



ERCOT Monthly Operational Overview (February 2021)

ERCOT Public
March 23, 2021

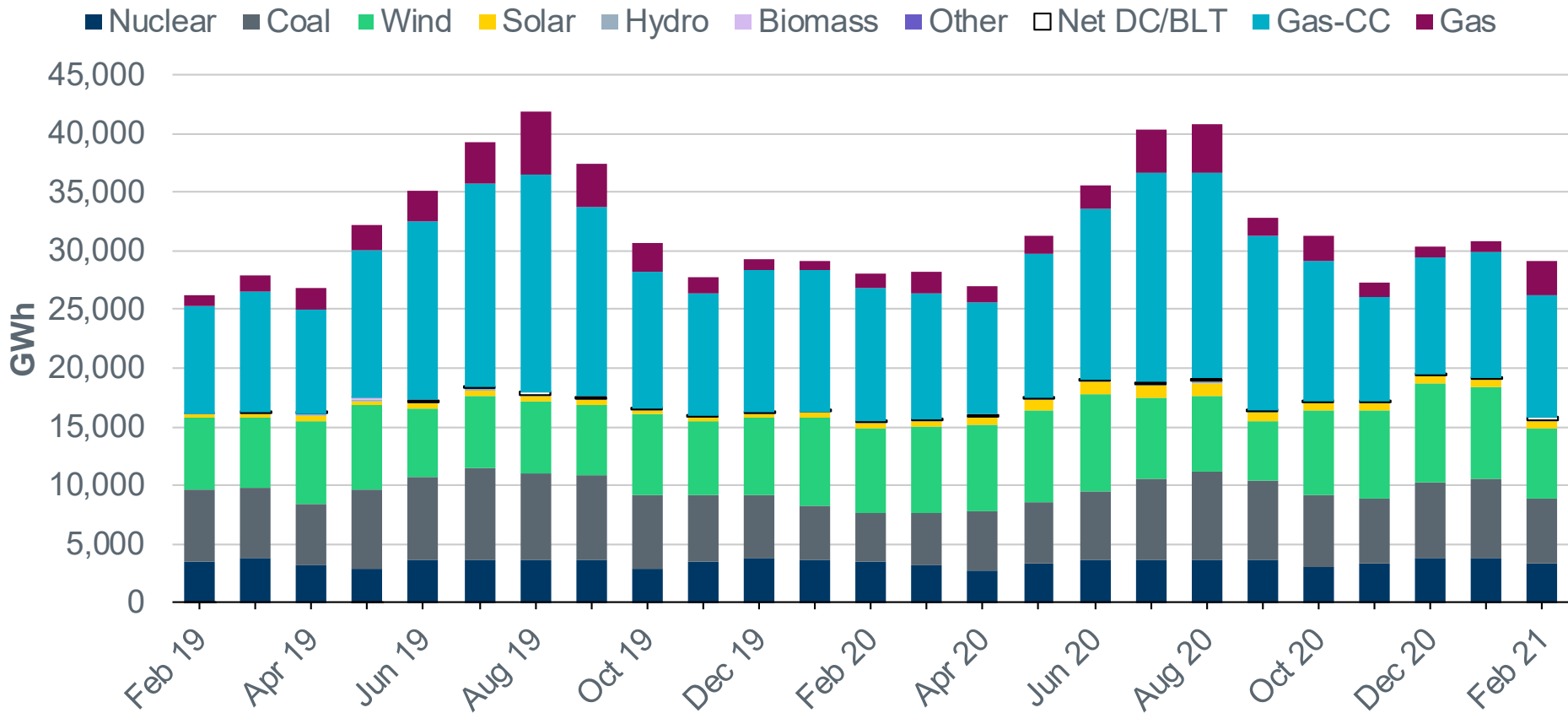
Notifications and Records

- ERCOT set an all-time winter peak demand of 69,692 MW* in February 2021, which is 13,564 MW more than the February 2020 demand of 56,128 MW and 3,777 MW more than the previous all-time winter peak demand of 65,915 MW set on January 2018.
- ERCOT issued 38 notifications:
 - 1 OCN for ERCOT modifying the Bearkat GTC due to a transmission topology change.
 - 1 OCN for an extreme cold weather system approaching starting on February 11, 2021 through Monday, February 15, 2021 with temperatures anticipated to remain 32°F or below.
 - 1 OCN for the predicted freezing precipitation event for the Panhandle and North areas of the ERCOT Region.
 - 2 Advisories for delay in clearing DAM and posting of the DAM Solution.
 - 2 Advisories for Physical Responsive Capability less than 3,000 MW.
 - 1 Advisory for the predicted extreme cold weather event for the ERCOT Region.
 - 1 Watch for the extreme cold weather event for the ERCOT Region.
 - 2 Watches for a projected reserve capacity shortage with no market solution available.

Notifications and Records (continued)

- 2 Watches for insufficient Ancillary Service offers in the Day-Ahead Market.
- 1 Watch for DRUC not completing by 1800 due to DAM timeline deviation.
- 11 Watches for HRUC timeline deviation.
- 1 Watch for Physical Responsive Capability less than 2,500 MW.
- 1 Watch for freezing precipitation event which caused multiple forced Transmission outages across the ERCOT Region.
- 1 Watch for DRUC not completing by 1800 due to DAM timeline deviation.
- 1 Emergency Notice for the extreme cold weather event impacting the ERCOT Region.
- 1 Emergency Notice EEA Level 1 – Reserves below 2,300 MW.
- 1 Emergency Notice EEA Level 2 – Reserves below 1,750 MW.
- 1 Emergency Notice EEA Level 3 With Firm Load Shed.
- 1 Emergency Notice EEA Level 3 to Level 2. System recovering.
- 1 Emergency Notice EEA Level 2 to Level 1. System recovering.
- 1 Emergency Notice Return to Normal. Grid reserves restored. Normal conditions.
- 3 DC-Tie Curtailment Notices due to an actual or anticipated emergency in its Control Area.

Monthly energy generation increased by 3.8% year-over-year to 29,074 GWh in February 2021, compared to 28,014 GWh in February 2020

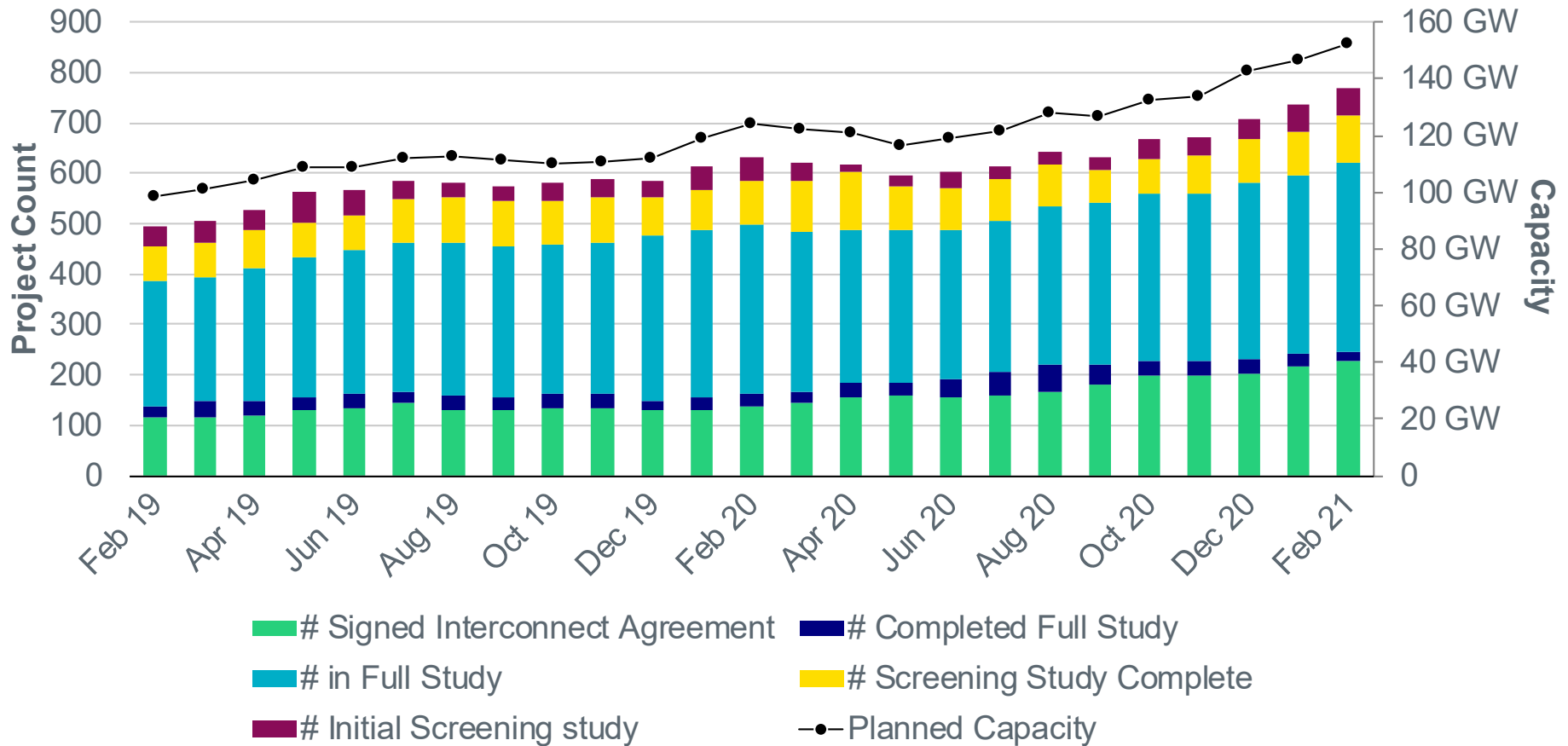


Data for latest two months are based on preliminary settlements.



Generation Interconnection activity by project phase

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

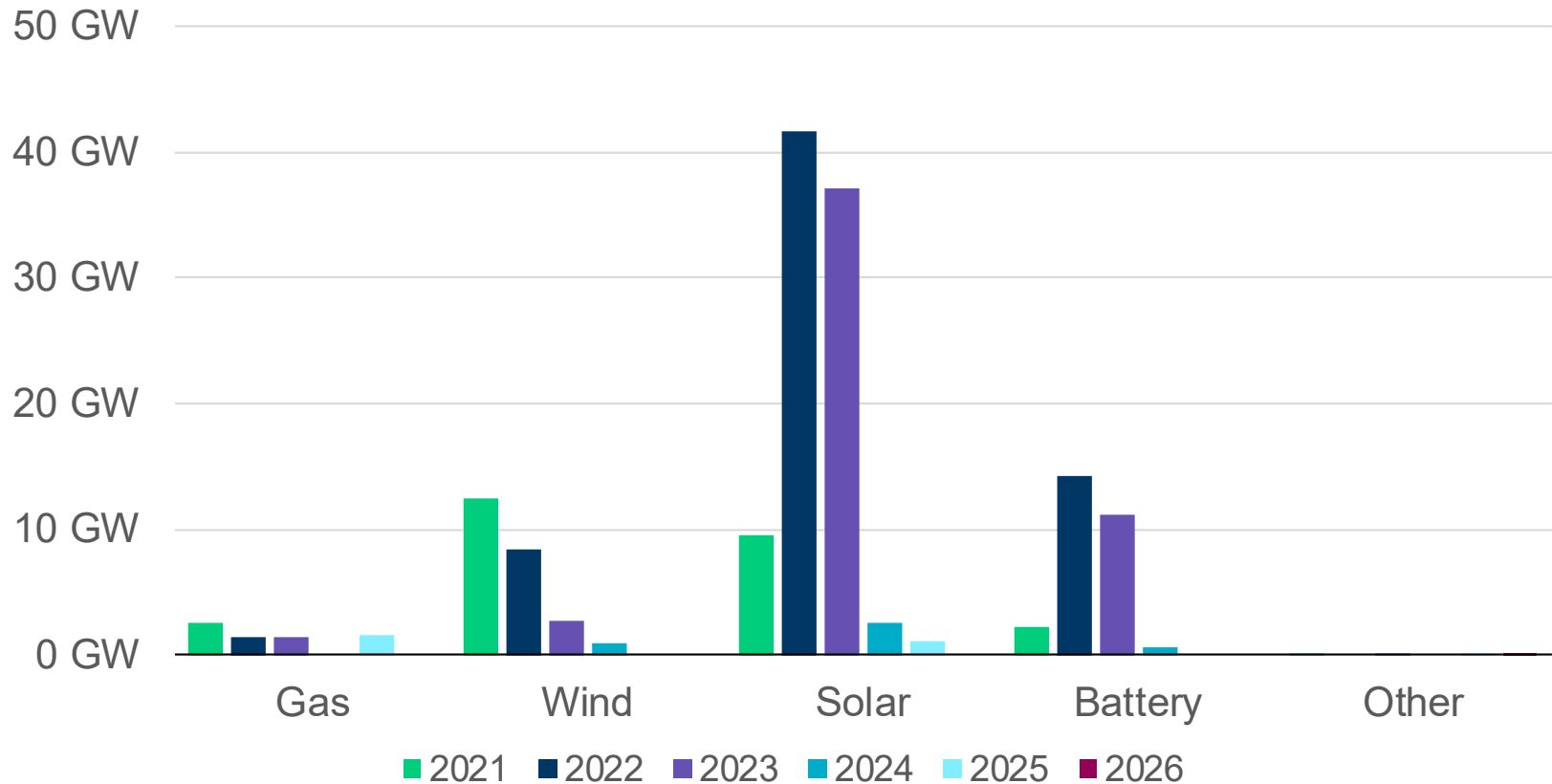


A break-out by fuel type can be found in the monthly Generator Interconnection Status (GIS) reports available on the ERCOT Resource Adequacy Page: <http://www.ercot.com/gridinfo/resource>



Interconnection Queue Capacity by Fuel Type

Queue totals: Solar 92 GW (60.3%), Wind 25 GW (16.1%), Gas 7 GW (4.7%), Battery 28 GW (18.6%)
(Excludes capacity associated with Projects designated as Inactive per Planning Guide Section 5.7.6)

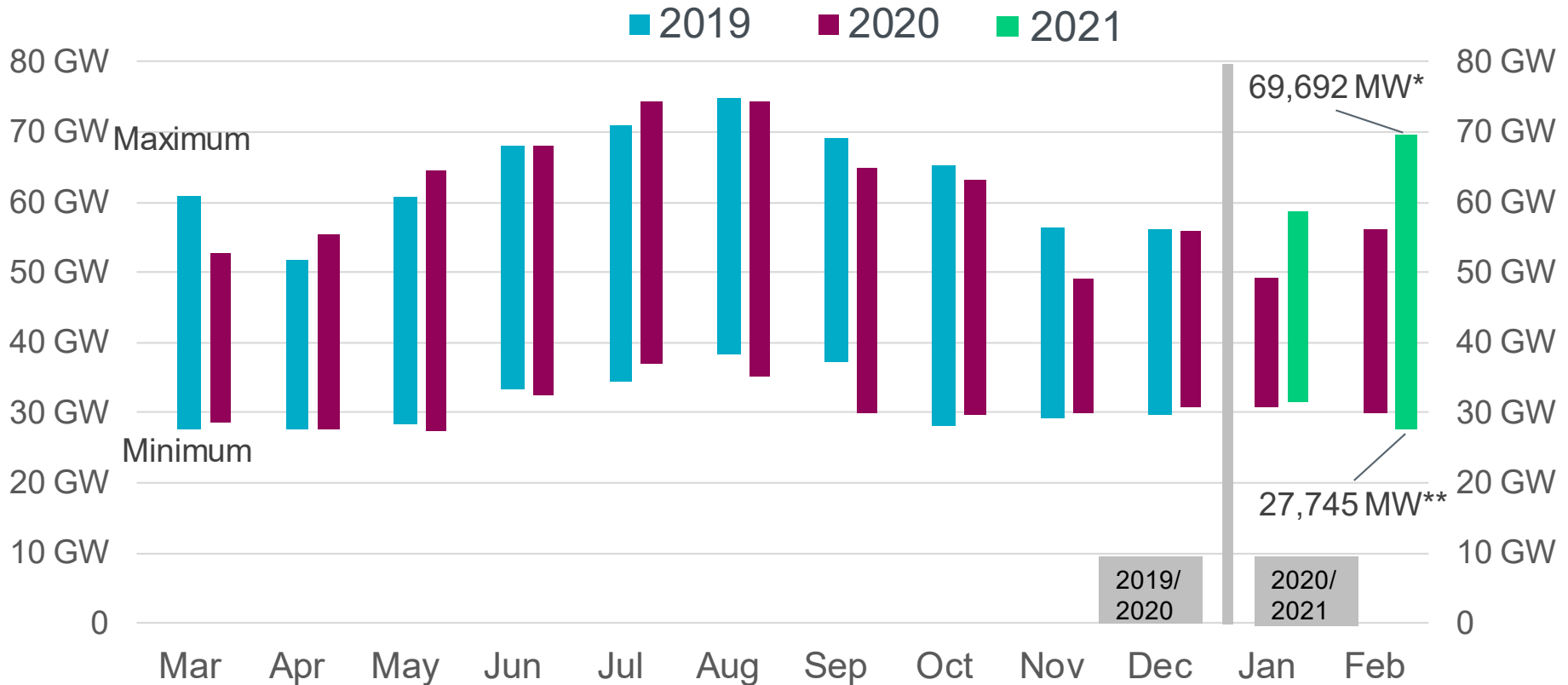


A break-out by zone can be found in the monthly Generator Interconnection Status (GIS) reports available on the ERCOT Resource Adequacy Page: <http://www.ercot.com/gridinfo/resource>

Planning Summary

- ERCOT is currently tracking 769 active generation interconnection requests totaling 152,567 MW. This includes 92,012 MW of solar, 24,552 MW of wind, 28,353 MW of battery, and 7,237 MW of gas projects as of February 28, 2021.
- ERCOT is currently reviewing proposed transmission improvements with a total estimated cost of \$1,292.66 Million as of February 28, 2021.
- Transmission Projects endorsed in 2021 total \$106.1 Million as of February 28, 2021.
- All projects (in engineering, routing, licensing and construction) total approximately \$7.3 Billion as of February 1, 2021.
- Transmission Projects energized in 2021 total about \$49.4 Million as of February 1, 2021.

ERCOT set an all-time winter peak demand of 69,692 MW* in February 2021, which is 13,564 MW more than the February 2020 demand of 56,128 MW



*Based on the maximum net system hourly value from March release of Demand and Energy 2021 report.

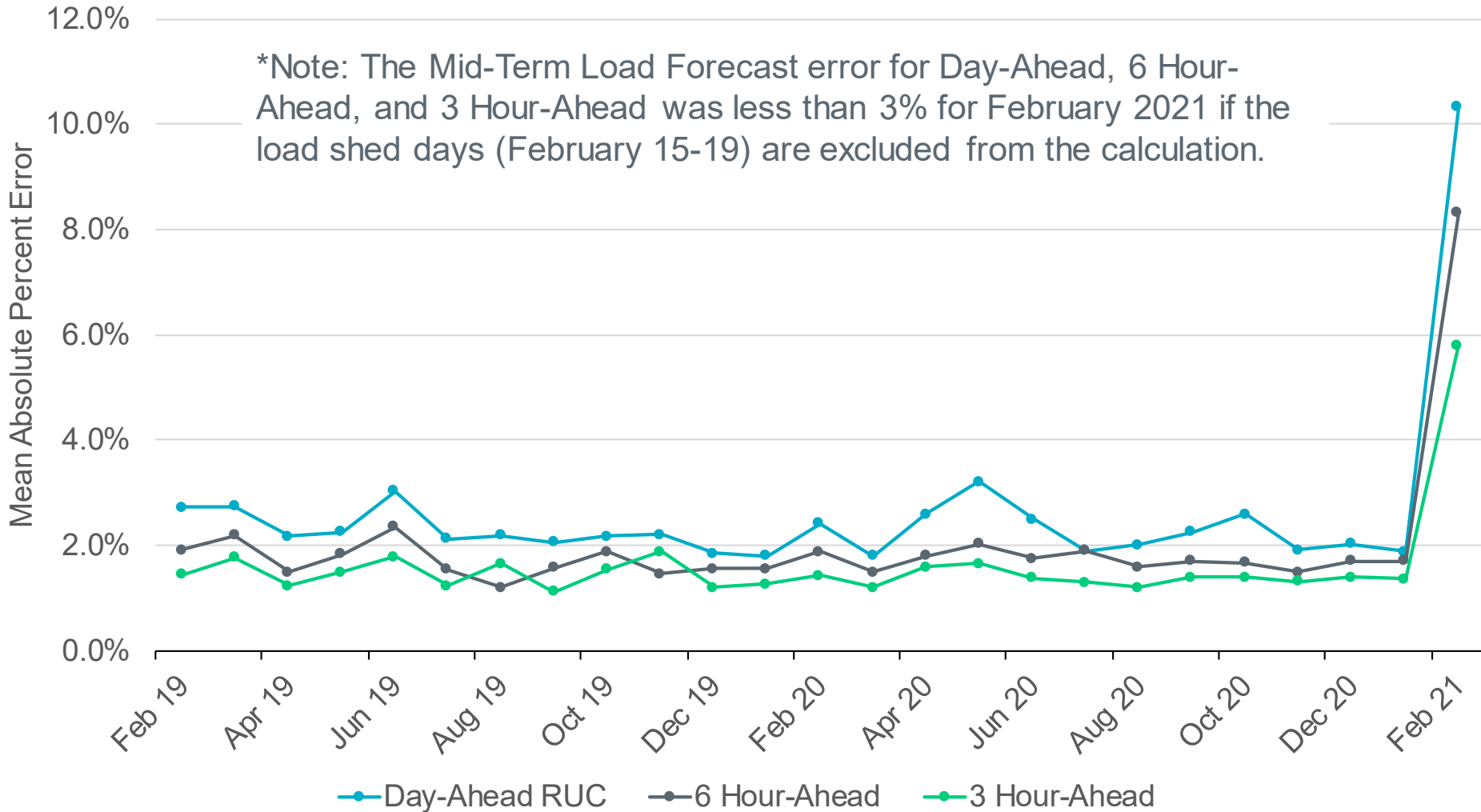
**Based on the minimum net system 15-minute interval value from March release of Demand and Energy 2021 report.

Data for latest two months are based on preliminary settlements.



Mid-Term Load Forecast Performance

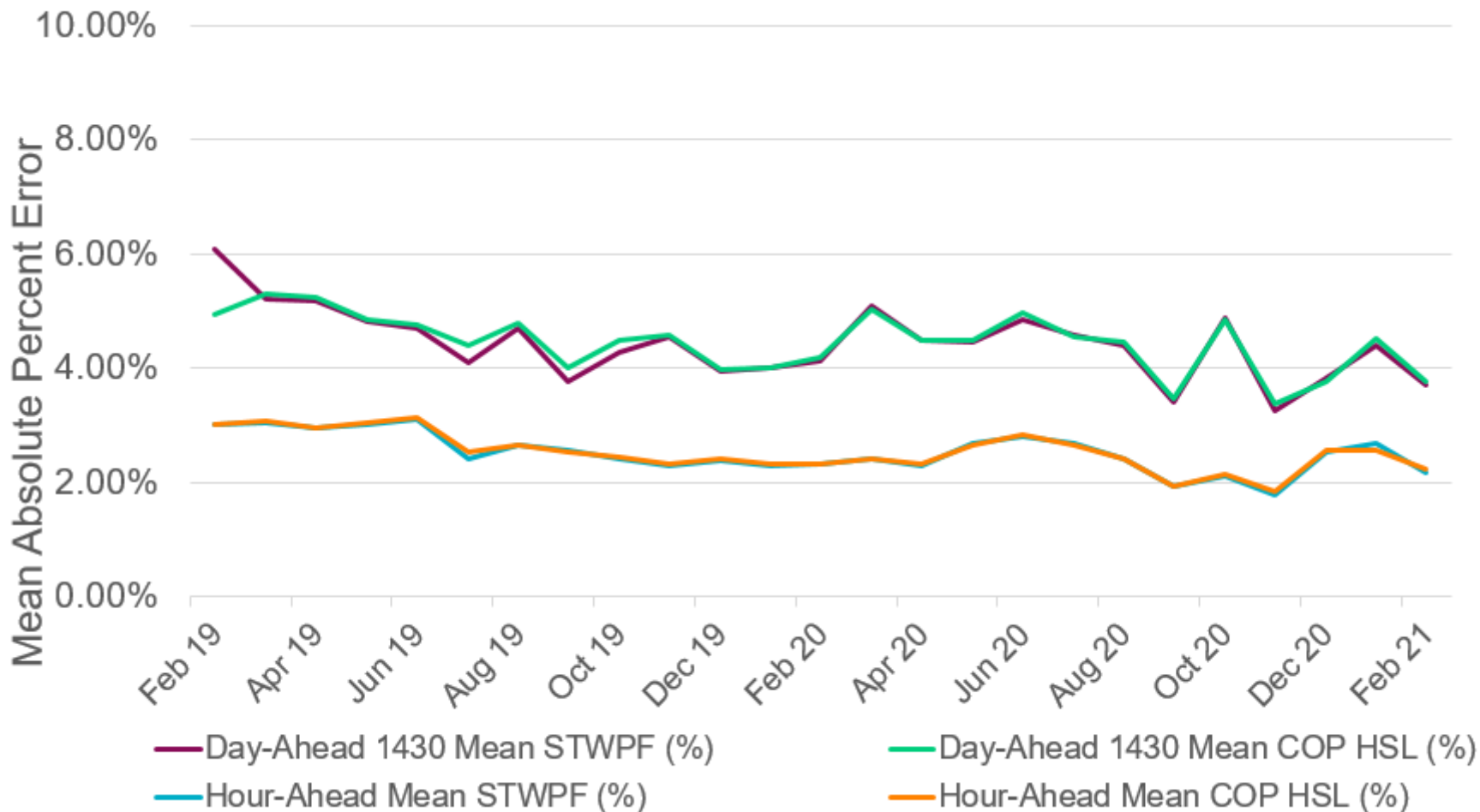
*Note: The Mid-Term Load Forecast error for Day-Ahead, 6 Hour-Ahead, and 3 Hour-Ahead was less than 3% for February 2021 if the load shed days (February 15-19) are excluded from the calculation.



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



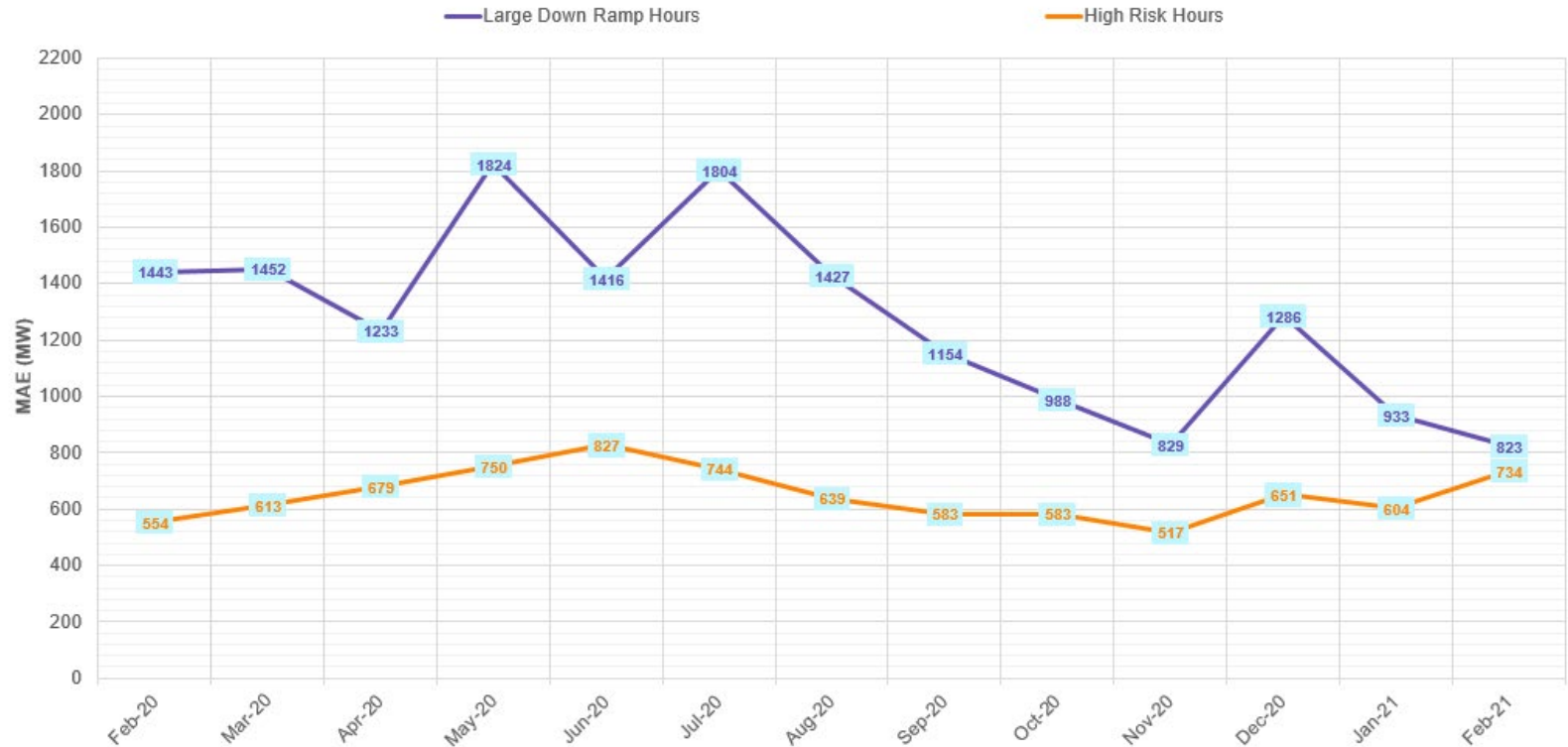
Wind Forecast Performance



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

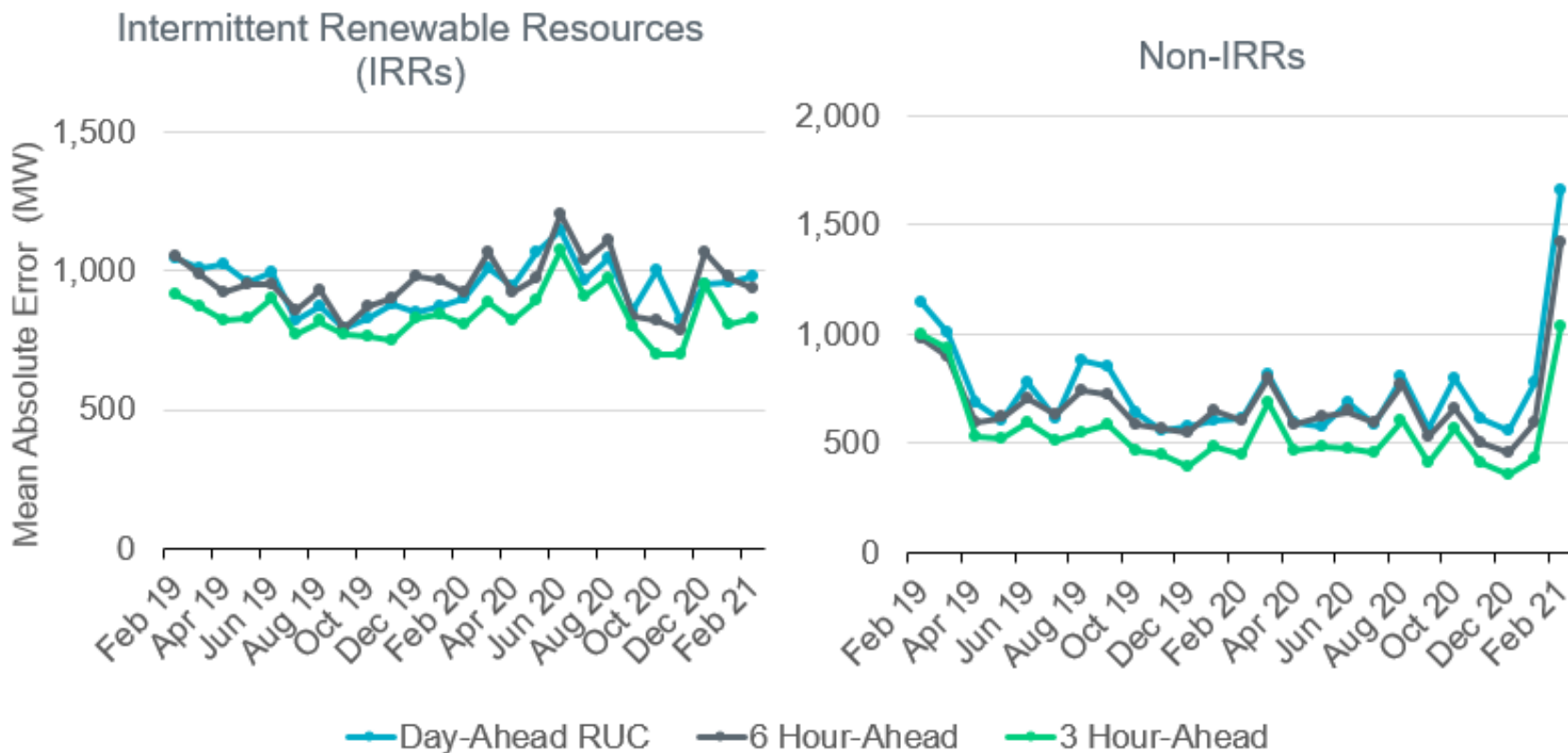
Hour-Ahead Mean Absolute Error (MAE) During Large Down Ramp (> 2000 MW) and High Risk Hours*



*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.

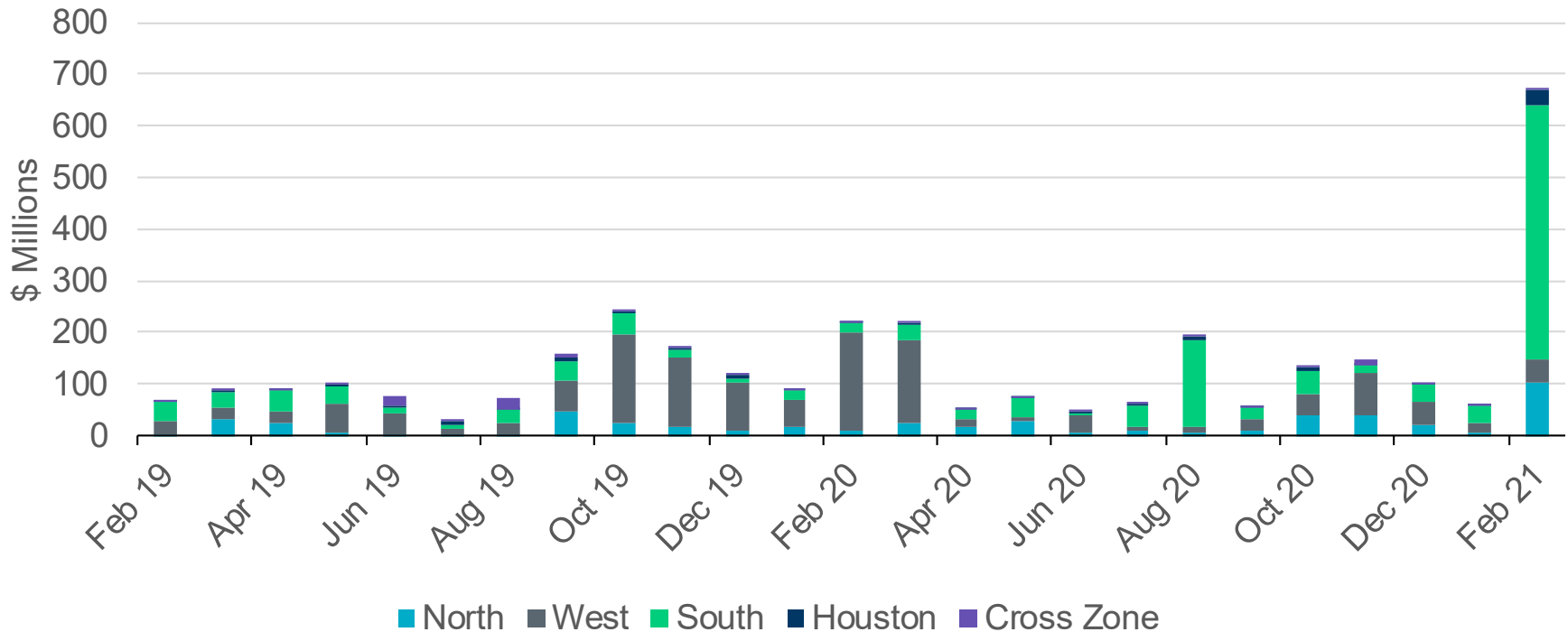
Forecast performance during large down ramp (wind ramp > 2000 MW) hours and high risk hours (historic risk of load ramping up and wind ramping down is high) is focused upon. Note that for the purposes of forecast performance measurement every hour in a month is classified as either a large down ramp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



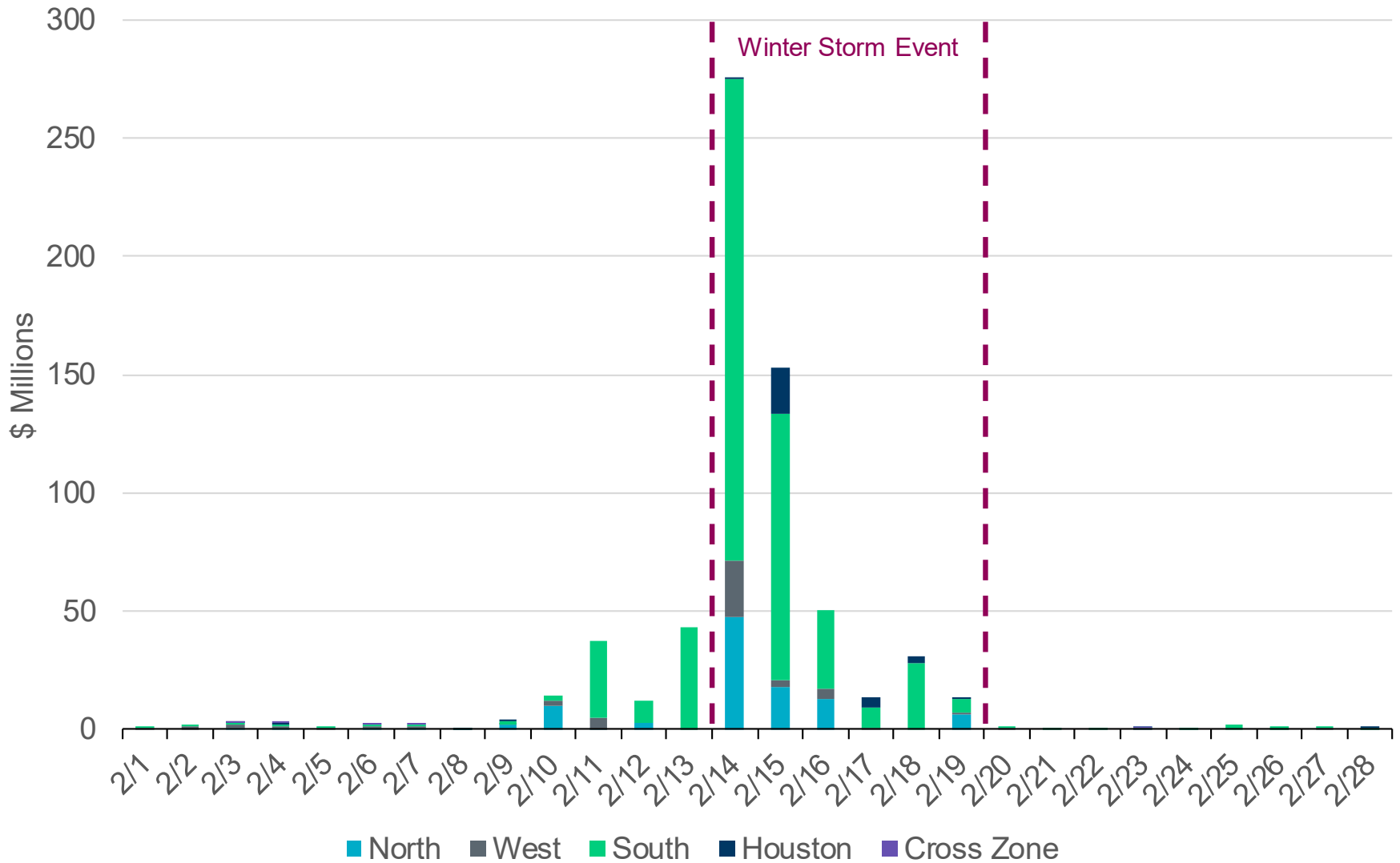
- COPs for IRRs are derived from wind and solar forecasts from ERCOT with any adjustments from Qualified Scheduling Entities.
- The installed capacity of approved Wind Units is 31,530 MW (as of February 28, 2021).
- The installed capacity of approved Solar Units is 6,053 MW (as of February 28, 2021).

Real-Time Congestion Rent by Zone

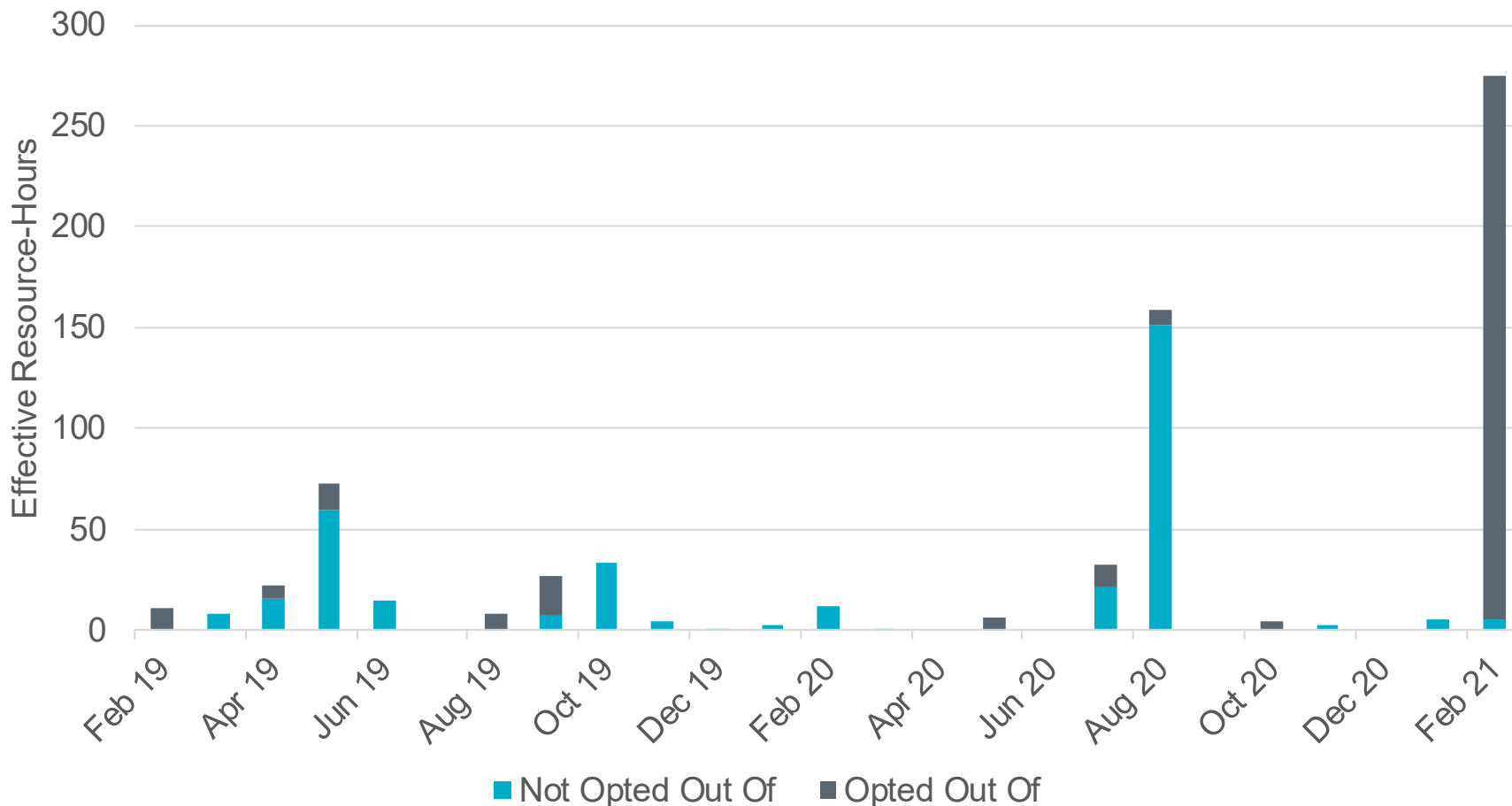


- The congestion rent for February significantly increased in all Zones, primarily due to extremely high congestion rent during the February 14-18 winter storm event. The most significant constraints for February are DELMSAN5: PAWNEE_SPRUCE_1 and SFPPL025: CKT_3132_1 in the South Zone, and SCRDJON5: 915__E in the North 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.

Daily Real-Time Congestion Rent by Zone

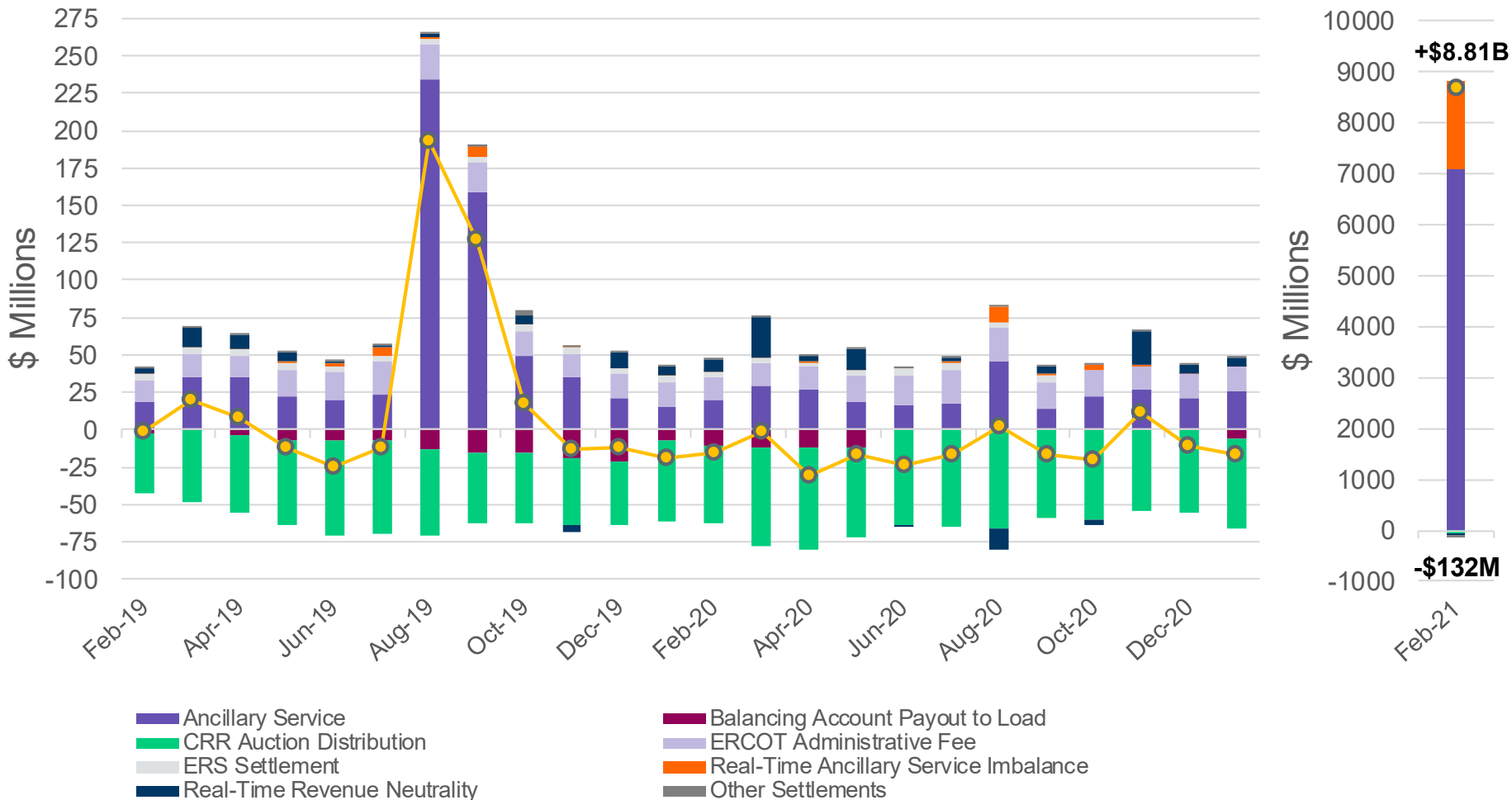


Twenty Resources were Committed in February for System Capacity and EEA-3 during the Winter Storm Event



“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.

Net Allocation to Load in February 2021 was \$8.68 Billion

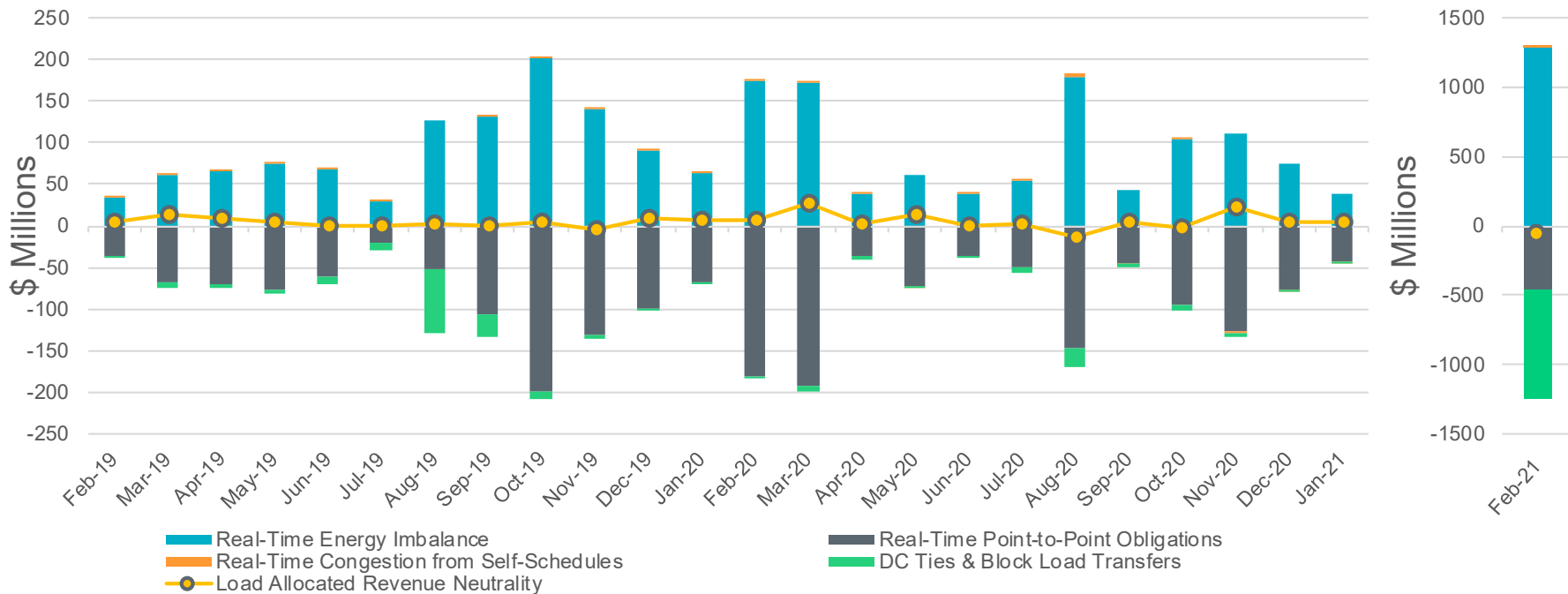


This information is available in tabular form in the Settlement Stability Report presented quarterly to the [Wholesale Market Subcommittee](#)

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 (\$49.64) Million for February 2021

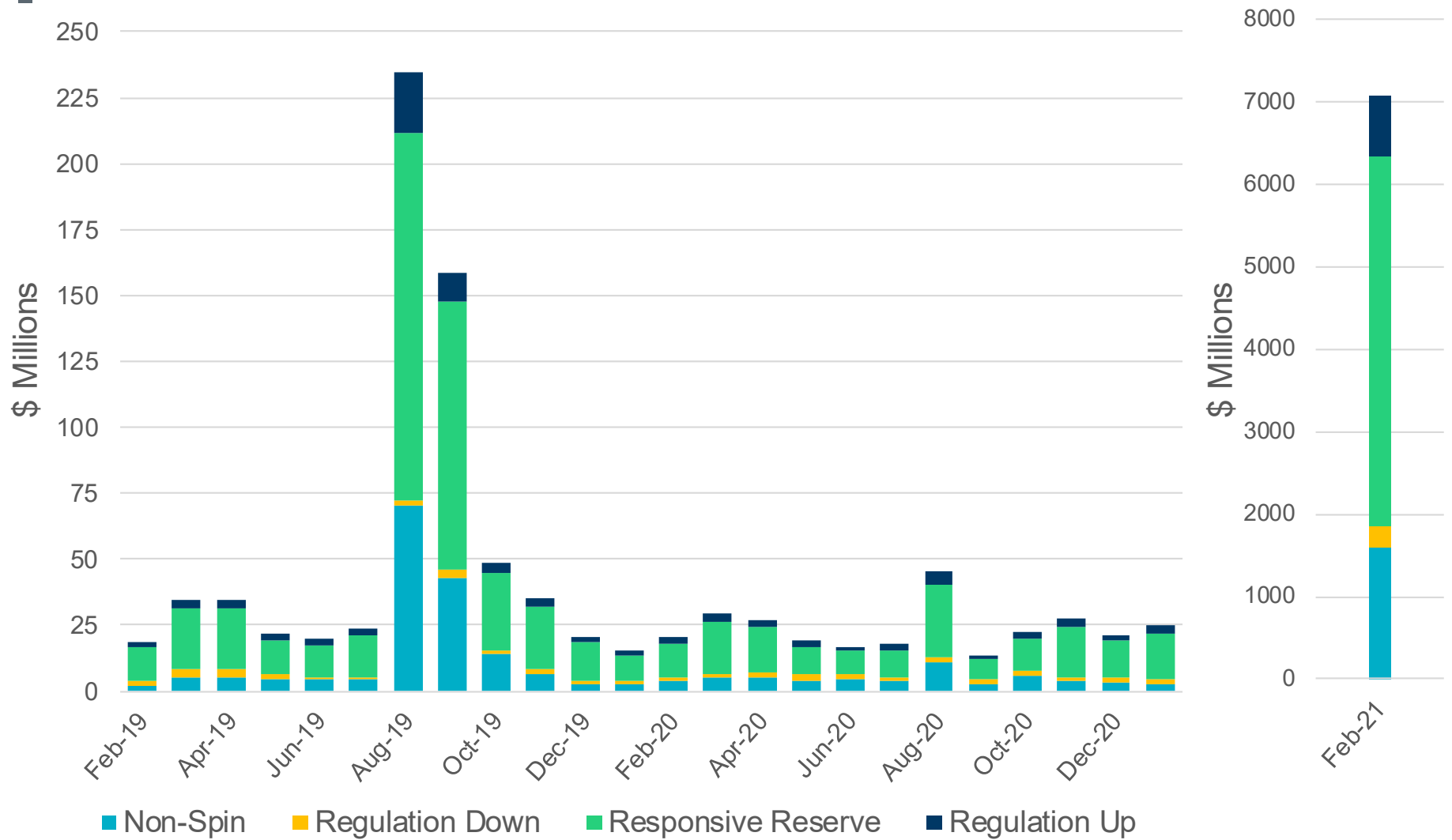


February 2021 (\$M)	
Real-Time Energy Imbalance	\$1,292.78
Real-Time Point-to-Point Obligation	(\$454.51)
Real-Time Congestion from Self-Schedules	\$4.45
DC Tie & Block Load Transfer	(\$793.08)
Load Allocated Revenue Neutrality	(\$49.64)

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



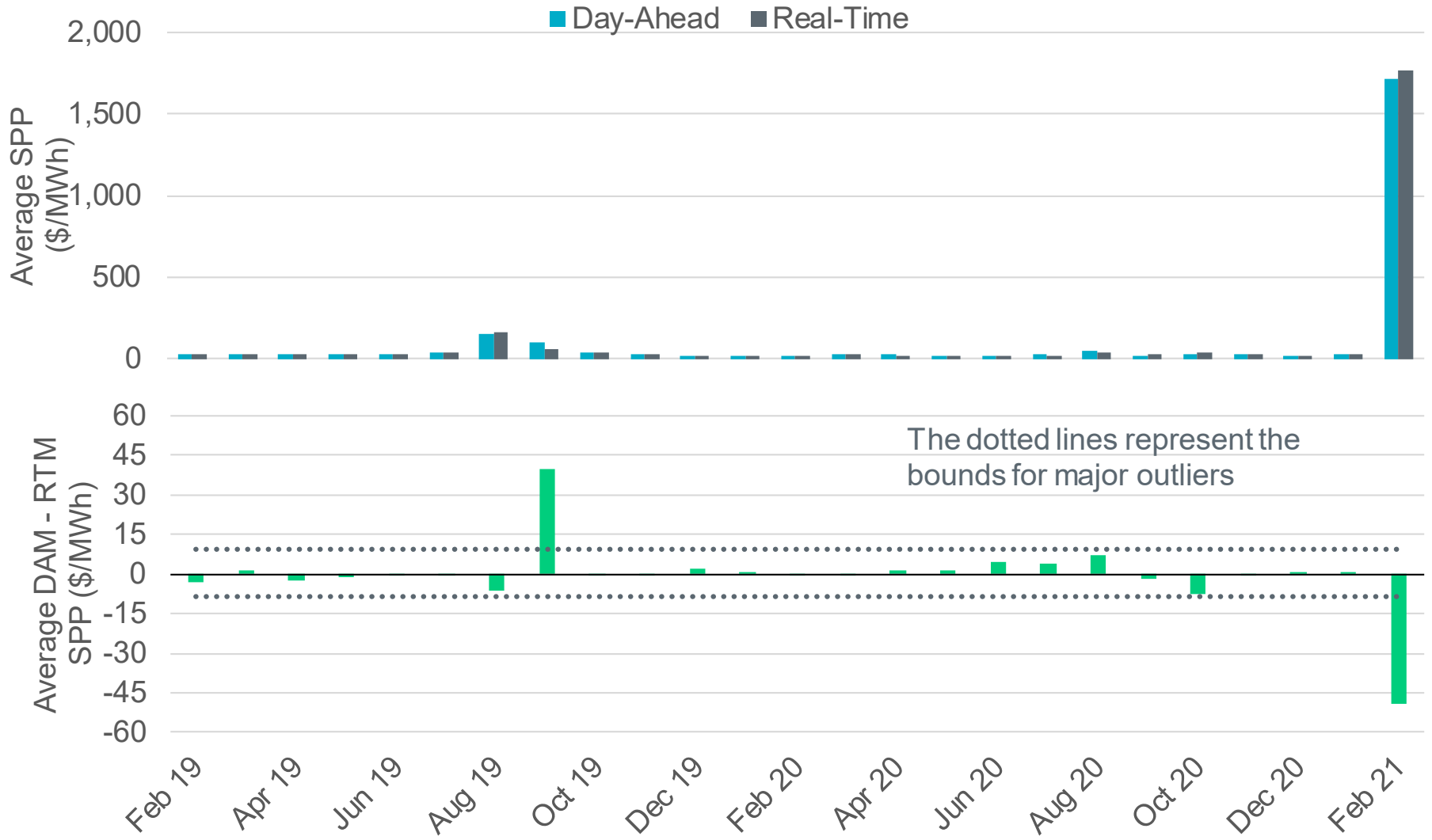
Ancillary Services for February 2021 totaled \$7.1 Billion



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



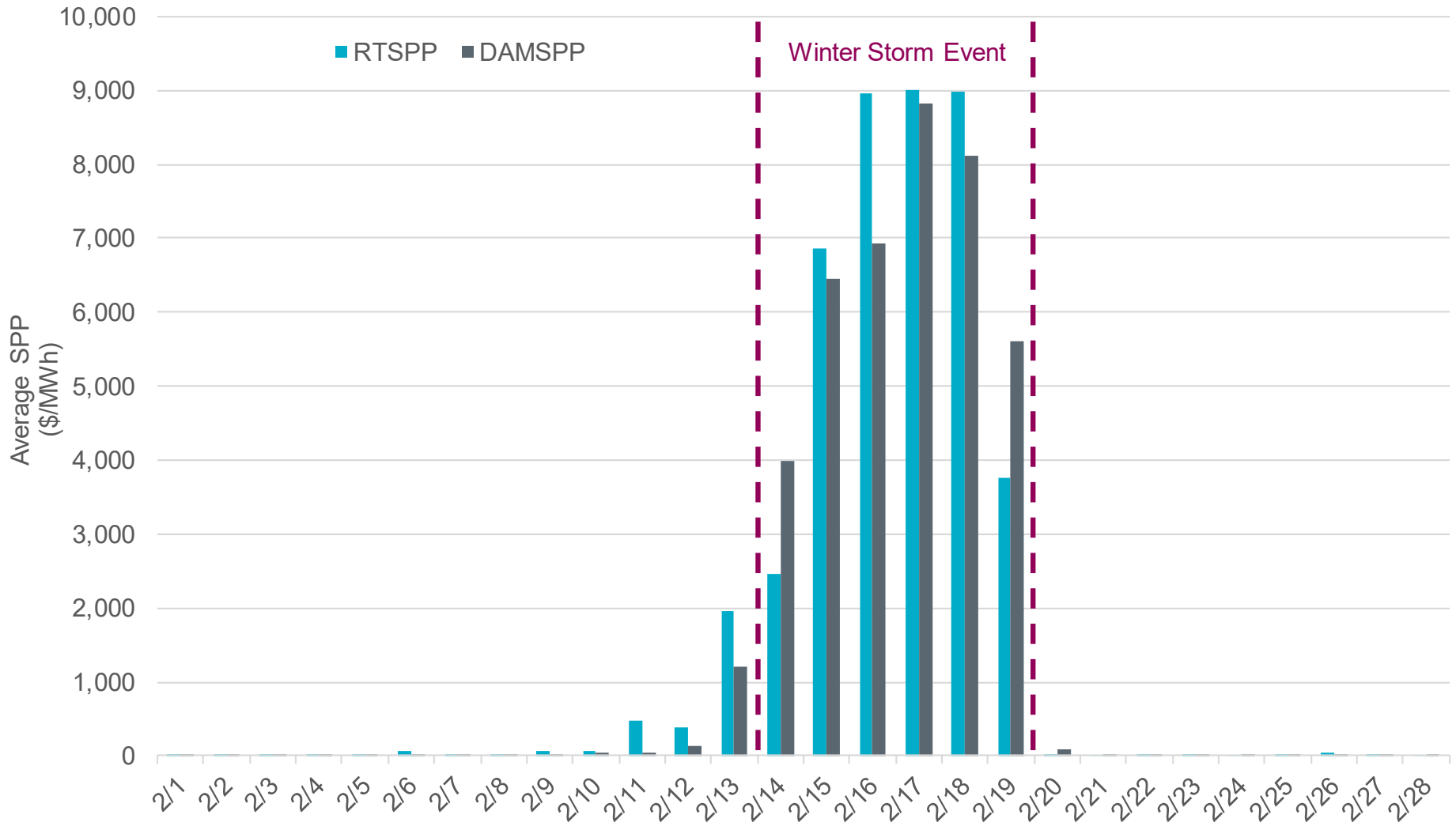
Day-Ahead and Real-Time Market Price Differences



*Averages are weighted by Real-Time Market Load



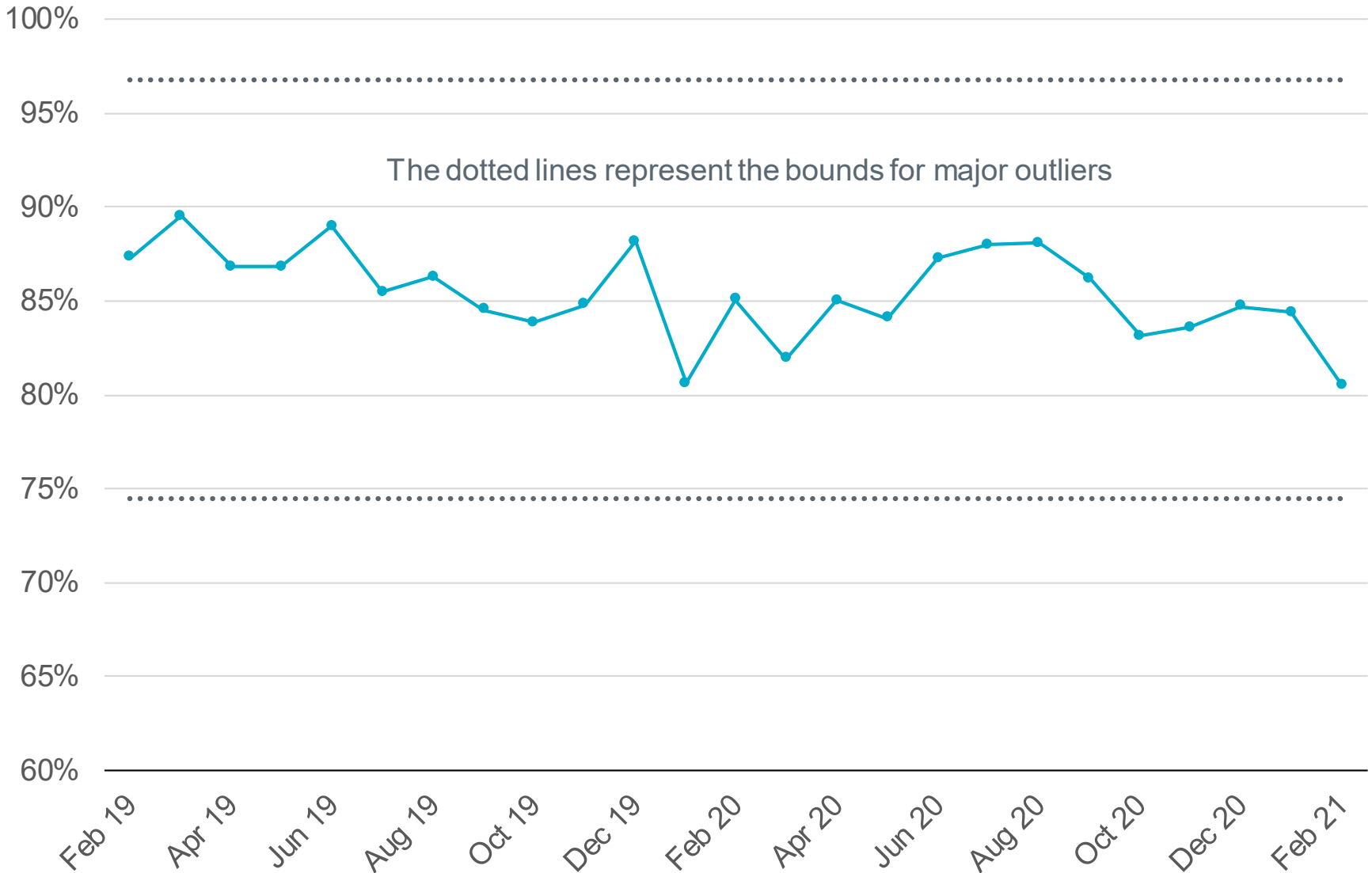
Daily Day-Ahead and Real-Time Market Price Differences



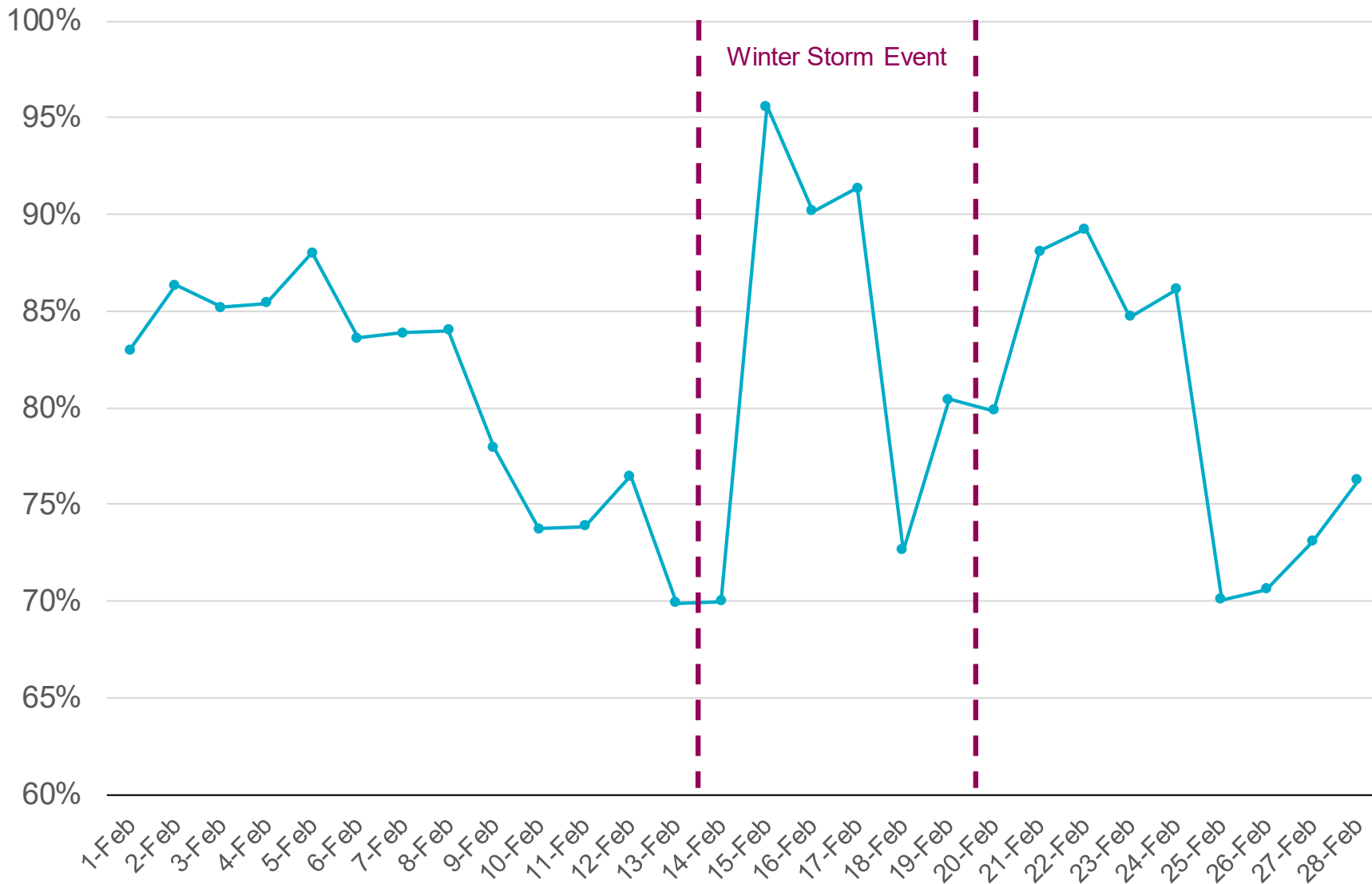
*Averages are weighted by Real-Time Market Load



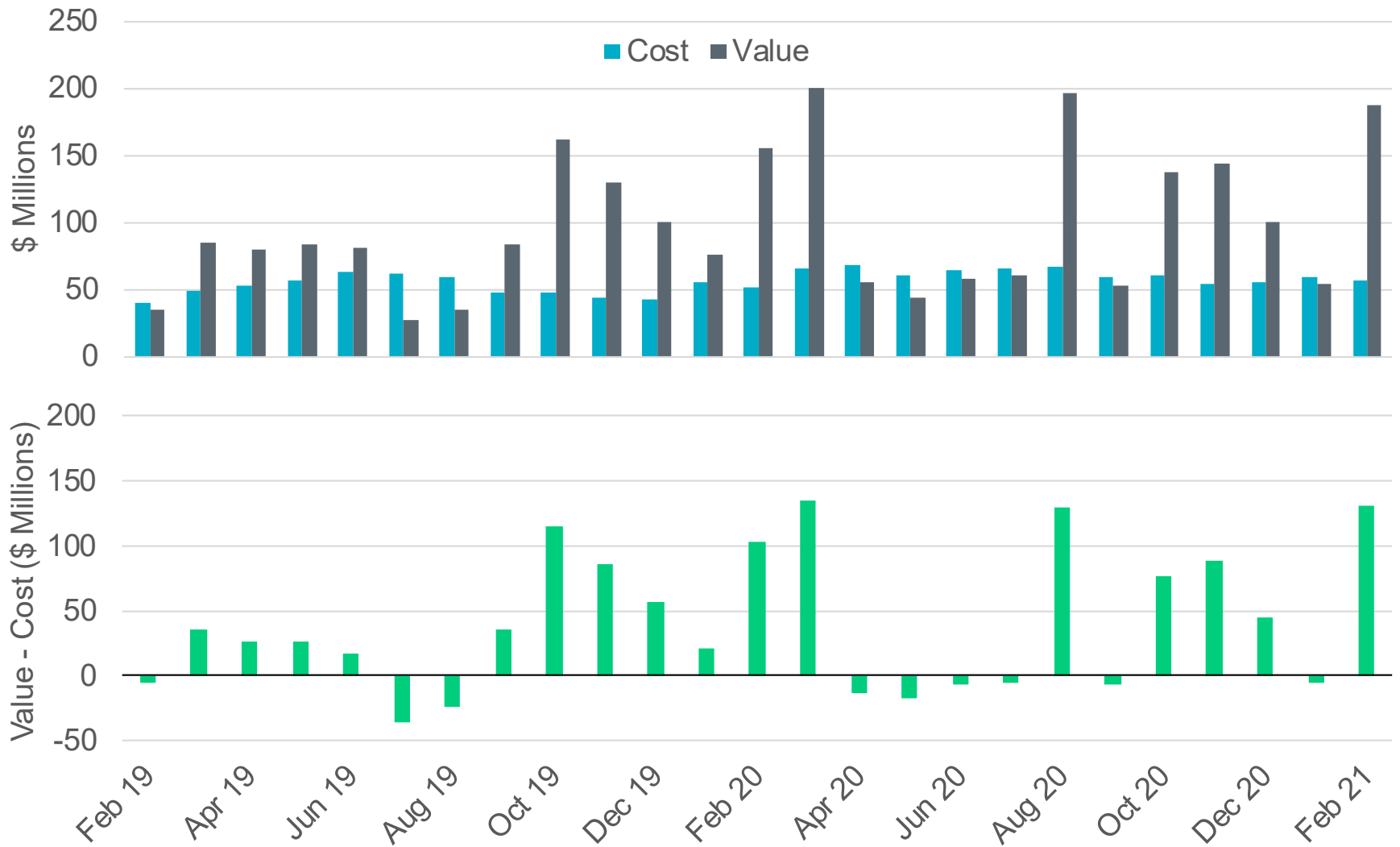
Percentage of Real-Time Load Transacted in the Day-Ahead Market



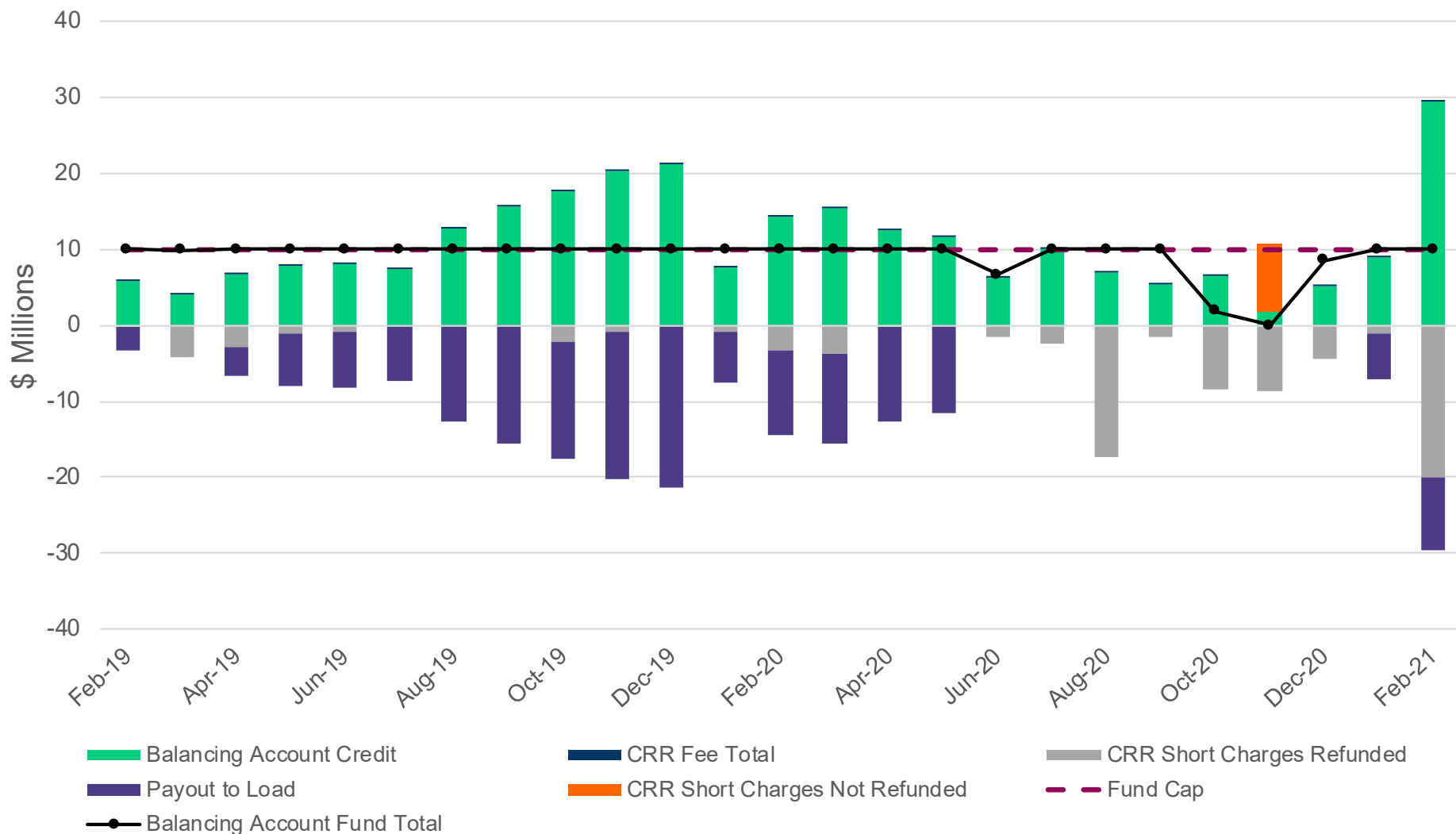
Daily Percentage of Real-Time Load Transacted in the Day-Ahead Market



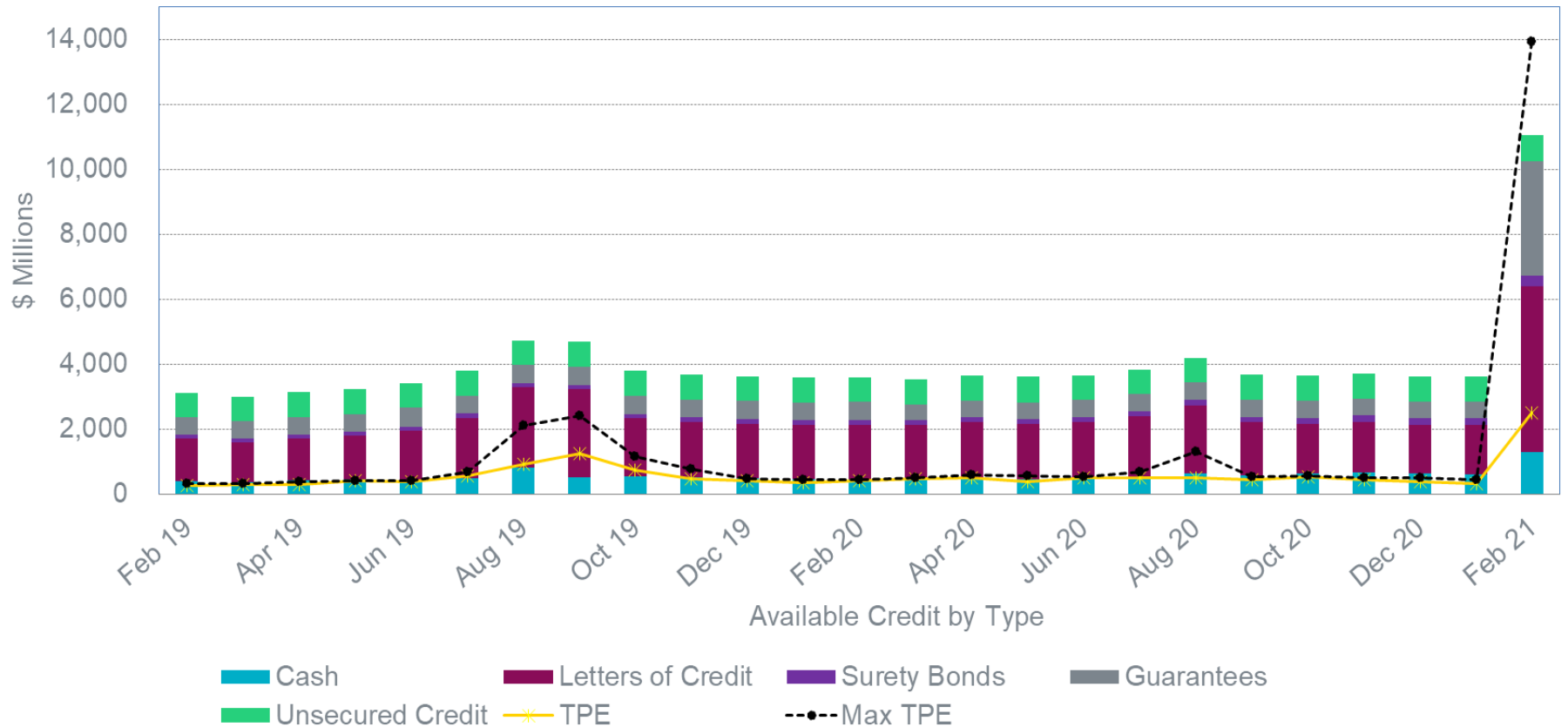
CRR Value and Cost Differences



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 2021

	Year-To-Date		Transactions Received	
Transaction Type	February 2021	February 2020	February 2021	February 2020
Switches	229,987	153,081	119,742	74,361
Acquisitions	48,862	0	48,862	0
Move - Ins	407,191	441,596	186,803	213,951
Move - Outs	186,553	205,680	86,396	98,953
Continuous Service Agreements (CSA)	43,505	85,606	21,484	24,712
Mass Transitions	9,126	0	9,126	0
Total	925,224	885,963	472,413	411,977