



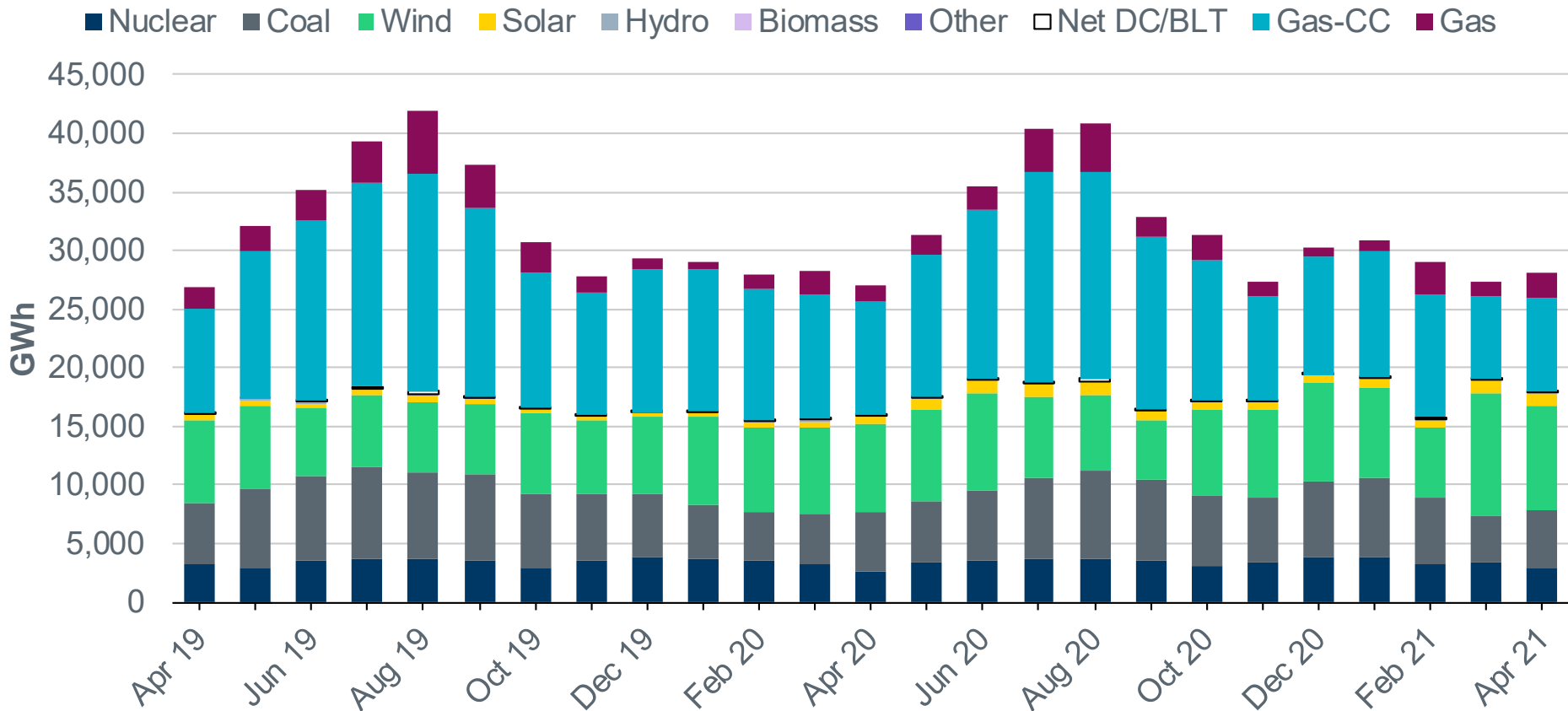
ERCOT Monthly Operational Overview
(April 2021)

ERCOT Public
May 21, 2021

Notifications and Records

- ERCOT set a maximum peak demand of 52,800 MW* in April 2021, which is 2,492 MW less than the April 2020 demand of 55,292 MW.
- ERCOT issued 10 notifications:
 - 2 Advisories for Physical Responsive Capability < 3000 MW.
 - 5 OCNs for projected reserve capacity shortages.
 - 1 OCN for modifying the WESTEX Generic Transmission Constraint.
 - 1 DC Tie Curtailment Notice, due to an unplanned outage.
 - 1 Watch for Physical Responsive Capability < 2500 MW.

Monthly energy generation increased by 4.1% year-over-year to 28,077 GWh in April 2021, compared to 26,968 GWh in April 2020

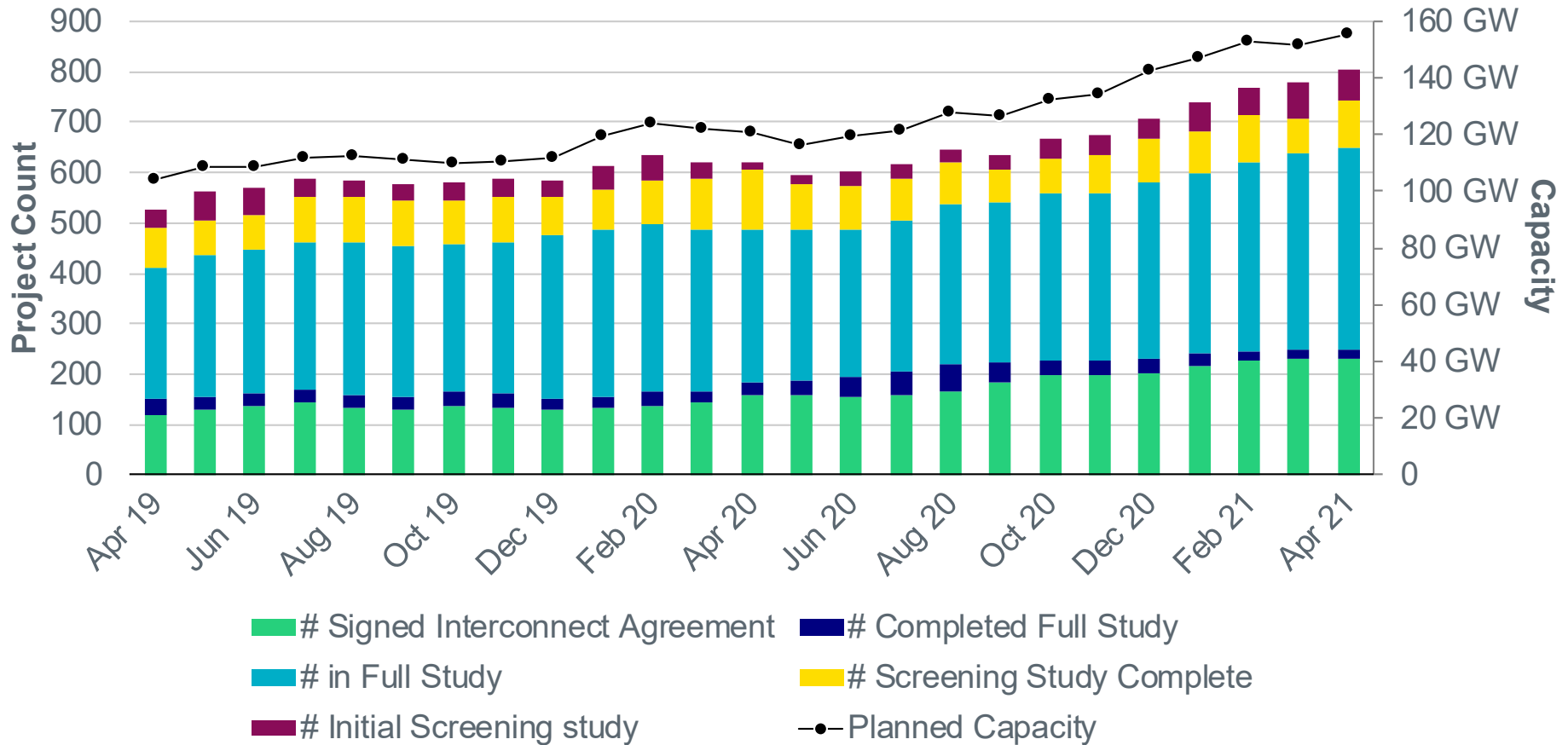


Data for latest two months are based on preliminary settlements.



Generation Interconnection activity by project phase

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

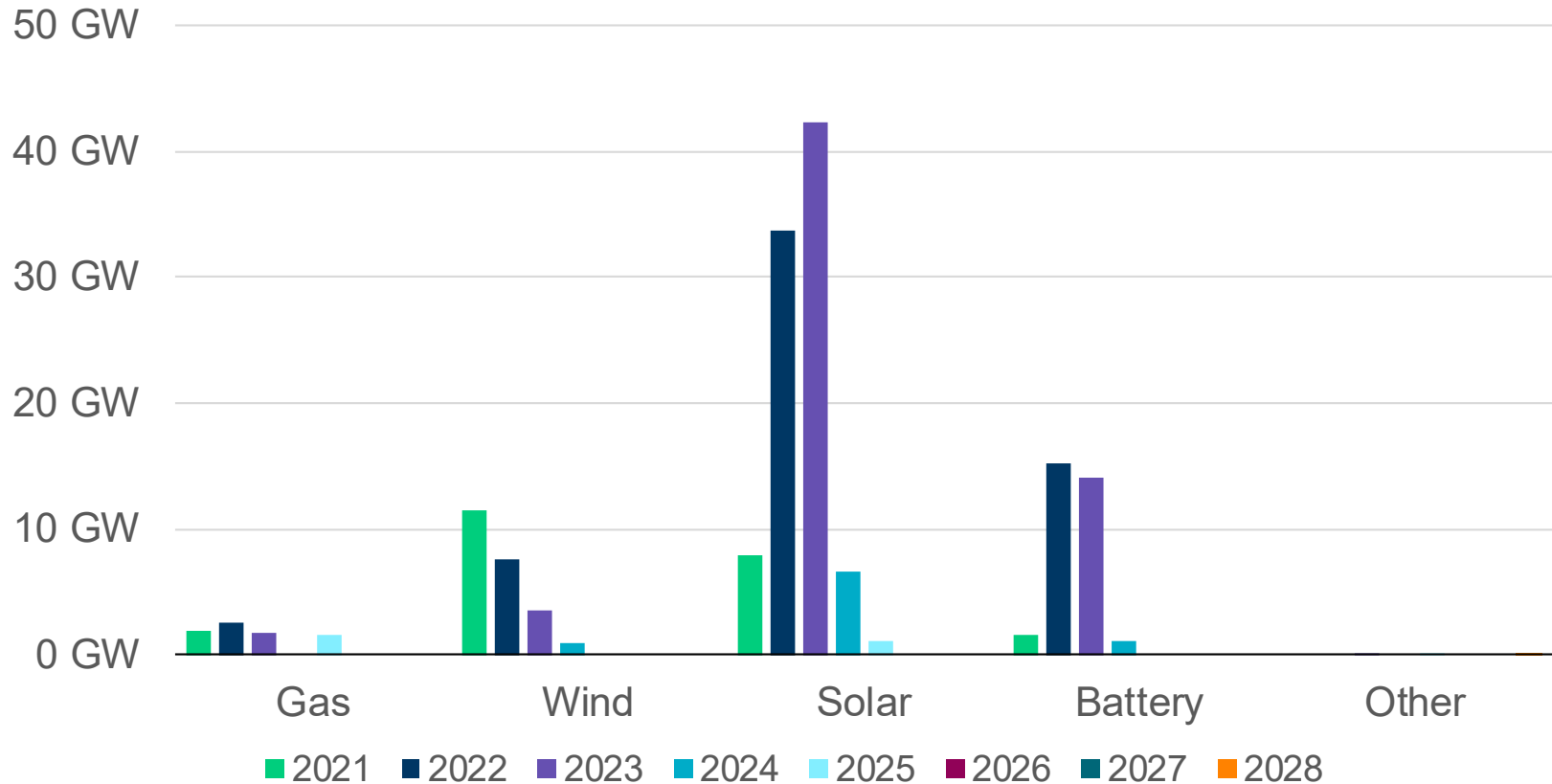


A break-out by fuel type can be found in the monthly Generator Interconnection Status (GIS) reports available on the ERCOT Resource Adequacy Page: <http://www.ercot.com/gridinfo/resource>



Interconnection Queue Capacity by Fuel Type

Queue totals: Solar 92 GW (58.8%), Wind 24 GW (15.2%), Gas 8 GW (5.1%), Battery 32 GW (20.6%)
(Excludes capacity associated with Projects designated as Inactive per Planning Guide Section 5.7.6)

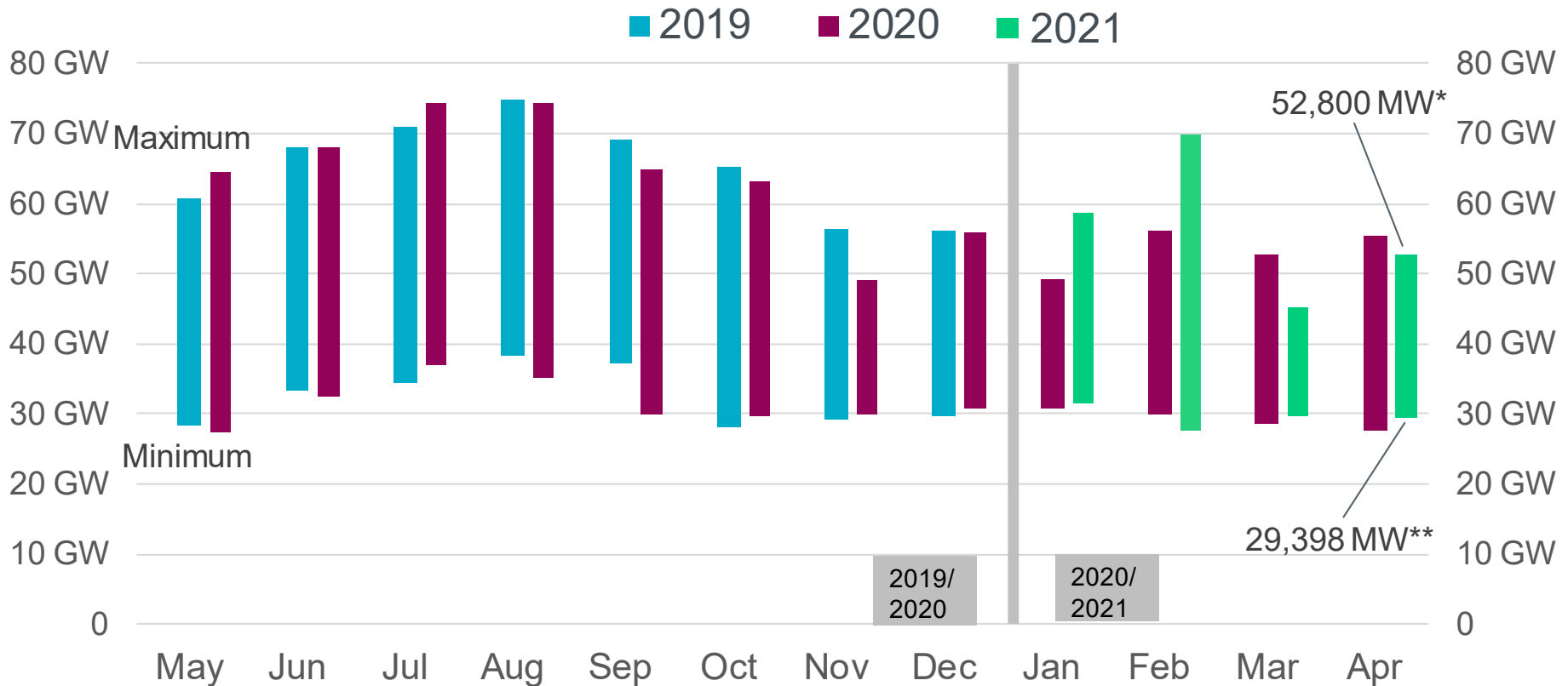


A break-out by zone can be found in the monthly Generator Interconnection Status (GIS) reports available on the ERCOT Resource Adequacy Page: <http://www.ercot.com/gridinfo/resource>

Planning Summary

- ERCOT was tracking 804 active generation interconnection requests totaling 155,583 MW as of April 30. This includes 91,547 MW of solar, 23,640 MW of wind, 32,002 MW of battery, and 7,894 MW of gas projects as of April 30, 2021; 58 projects were categorized as inactive, up from 55 inactive projects in March.
- ERCOT is currently reviewing proposed transmission improvements with a total estimated cost of \$1,272.72 Million as of April 30, 2021.
- Transmission Projects endorsed in 2021 total \$243.60 Million as of April 30, 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 52,800 MW* in April 2021, which is 2,492 MW less than the April 2020 demand of 55,292 MW



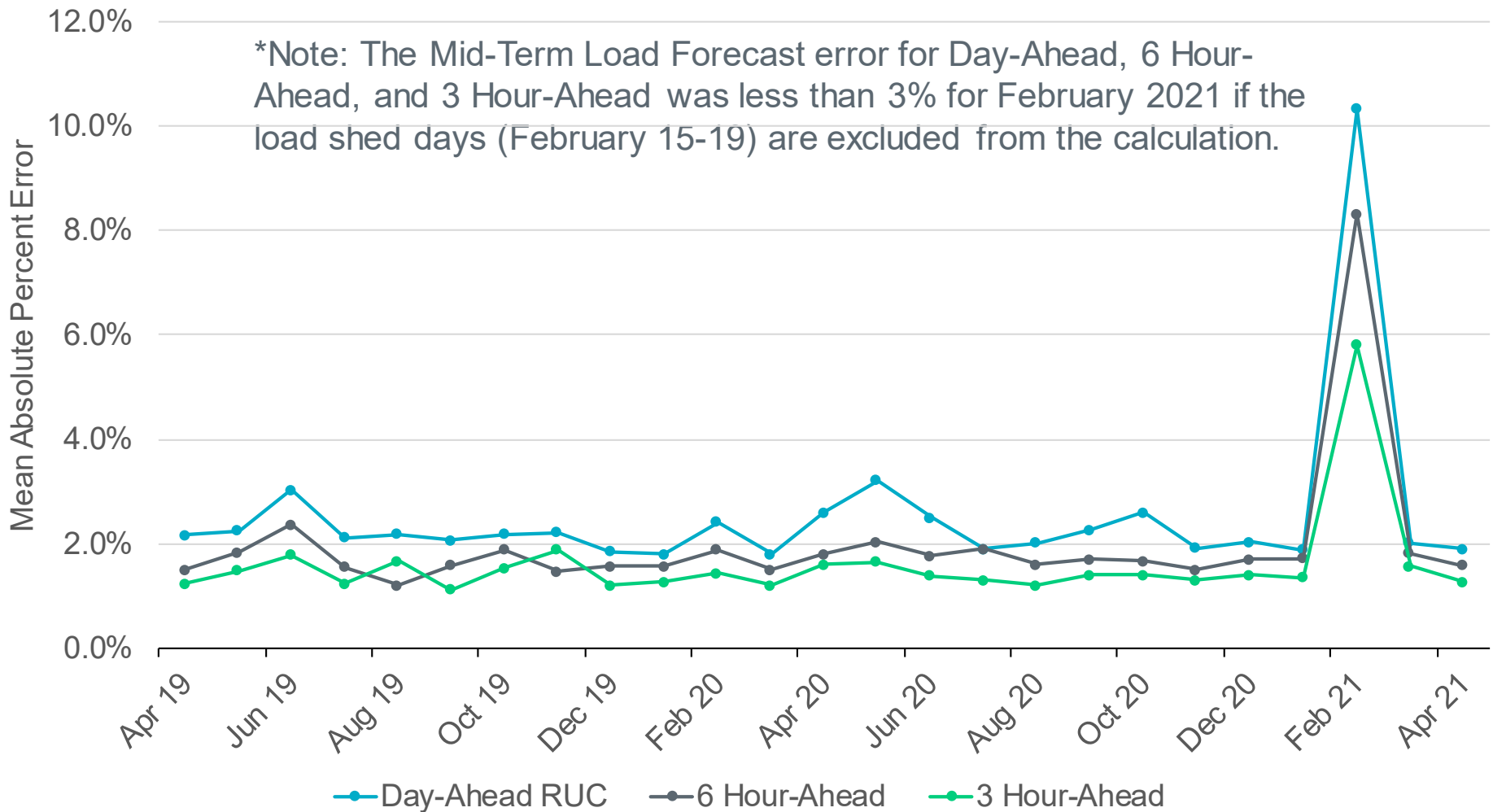
*Based on the maximum net system hourly value from May release of Demand and Energy 2021 report.

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

Data for latest two months are based on preliminary settlements.



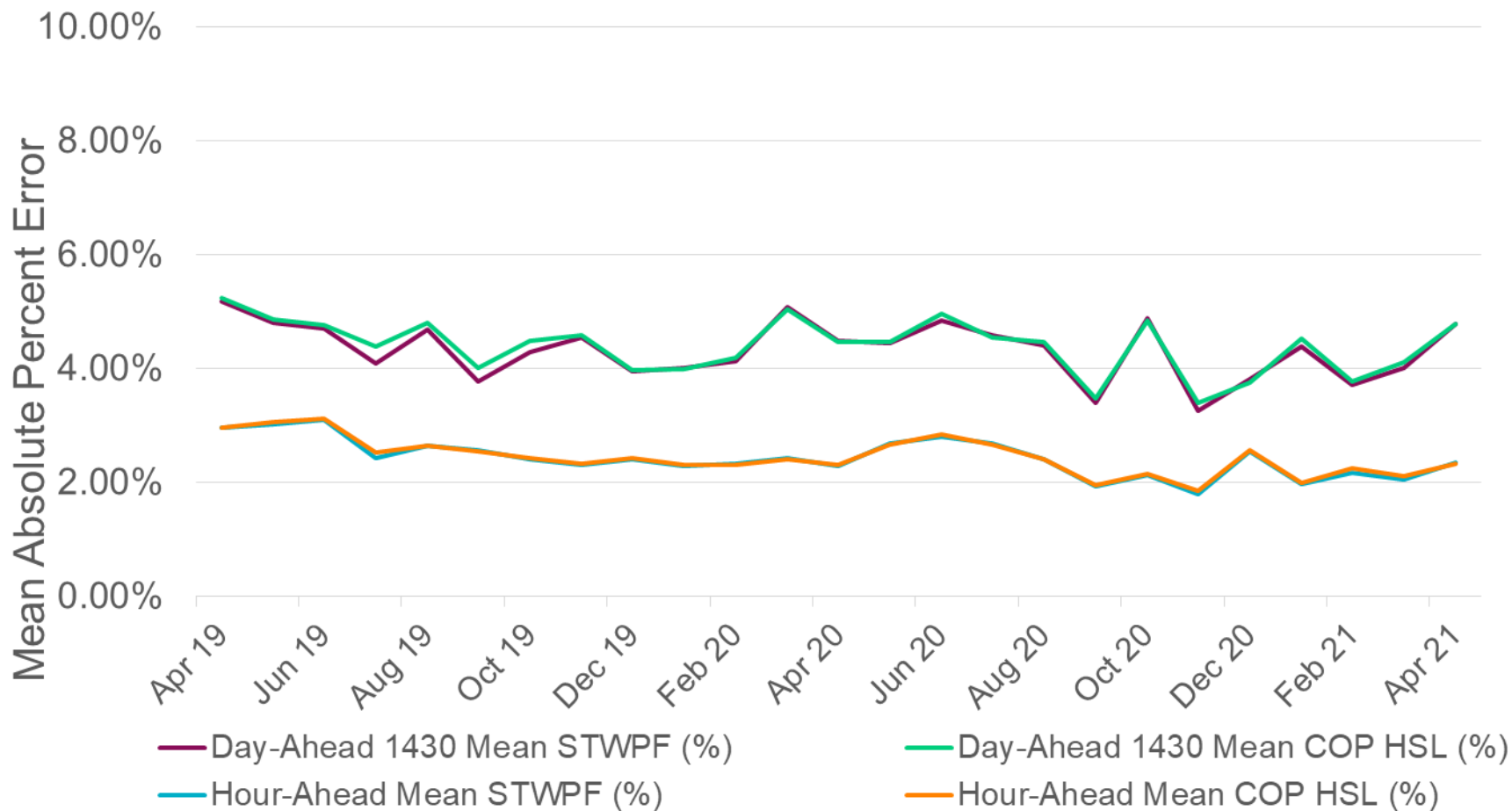
Mid-Term Load Forecast Performance



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



Wind Forecast Performance

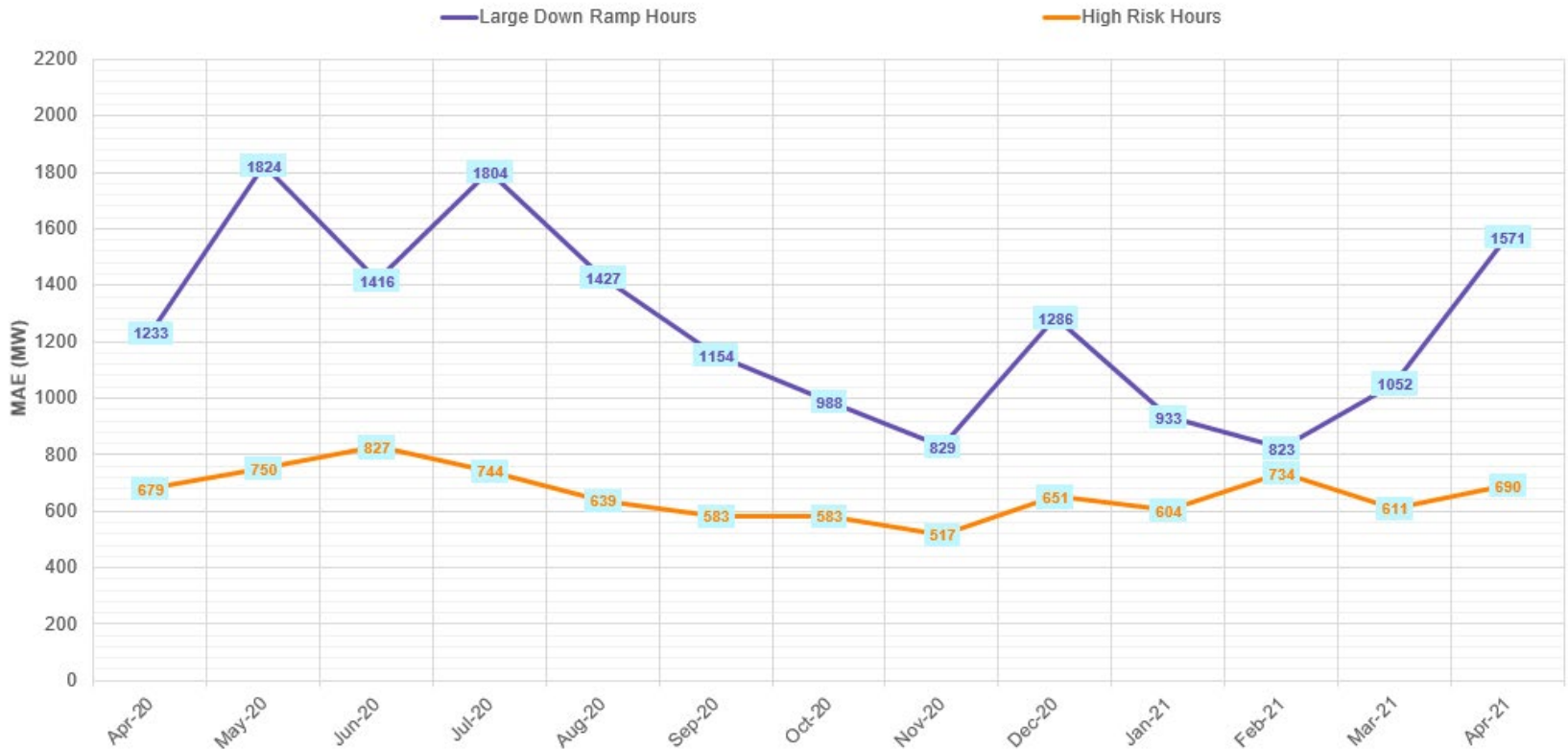


The Short-Term Wind Power Forecast (STWPF) is an ERCOT produced hourly 50% probability of exceedance forecast of the generation in MWh per hour from each Wind Generation Resource.



Hour-Ahead Wind Forecast Performance

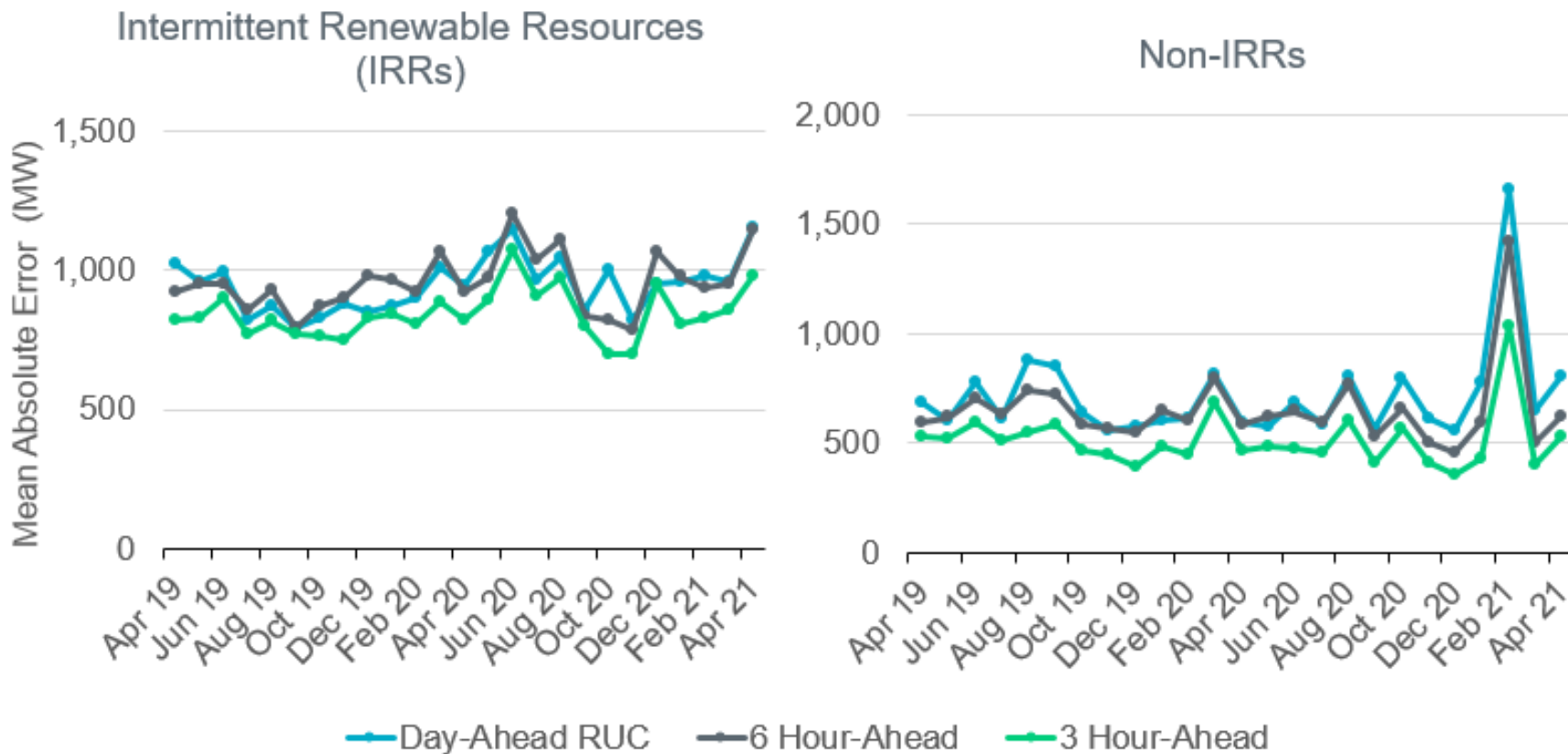
Hour-Ahead Mean Absolute Error (MAE) During Large Down Ramp (> 2000 MW) and High Risk Hours*



*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.

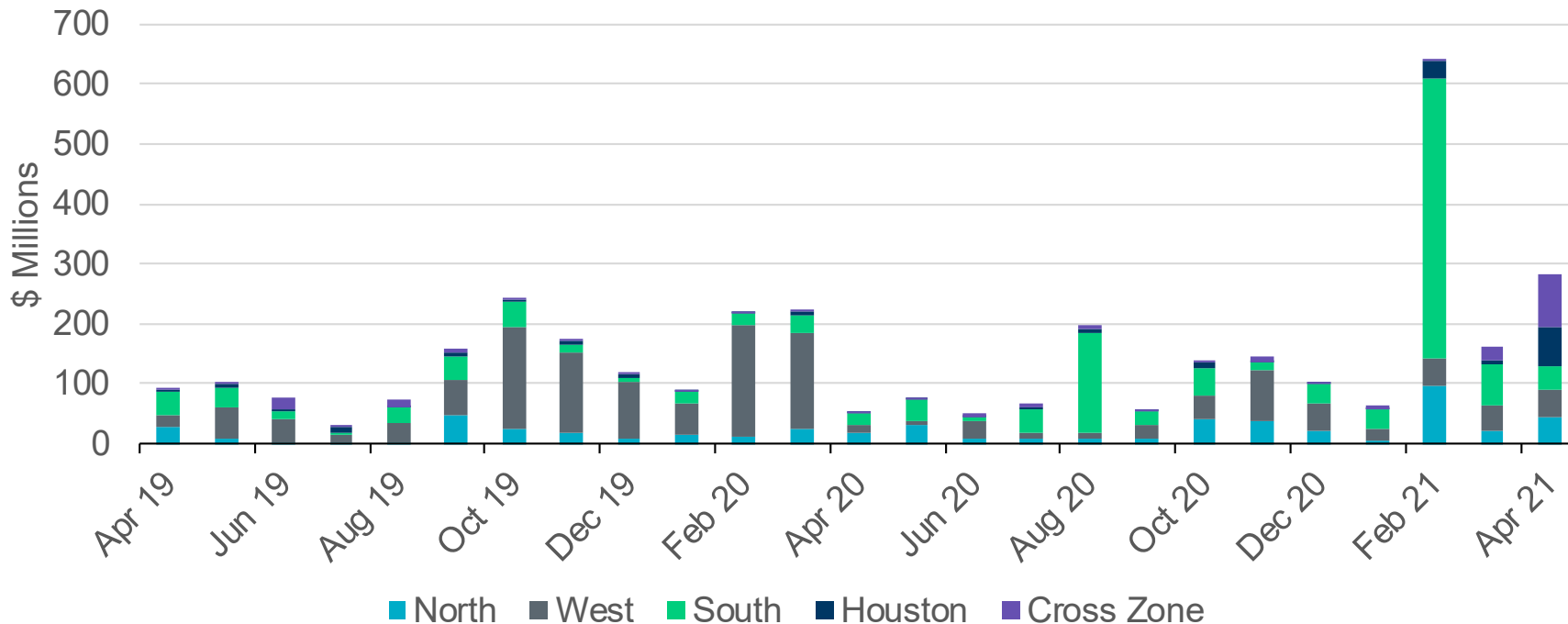
Current Operating Plan (COP) Performance



- 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 31,753 MW (as of April 30, 2021).
- The installed capacity of approved Solar Units is 7,063 MW (as of April 30, 2021).

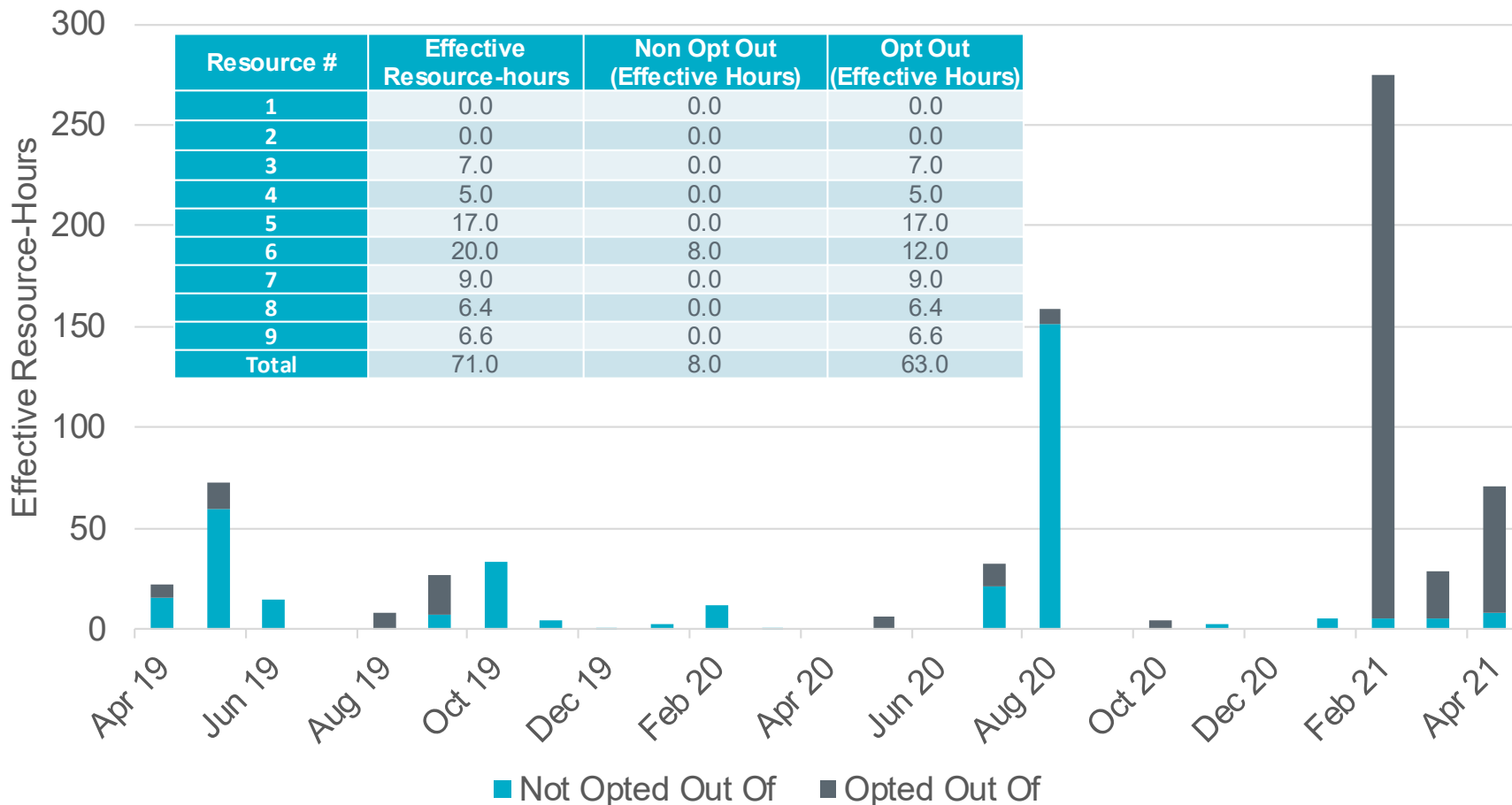


Real-Time Congestion Rent by Zone



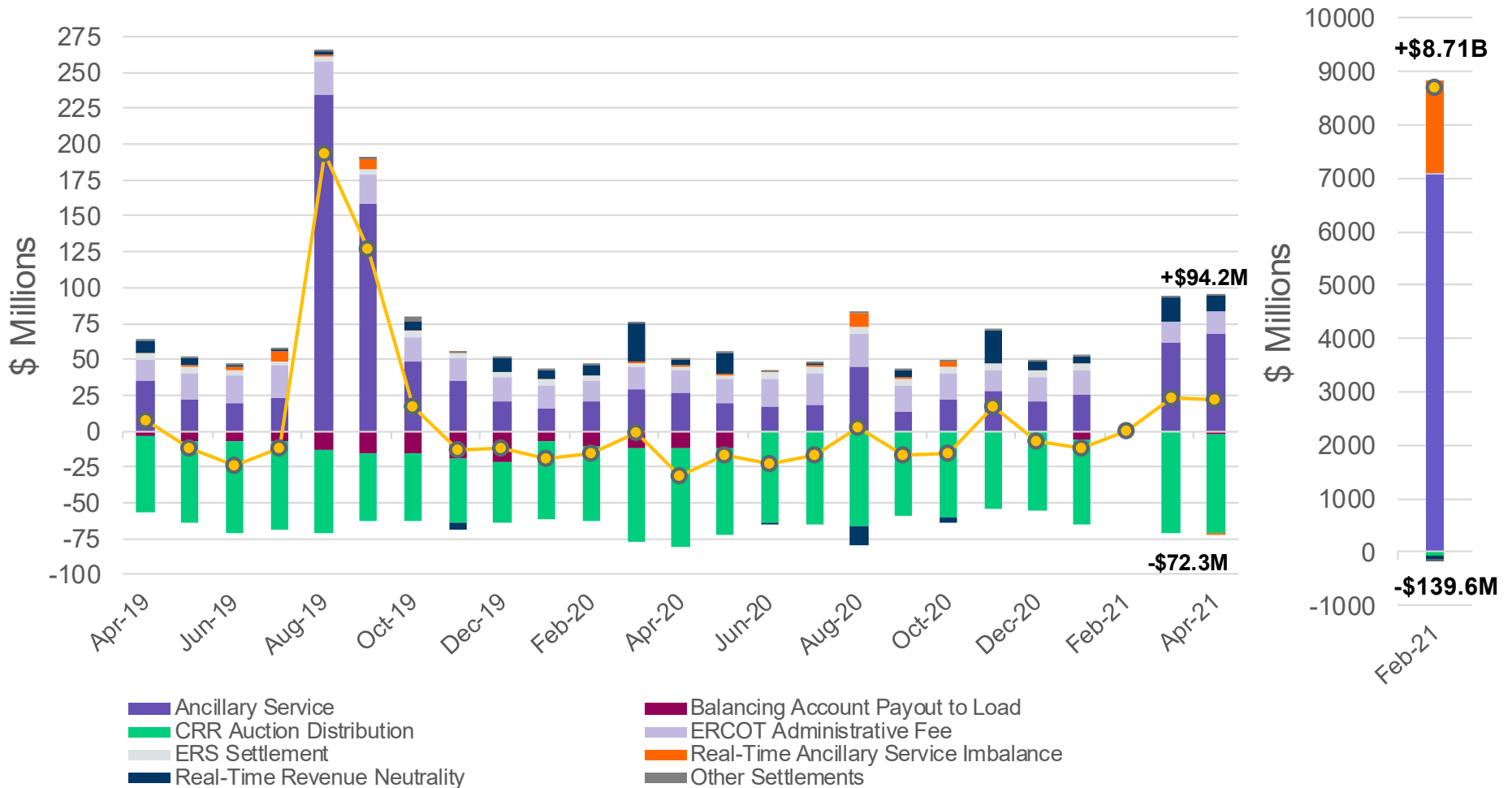
- The congestion rent for April increased in the Cross Zone, North Zone, and Houston Zone when compared to March. The most significant constraints for April are DSTPRED5: DOWOAS18_Ain the Houston Zone and BASE CASE: N_TO_H in the Cross Zone.
- Congestion Rent is determined using the shadow prices and 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.

Nine Resources were Committed in April 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 April 2021 was \$21.9 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 \$10.86M for April 2021



April 2021 (\$M)	
Real-Time Energy Imbalance	\$241.47
Real-Time Point-to-Point Obligation	(\$243.19)
Real-Time Congestion from Self-Schedules	\$0.27
DC Tie & Block Load Transfer	(\$9.41)
Load Allocated Revenue Neutrality	\$10.86

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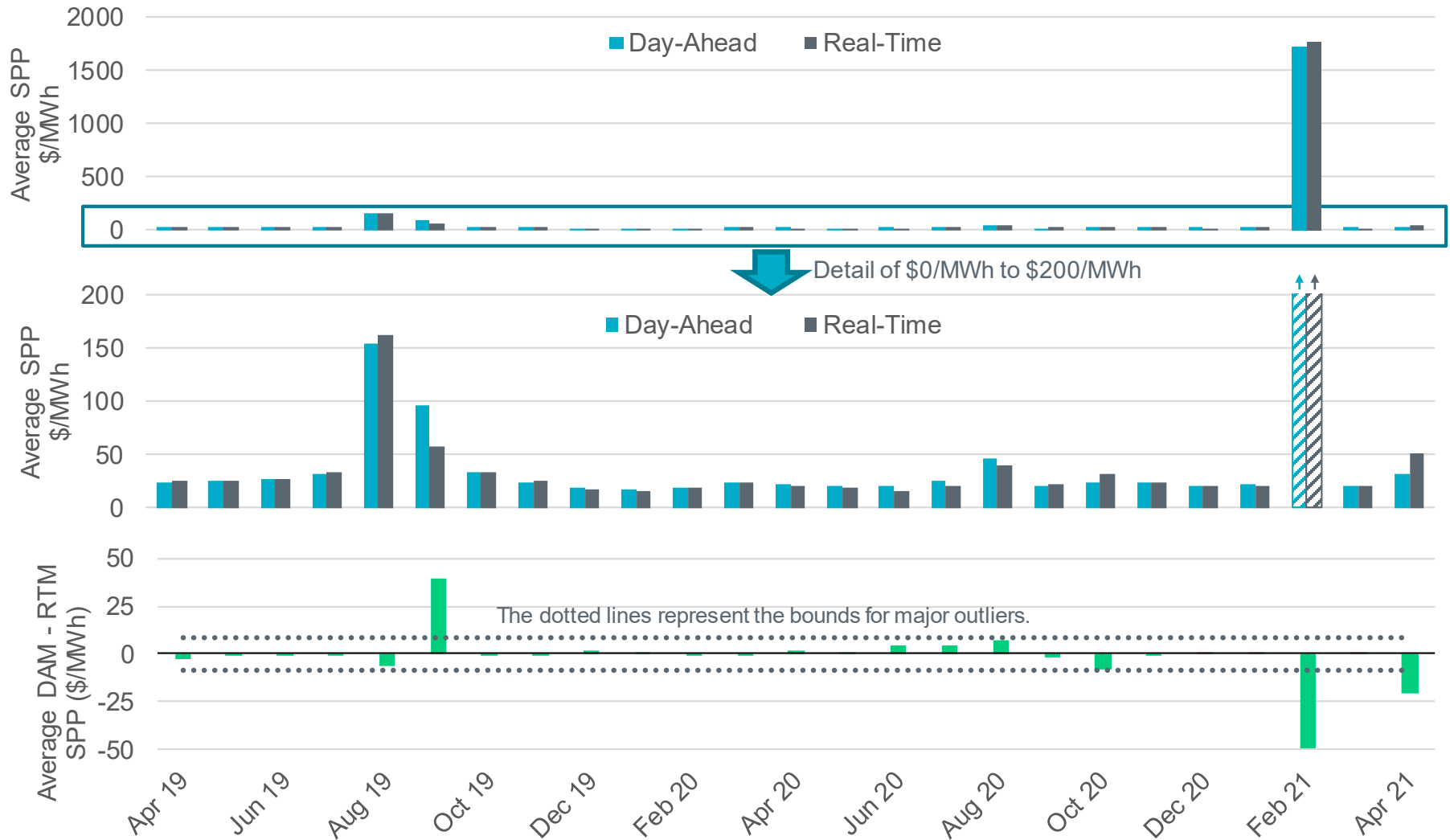
Ancillary Services for April 2021 totaled \$67.4M



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

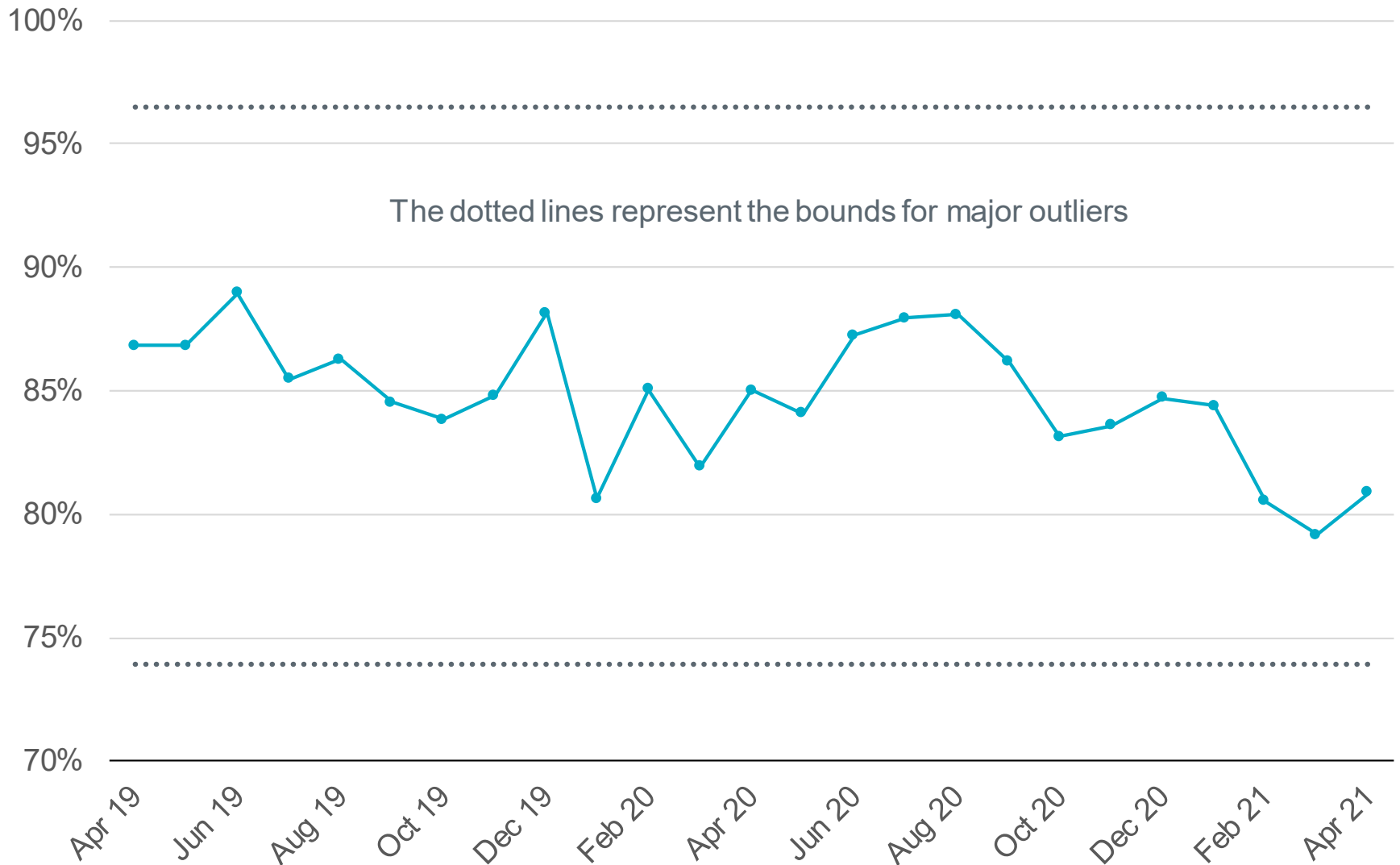


- The average price for RTM was higher than DAM in April primarily due to two days when scarcity conditions occurred in the RTM but were not anticipated in the DAM.

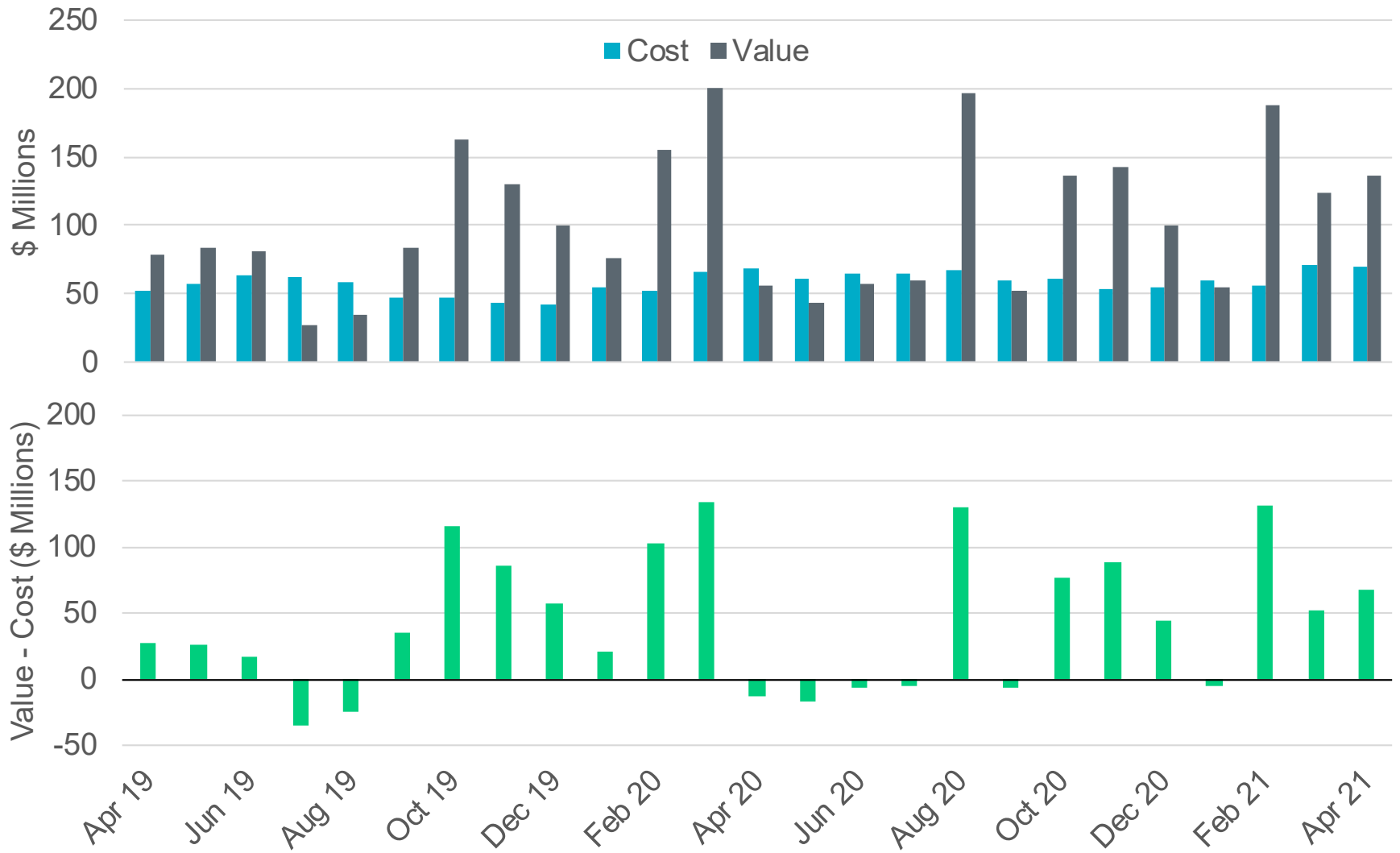


*Averages are weighted by Real-Time Market Load

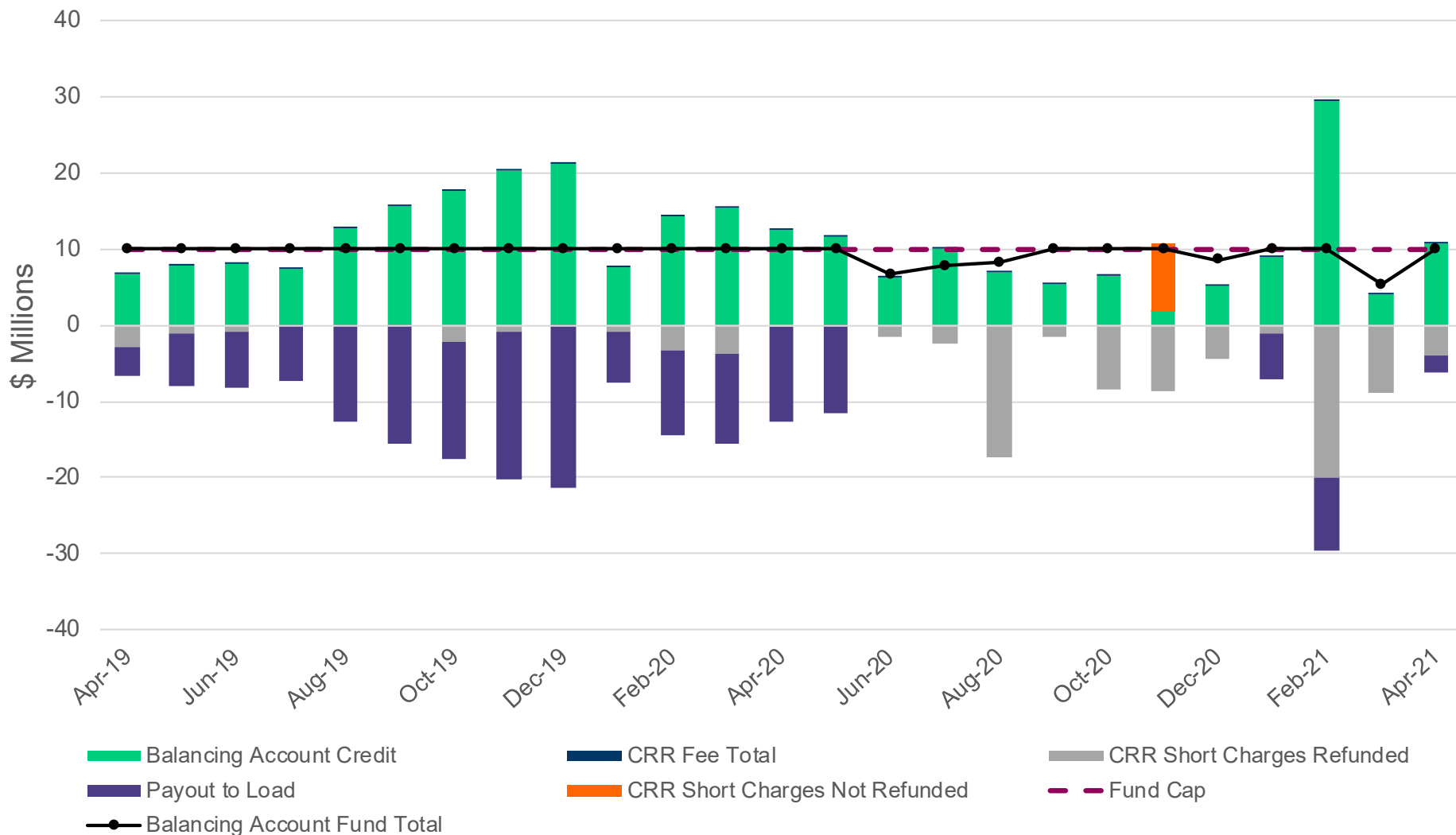
Percentage of Real-Time Load Transacted in the Day-Ahead Market



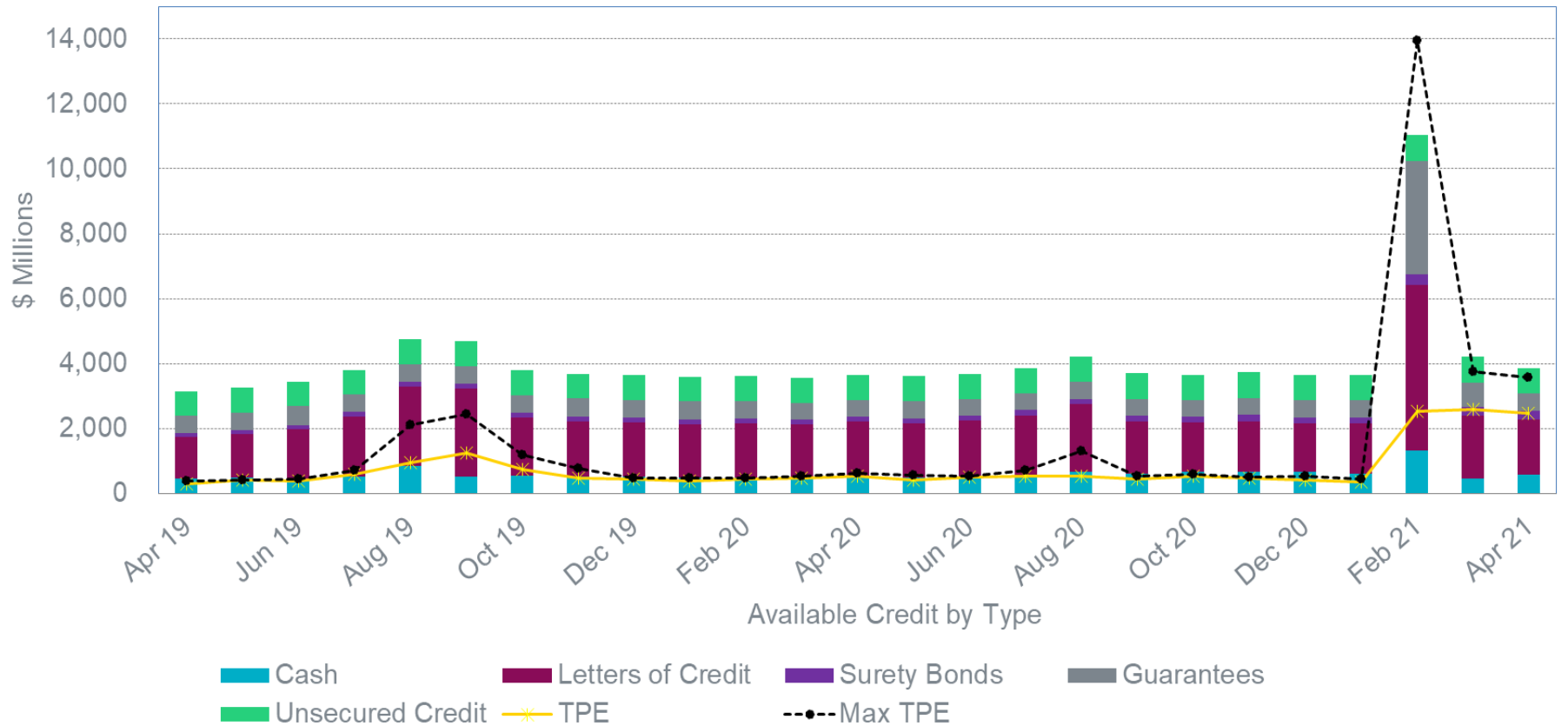
CRR Value and Cost Differences



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 – April 2021

Transaction Type	Year-To-Date		Transactions Received	
	April 2021	April 2020	April 2021	April 2020
Switches	550,063	324,489	132,428	82,551
Acquisitions	48,862	0	0	0
Move - Ins	869,284	850,932	220,732	191,679
Move - Outs	399,272	408,894	101,903	95,059
Continuous Service Agreements (CSA)	266,550	216,766	57,719	90,412
Mass Transitions	20,412	0	0	0
Total	2,154,443	1,801,081	512,782	459,701