



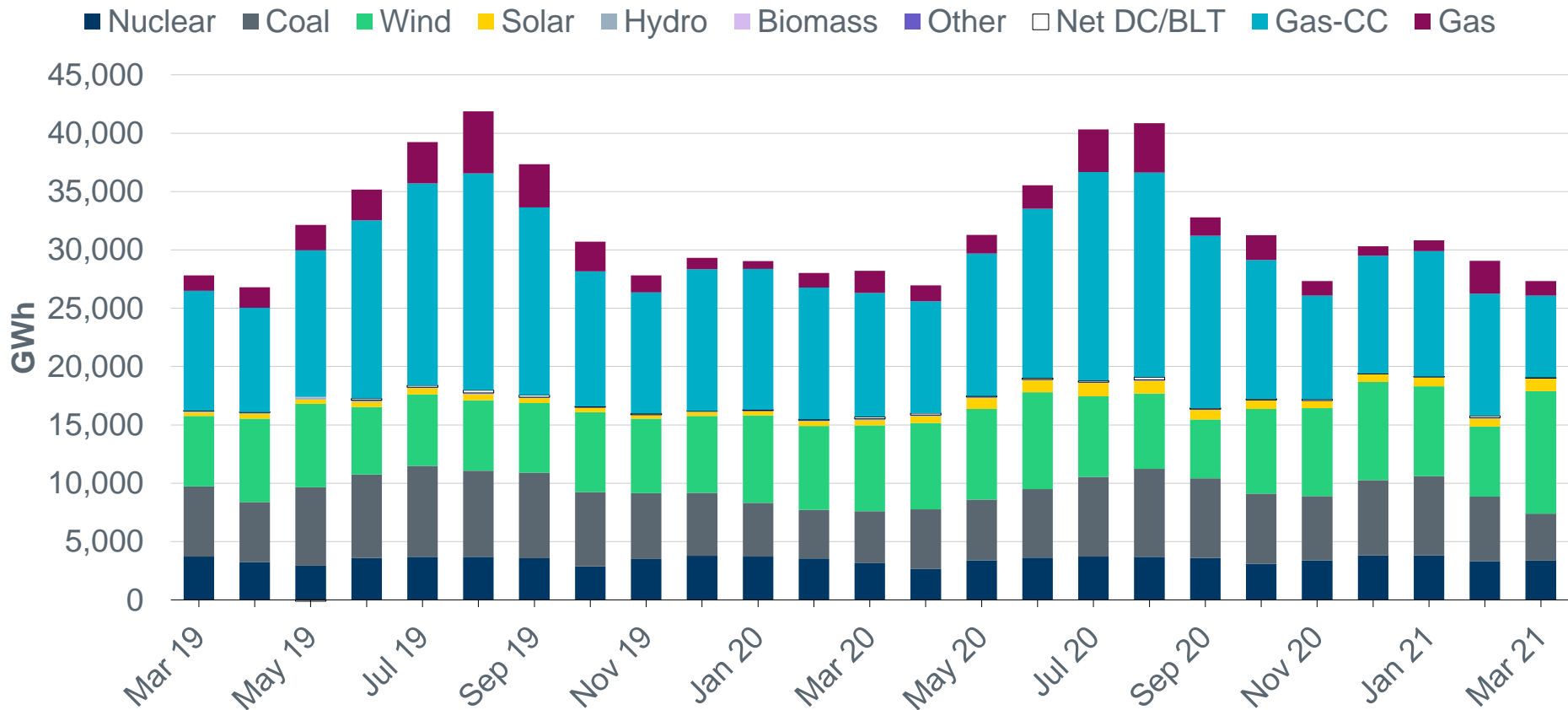
ERCOT Monthly Operational Overview (March 2021)

ERCOT Public
April 16, 2021

Notifications and Records

- ERCOT set a maximum peak demand of 45,367 MW* in March 2021, which is 7,466 MW less than the March 2020 demand of 52,833 MW.
- ERCOT issued 8 notifications:
 - 2 Advisories for delay in clearing DAM and posting of the DAM Solution.
 - 1 Advisory for Voltage Security Assessment Tool being unavailable.
 - 1 Watch for SCED failure.
 - 1 OCN for projected Reserve Capacity Shortage.
 - 1 OCN for using manual actions to control unsolved contingency in West Texas area.
 - 1 OCN for taking manual actions on the WESTEX GTC for an unsolved contingency.
 - 1 OCN for taking manual actions on the PANHANDLE IROL stability limit due to transmission outages.

Monthly energy generation decreased by 3.2% year-over-year to 27,318 GWh in March 2021, compared to 28,214 GWh in March 2020

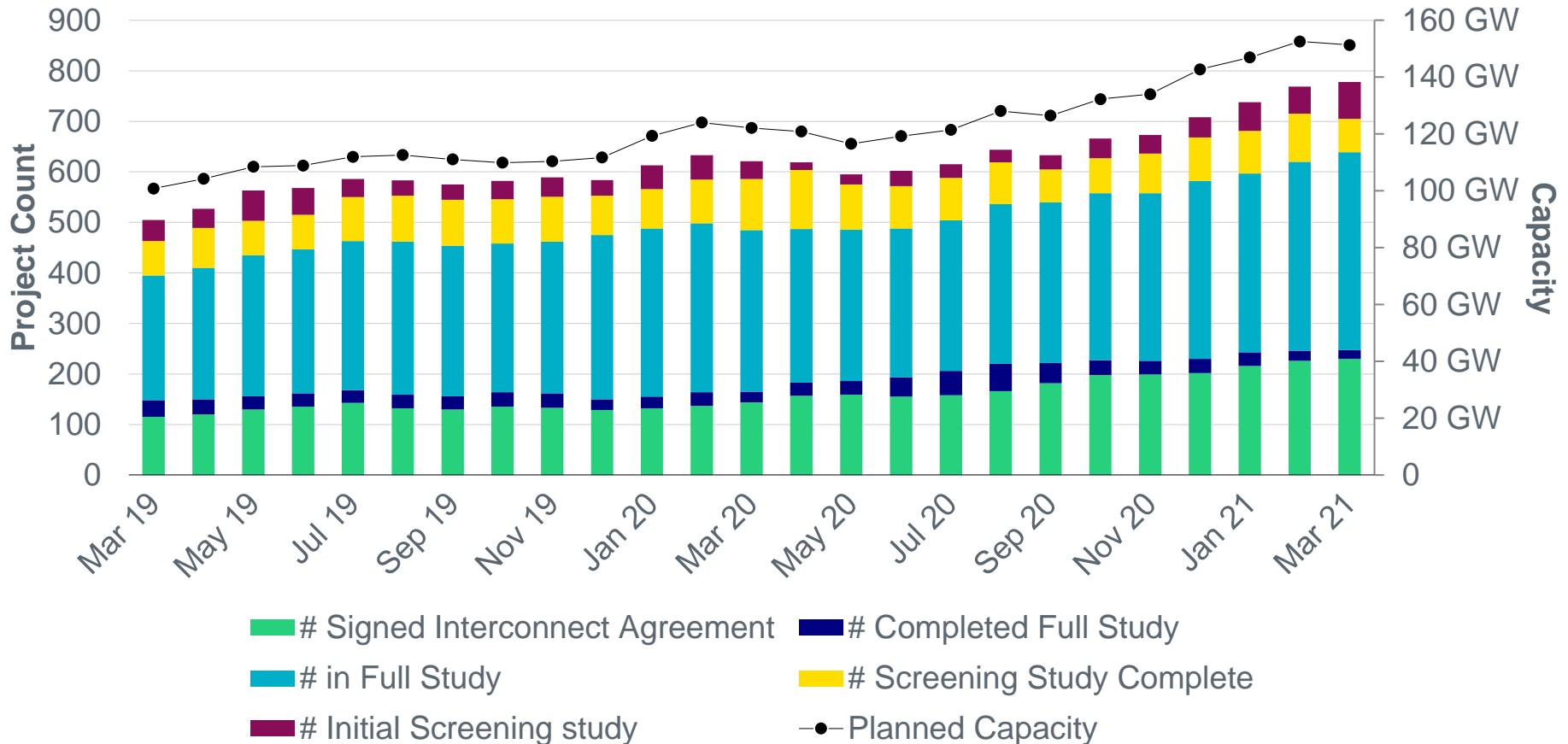


Data for latest two months are based on preliminary settlements.



Generation Interconnection activity by project phase

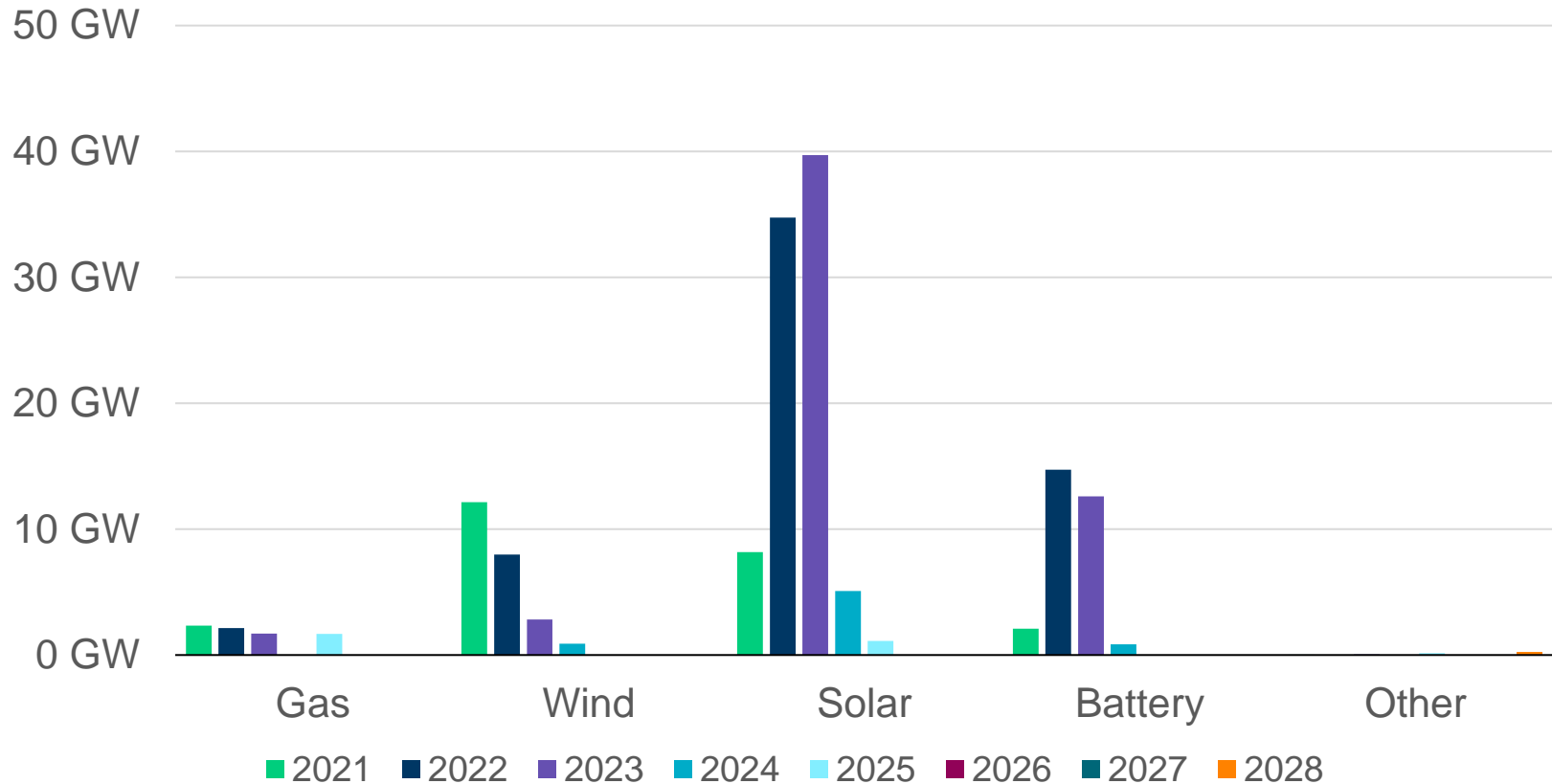
(Excludes capacity associated with Projects designated as Inactive per Planning Guide Section 5.7.6)



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 89 GW (58.7%), Wind 24 GW (15.8%), Gas 8 GW (5.2%), Battery 30 GW (20.0%)
(Excludes capacity associated with Projects designated as Inactive per Planning Guide Section 5.7.6)

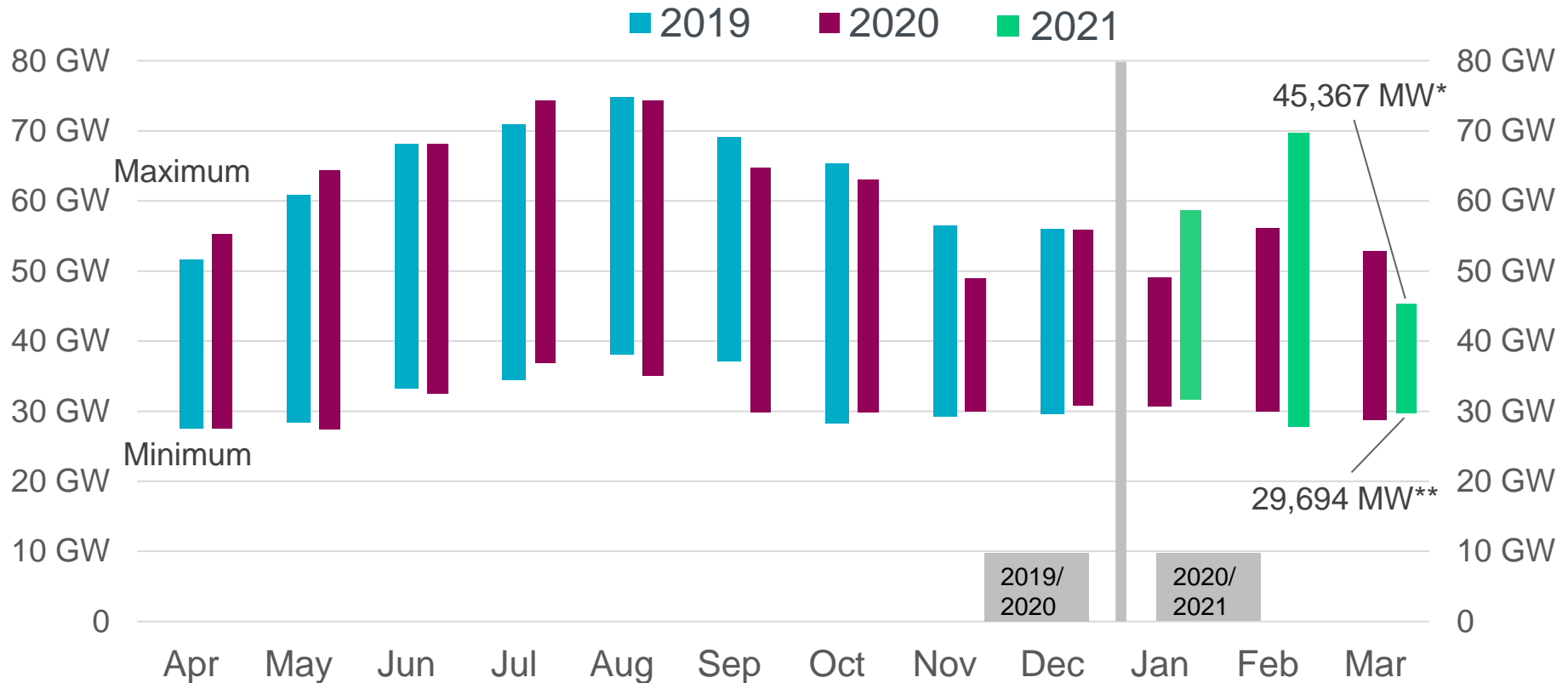


A break-out by zone can be found in the monthly Generator Interconnection Status (GIS) reports available on the ERCOT Resource Adequacy Page: <http://www.ercot.com/gridinfo/resource>

Planning Summary

- ERCOT is currently tracking 778 active generation interconnection requests totaling 151,326 MW. This includes 88,856 MW of solar, 23,859 MW of wind, 30,301 MW of battery, and 7,897 MW of gas projects as of March 31, 2021.
- ERCOT is currently reviewing proposed transmission improvements with a total estimated cost of \$1,232.56 Million as of March 31, 2021.
- Transmission Projects endorsed in 2021 total \$204.9 Million as of March 31, 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 a maximum peak demand of 45,367 MW* in March 2021, which is 7,466 MW less than the March 2020 demand of 52,833 MW



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

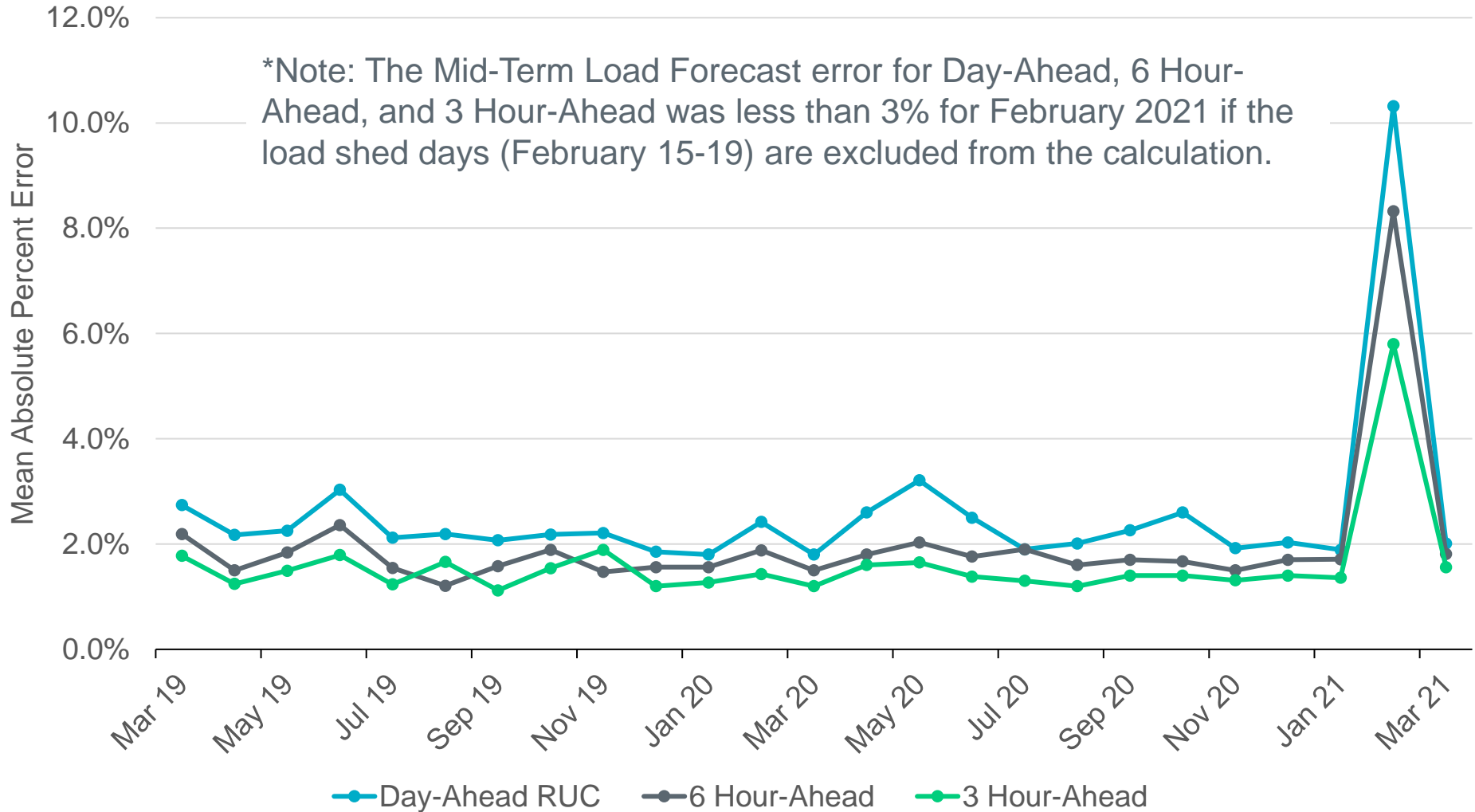
**Based on the minimum net system 15-minute interval value from April release of Demand and Energy 2021 report.

Data for latest two months are based on preliminary settlements.



Mid-Term Load Forecast Performance

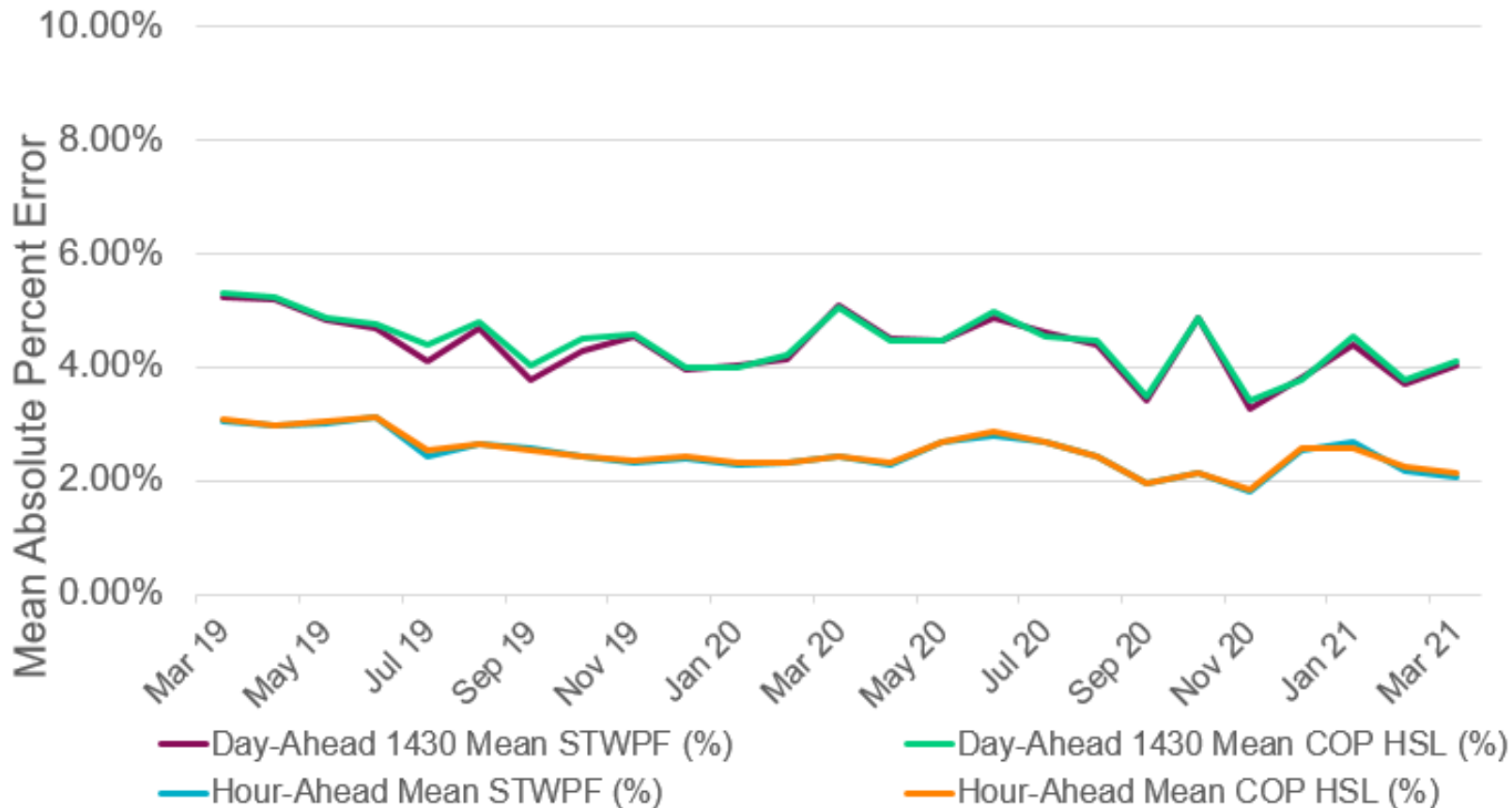
*Note: The Mid-Term Load Forecast error for Day-Ahead, 6 Hour-Ahead, and 3 Hour-Ahead was less than 3% for February 2021 if the load shed days (February 15-19) are excluded from the calculation.



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



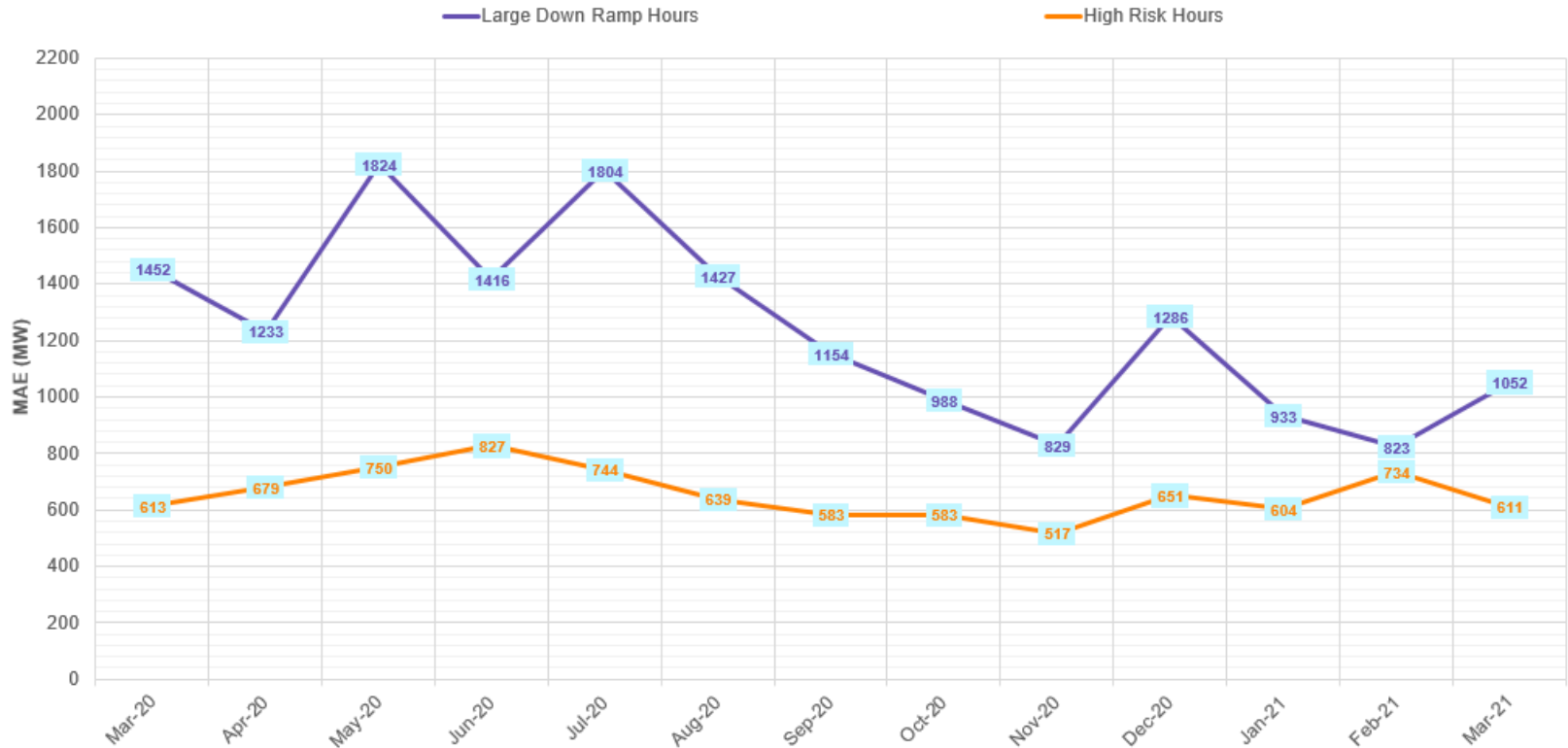
Wind Forecast Performance



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

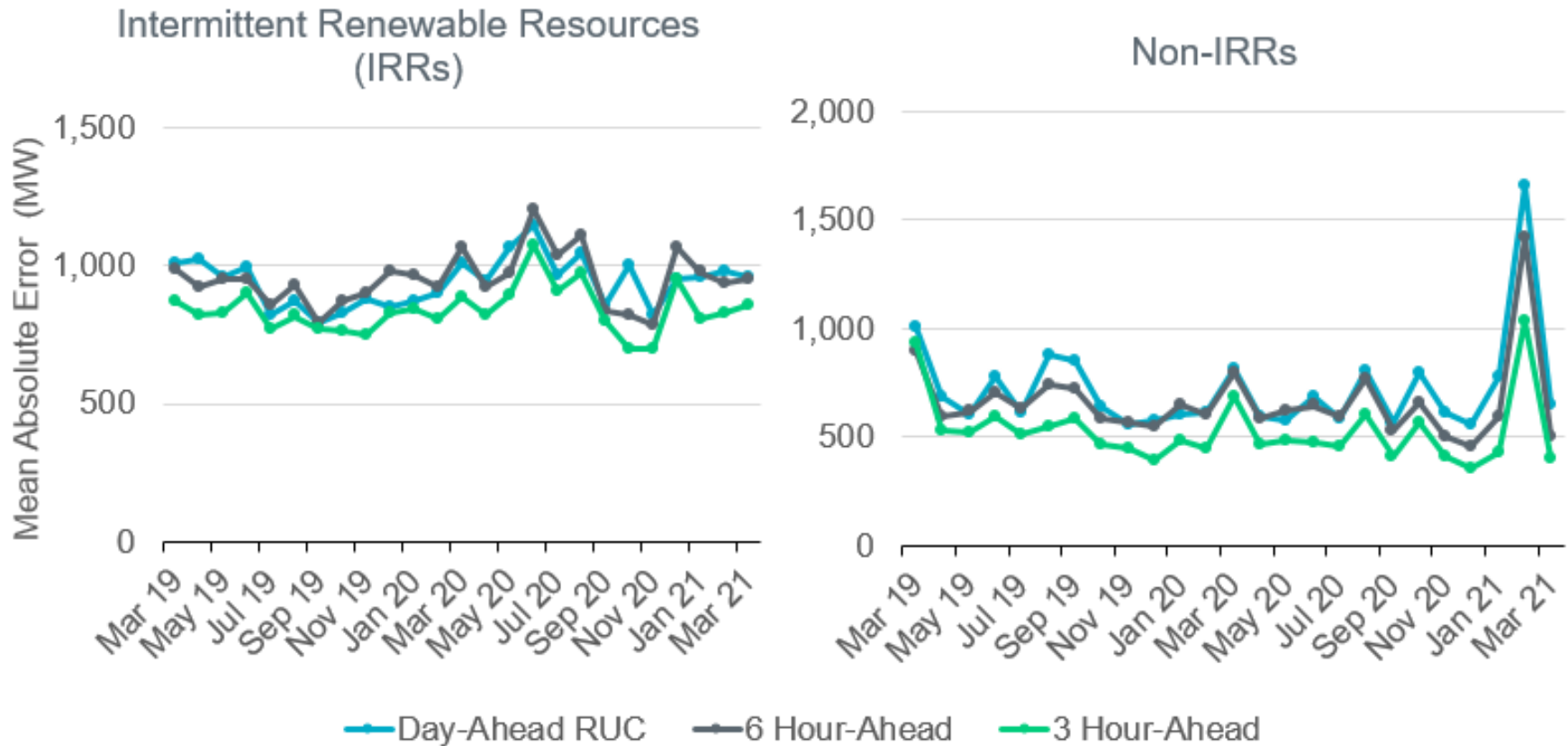
Hour-Ahead Mean Absolute Error (MAE) During Large Down Ramp (> 2000 MW) and High Risk Hours*



*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.

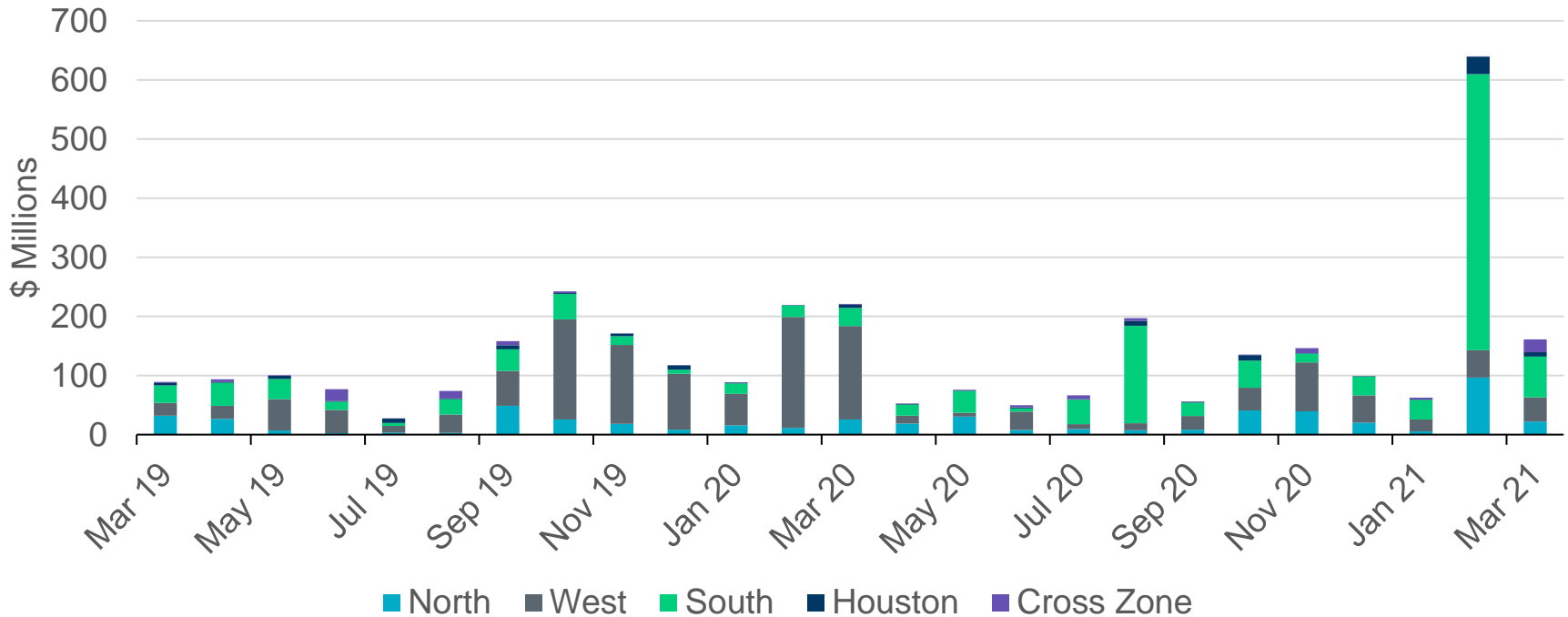
Forecast performance during large down ramp (wind ramp > 2000 MW) hours and high risk hours (historic risk of load ramping up and wind ramping down is high) is focused upon. Note that for the purposes of forecast performance measurement every hour in a month is classified as either a large down ramp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



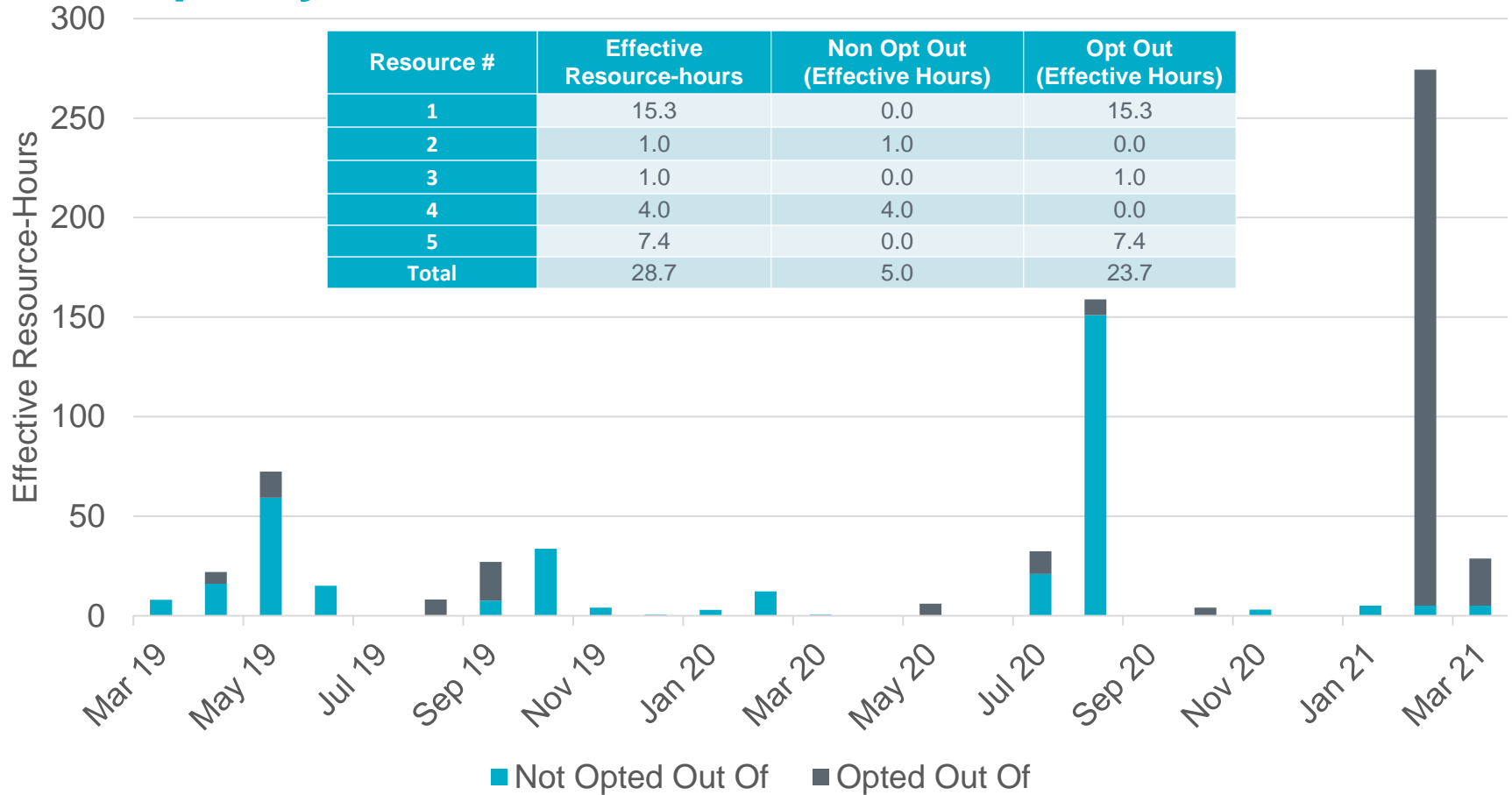
- COPs for IRRs are derived from wind and solar forecasts from ERCOT with any adjustments from Qualified Scheduling Entities.
- The installed capacity of approved Wind Units is 31,346 MW (as of March 31, 2021).
- The installed capacity of approved Solar Units is 6,212 MW (as of March 31, 2021).

Real-Time Congestion Rent by Zone



- The congestion rent for March significantly decreased when compared to February. The most significant constraints for March are BASE CASE: PNHNDL in the West Zone and DSTPRED5: BLESSI_PAVLOV1_1 in the South 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.

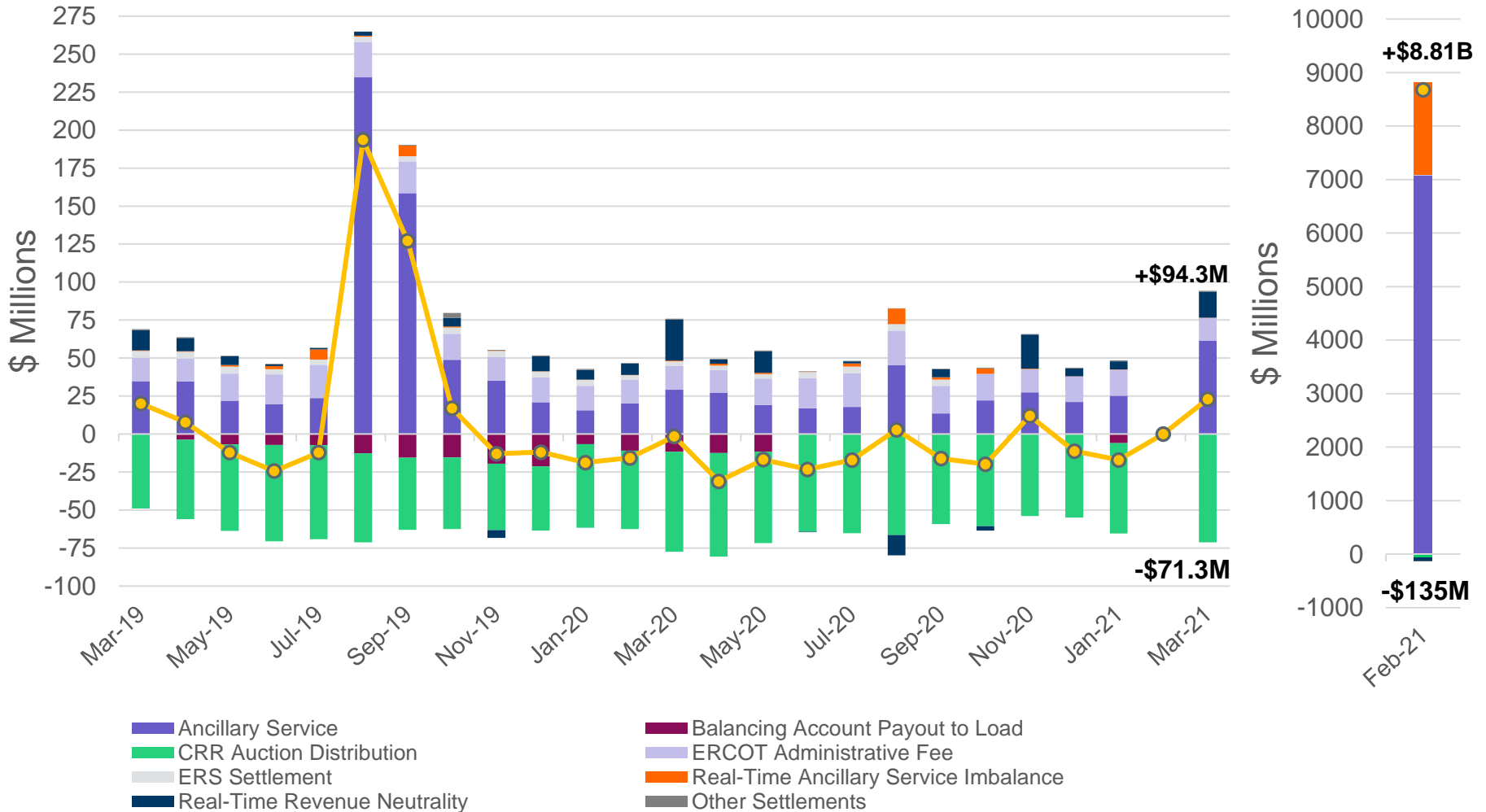
Five Resources were Committed in March for Congestion and Capacity



“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.



Net Allocation to Load in March 2021 was \$23.0 Million

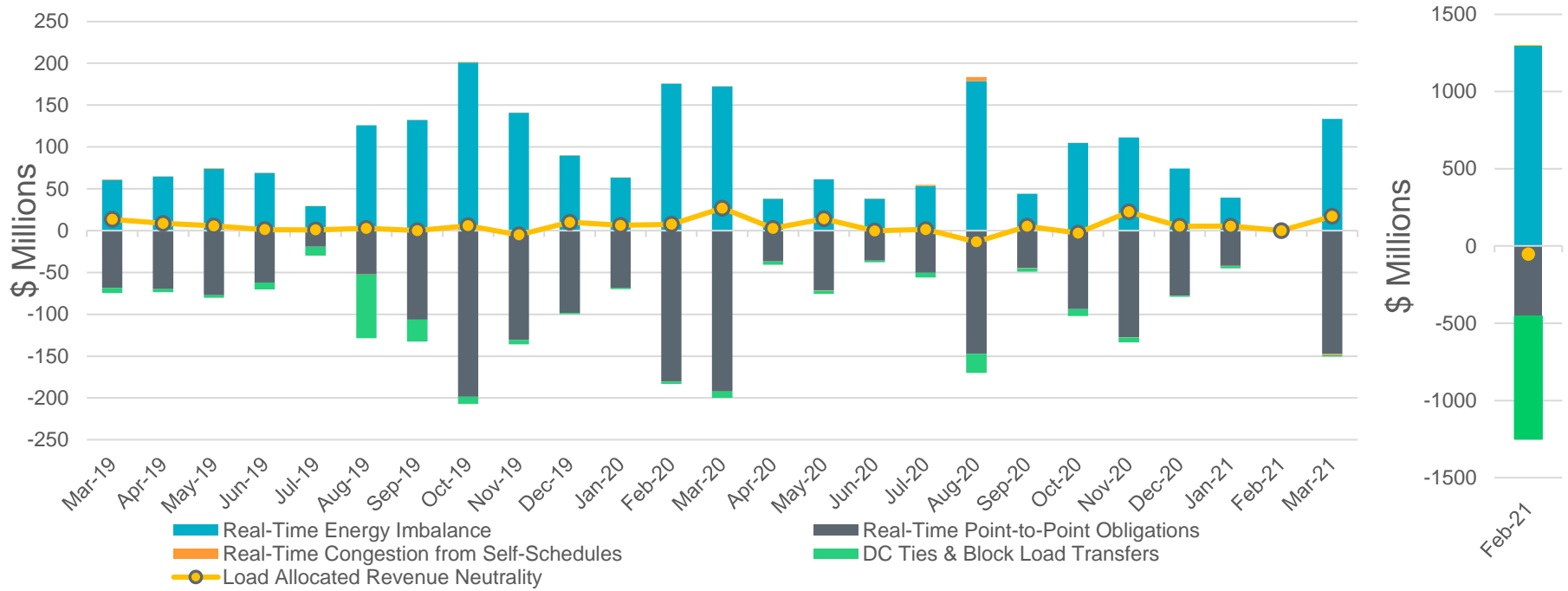


This information is available in tabular form in the Settlement Stability Report presented quarterly to the [Wholesale Market Subcommittee](#)

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 \$17.1M for March 2021

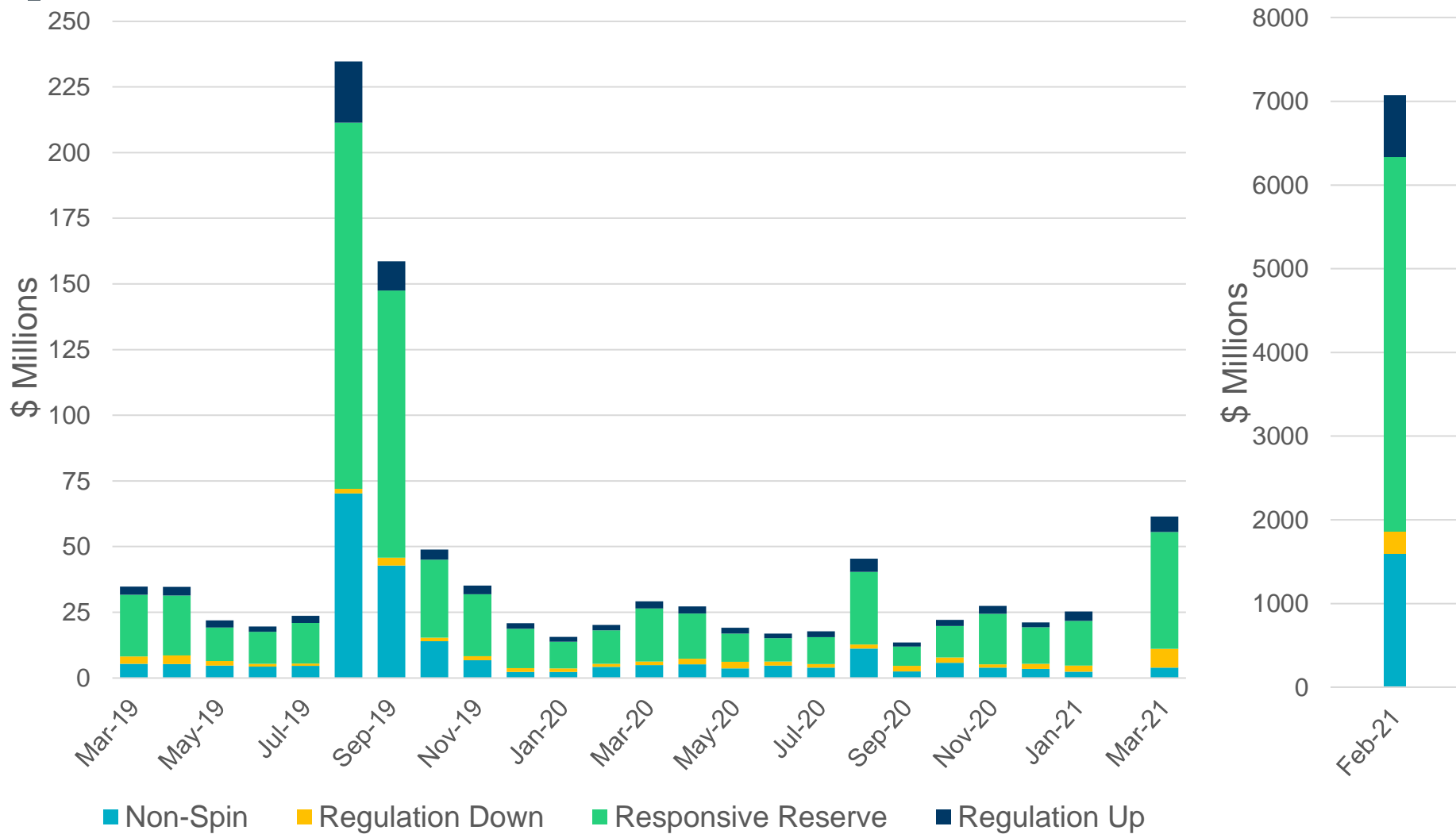


March 2021 (\$M)	
Real-Time Energy Imbalance	\$133.49
Real-Time Point-to-Point Obligation	(\$147.63)
Real-Time Congestion from Self-Schedules	(\$1.16)
DC Tie & Block Load Transfer	(\$1.78)
Load Allocated Revenue Neutrality	\$17.08

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



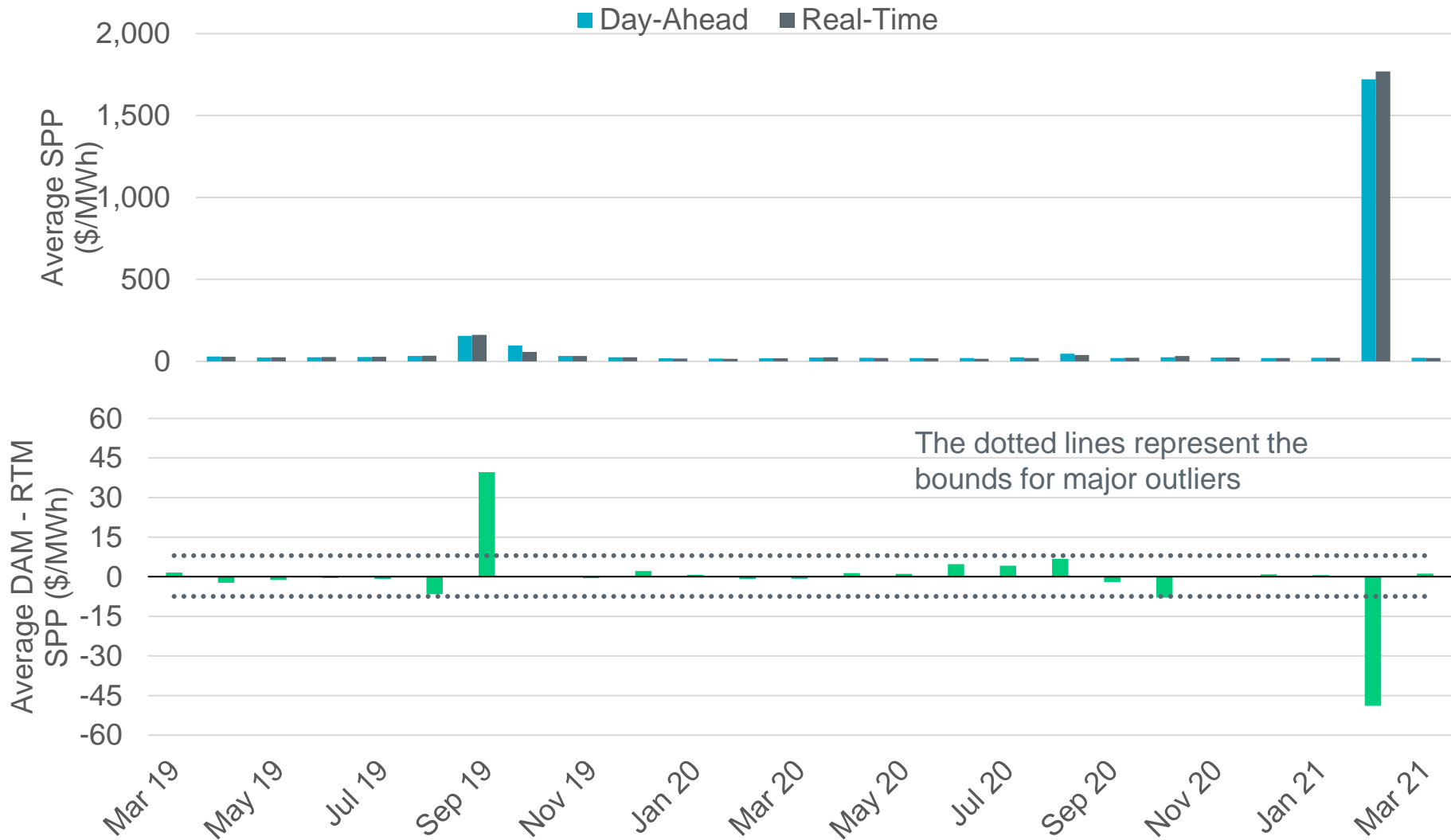
Ancillary Services for March 2021 totaled \$61.45M



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



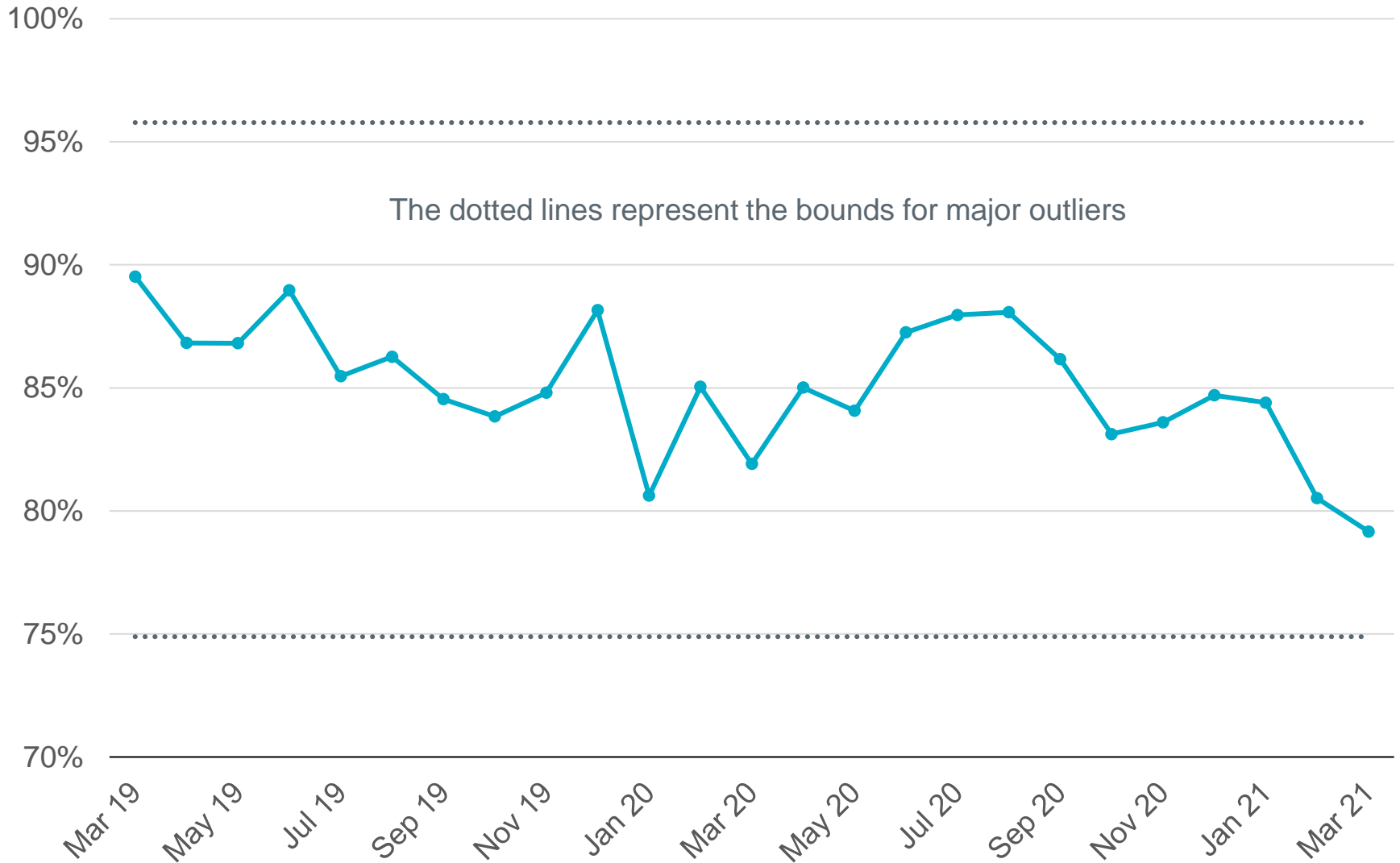
Day-Ahead and Real-Time Market Price Differences



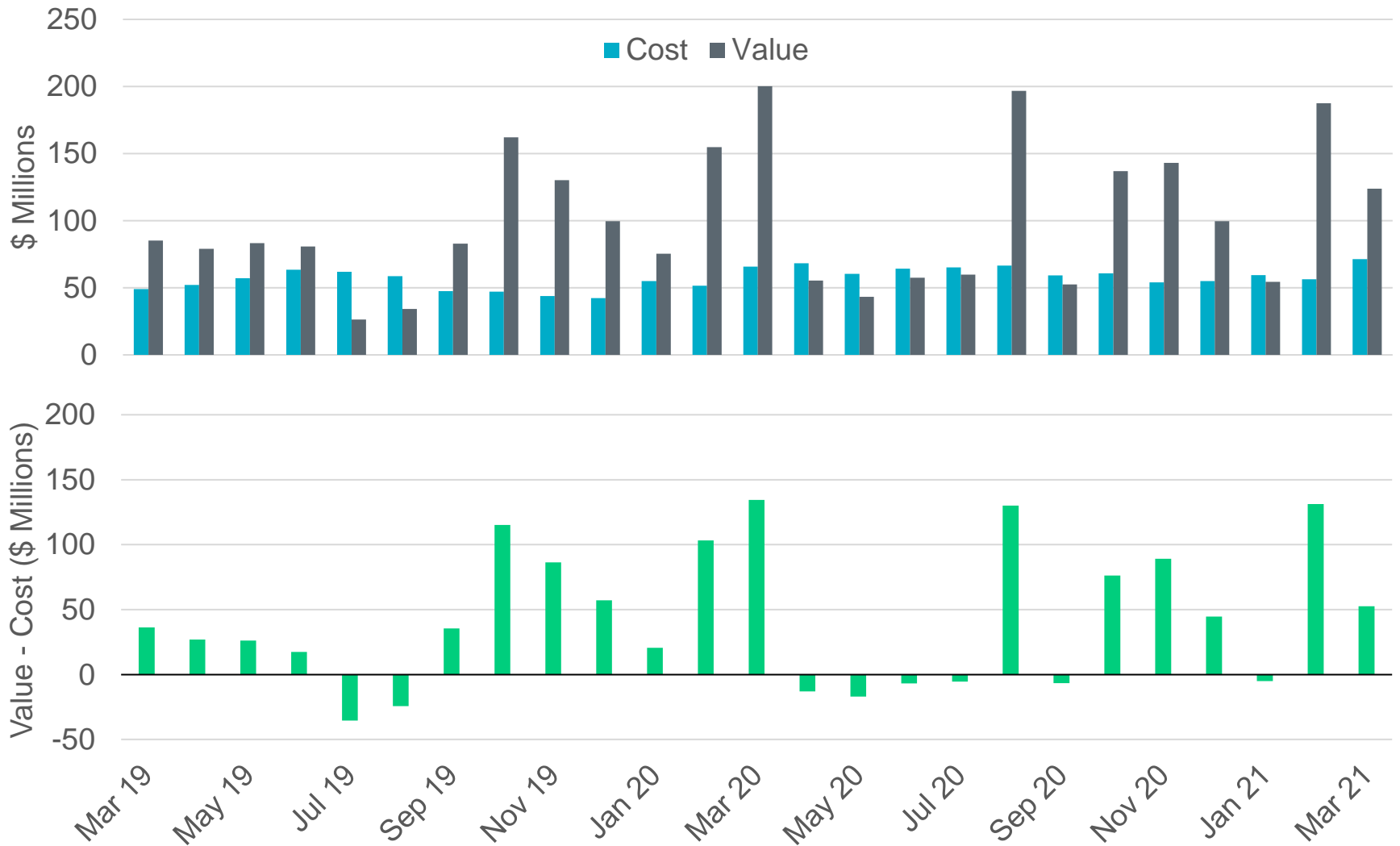
*Averages are weighted by Real-Time Market Load



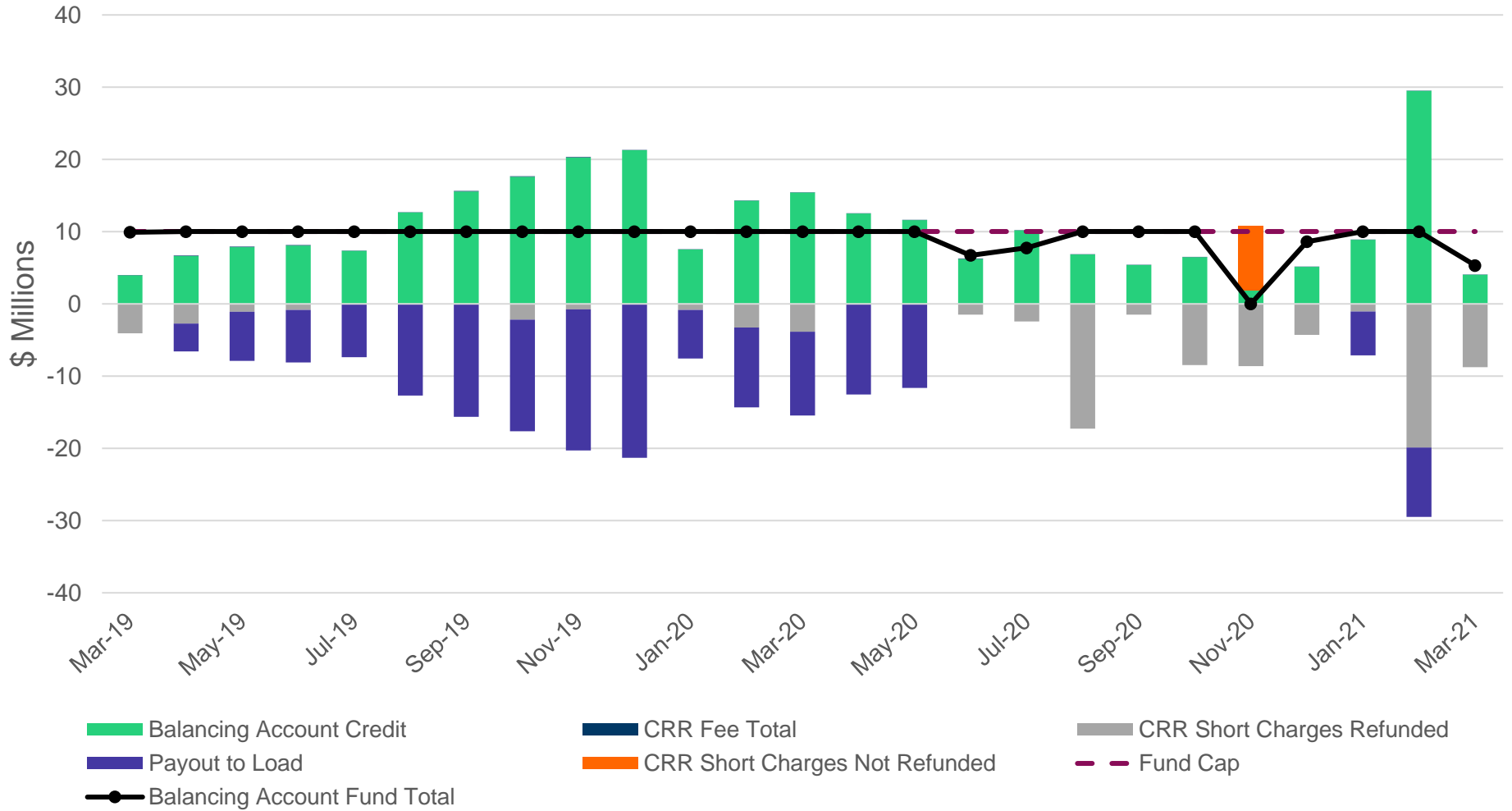
Percentage of Real-Time Load Transacted in the Day-Ahead Market



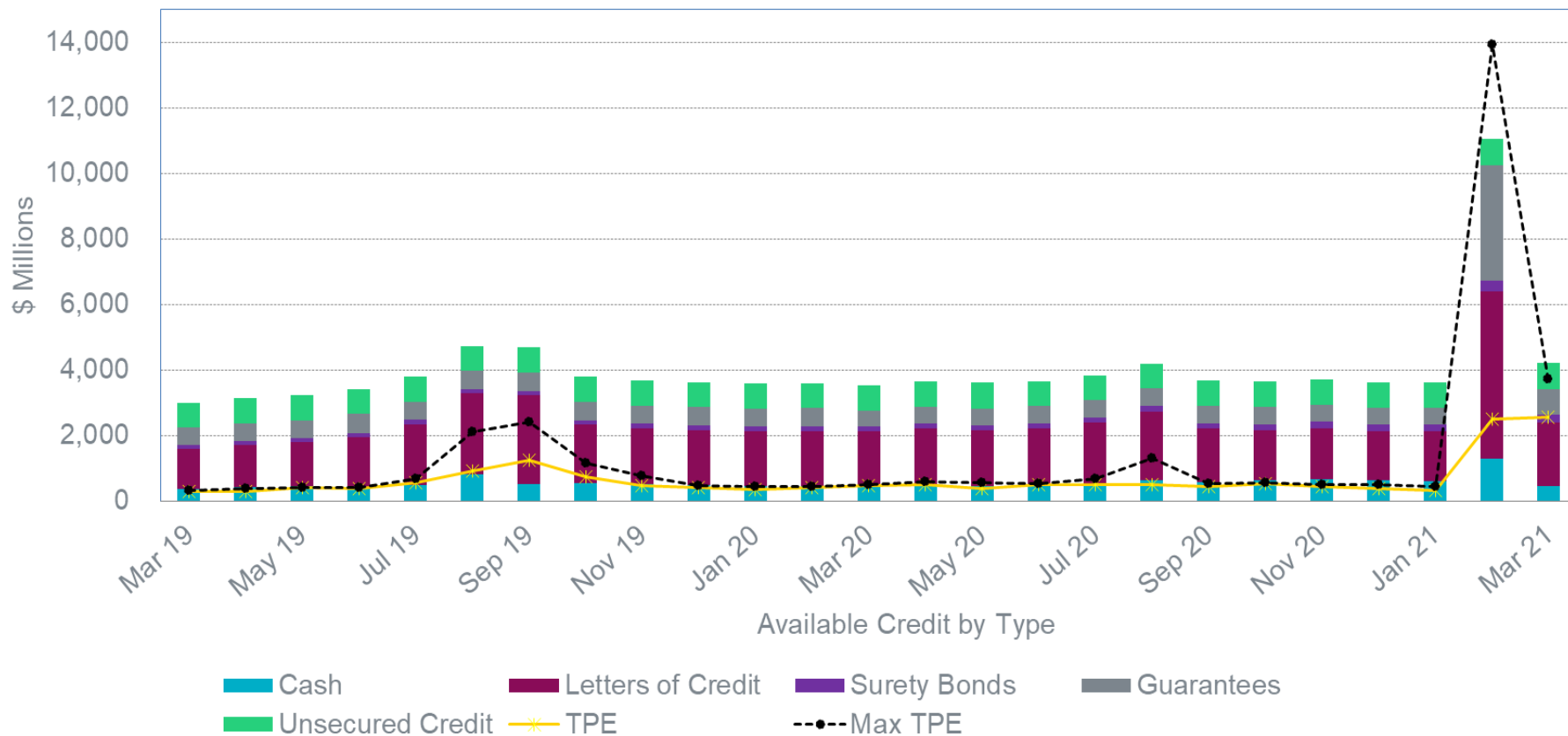
CRR Value and Cost Differences



**Congestion Revenue Rights settlement payments were fully funded.
No excess amounts remained to allocate to Load. The CRR Balancing Account fund balance is \$5.32M.**



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



*Numbers are as of month end except for Max TPE



Retail Transaction Volumes – Summary – March 2021

Transaction Type	Year-To-Date		Transactions Received	
	March 2021	March 2020	March 2021	March 2020
Switches	417,635	241,938	187,648	88,857
Acquisitions	48,862	0	0	0
Move - Ins	648,552	659,253	241,361	217,657
Move - Outs	297,369	313,835	110,816	108,155
Continuous Service Agreements (CSA)	208,831	126,354	165,326	40,748
Mass Transitions	20,412	0	11,286	0
Total	1,641,661	1,341,380	716,437	455,417