# ERCOT Monthly Operational Overview
(January 2022)

ERCOT Public
February 18, 2022

Notifications and Records

- ERCOT set a maximum peak demand of 63,526 MW* for the month of January, which is 4,919 MW more than the January 2021 demand of 58,606 MW.

- ERCOT issued 7 notifications:
  - 2 OCN's issued for the predicted extreme cold weather event for the ERCOT region.
  - 3 Advisories issued for the predicted extreme cold weather for the ERCOT region.
  - 1 Advisory issued due to ERCOT's Voltage Security Assessment Tool is currently unavailable.
  - 1 Advisory for delay in clearing DAM and posting of DAM Solution.

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

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Monthly energy generation increased by 8.3% year-over-year to 33,389 GWh in January 2022, compared to 30,822 GWh in January 2021
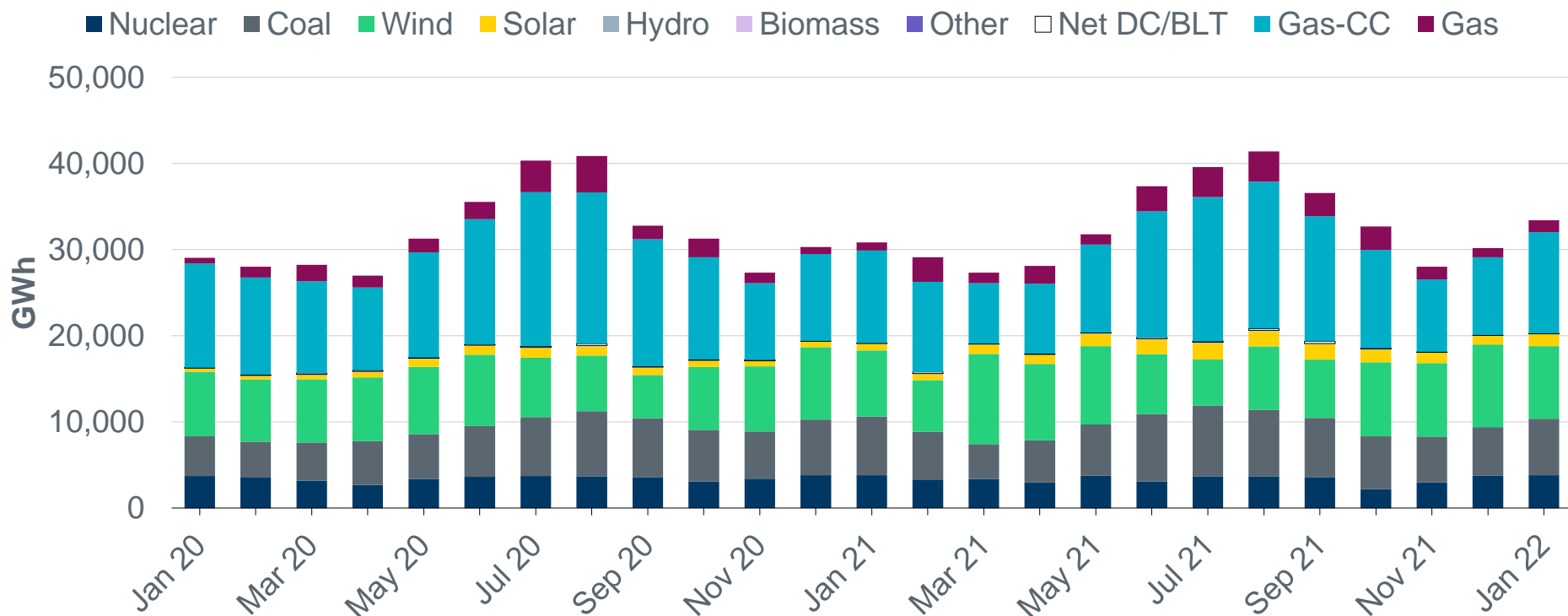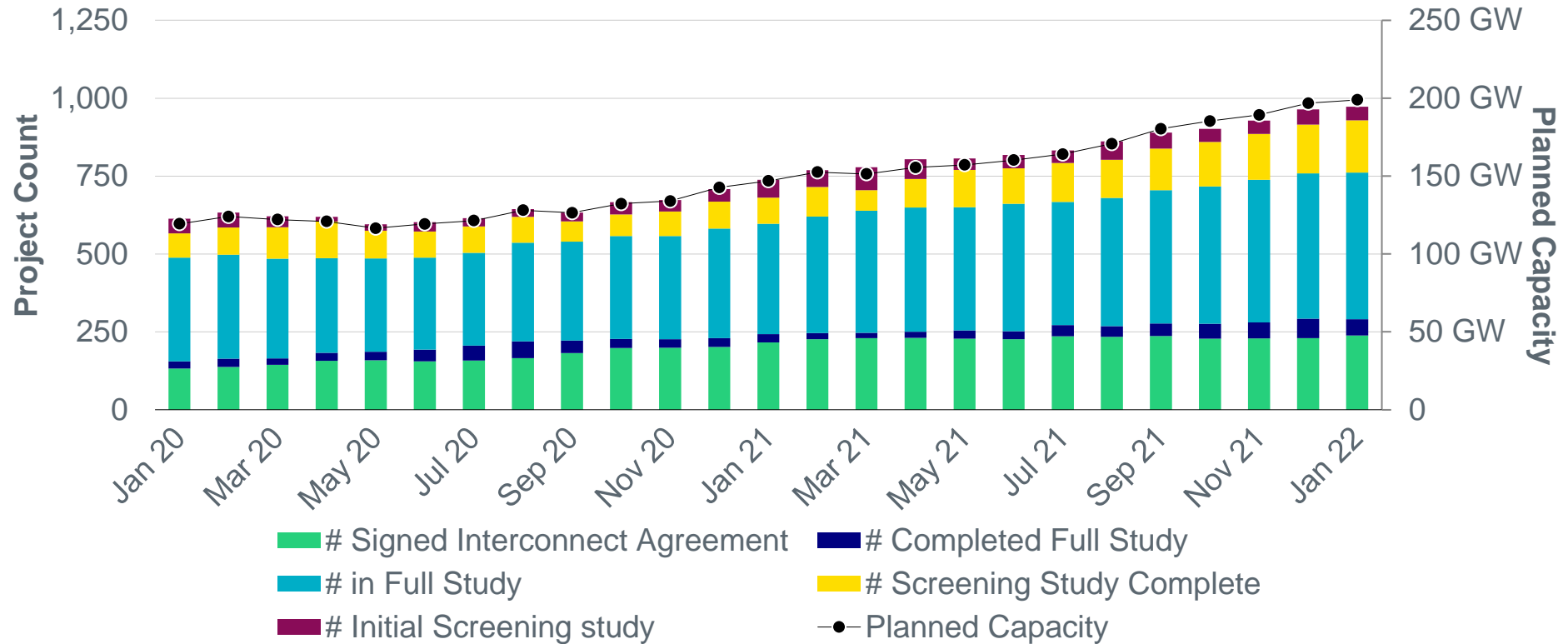

Data for latest two months are based on preliminary settlements.

Generation Interconnection activity by project phase
(Excludes capacity associated with Projects designated as Inactive per Planning Guide Section 5.7.6)

Legend:
- # Signed Interconnect Agreement
- # Completed Full Study
- # in Full Study
- # Screening Study Complete
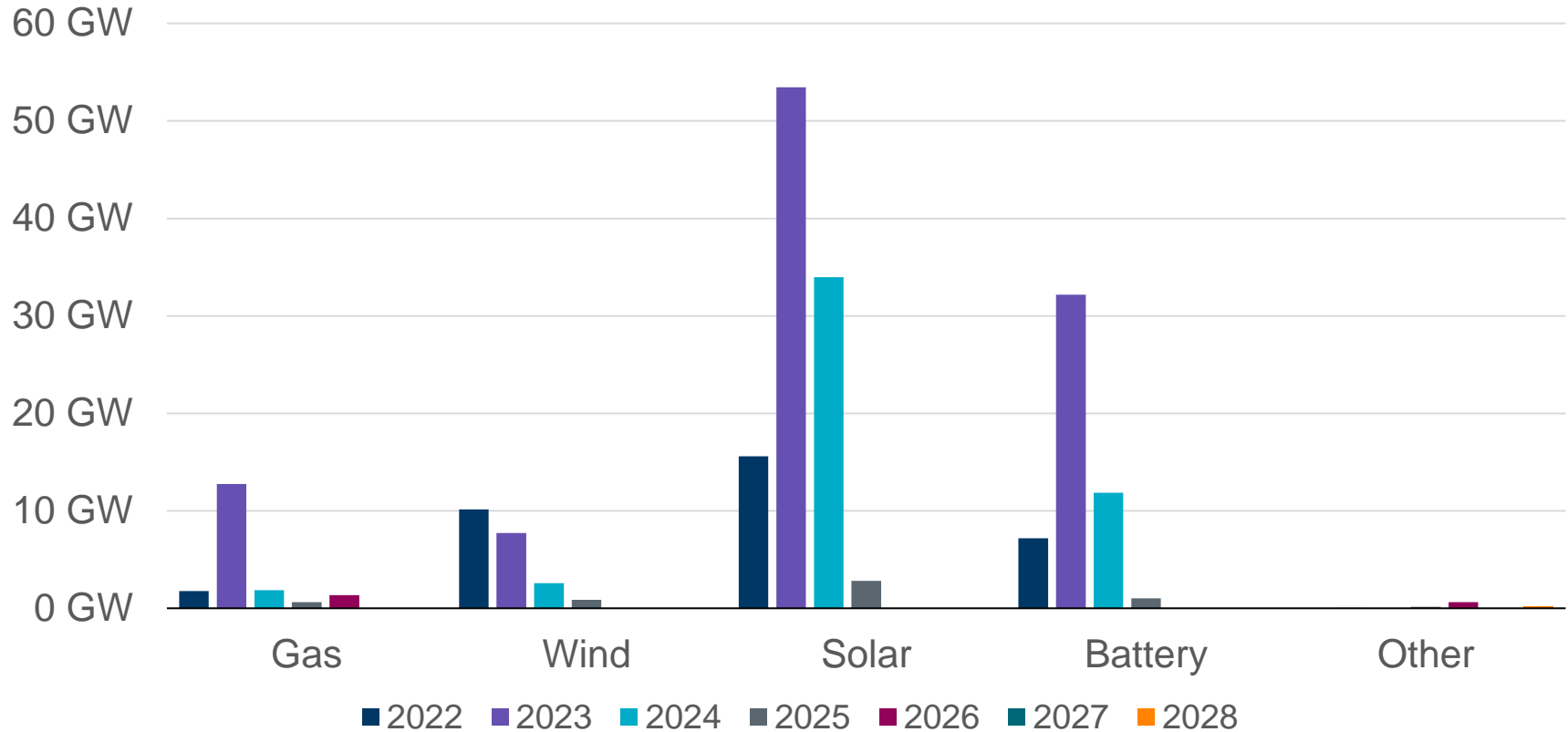- # Initial Screening study
- Planned Capacity

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 106 GW (53.2%), Wind 21 GW (10.7%), Gas 18 GW (9.2%), Battery 52 GW (26.3%)
(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 973 active generation interconnection requests totaling 198,931 MW as of January 31, 2022. This includes 105,880 MW of solar, 21,370 MW of wind, 52,247 MW of battery, and 18,400 MW of gas projects; 55 projects are categorized as inactive, down from 57 inactive projects in December 2021.

- ERCOT is currently reviewing proposed transmission improvements with a total estimated cost of $159.76 Million as of January 31, 2022.

- Transmission Projects endorsed in 2022 total $156.90 Million as of January 31, 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 63,526 MW* for the month of January, which is 4,919 MW more than the January 2021 demand of 58,606 MW
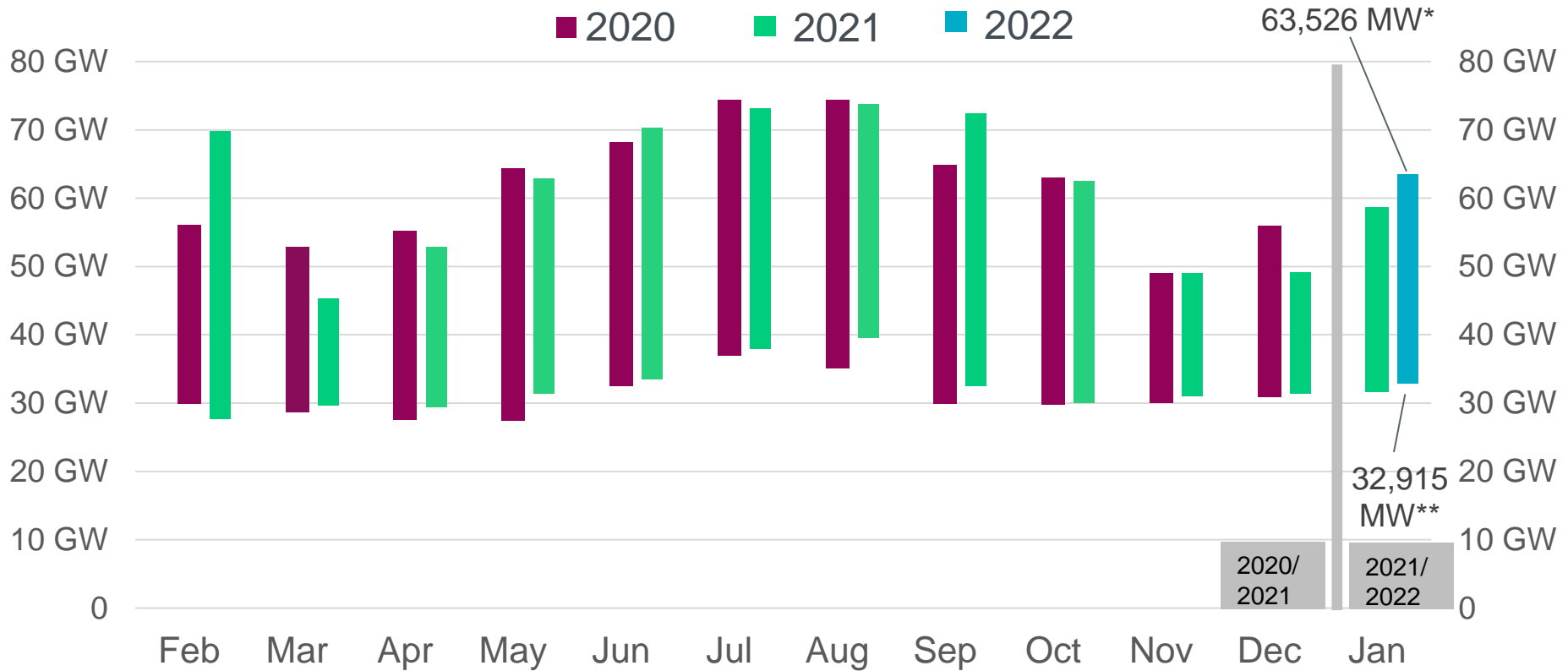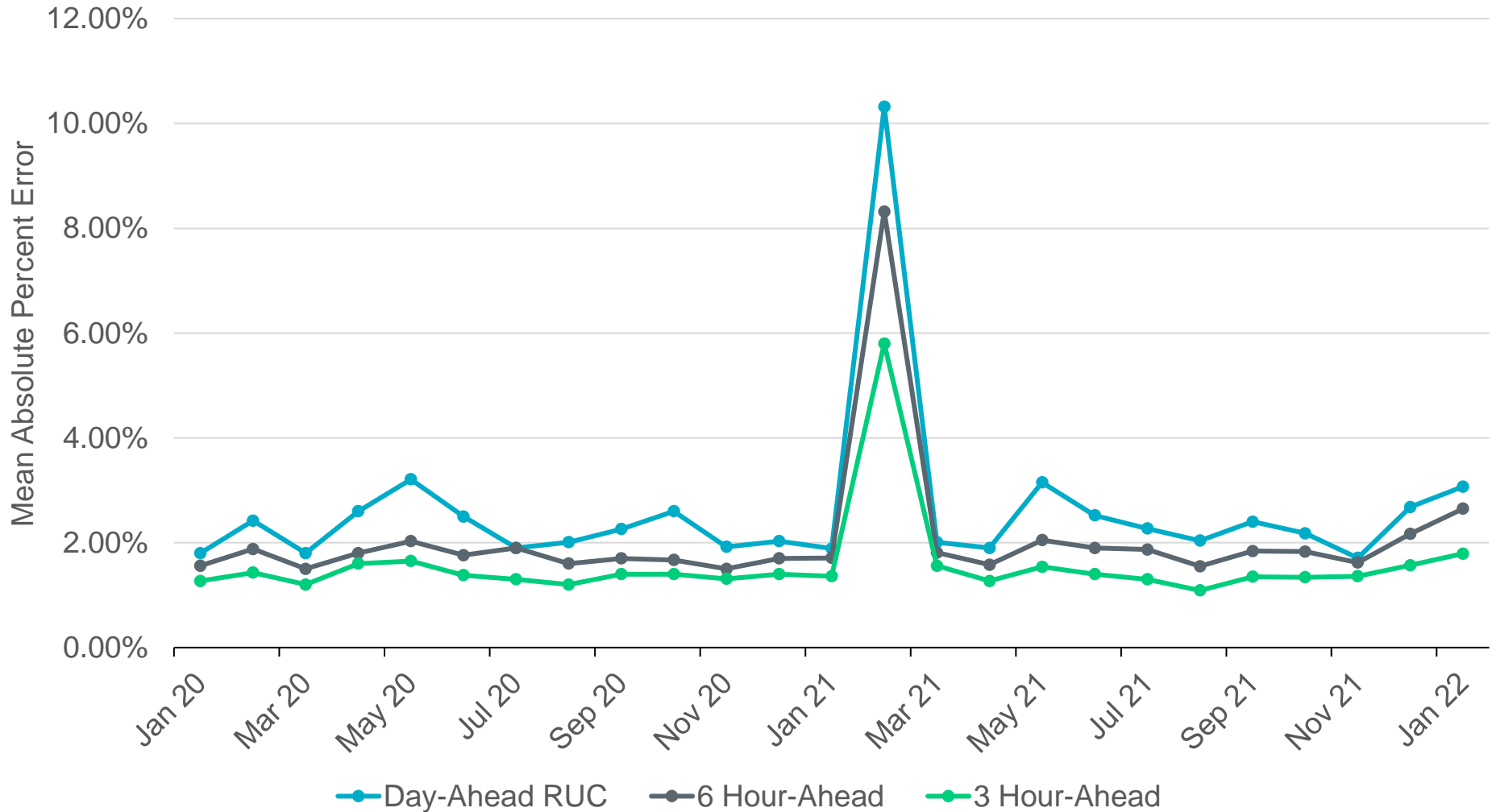

*Based on the maximum net system hourly value from February release of Demand and Energy 2022 report.
**Based on the minimum net system 15-minute interval value from February release of Demand and Energy 2022 report.
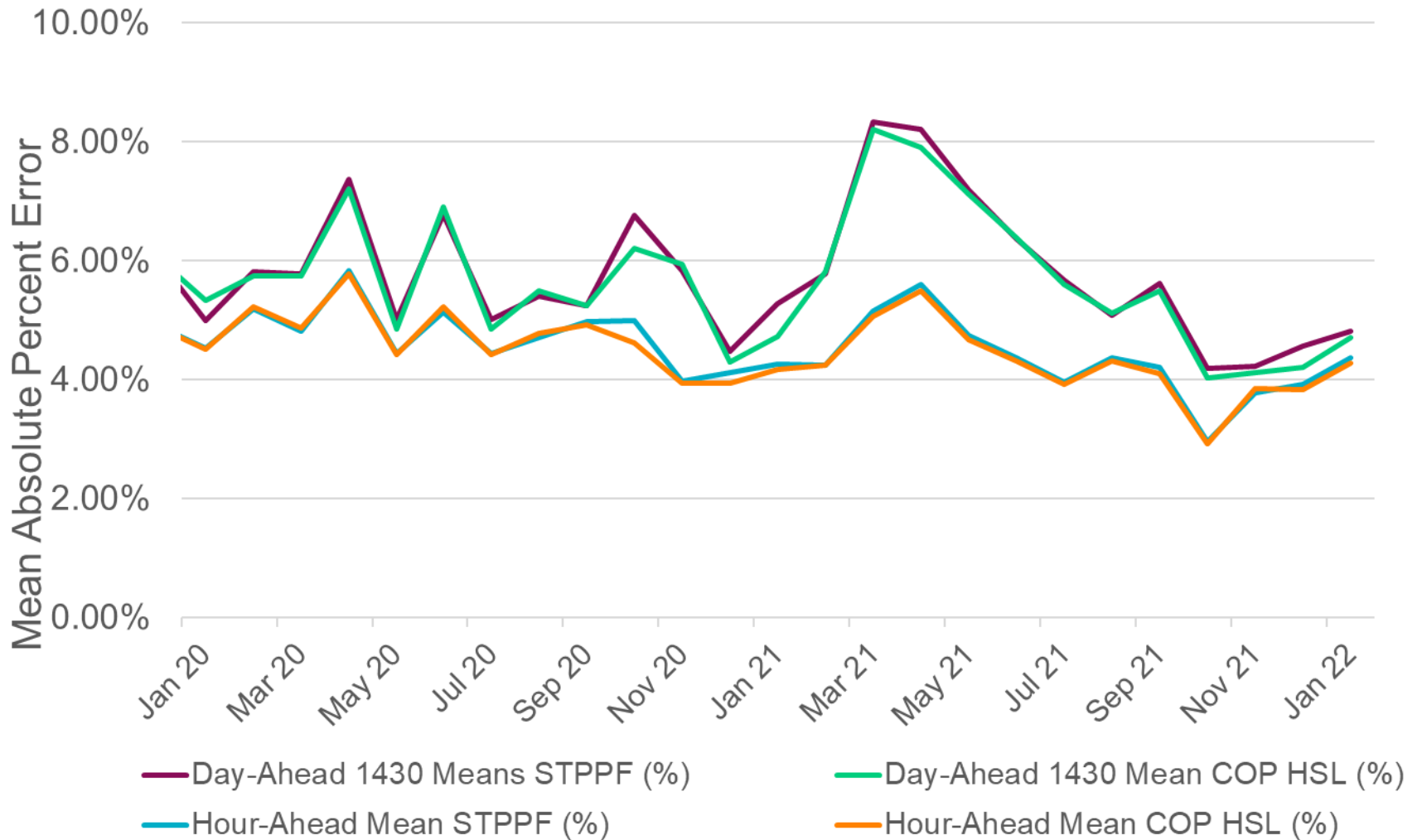Data for latest two months are based on preliminary settlements.

Mid-Term Load Forecast Performance

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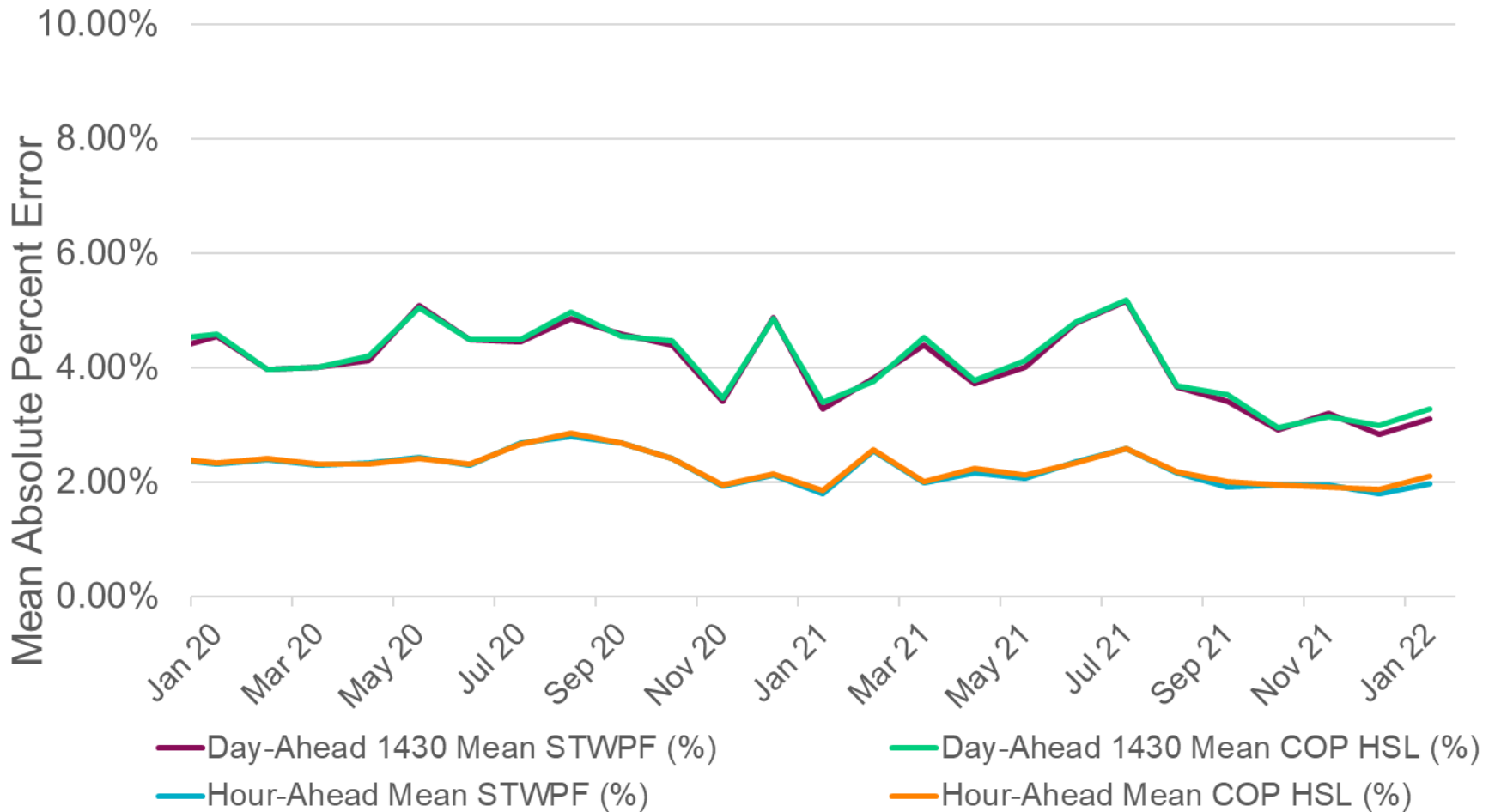
Solar Forecast Performance

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.
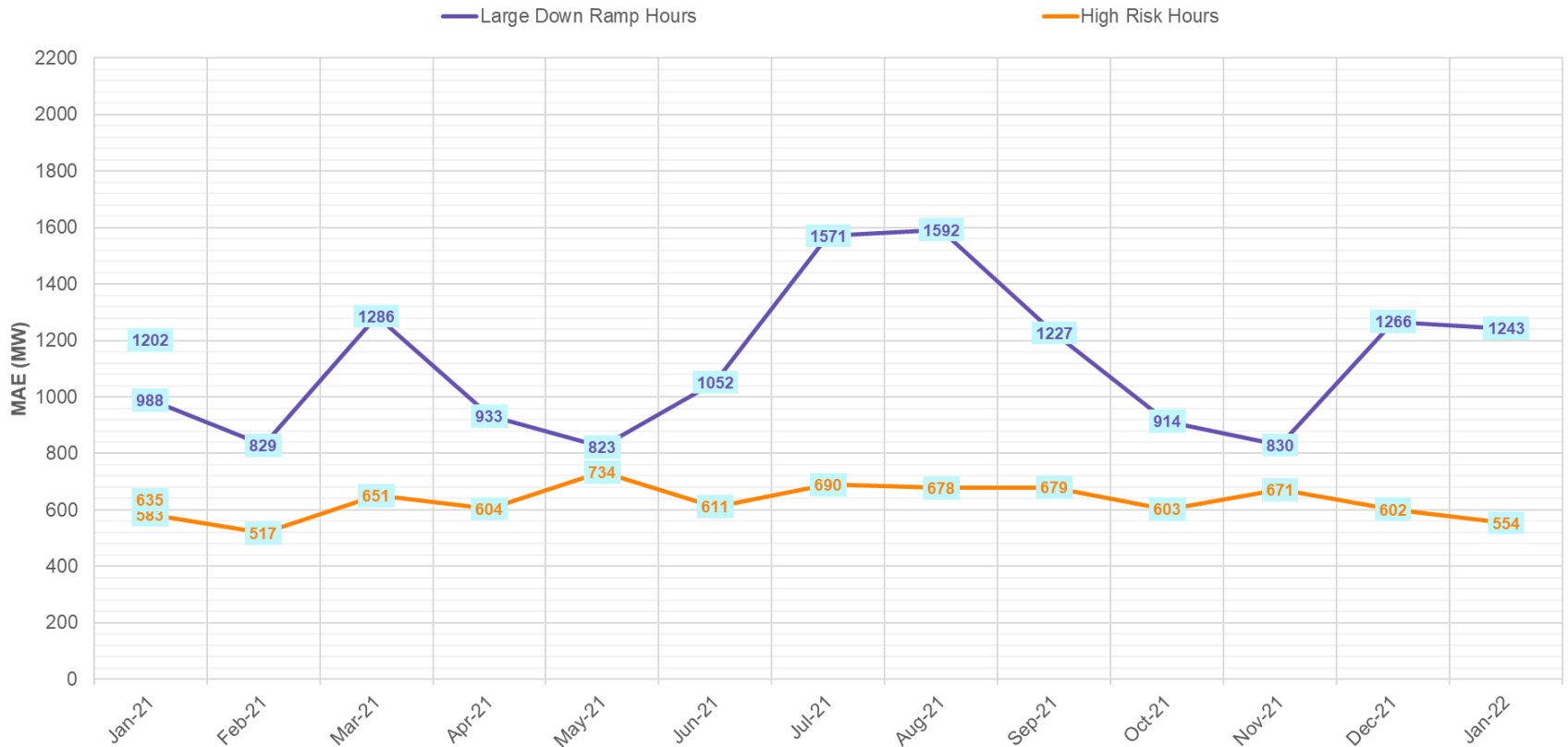
Wind Forecast Performance

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
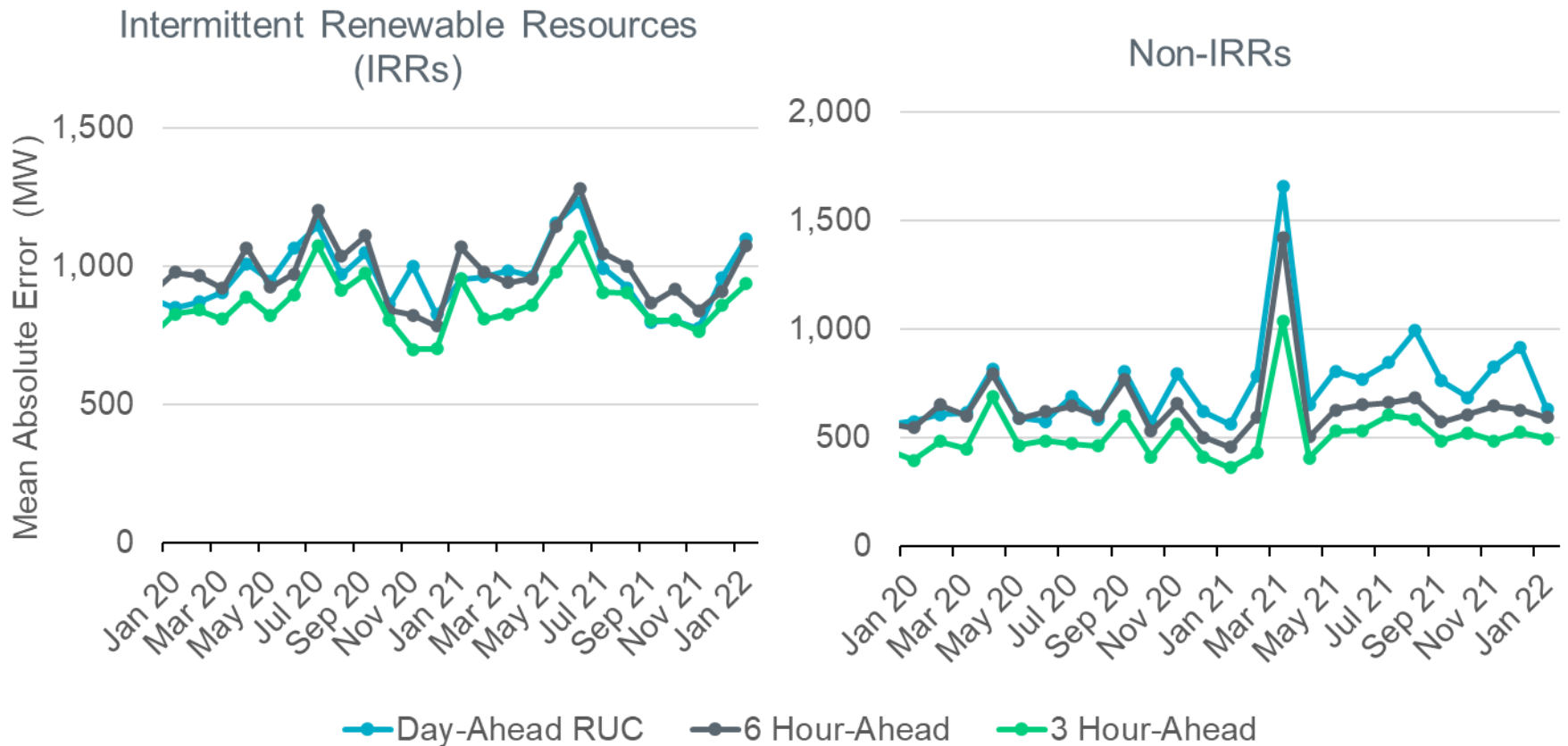
- COPs for IRRs are derived from wind and solar forecasts from ERCOT with any adjustments from Qualified Scheduling Entities.
- The installed capacity of approved Wind Units is 34,767 MW (as of January 31, 2022).
- The installed capacity of approved Solar Units is 9,654 MW (as of January 31, 2022).

Real-Time Congestion Rent by Zone
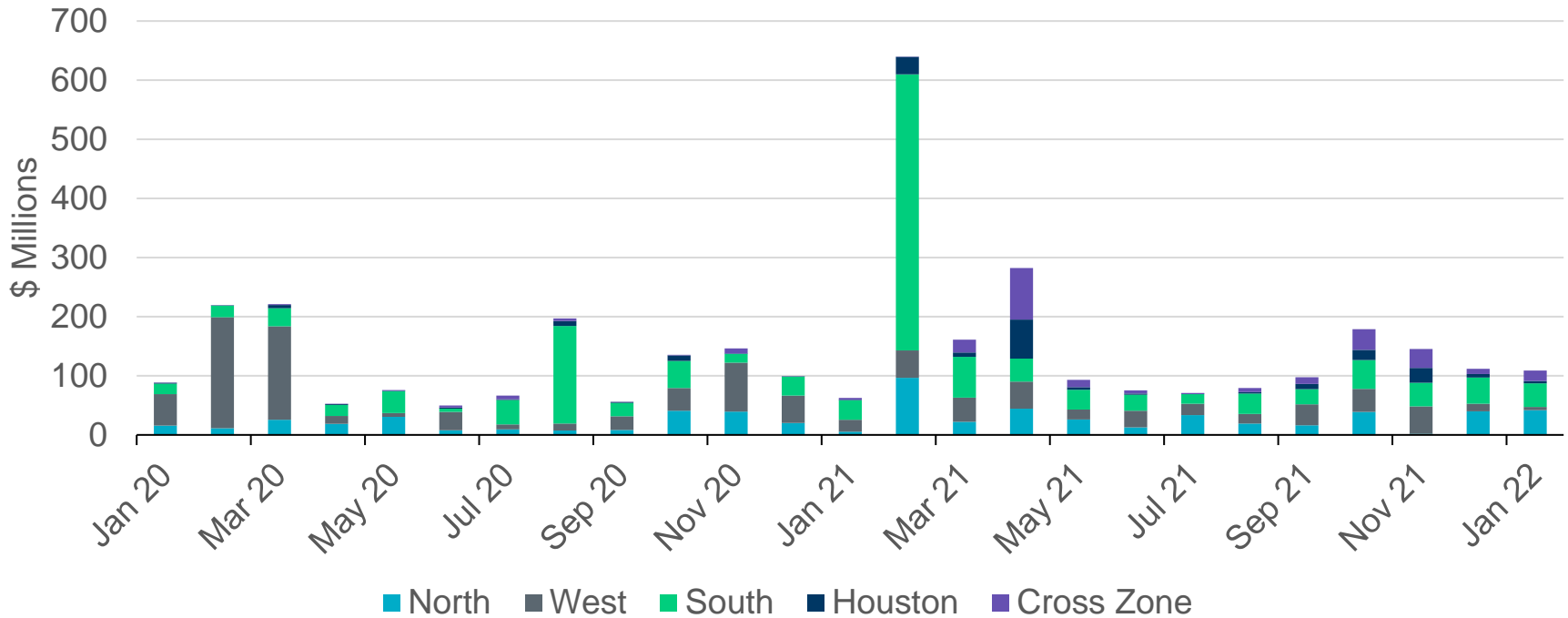
- Congestion rent in the North and Cross Zones increased while congestion rent in the West, Houston, and South Zones decreased in January 2022 when compared to December 2021. The most significant constraints for January were DEVRWDG8: 6125__C in the North Zone and BASE CASE: WESTEX in the Cross Zone.

- 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.

- The "Cross Zone" category consists of cases in which the substations on either end of the constraint are in different zones.

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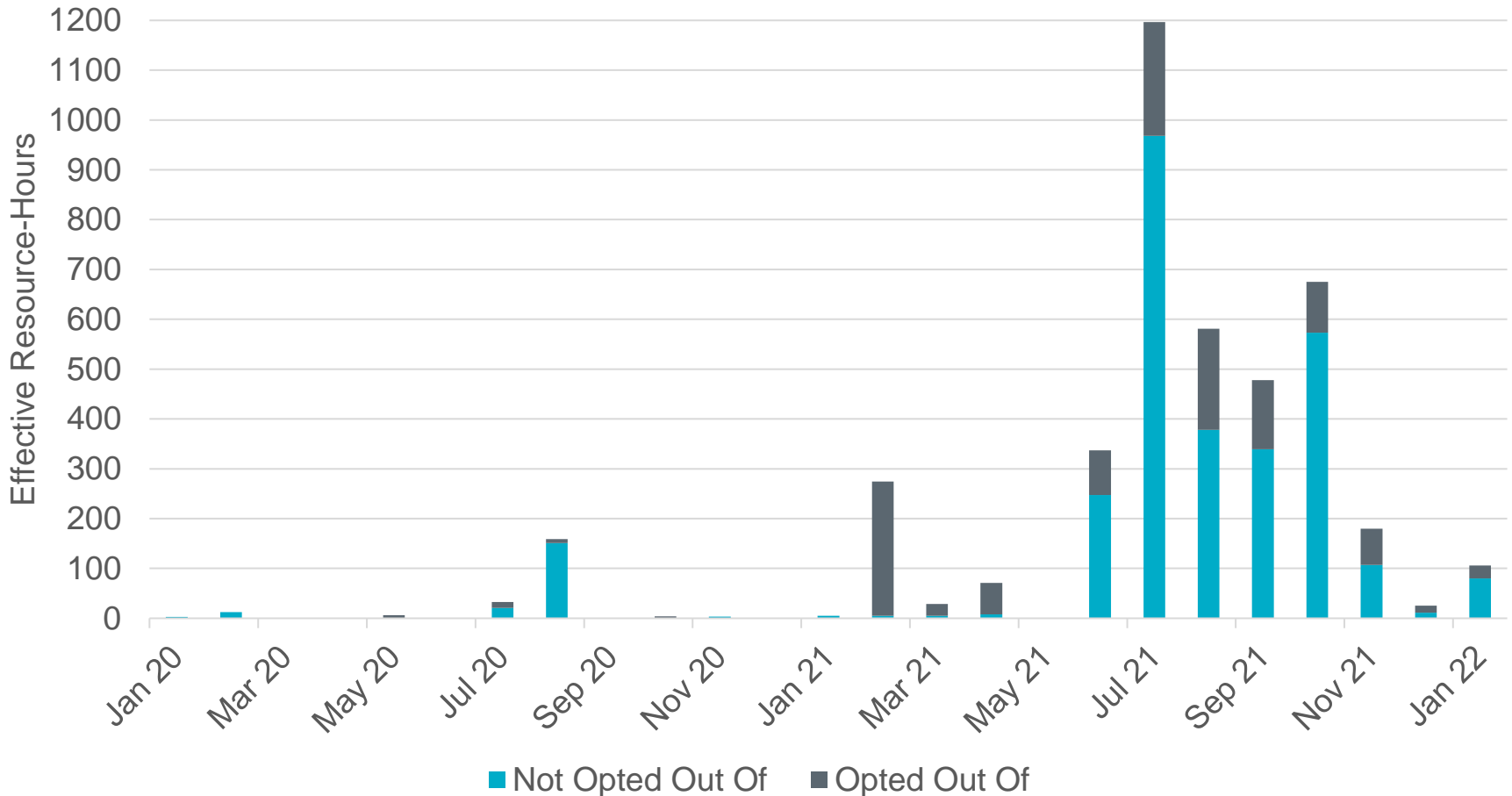
"Effective Resource-Hours" excludes any period during a Reliability Unit Commitment hour when the RUC-committed Resource was starting up, shutting down, off-line, or otherwise not available for dispatch by SCED.

Seventeen Resources were Committed in January for Capacity

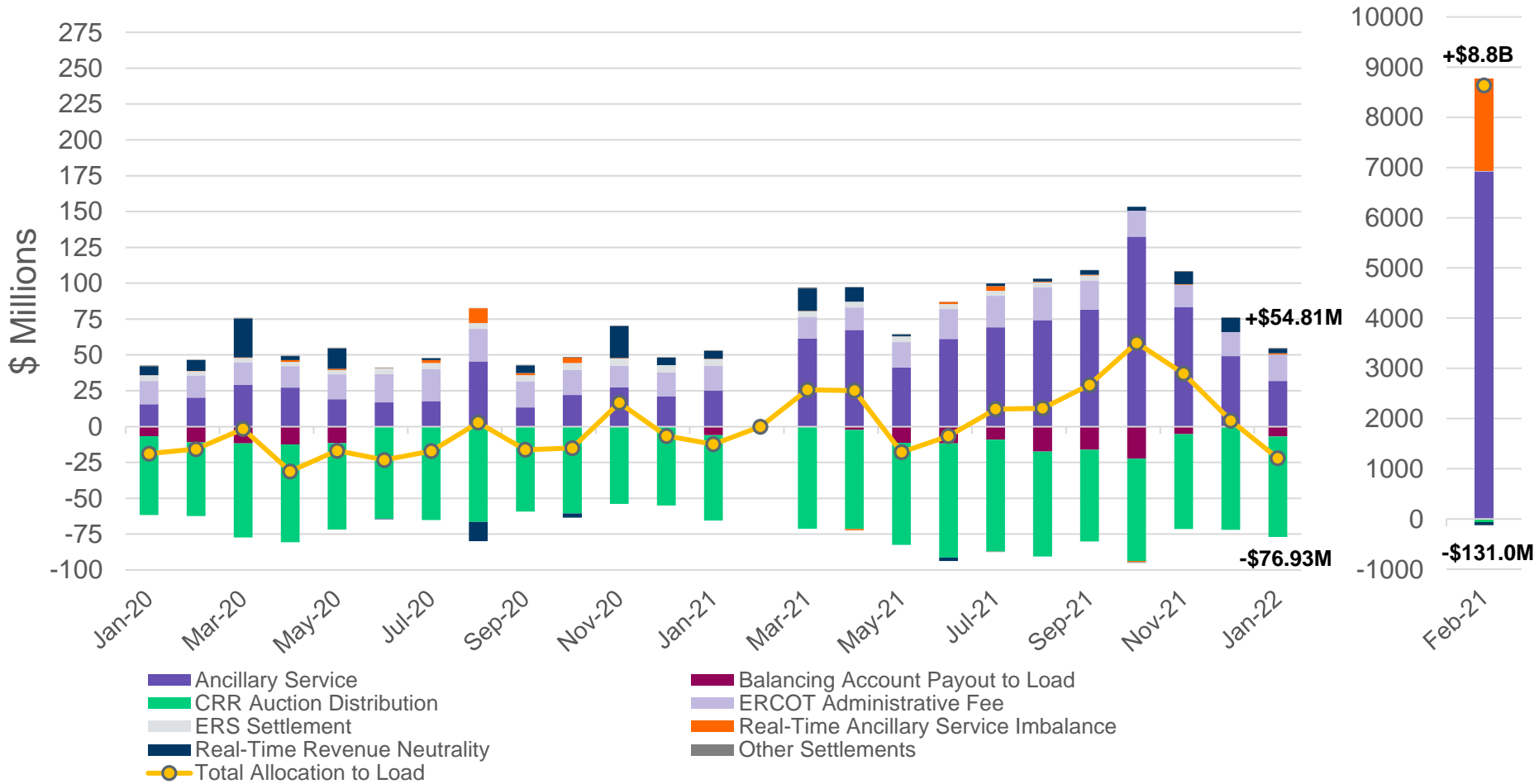| Resource #	Effective Resource-hours	Non Opt Out (Effective Hours)	Opt Out (Effective Hours)
1	6.0	0.0	6.0
2	2.0	0.0	2.0
3	8.0	0.0	8.0
4	3.0	3.0	0.0
5	12.9	12.9	0.0
6	9.0	9.0	0.0
7	4.0	4.0	0.0
8	15.0	15.0	0.0
9	7.0	7.0	0.0
10	8.0	8.0	0.0
11	2.0	2.0	0.0
12	0.0	0.0	0.0
13	6.0	6.0	0.0
14	9.9	9.9	0.0
15	4.0	0.0	4.0
16	6.0	0.0	6.0
17	3.0	3.0	0.0
Total	105.8	79.8	26.0

"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.

![ercot logo]

Net Allocation to Load in January 2022 was ($22.1) Million

$ Millions

Legend:
- Ancillary Service
- CRR Auction Distribution
- ERS Settlement
- Real-Time Revenue Neutrality
- Total Allocation to Load
- Balancing Account Payout to Load
- ERCOT Administrative Fee
- Real-Time Ancillary Service Imbalance
- Other Settlements

+$8.8B
+$54.81M
-$76.93M
-$131.0M

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 $3.21M for January 2022
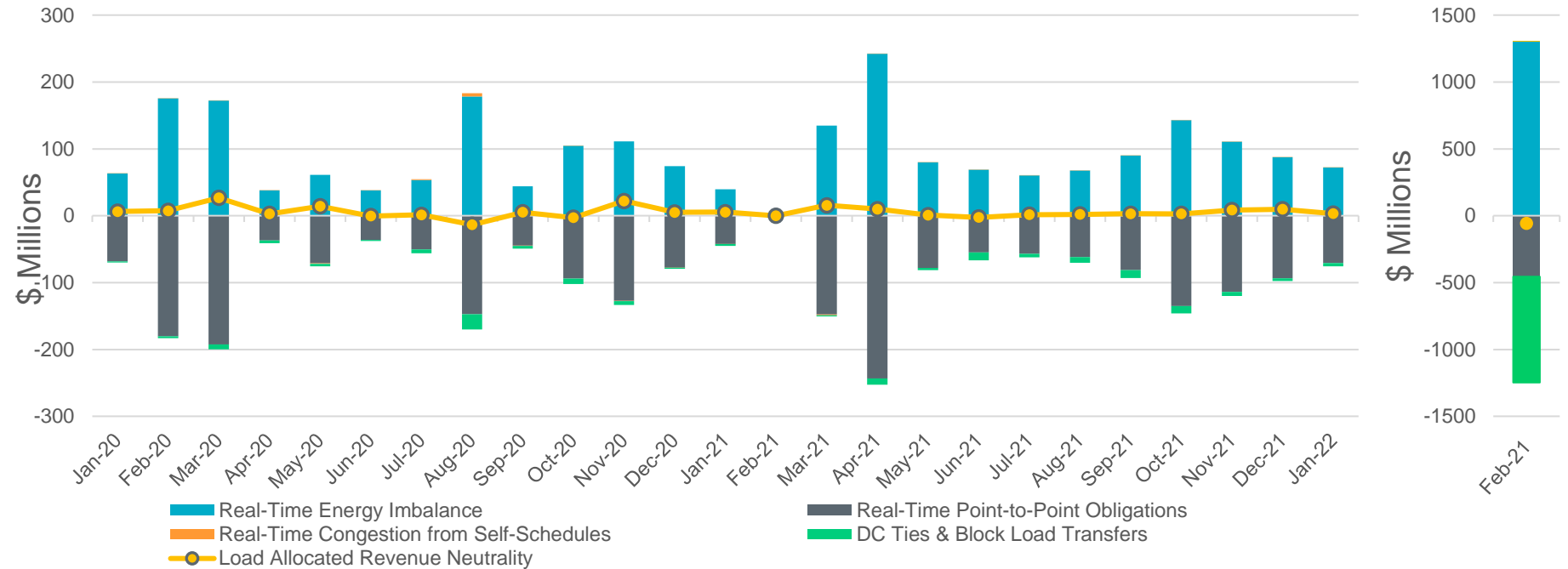
	January 2022 ($M)
Real-Time Energy Imbalance	$72.15
Real-Time Point-to-Point Obligation	($70.62)
Real-Time Congestion from Self-Schedules	$0.21
DC Tie & Block Load Transfer	($4.95)
Load Allocated Revenue Neutrality	**$3.21**

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 January 2022 totaled $31.75M
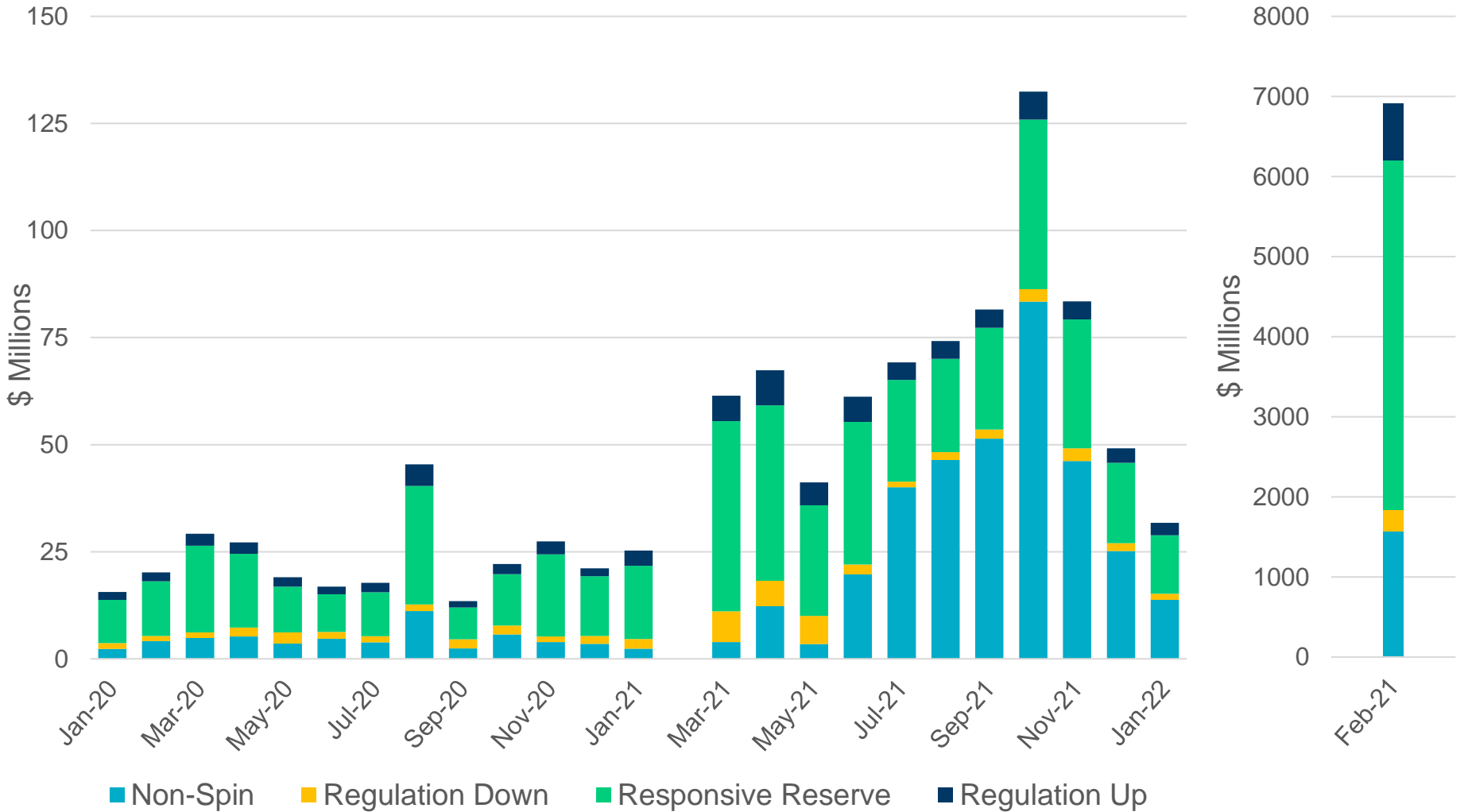
Legend: ■ Non-Spin ■ Regulation Down ■ Responsive Reserve ■ Regulation Up

Note: For visual purposes, February 2021 has been separated into its own graph with different scaling. The legend applies for both graphs.
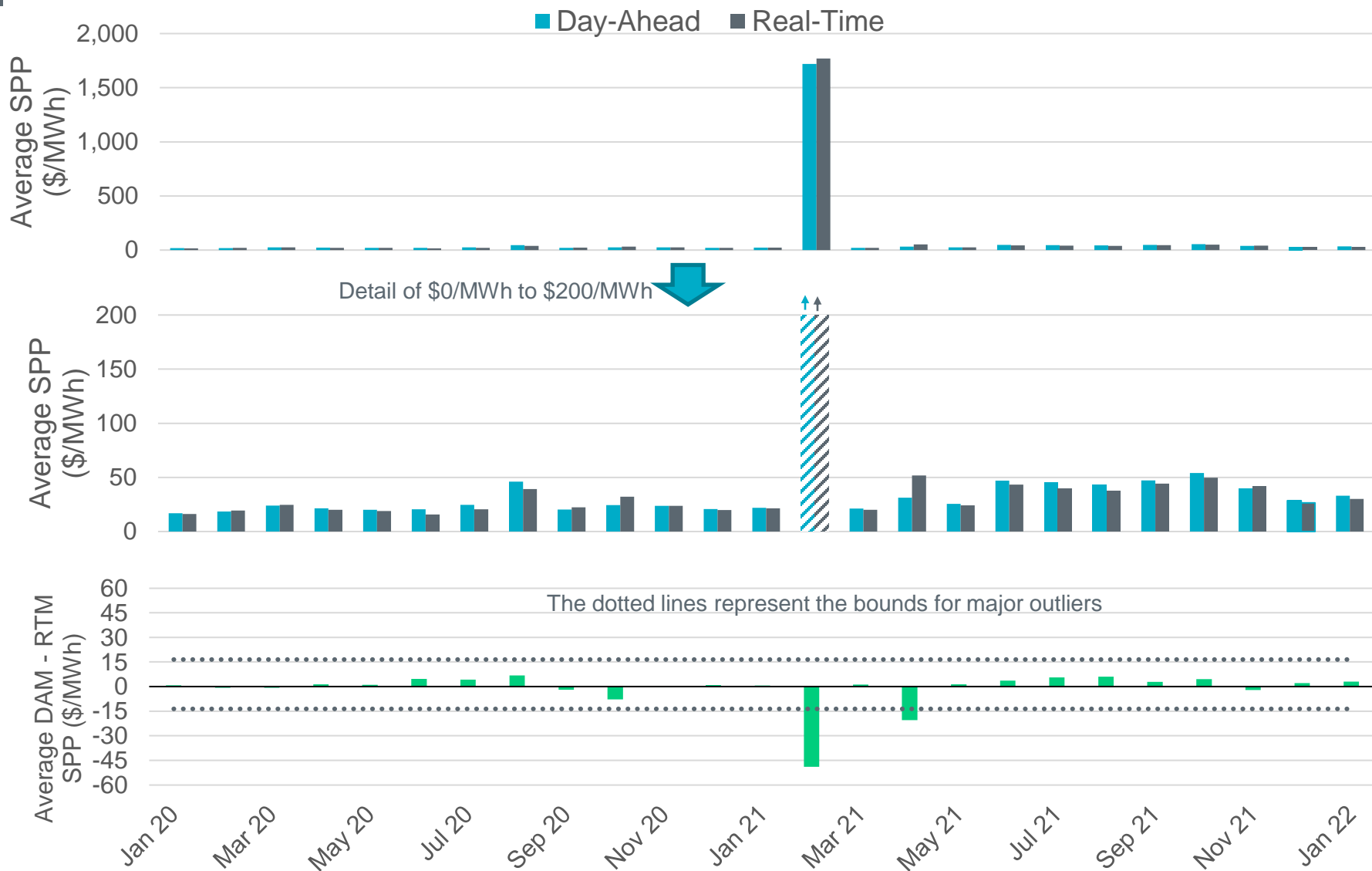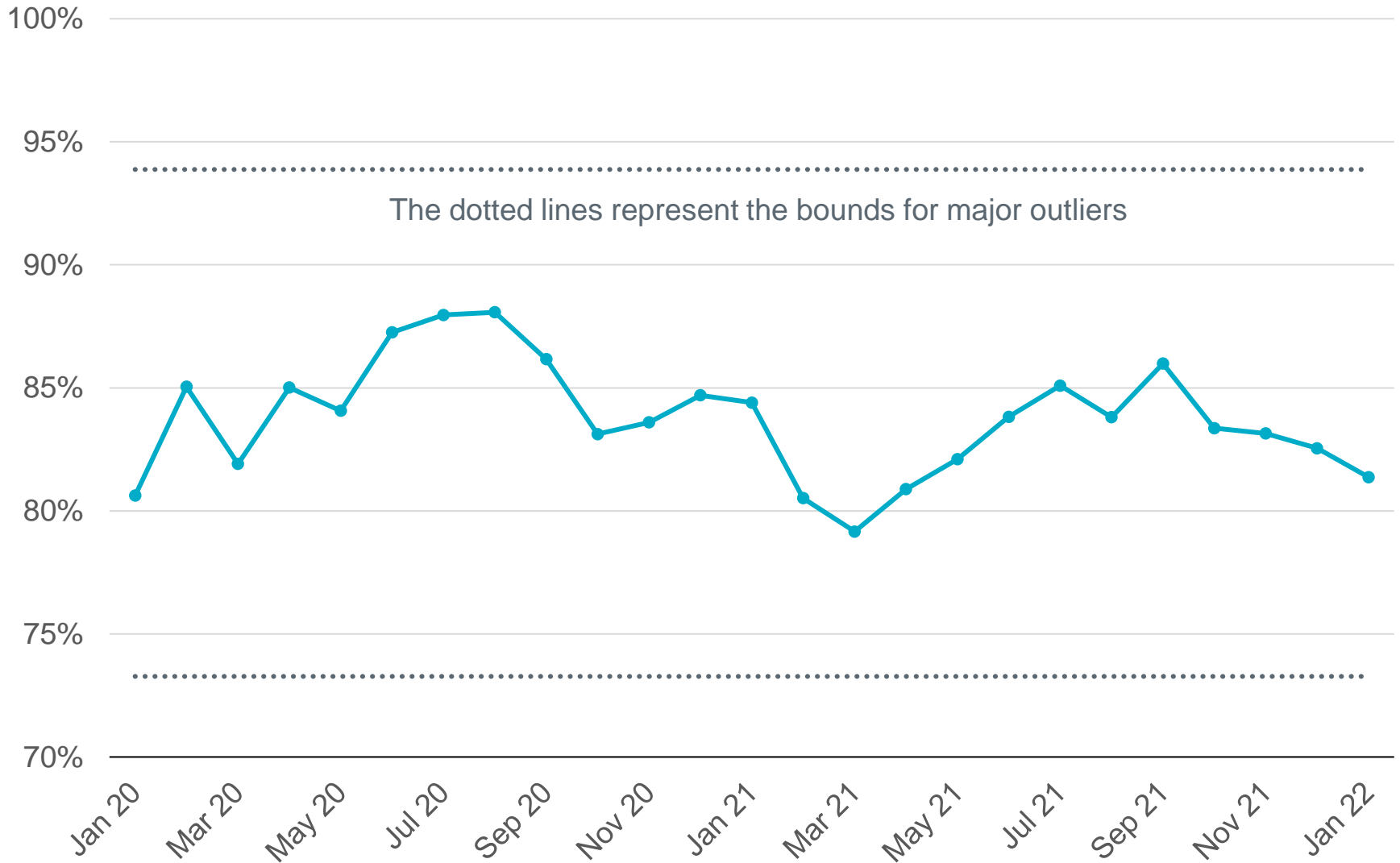
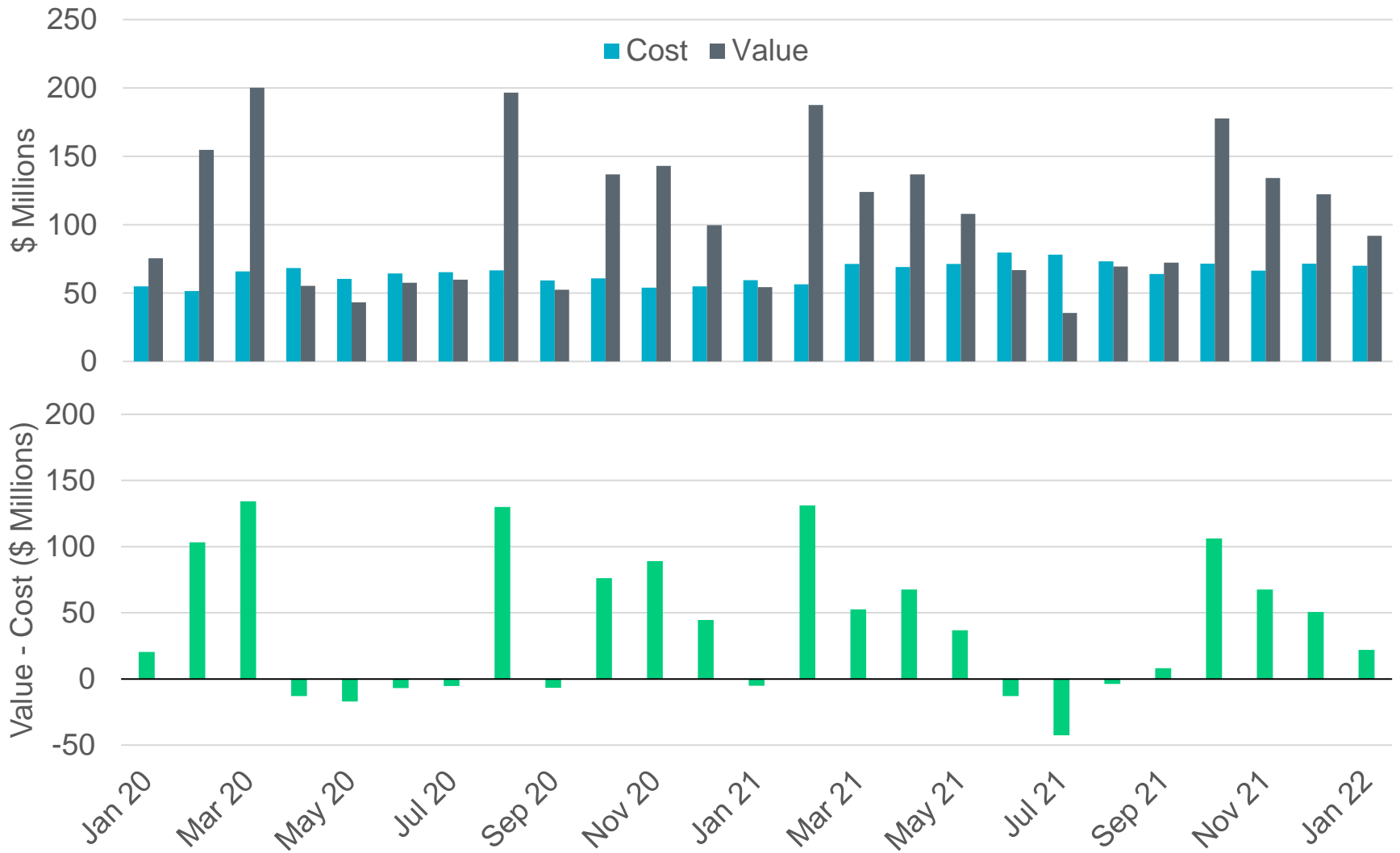# Day-Ahead and Real-Time Market Price Differences

*Averages are weighted by Real-Time Market Load

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

The dotted lines represent the bounds for major outliers

ercot

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.
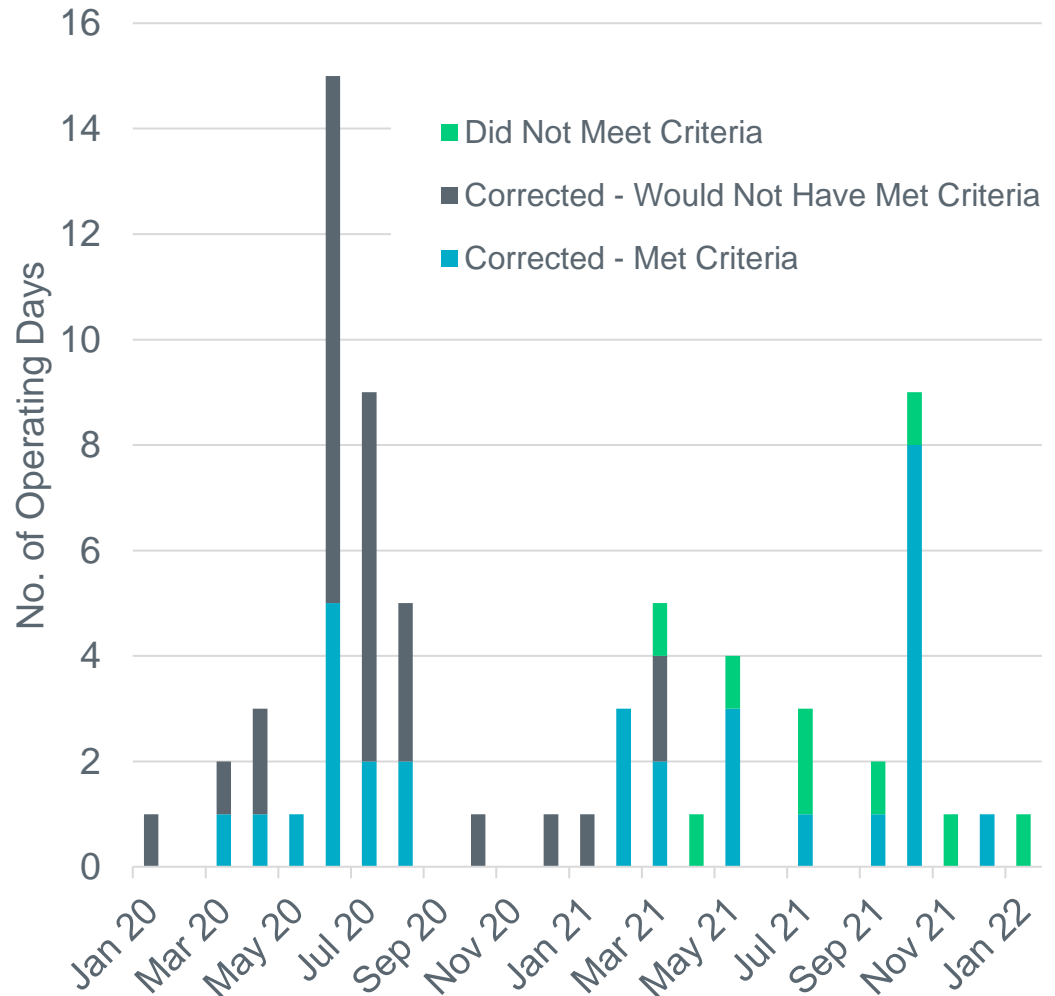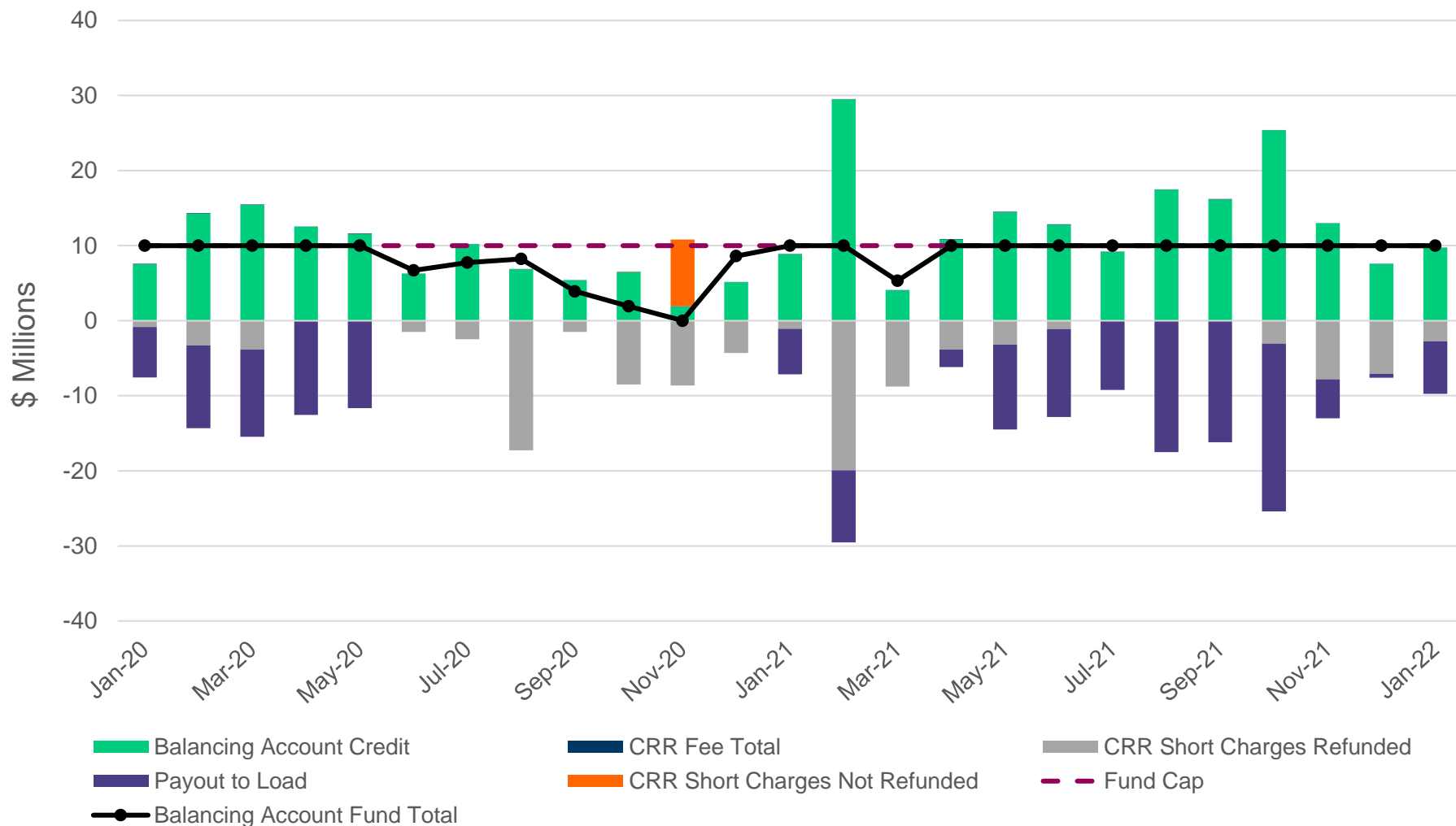
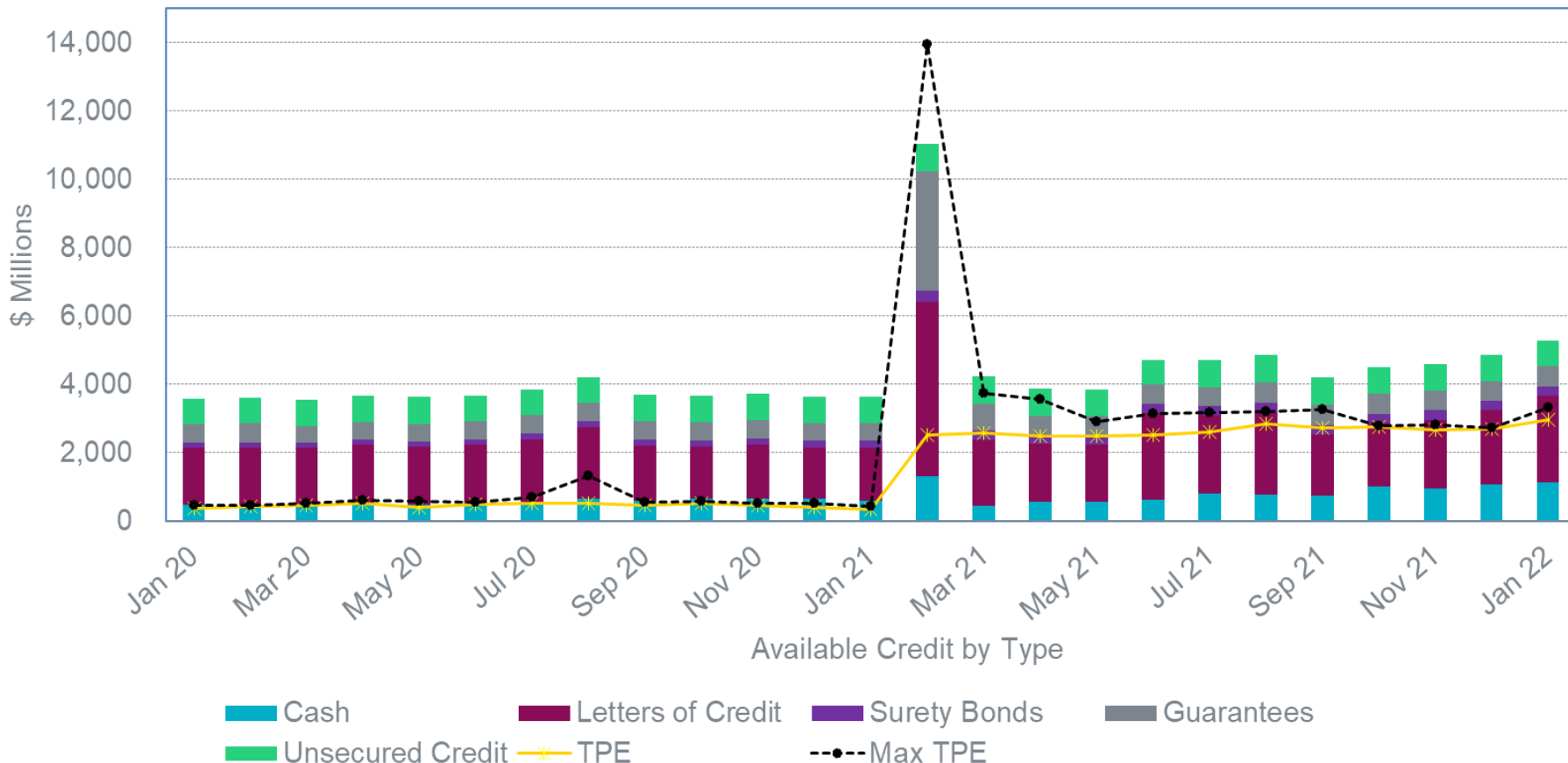# Details on Price Issues not Meeting the Criteria for Significance

Operating Day Jan. 24, 2022

- The price issue was driven by SCED executions that were missed during a routine planned site failover.

- 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

Legend:
- Balancing Account Credit (green)
- CRR Fee Total (dark blue)
- CRR Short Charges Refunded (gray)
- Payout to Load (purple)
- CRR Short Charges Not Refunded (orange)
- Fund Cap (dashed purple)
- Balancing Account Fund Total (black line)

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

*Numbers are as of month end except for Max TPE

Retail Transaction Volumes – Summary – January 2022

Transaction Type	Year-To-Date		Transactions Received	
	January 2022	January 2021	January 2022	January 2021
Switches	104,313	110,245	104,313	110,245
Acquisitions	0	0	0	0
Move - Ins	221,439	220,388	221,439	220,388
Move - Outs	96,360	100,157	96,360	100,157
Continuous Service Agreements (CSA)	45,214	22,021	45,214	22,021
Mass Transitions	0	0	0	0
Total	467,326	452,811	467,326	452,811