



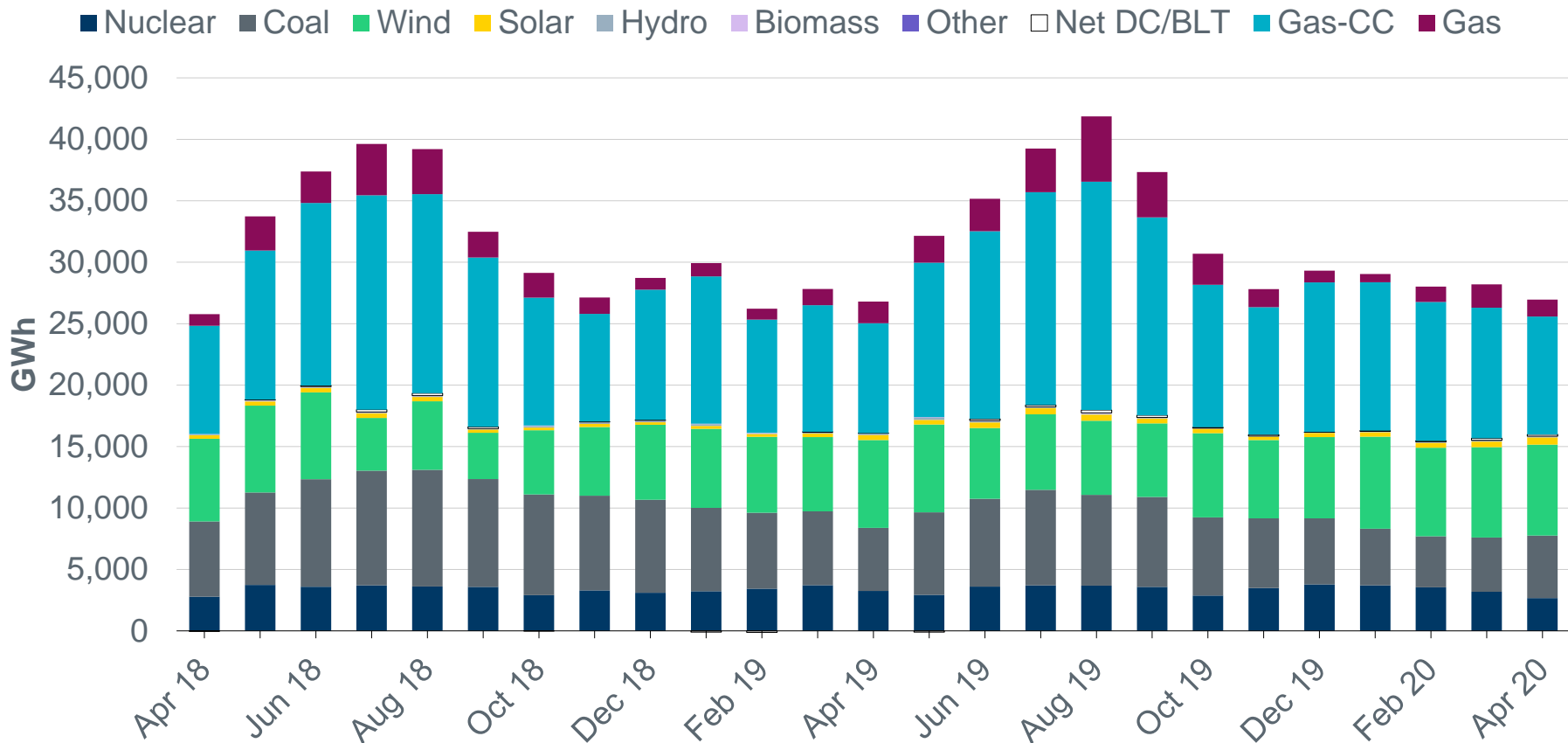
## ERCOT Monthly Operational Overview (April 2020)

ERCOT Public  
May 19, 2020

## Monthly Highlights

- The maximum demand in April 2020 was 55,247 MW\*, which was 3,608 MW more than the April 2019 demand of 51,640 MW.
  - The increase in April year-over-year peak demand was largely driven by higher temperatures in the Dallas-Fort Worth area.
- ERCOT issued 4 notifications:
  - 4 Advisories issued for postponement of the DAM solution posting deadline due to long running solution.
- The congestion in West Texas dropped significantly in April compared to the preceding months.

# Monthly energy generation increased 1% year-over-year to 26,959 GWh in April 2020, compared to 26,805 GWh in April 2019

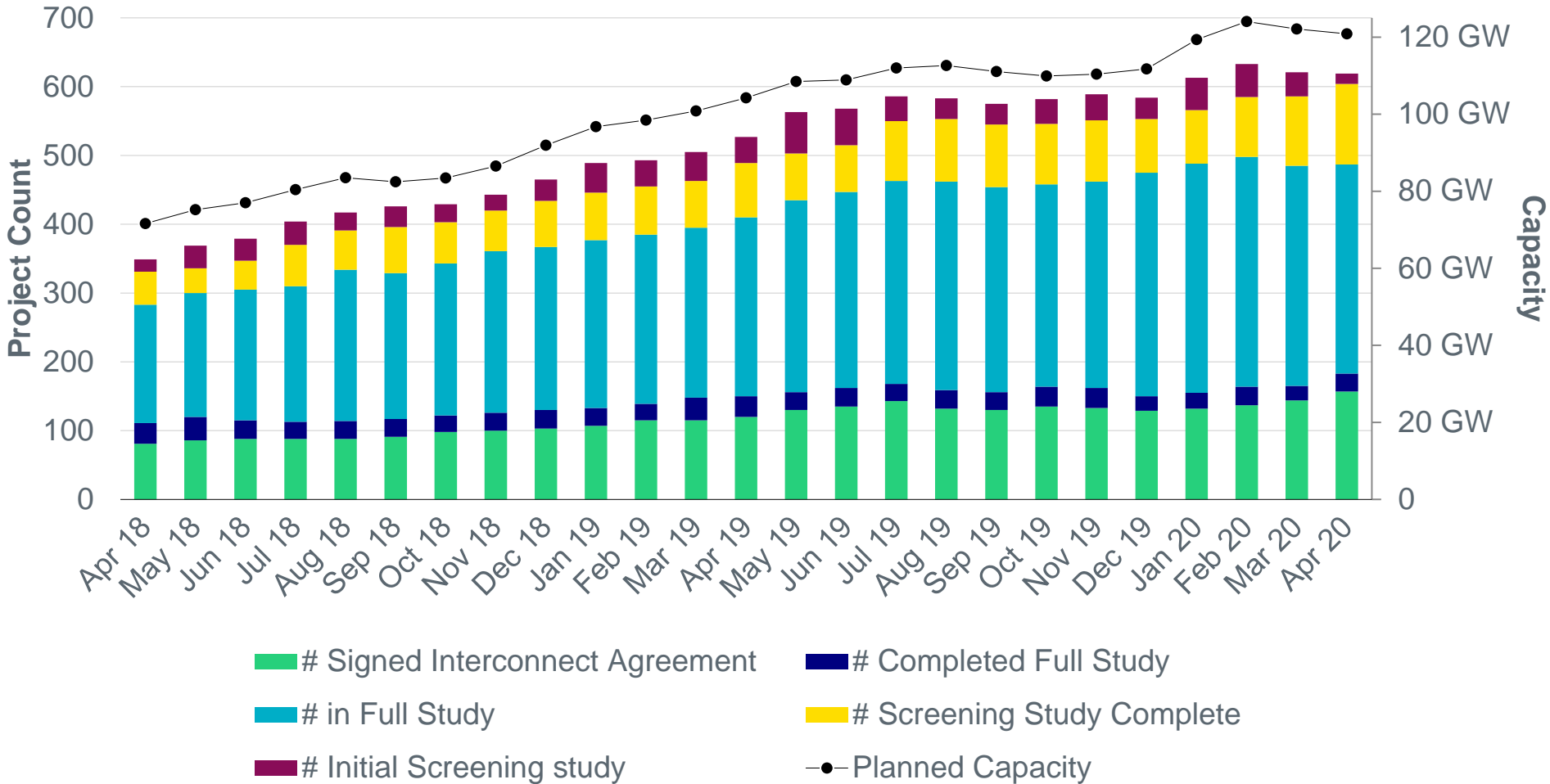


Data for latest two months are based on preliminary settlements.



# Generation Interconnection activity by project phase

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

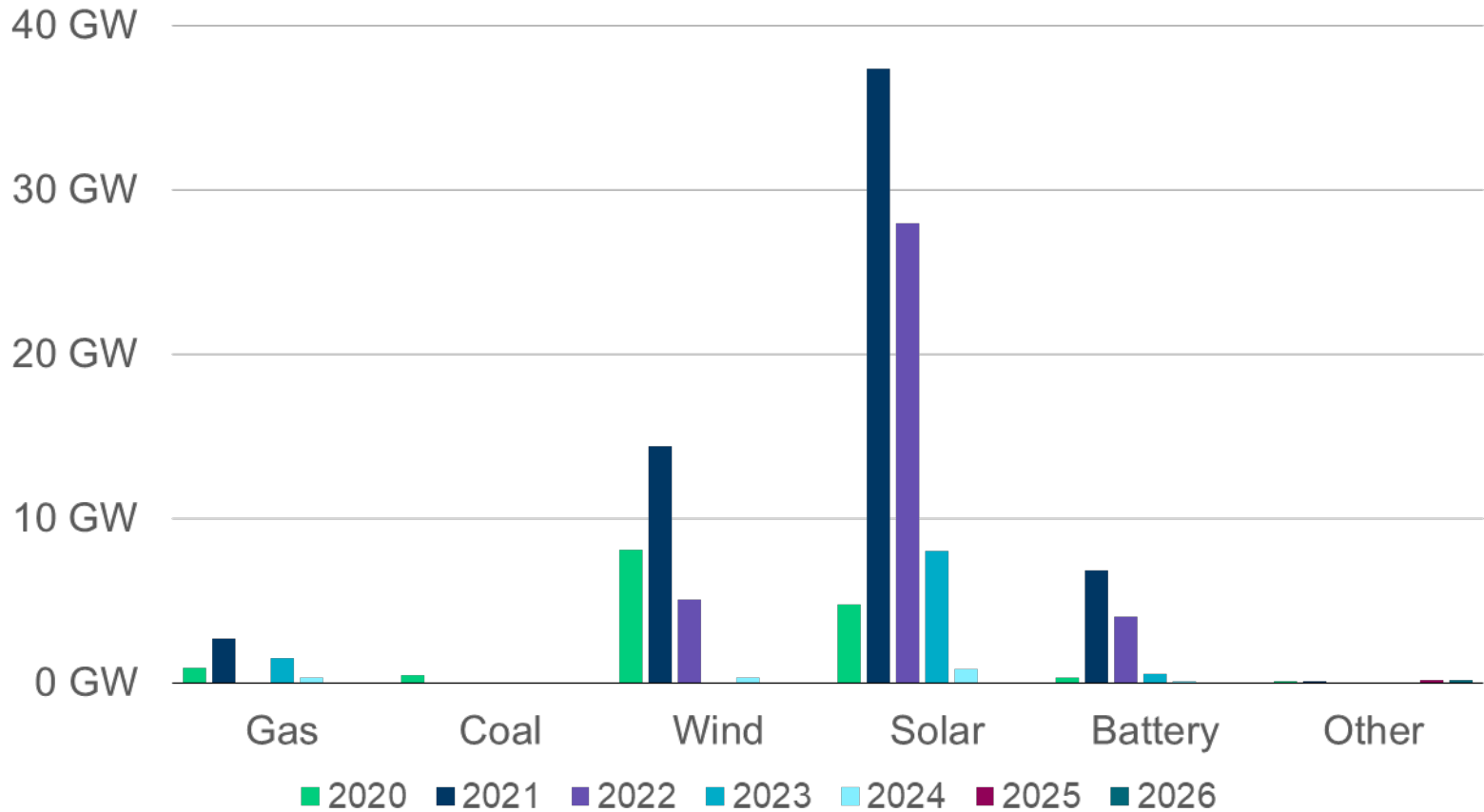


A break out by fuel type can be found in the monthly Generator Interconnection Status (GIS) reports available on the ERCOT Resource Adequacy Page: <http://www.ercot.com/gridinfo/resource>



# Interconnection Queue Capacity by Fuel Type

Queue totals: Solar 76 GW (63%), Wind 28 GW (23%), Gas 5 GW (5%), Battery 11 GW (9%)  
(excludes capacity associated with Projects designated as Inactive per Planning Guide Section 5.7.6)

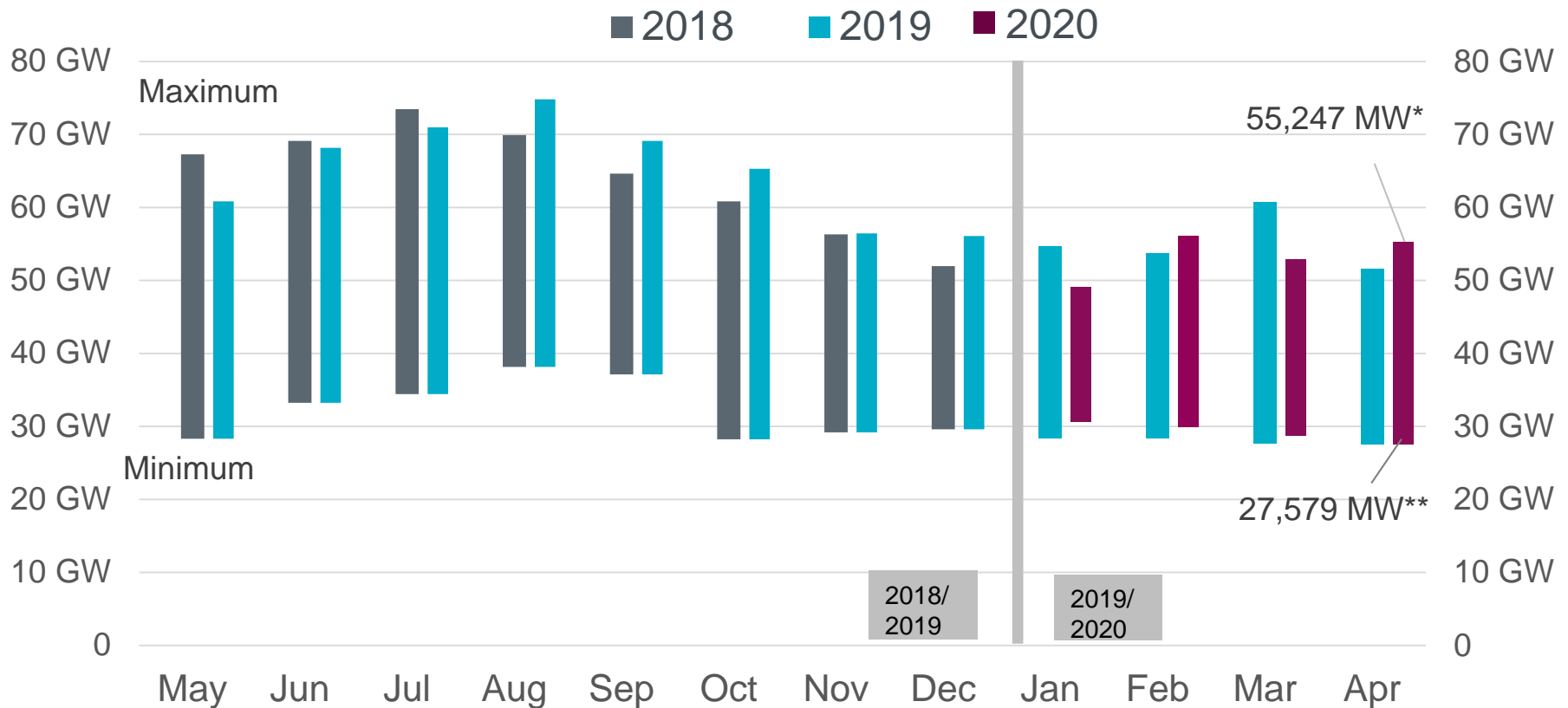


A break out by zone can be found in the monthly Generator Interconnection Status (GIS) reports available on the ERCOT Resource Adequacy Page: <http://www.ercot.com/gridinfo/resource>

# Planning Summary

- ERCOT is currently tracking 619 active generation interconnection requests totaling 120,871 MW. This includes 76,252 MW of solar, 27,780 MW of wind, and 10,899 MW of battery projects as of April 2020.
- ERCOT is currently reviewing proposed transmission improvements with a total estimated cost of \$1,302.84 Million as of April 30, 2020.
- Transmission Projects endorsed in 2020 total \$218.27 Million as of April 30, 2020.
- All projects (in engineering, routing, licensing and construction) total approximately \$7.45 Billion as of February 1, 2020.
- Transmission Projects energized in 2020 total about \$122 Million as of February 1, 2020.

# ERCOT set a maximum peak demand of 55,247 MW\* in April 2020, which is 3,608 MW more than the April 2019 demand of 51,640 MW



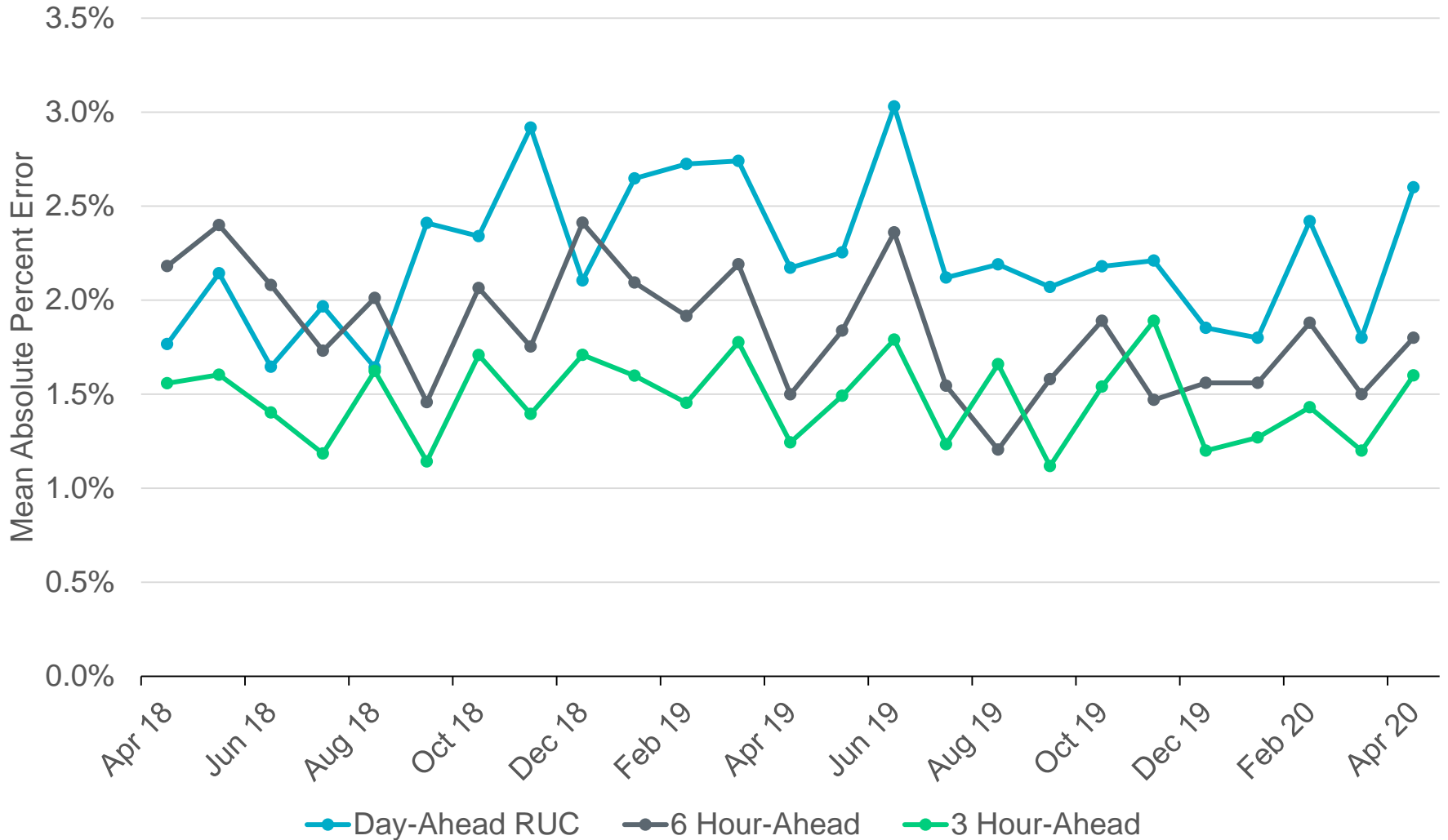
\*Based on the maximum net system hourly value from May release of Demand and Energy 2020 report.

\*\*Based on the minimum net system 15-minute interval value from May release of Demand and Energy 2020 report.

Data for latest two months are based on preliminary settlements.



# Mid-Term Load Forecast Performance

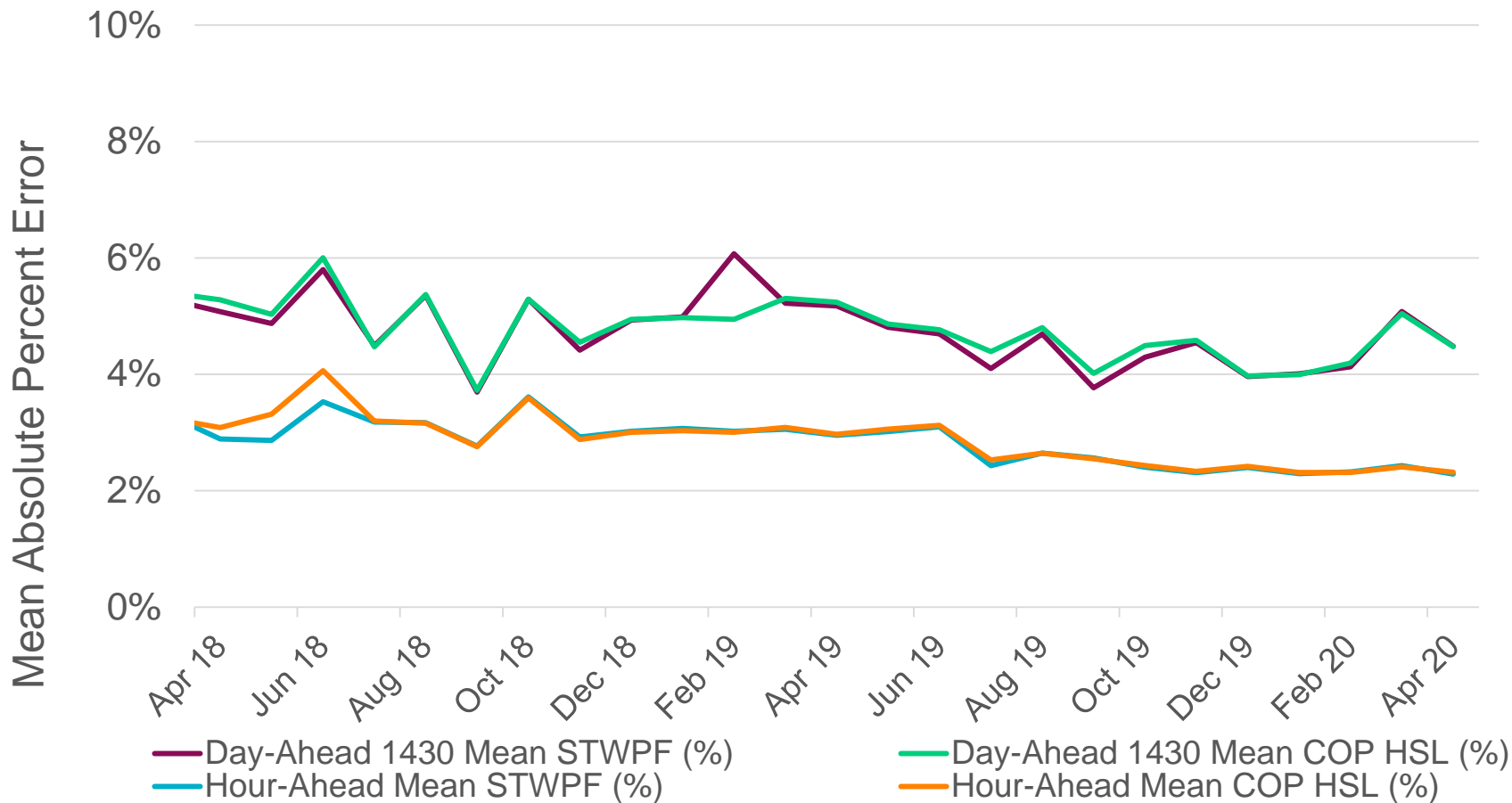


The Mid-Term Load Forecast is an hourly forecast that looks 7 days into the future





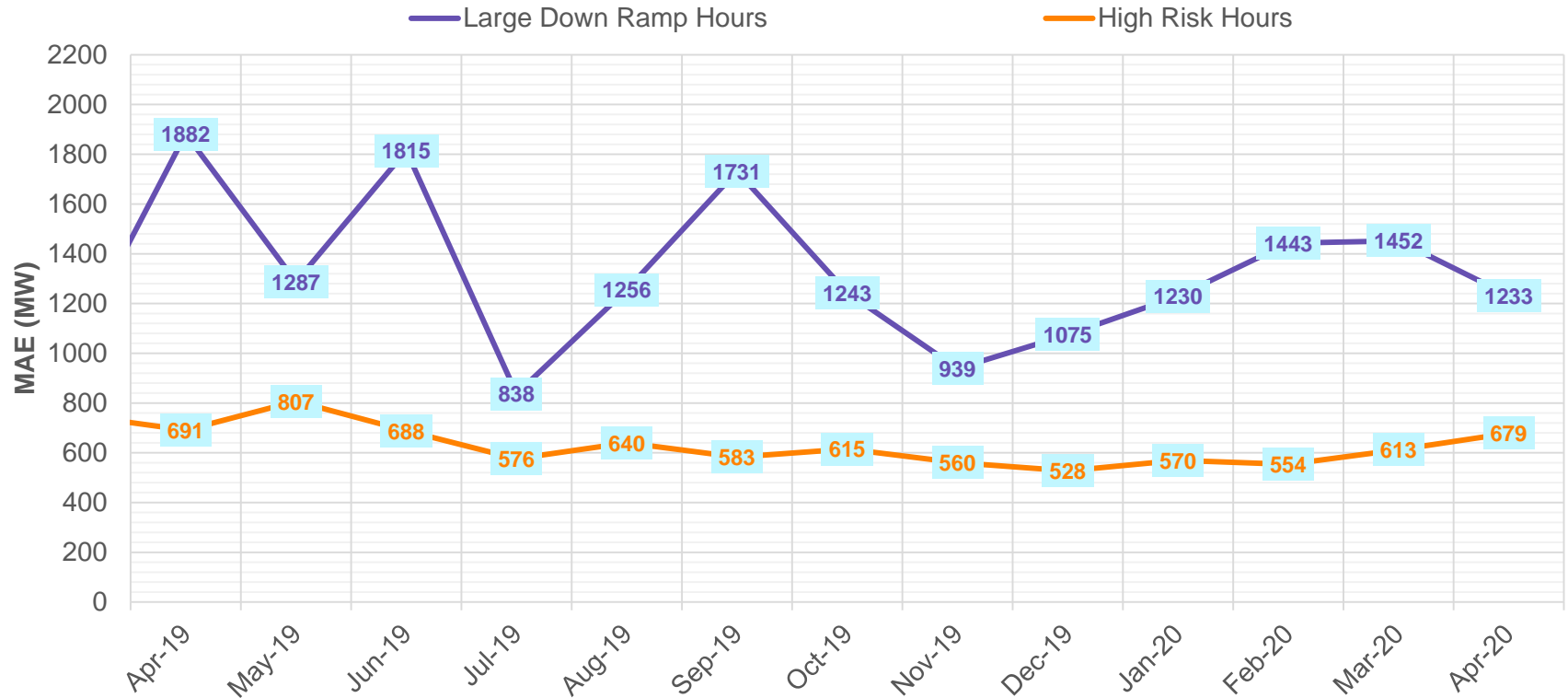
# Wind Forecast Performance



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

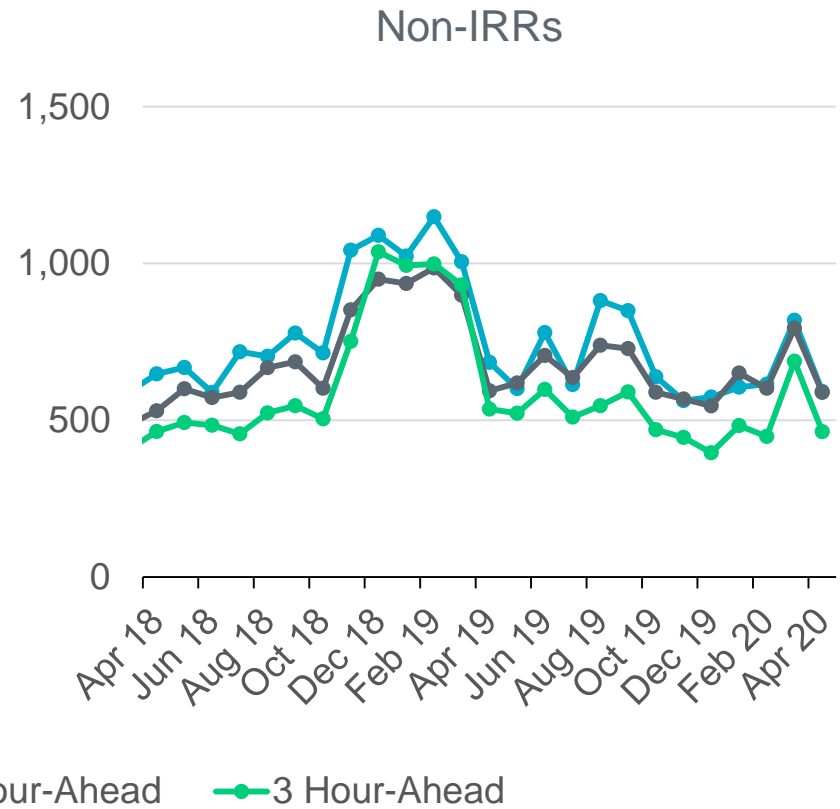
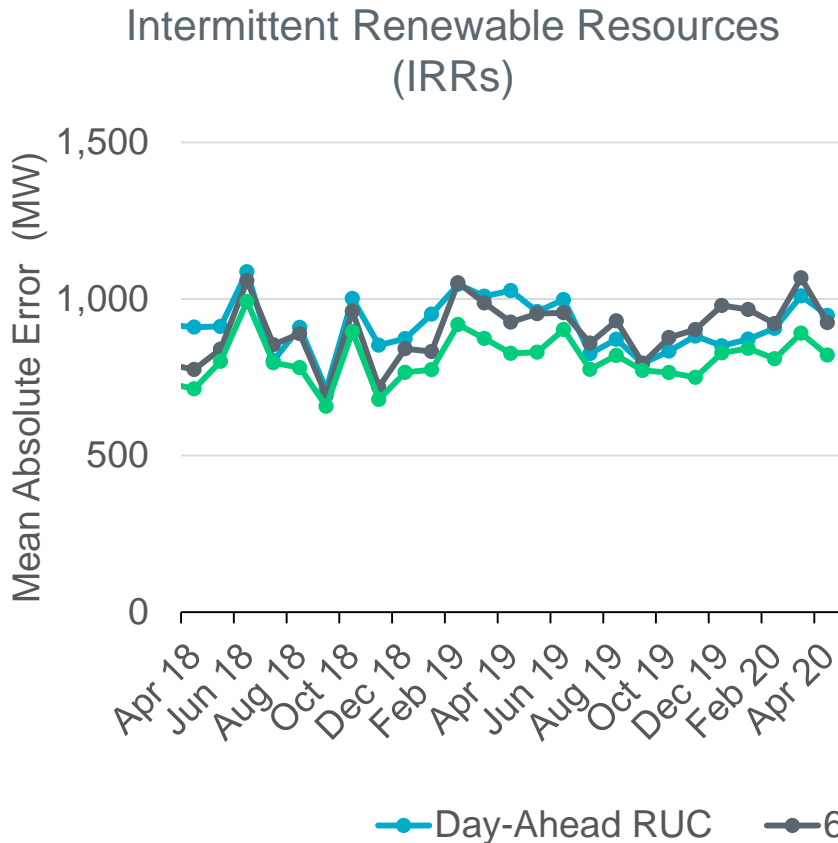
Hour-Ahead Mean Absolute Error (MAE) During Large Down Ramp (> 2000 MW) and High Risk Hours\*



\*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.

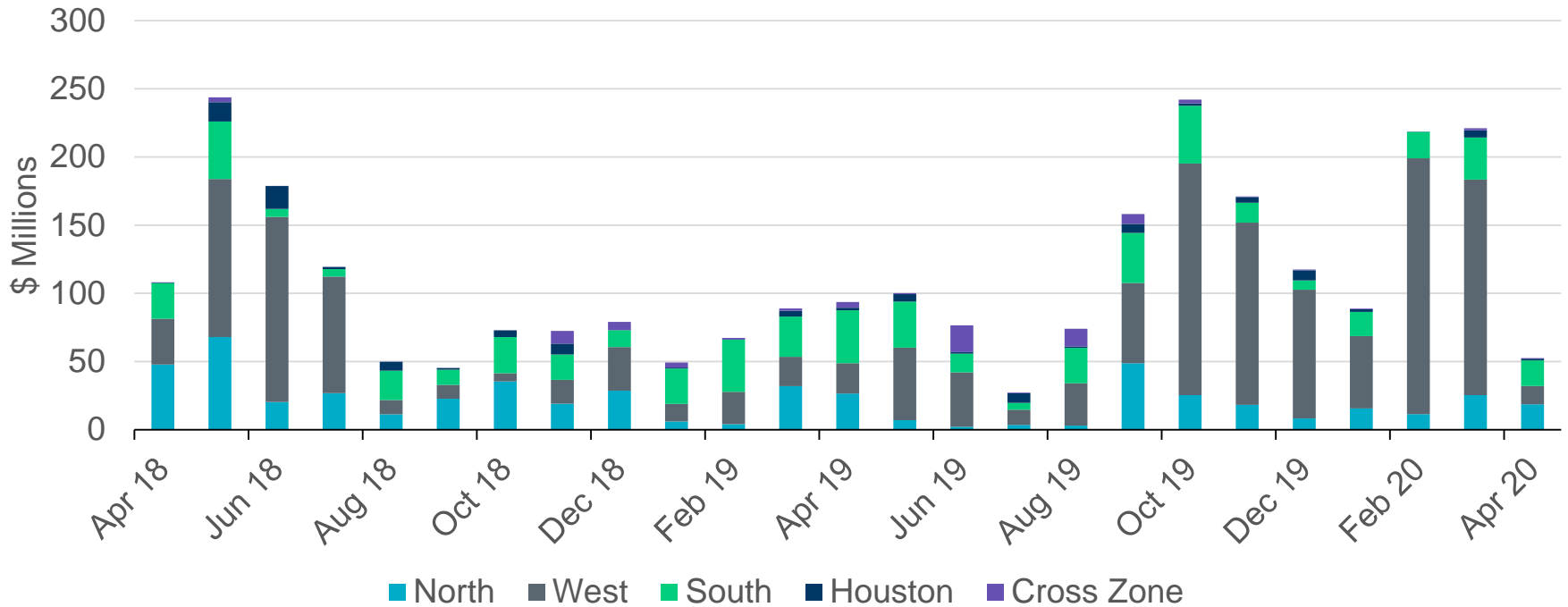
Forecast performance during large down ramp (wind ramp > 2000 MW) hours and high risk hours (historic risk of load ramping up and wind ramping down is high) is focused upon. Note that for the purposes of forecast performance measurement every hour in a month is classified as either a large down ramp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



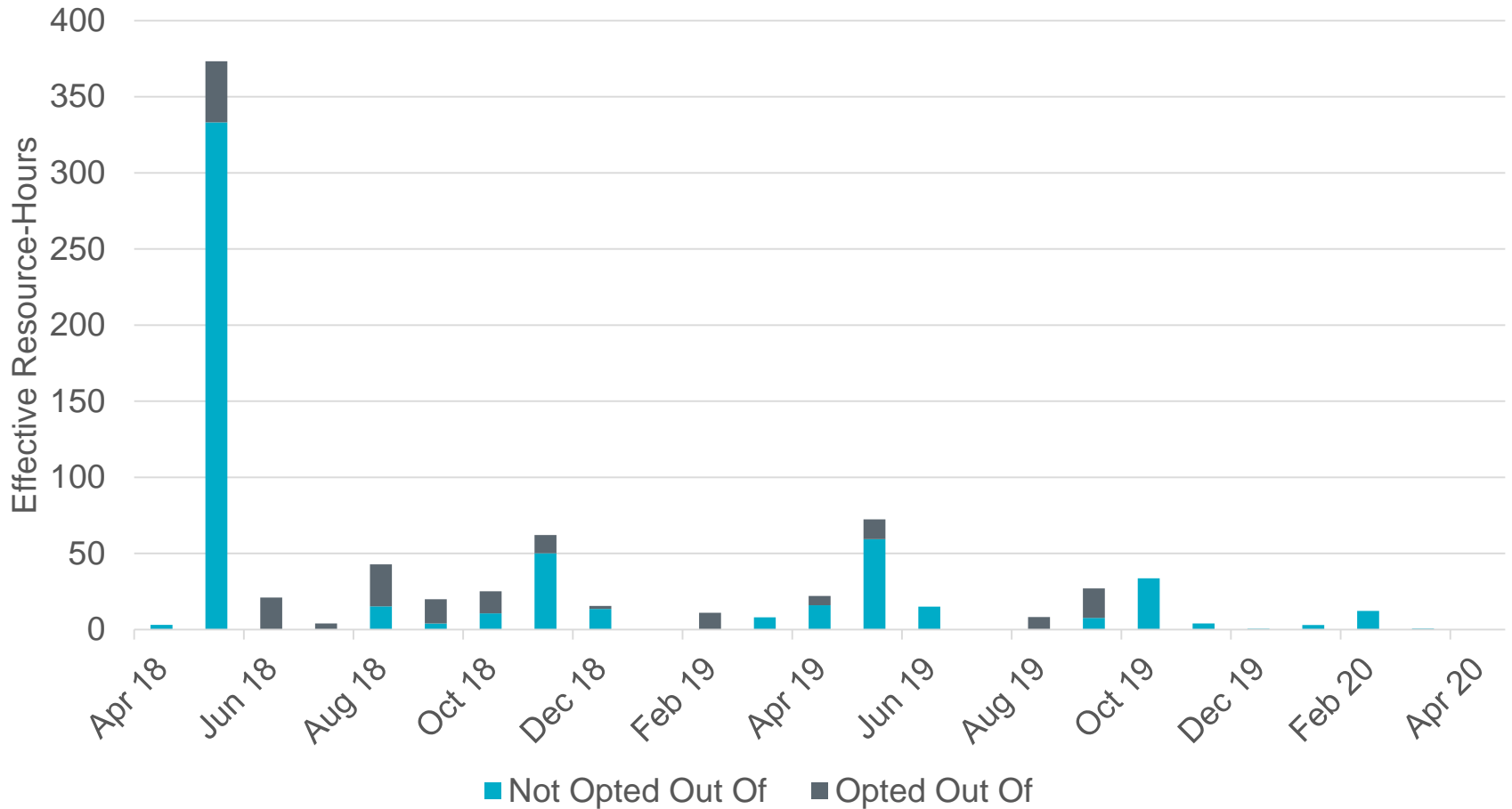
- COPs for IRRs are derived from wind and solar forecasts from ERCOT with any adjustments from Qualified Scheduling Entities.
- The installed capacity of approved Wind Units is 27,651 MW (as of April 30, 2020).
- The installed capacity of approved Solar Units is 3,376 MW (as of April 30, 2020).

# Real-Time Congestion Rent by Zone



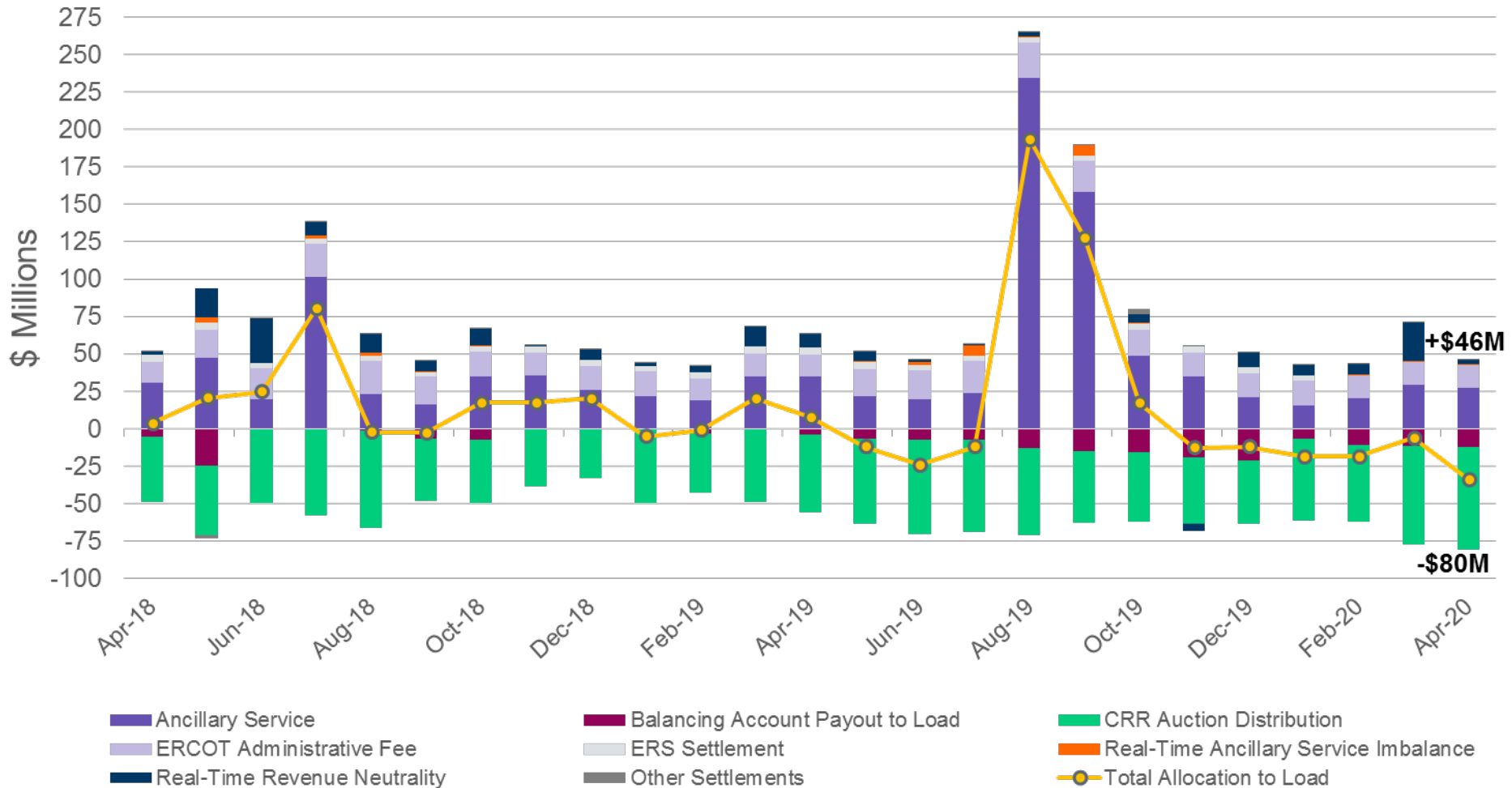
- The congestion rent decreased significantly in April. Congestion rent in the West Zone was lower than in any of the previous eight months.
- Congestion Rent is determined using the shadow prices and MW flows for individual constraints in SCED as well as the length in time of SCED intervals.
- The “Cross Zone” category consists of cases in which the substations on either end of the constraint are in different zones.

# Zero Resources were Committed in April



“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.

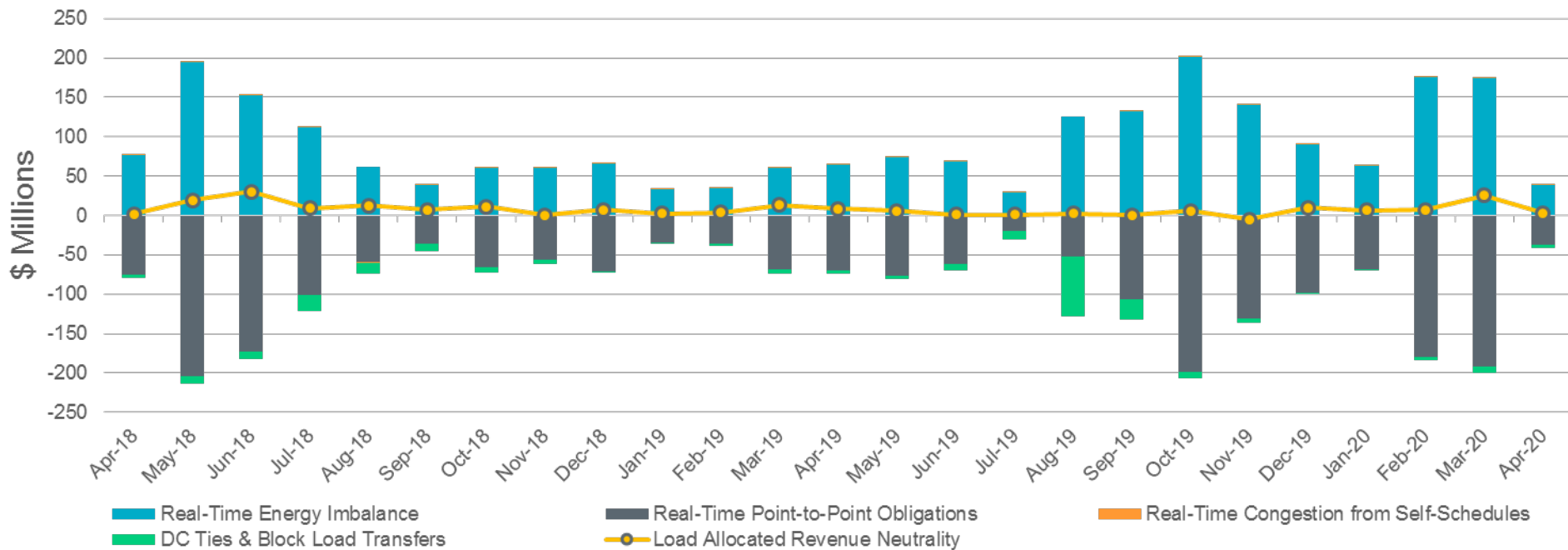
# Net Allocation to Load in April 2020 was \$-34 Million



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



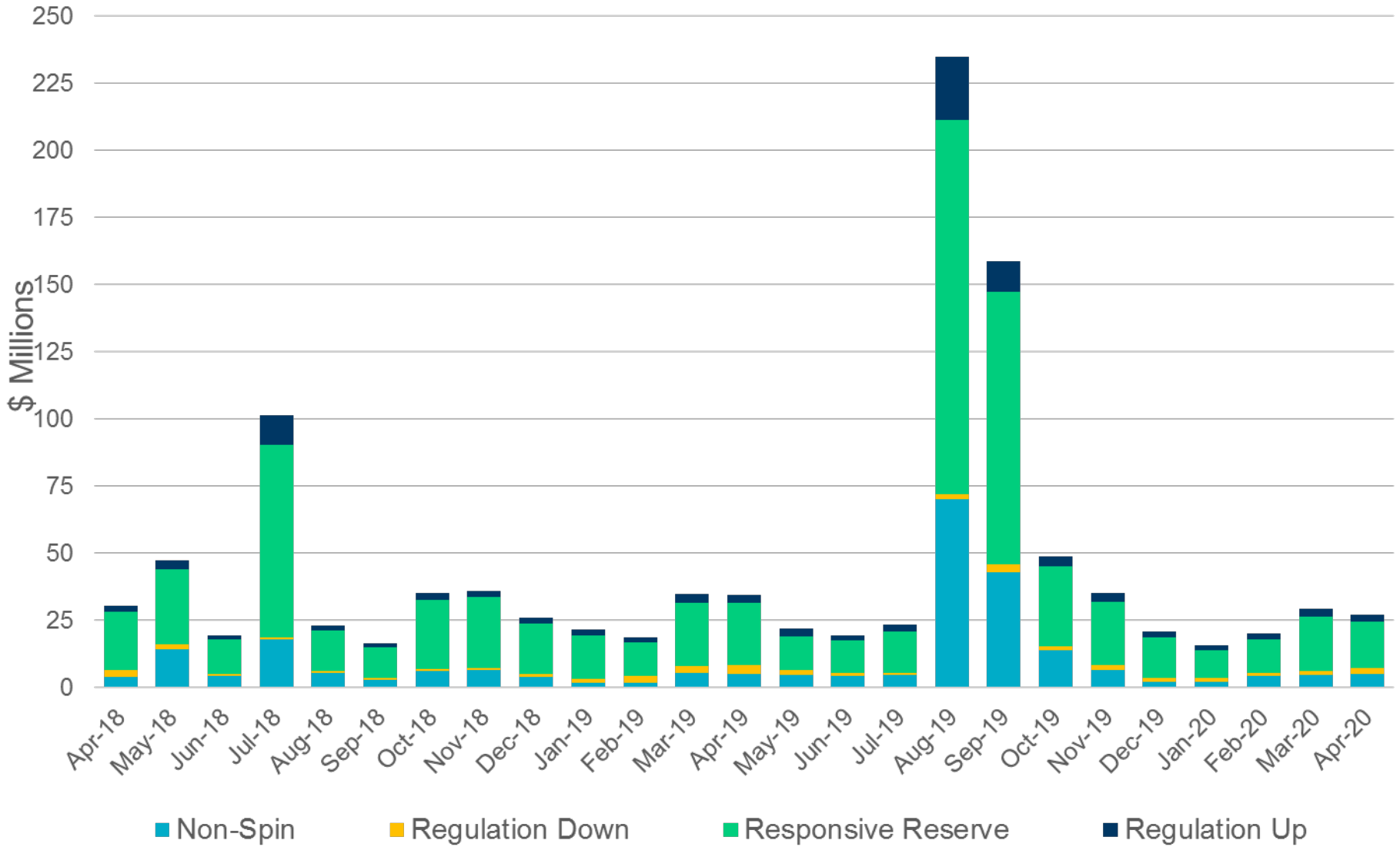
# Real-Time Revenue Neutrality Allocated to Load was \$2.78M for April 2020



	April 2020 (\$M)
Real-Time Energy Imbalance	\$38.01
Real-Time Point-to-Point Obligation	(\$36.84)
Real-Time Congestion from Self-Schedules	\$0.15
DC Tie & Block Load Transfer	(\$4.10)
<b>Load Allocated Revenue Neutrality</b>	<b>\$2.78</b>

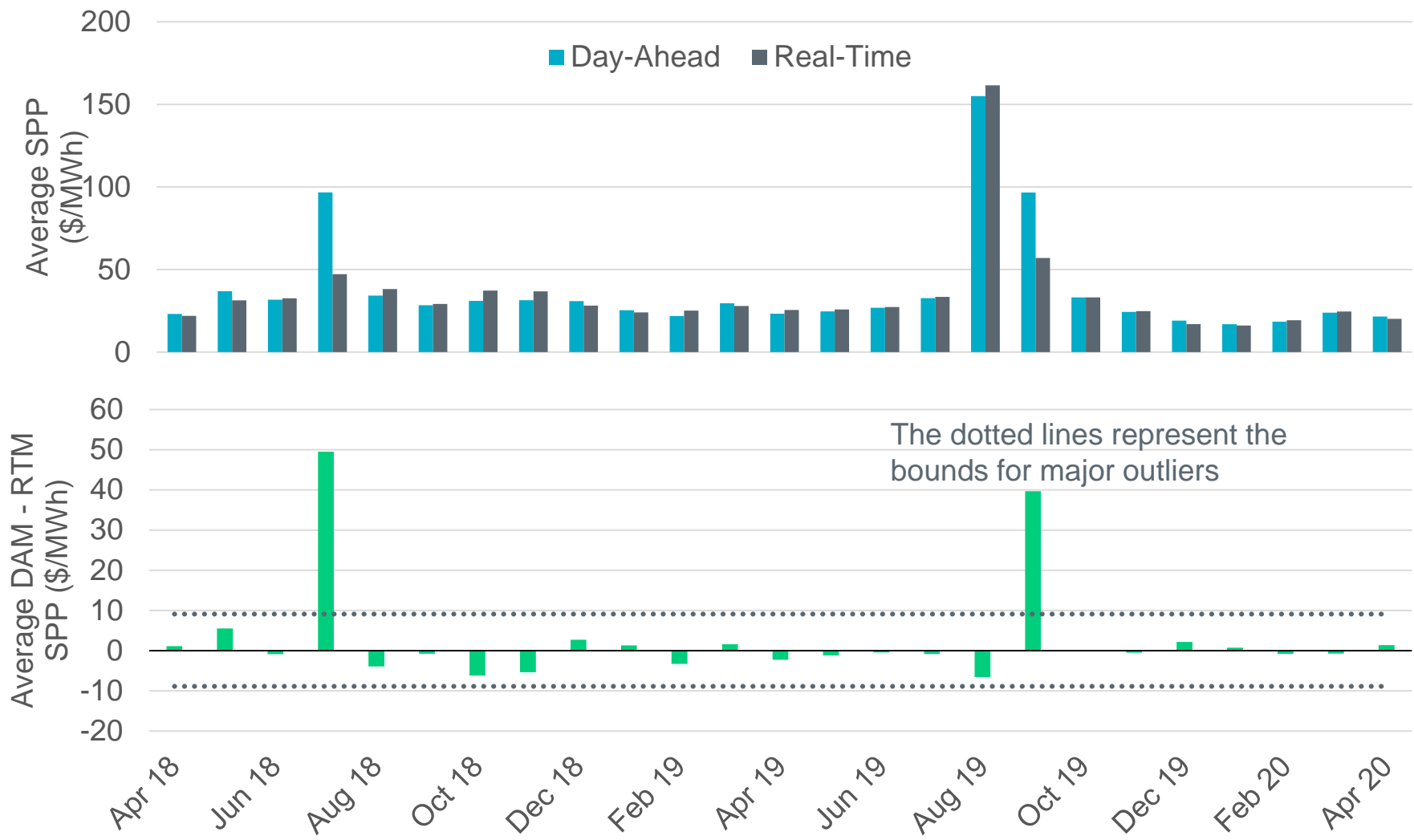


# Ancillary Services for April 2020 totaled \$27.19M





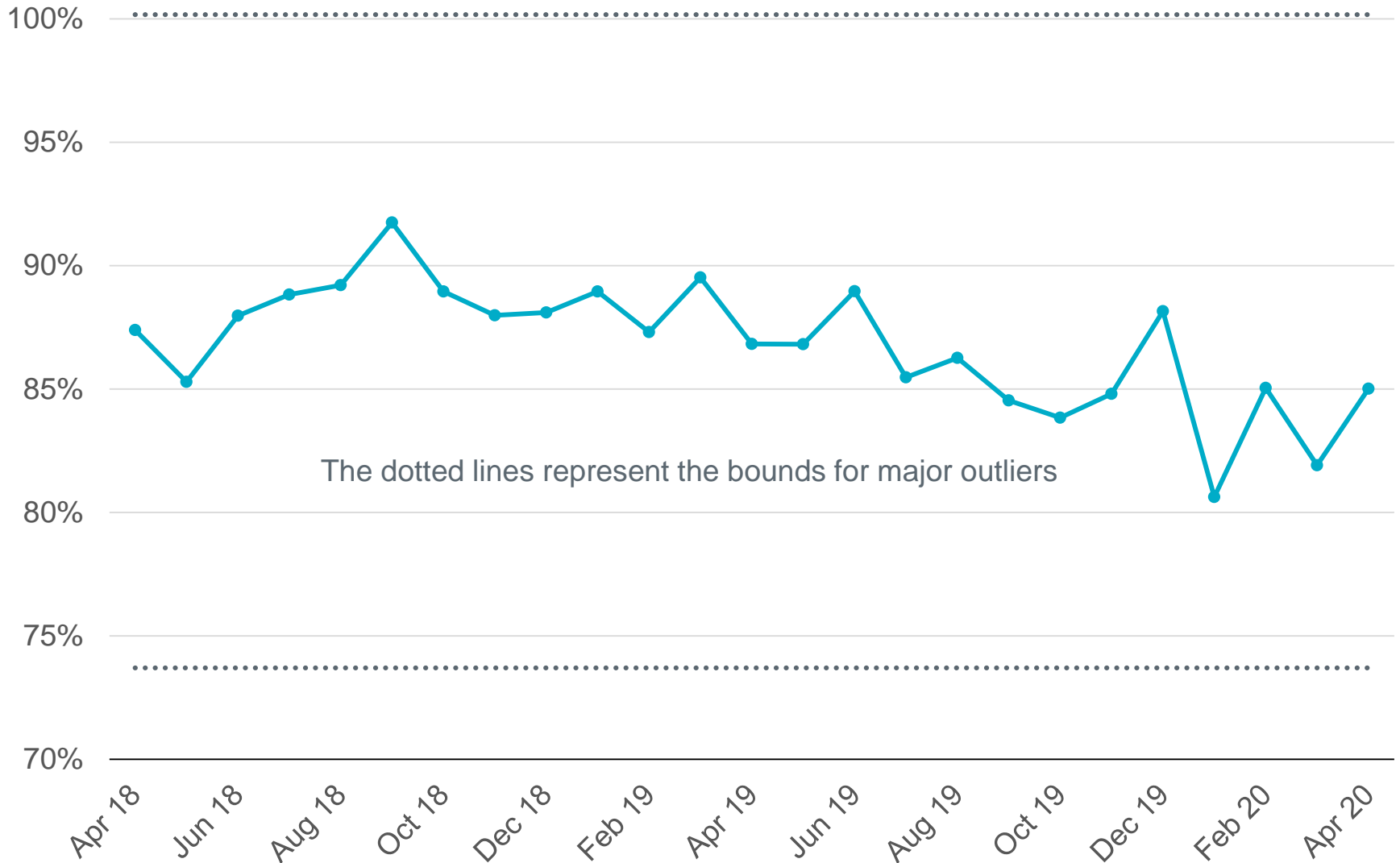
# Day-Ahead and Real-Time Market Price Differences



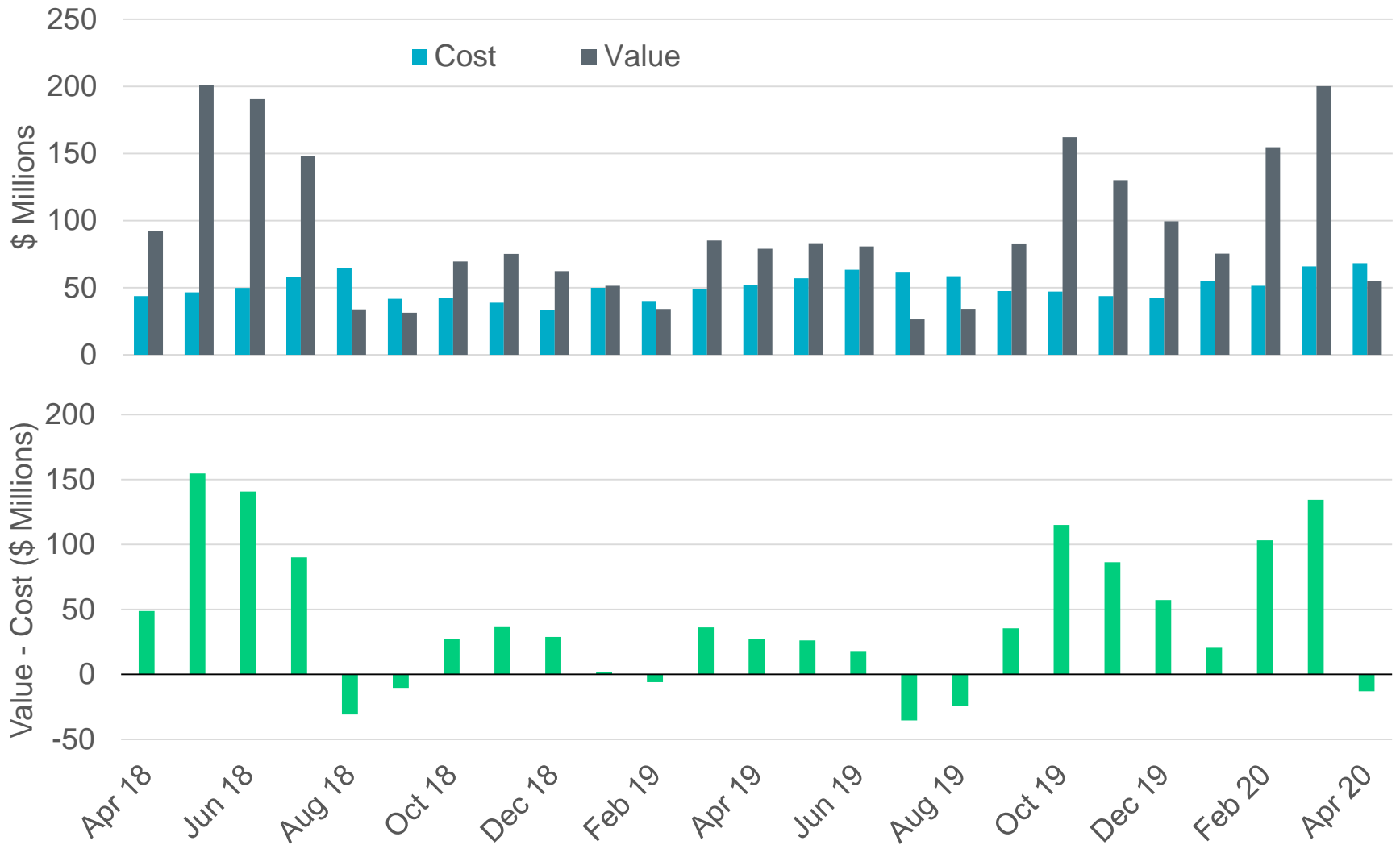
\*Averages are weighted by Real-Time Market Load



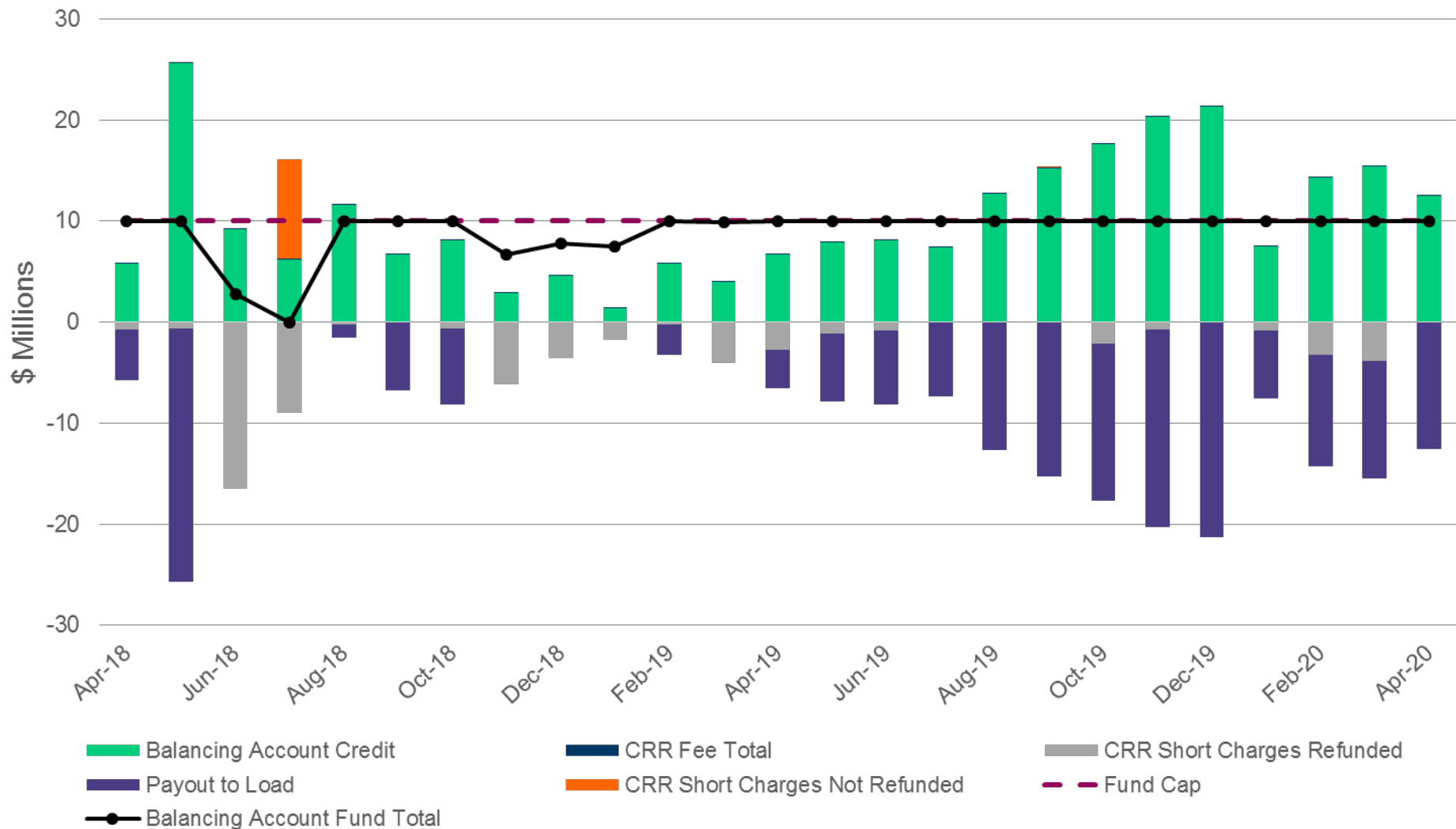
# Percentage of Real-Time Load Transacted in the Day-Ahead Market



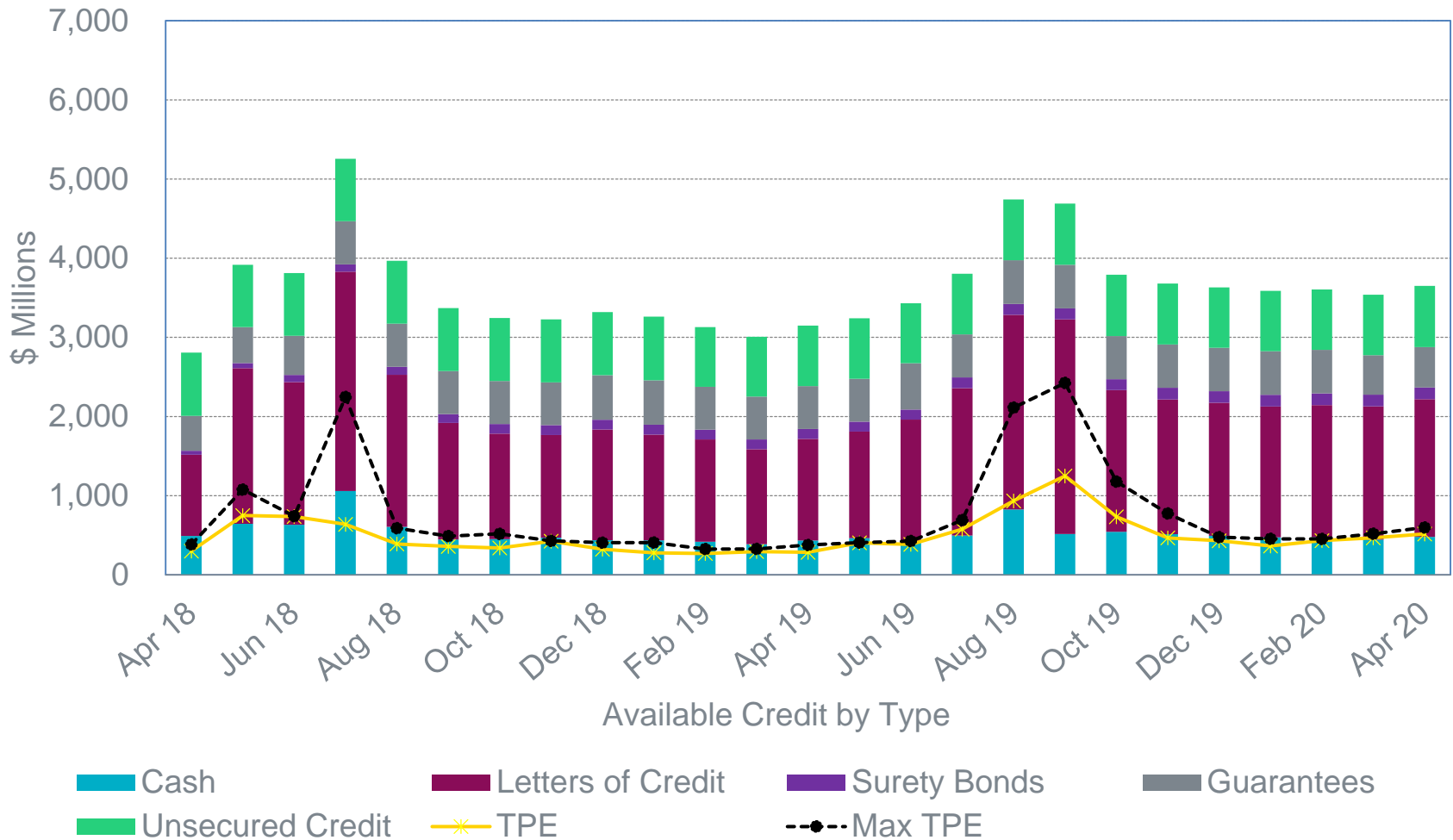
# CRR Value and Cost Differences



# 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 2020

Transaction Type	Year-To-Date		Transactions Received	
	April 2020	April 2019	April 2020	April 2019
<b>Switches</b>	324,489	415,959	82,551	121,897
<b>Acquisition</b>	0	0	0	0
<b>Move - Ins</b>	850,932	929,853	191,679	237,124
<b>Move - Outs</b>	408,894	423,744	95,059	111,944
<b>Continuous Service Agreements (CSA)</b>	216,766	466,001	90,412	65,525
<b>Mass Transitions</b>	0	0	0	0
<b>Total</b>	<b>1,801,081</b>	<b>2,235,557</b>	<b>459,701</b>	<b>536,490</b>