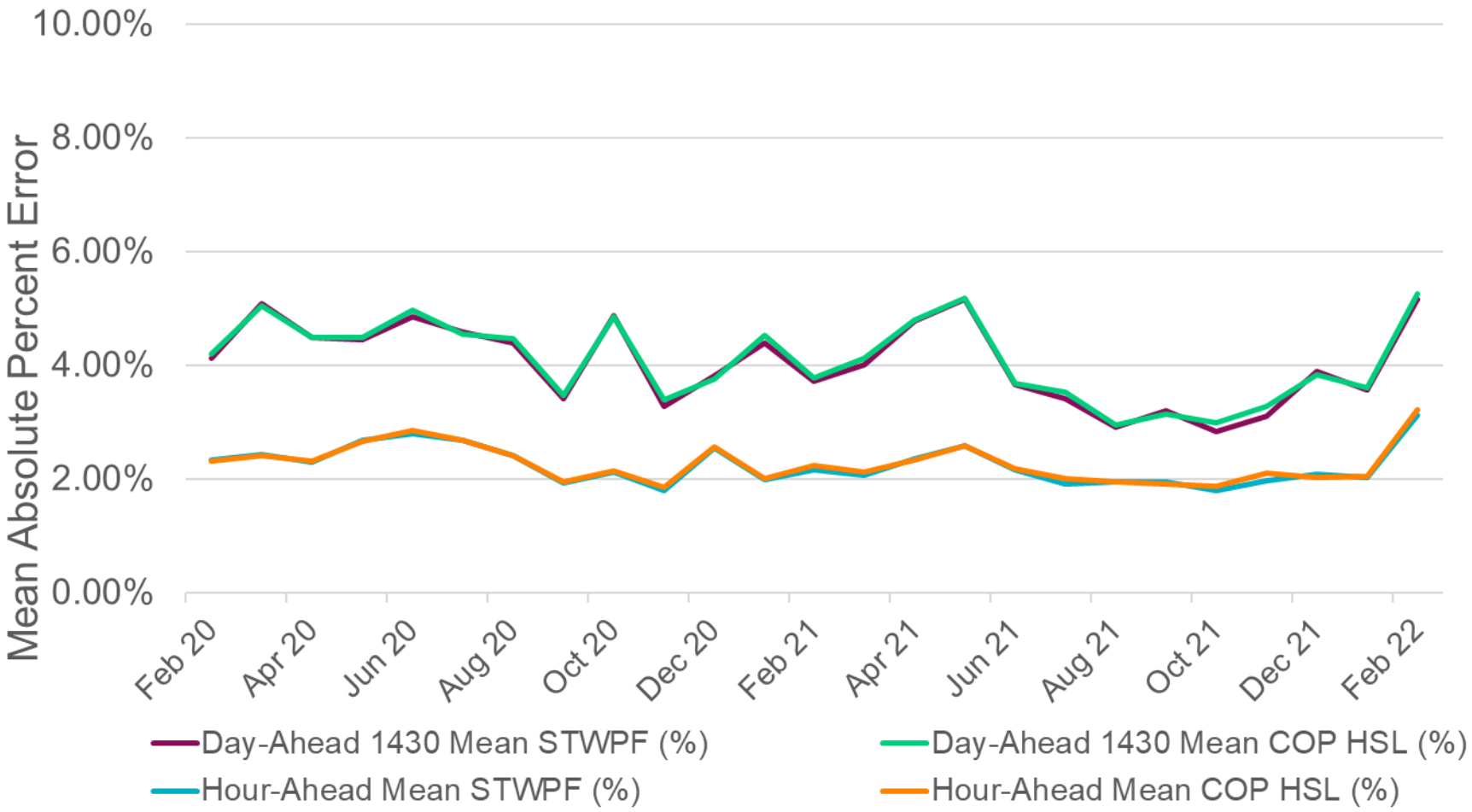
Solar Forecast Performance

Corrected



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.

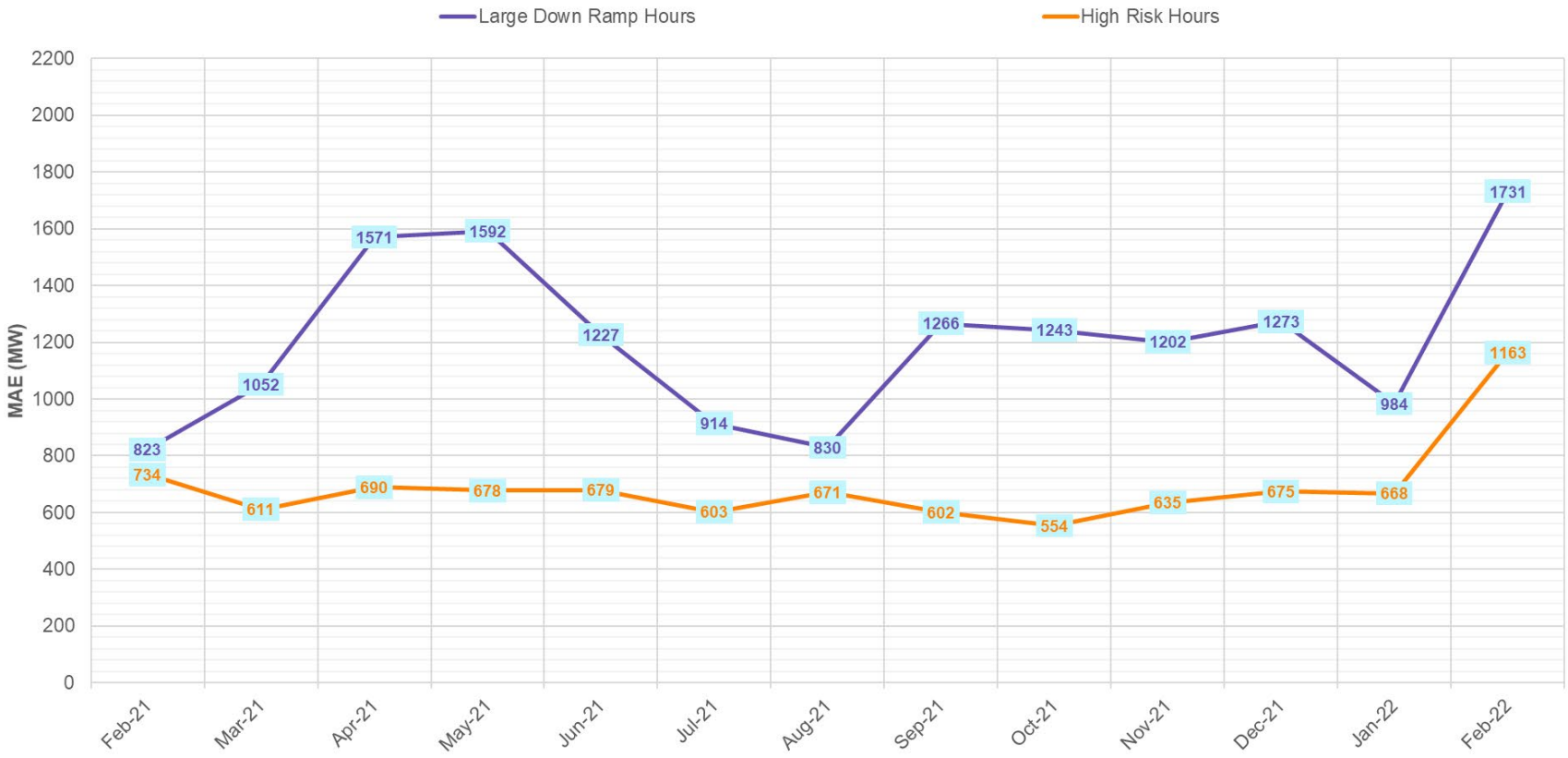
Wind Forecast Performance



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

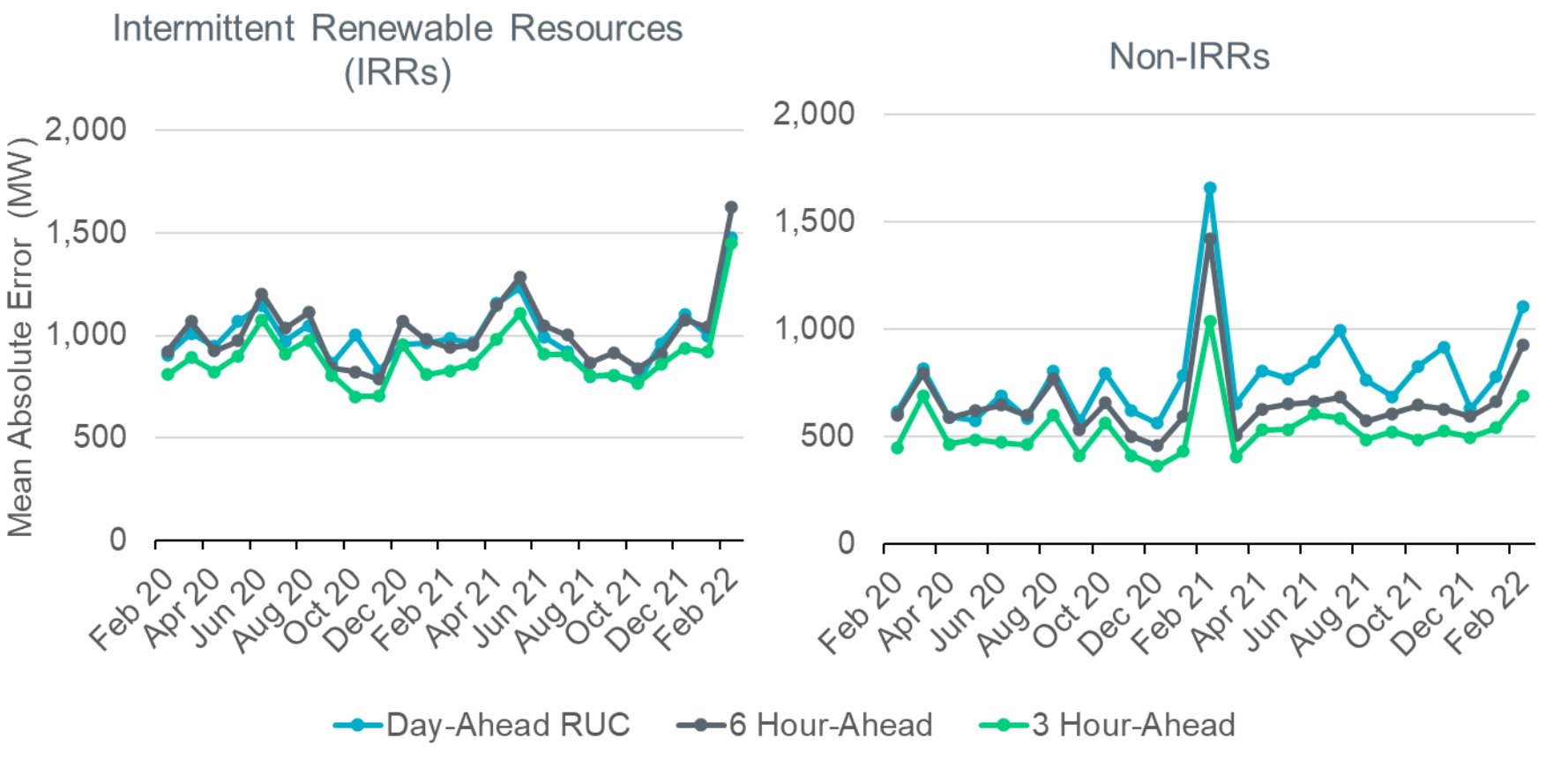
Hour-Ahead Mean Absolute Error (MAE) During Large Down Ramp (> 2000 MW) and High Risk Hours*



**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.*

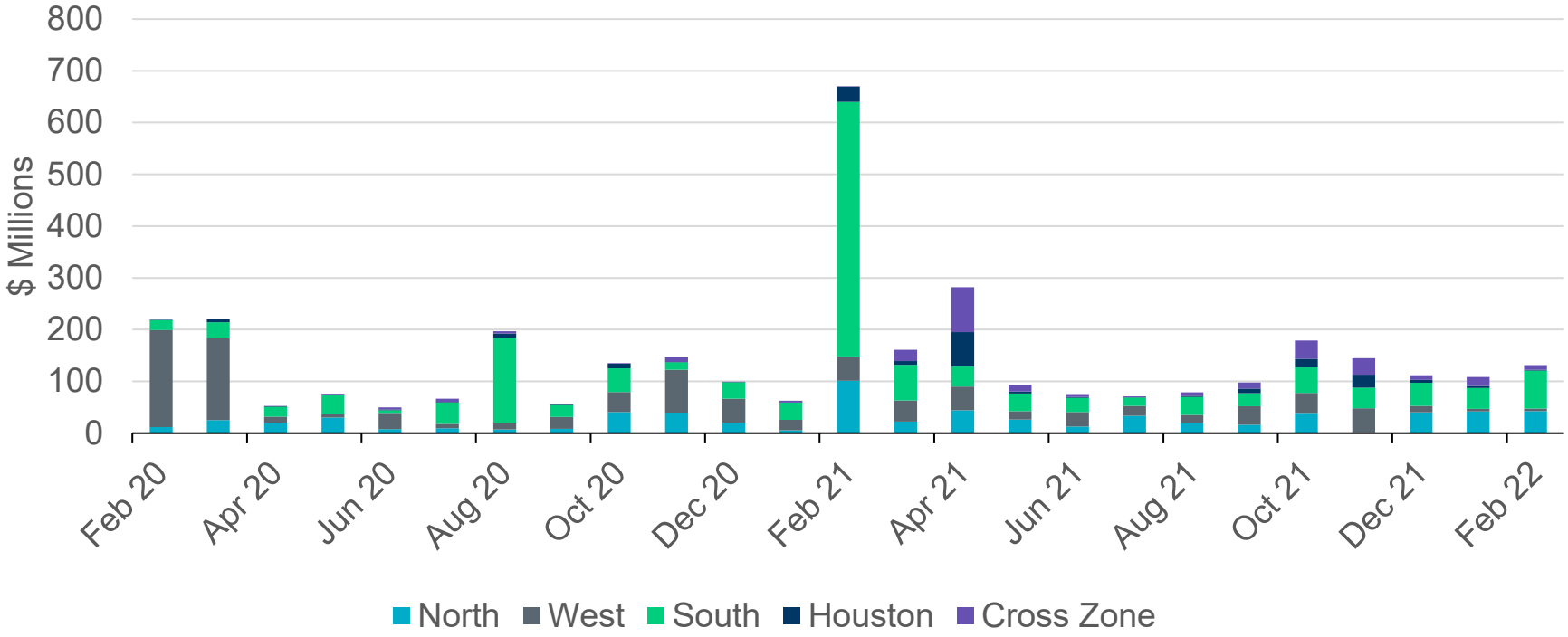
Forecast performance during large down ramp (wind ramp > 2000 MW) hours and high risk hours (historic risk of load ramping up and wind ramping down is high) is focused upon. Note that for the purposes of forecast performance measurement every hour in a month is classified as either a large down ramp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



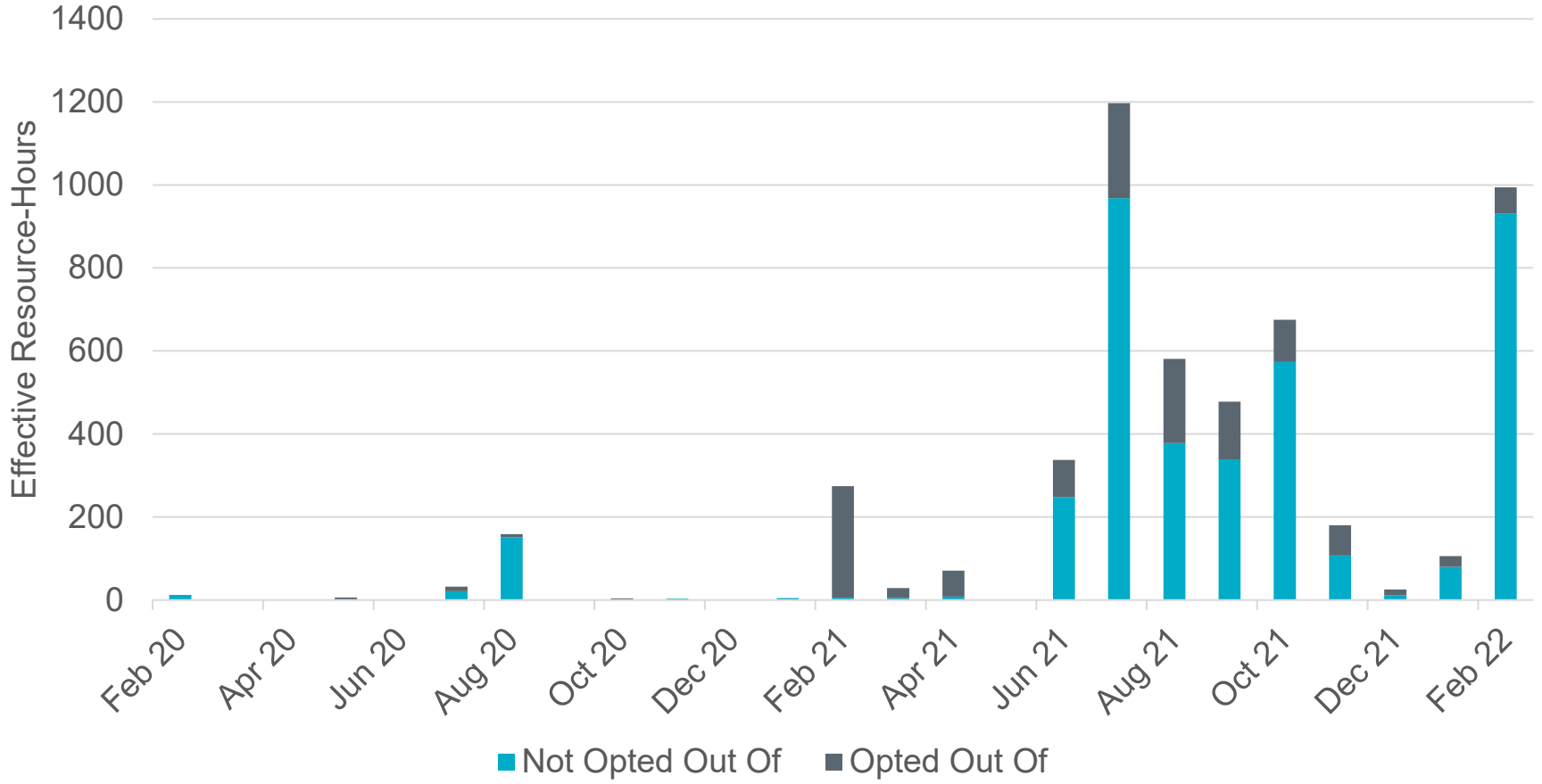
- COPs for IRRs are derived from wind and solar forecasts from ERCOT with any adjustments from Qualified Scheduling Entities.
- The installed capacity of approved Wind Units is 35,256 MW (as of February 28, 2022).
- The installed capacity of approved Solar Units is 9,960 MW (as of February 28, 2022).

Real-Time Congestion Rent by Zone



- Congestion rent in the North and South Zones increased in February 2022 compared to January 2022.
- Congestion rent in the North Zone was primarily driven by the constraint DEVRHLS8: 6125__C. Congestion rent in the South Zone was primarily driven by the constraint DSTPRED5: CKT_3124_1.
- 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.

Thirty-Six Resources were Committed in February for Capacity, Congestion, and Minimum Run Time Limitations for ERCOT-Committed Resources

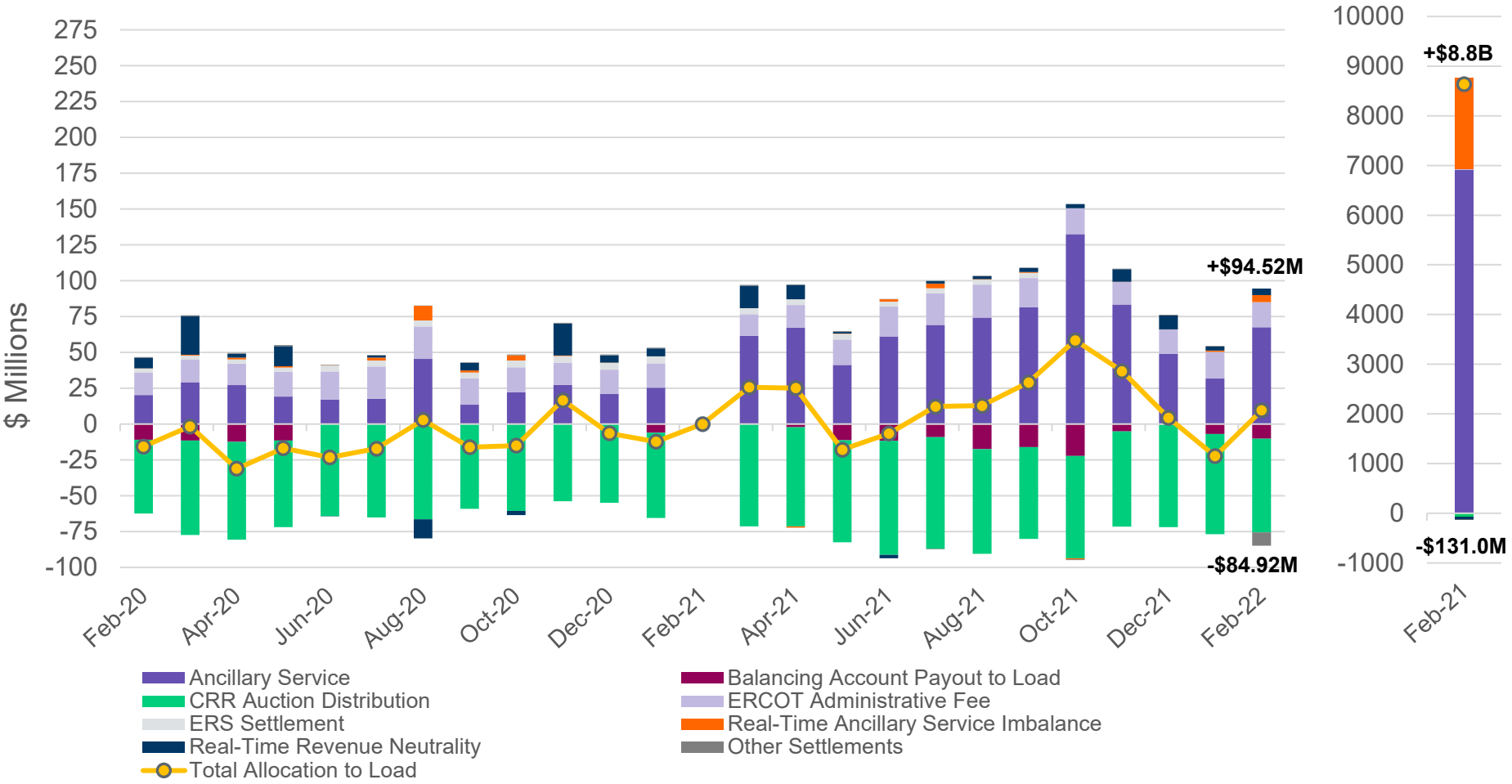


"Effective Resource-Hours" excludes any period during a Reliability Unit Commitment hour when the RUC-committed Resource was starting up, shutting down, off-line, or otherwise not available for dispatch by SCED.

Thirty-Six Resources were Committed in February for Capacity, Minimum Run Time, and Congestion

Resource #	Effective Resource-hours	Non Opt Out (Effective Hours)	Opt Out (Effective Hours)
1	1.0	1.0	0.0
2	6.0	6.0	0.0
3	20.0	20.0	0.0
4	17.0	17.0	0.0
5	8.0	0.0	8.0
6	18.0	0.0	18.0
7	0.6	0.6	0.0
8	4.0	0.0	4.0
9	5.0	0.0	5.0
10	5.0	0.0	5.0
11	110.6	110.6	0.0
12	100.6	100.6	0.0
13	34.7	34.7	0.0
14	8.0	8.0	0.0
15	6.0	6.0	0.0
16	28.3	28.3	0.0
17	8.0	0.0	8.0
18	7.0	6.0	1.0
19	1.9	0.0	1.9
20	106.1	106.1	0.0
21	110.1	110.1	0.0
22	33.0	33.0	0.0
23	32.6	25.0	7.6
24	16.0	16.0	0.0
25	1.0	1.0	0.0
26	1.0	1.0	0.0
27	67.0	67.0	0.0
28	7.8	7.8	0.0
29	47.0	47.0	0.0
30	108.9	108.9	0.0
31	47.0	47.0	0.0
32	8.0	8.0	0.0
33	4.0	4.0	0.0
34	4.0	0.0	4.0
35	6.0	6.0	0.0
36	4.8	4.8	0.0
Total	993.9	931.4	62.5

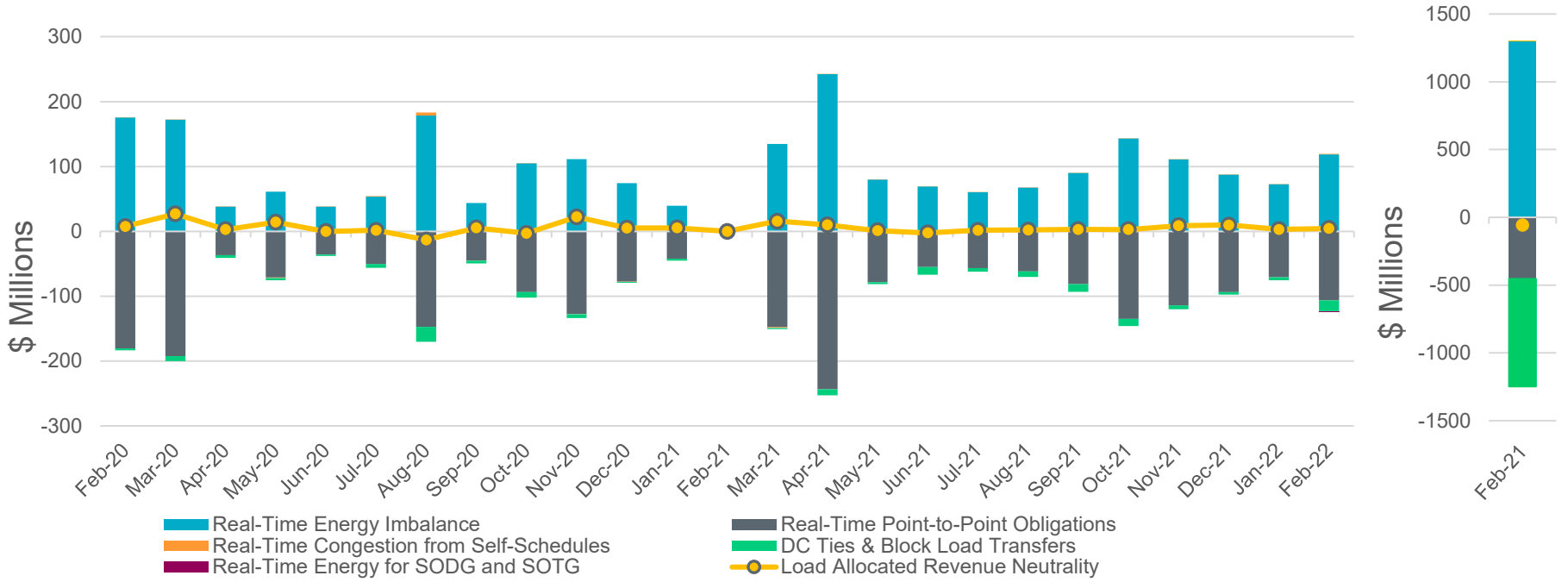
Net Allocation to Load in February 2022 was $9.6 Million



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.

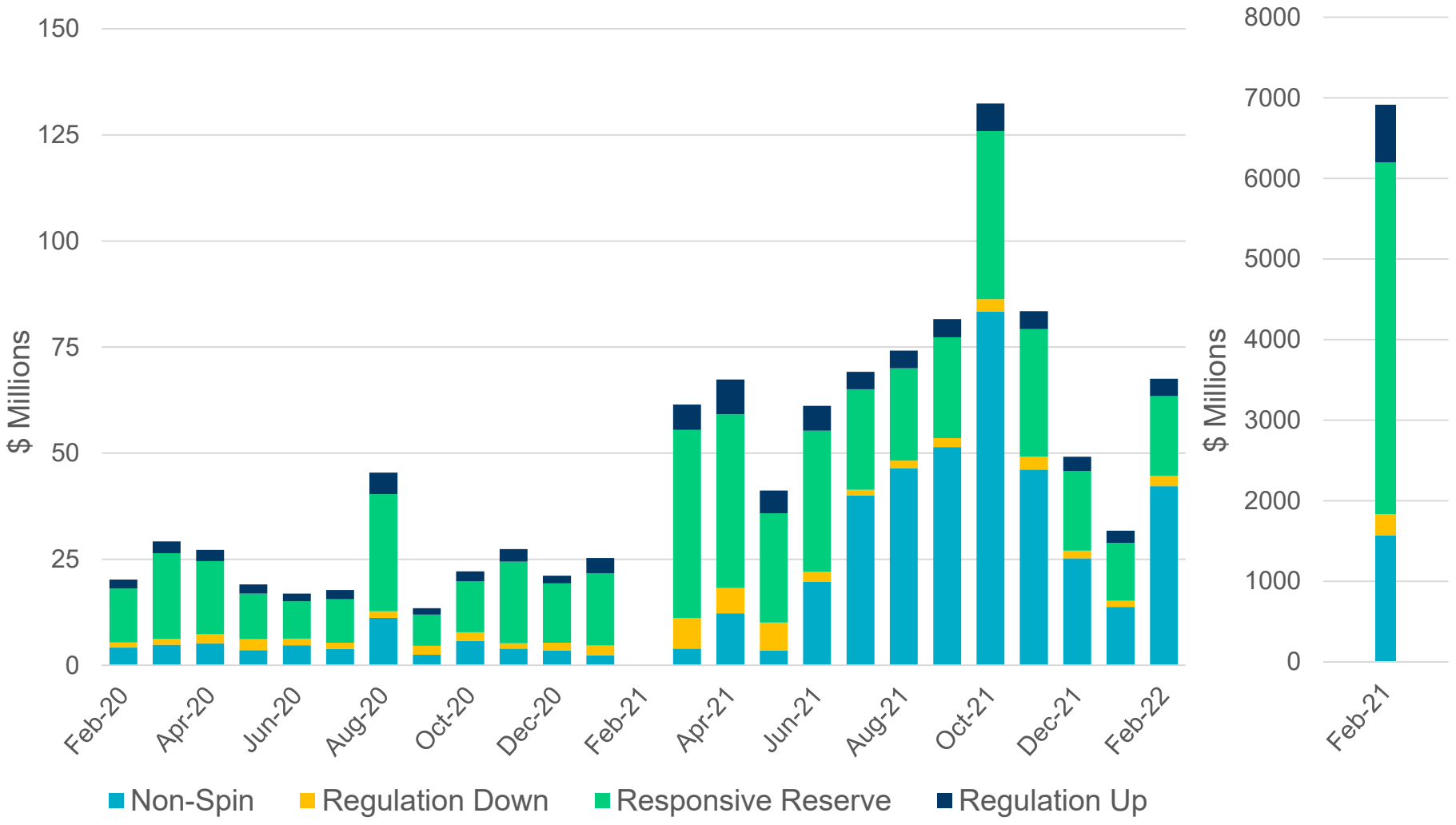
Real-Time Revenue Neutrality Allocated to Load was $4.53M for February 2022



	February 2022 ($M)
Real-Time Energy Imbalance	$118.61
Real-Time Point-to-Point Obligation	($106.42)
Real-Time Congestion from Self-Schedules	$0.65
DC Tie & Block Load Transfer	($16.48)
Real-Time Energy for SODG and SOTG	($0.89)
Load Allocated Revenue Neutrality	**$4.53**

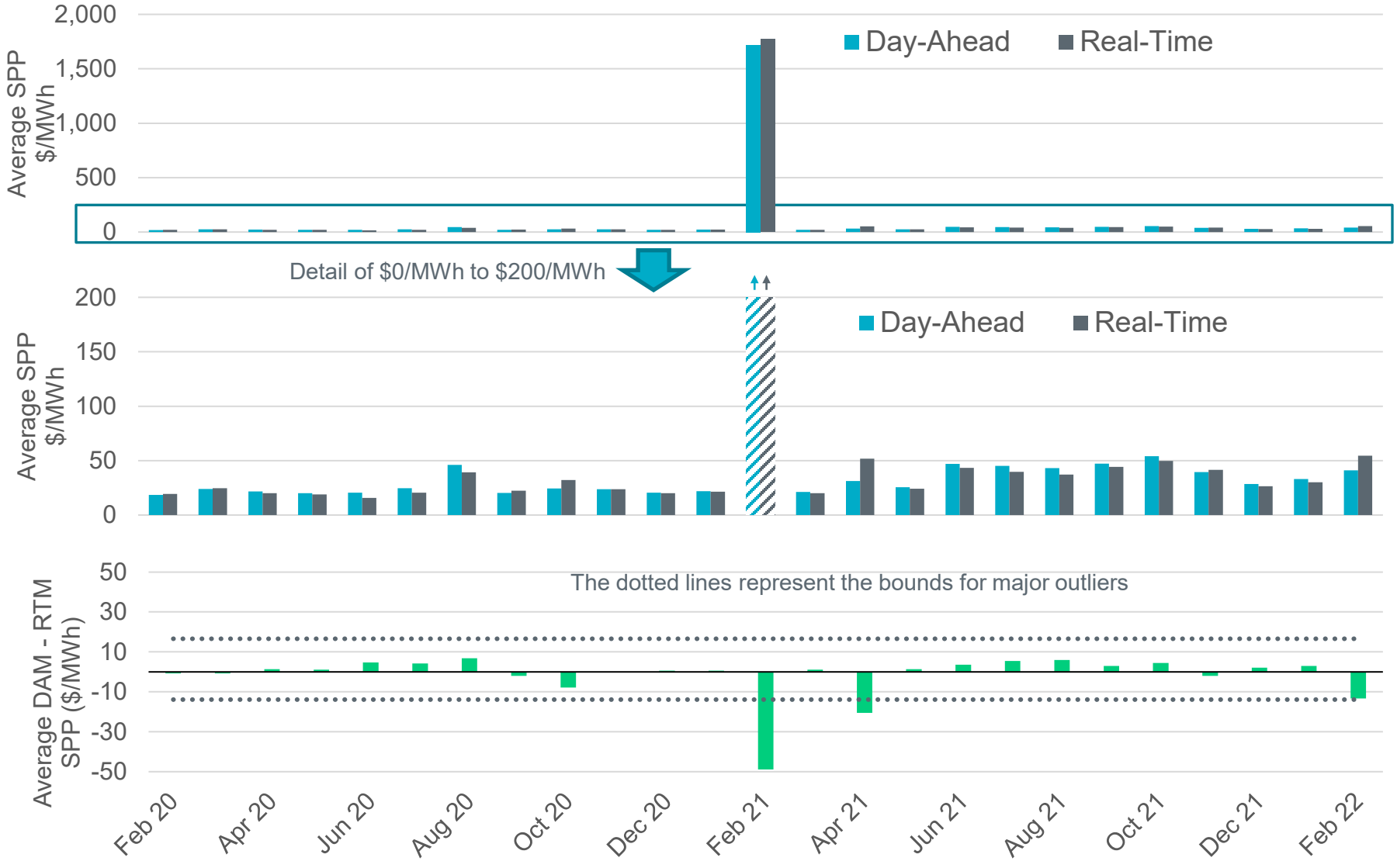
Note: For visual purposes, February 2021 has been separated into its own graph with different scaling. The legend applies for both graphs.

Ancillary Services for February 2022 totaled $67.54M



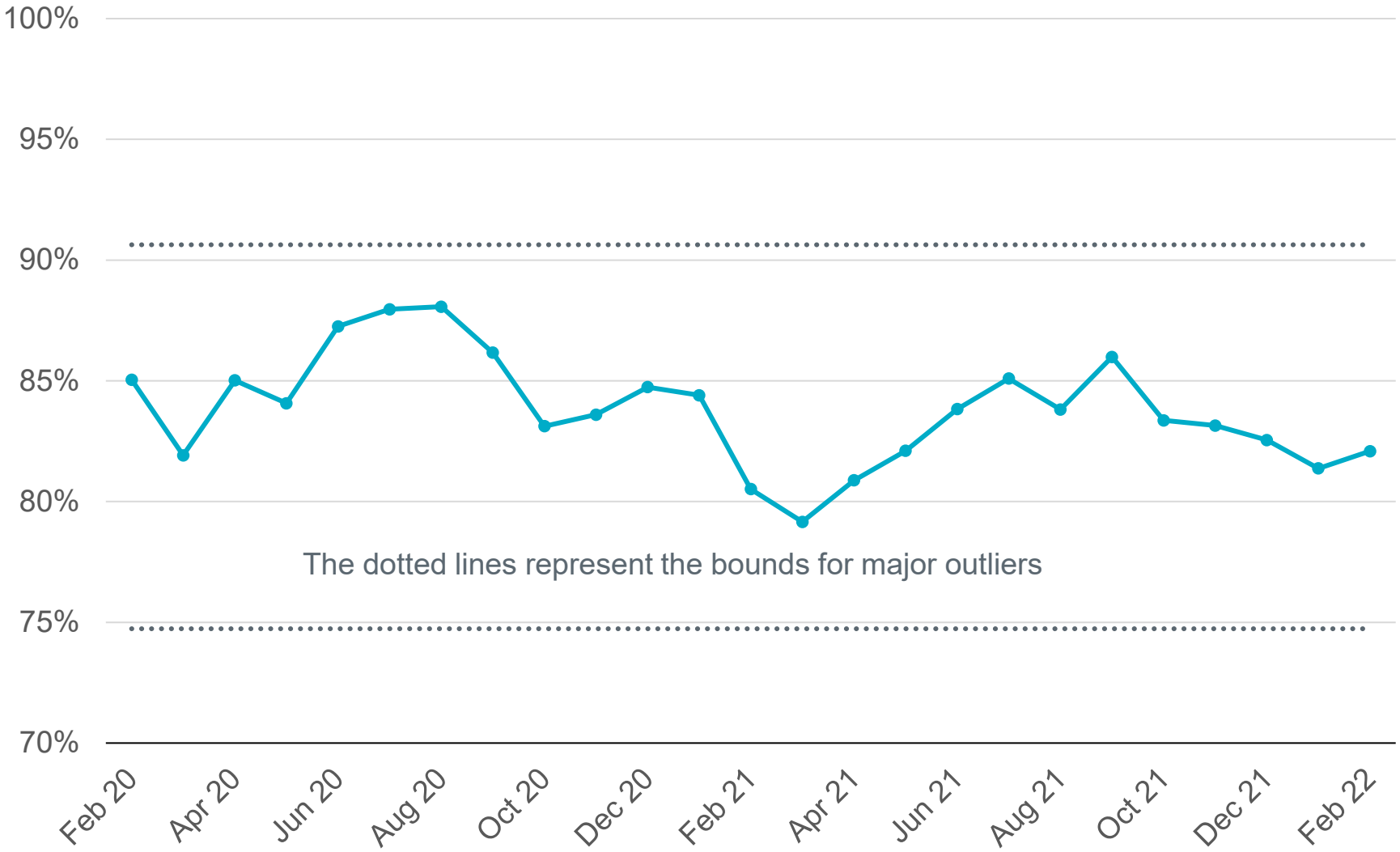
Note: For visual purposes, February 2021 has been separated into its own graph with different scaling. The legend applies for both graphs.

Day-Ahead and Real-Time Market Price Differences

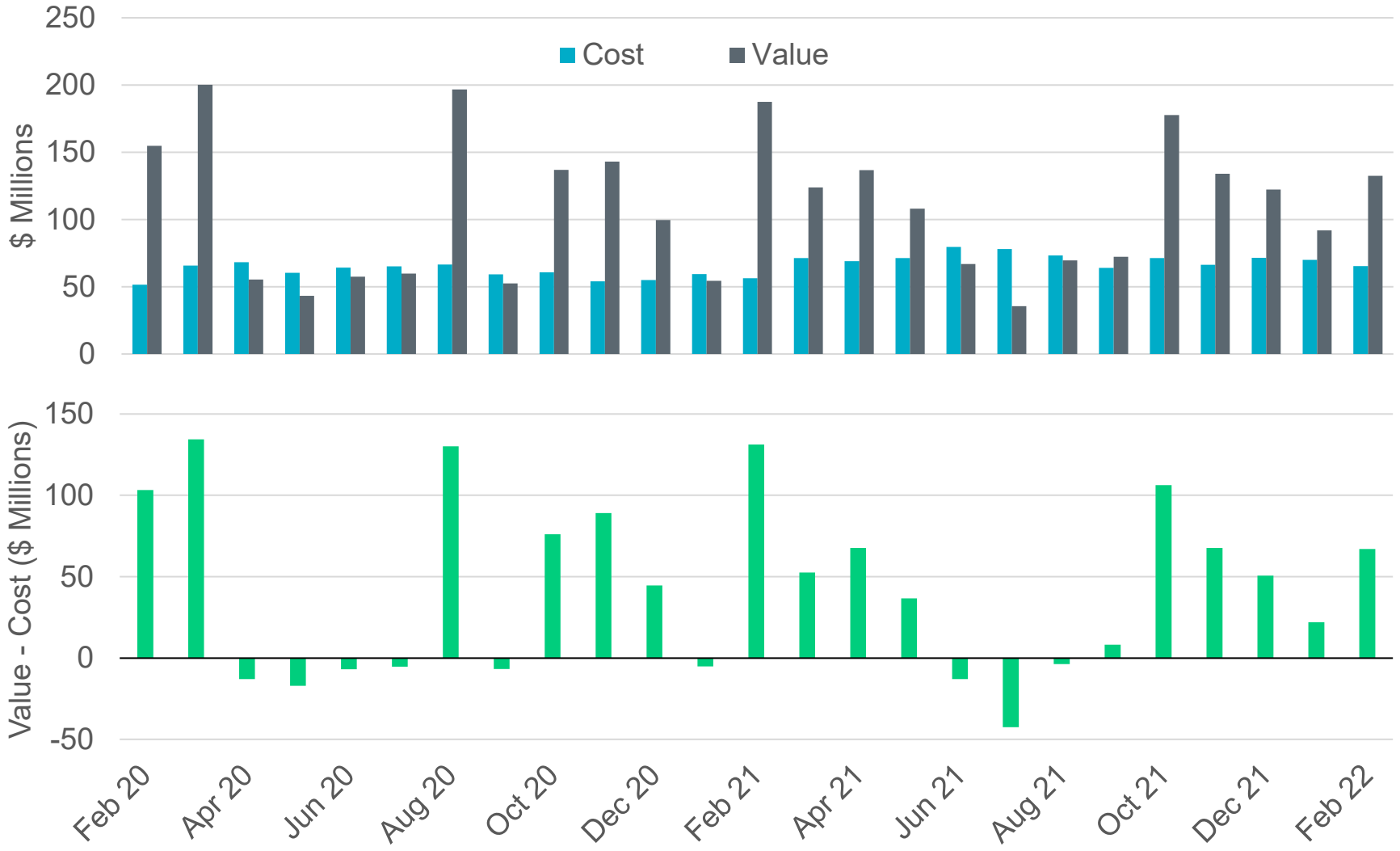


*Averages are weighted by Real-Time Market Load

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



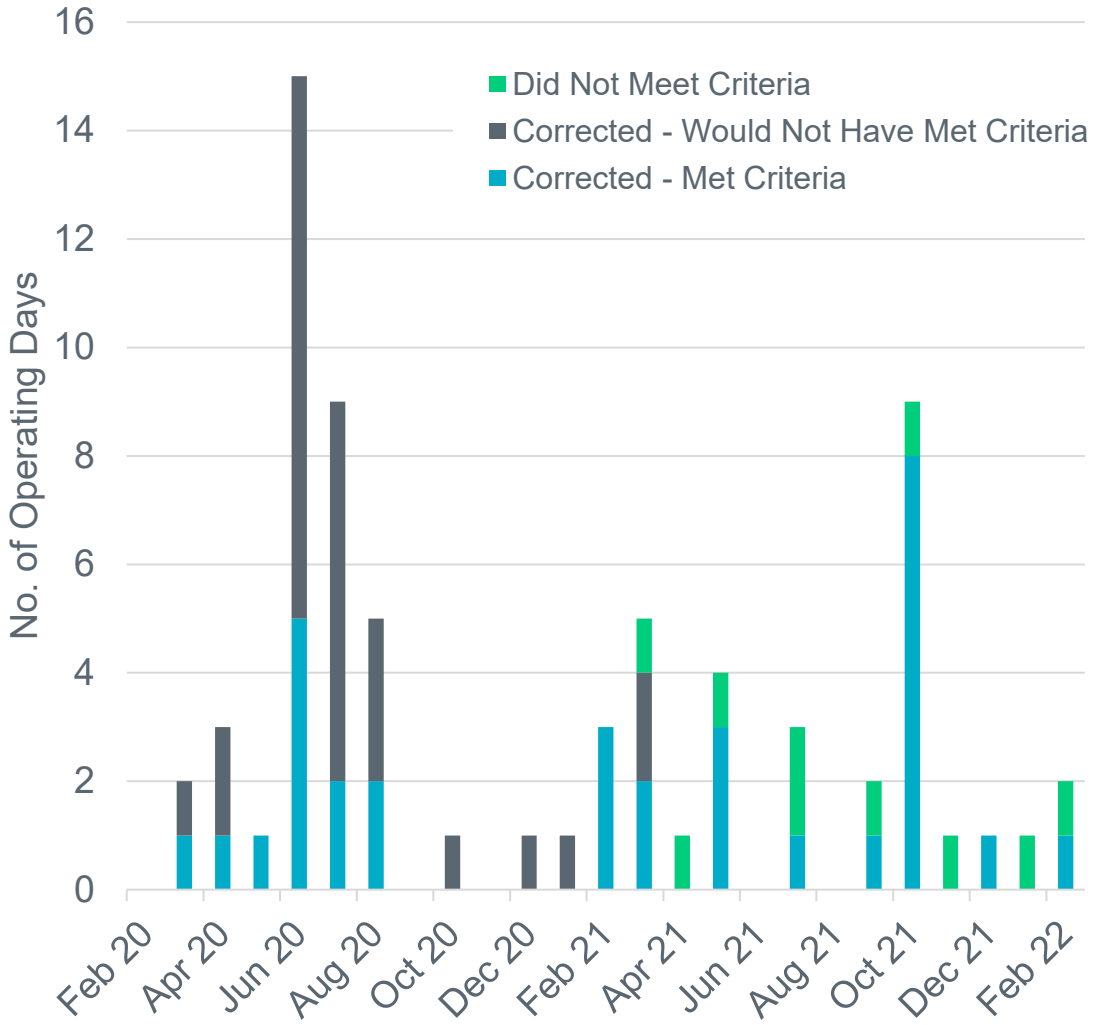
CRR Value and Cost Differences



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.



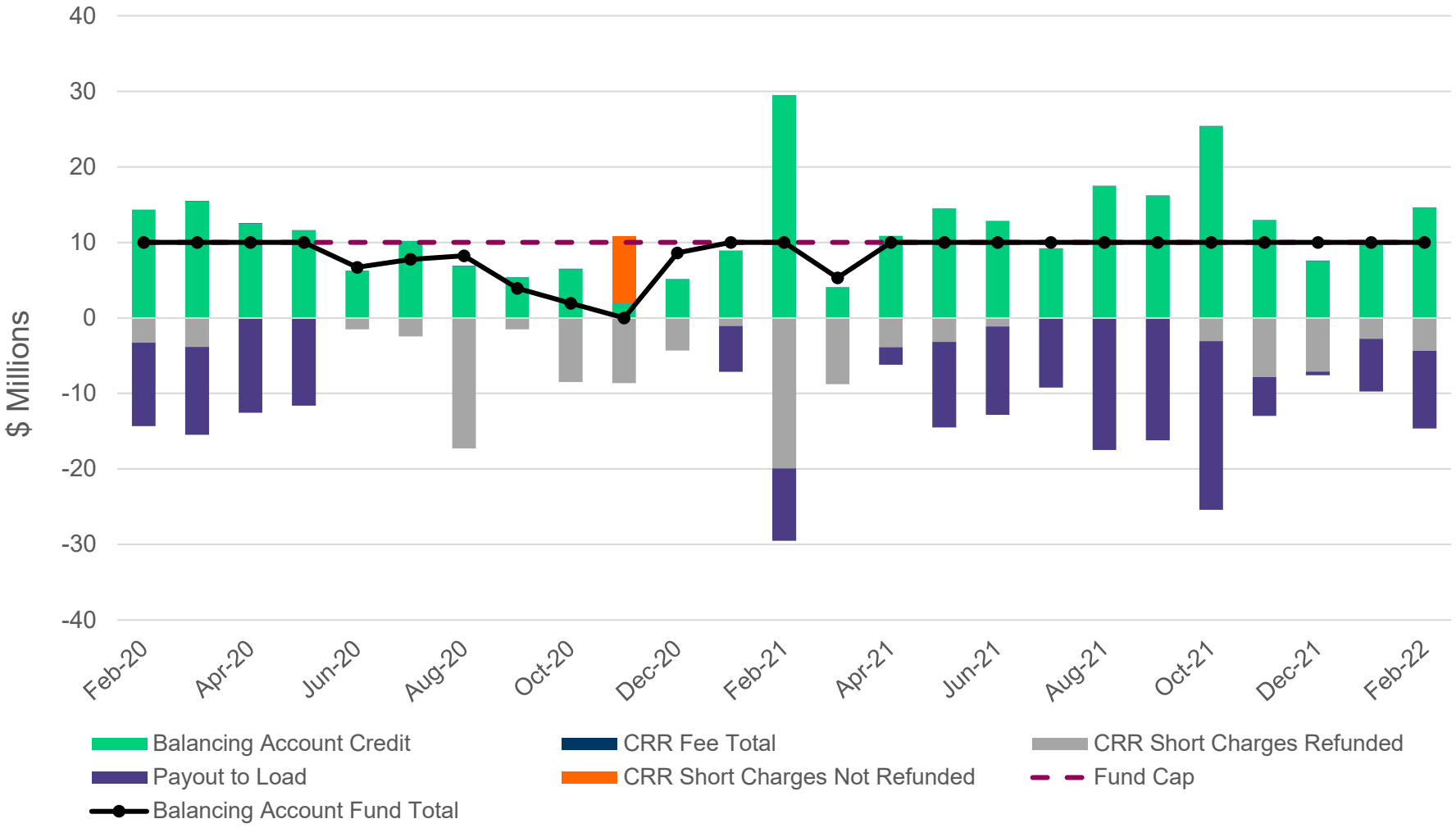
Details on Price Issues not Meeting the Criteria for Significance

Operating Day Feb. 10, 2022

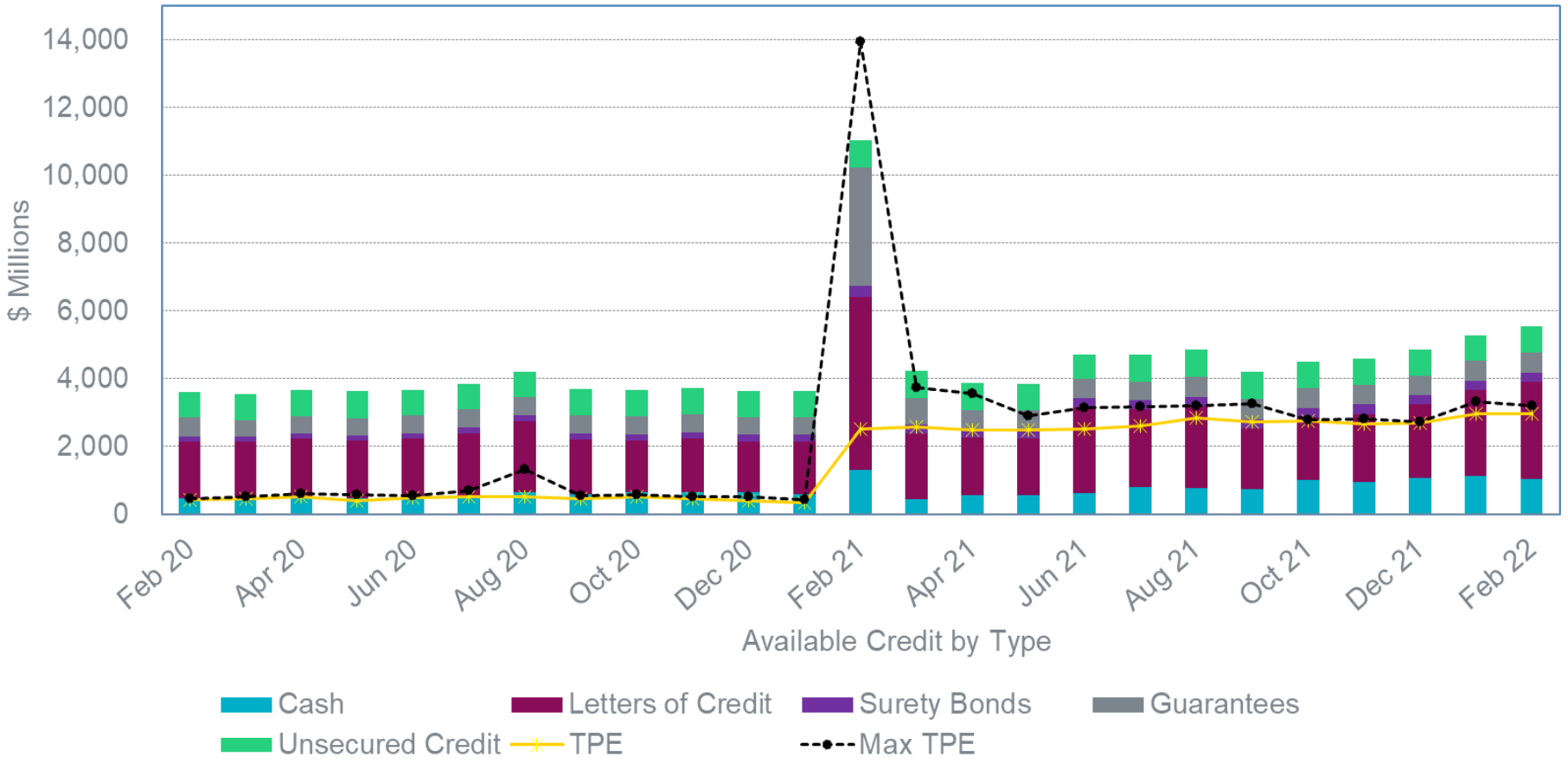
- The price issue was driven by SCED executions that were missed during a planned software upgrade.

- Impacts were minor and specific to Real-Time Prices for Energy Metered for Resources (RTRMPRs).
  - The total dollar impact was estimated as less than $20.

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 – February 2022

	Year-To-Date		Transactions Received	
Transaction Type	February 2022	February 2021	February 2022	February 2021
Switches	209,376	229,987	105,063	119,742
Acquisitions	0	48,862	0	48,862
Move - Ins	429,748	407,191	208,309	186,803
Move - Outs	188,287	186,553	91,927	86,396
Continuous Service Agreements (CSA)	88,833	43,505	43,619	21,484
Mass Transitions	0	9,126	0	9,126
Total	916,244	925,224	448,918	472,413