



ERCOT Monthly Operational Overview (July 2020)

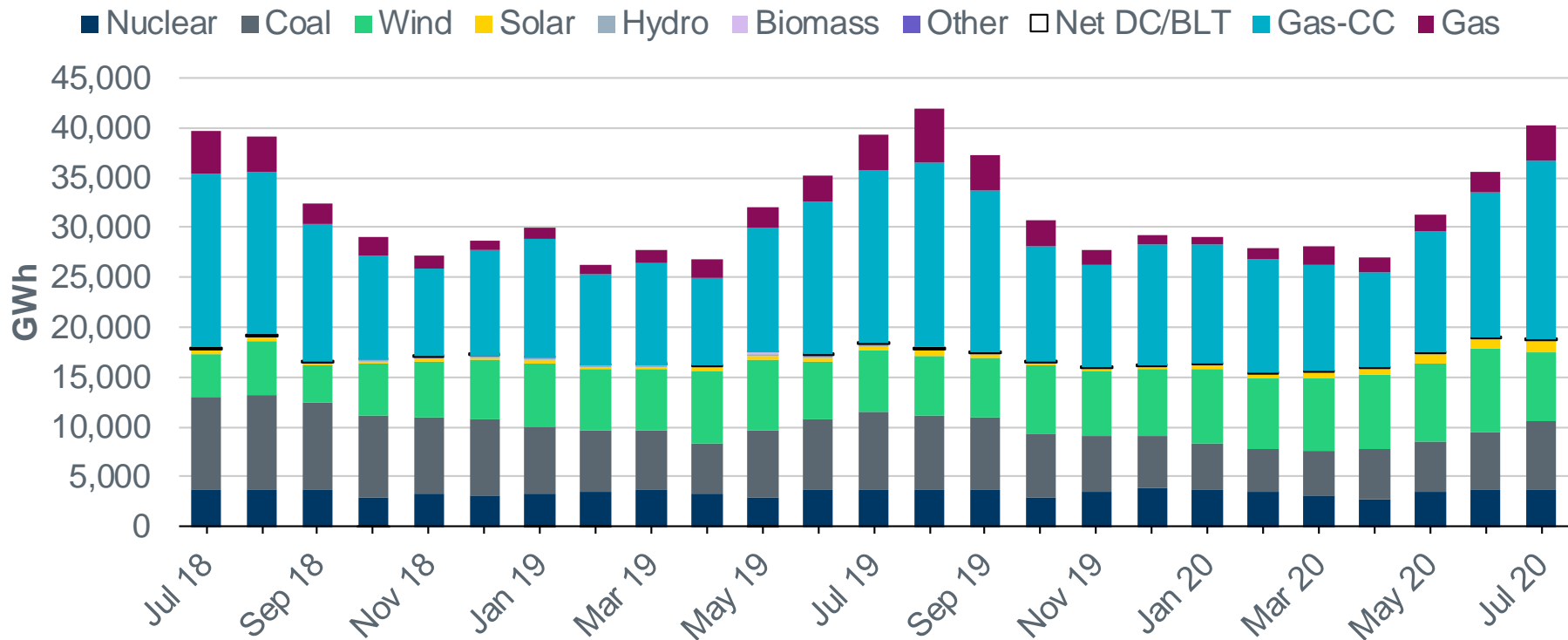
ERCOT Public
August 17, 2020

Monthly Highlights

- The maximum demand in July 2020 was 74,311 MW*, which is an all-time July record. This was 3,341 MW more than the July 2019 demand of 70,970 MW.
- ERCOT issued 11 notifications:
 - 1 Advisory for delay in clearing DAM and posting DAM solution.
 - 1 Advisory for Tropical Storm Hanna projected to become a Hurricane prior to making landfall in the ERCOT Region.
 - 7 Advisories for Physical Responsive Capability (PRC) < 3000 MW.
 - 1 OCN for extreme hot weather with forecasted temperatures above 103°F.
 - 1 OCN for Tropical Storm Hanna possibility of making landfall in the ERCOT region.
- Hurricane Hanna made landfall in southern Texas on July 25, downing power lines and causing congestion in the area.

* Preliminary value from August release of Demand and Energy 2020 report.

Monthly energy generation increased by 3% year-over-year to 40,310 GWh in July 2020, compared to 39,246 GWh in July 2019

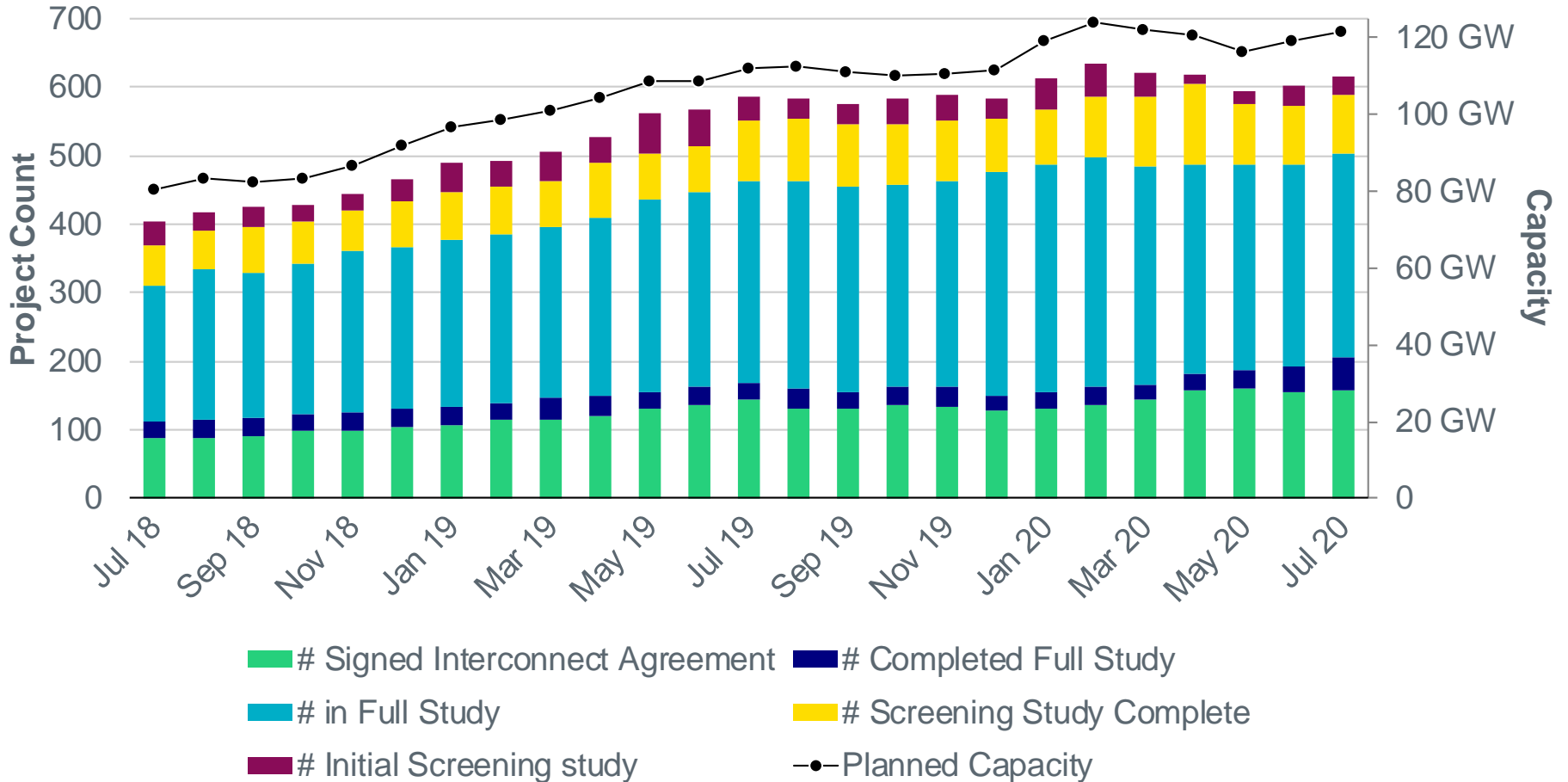


Data for latest two months are based on preliminary settlements.



Generation Interconnection activity by project phase

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



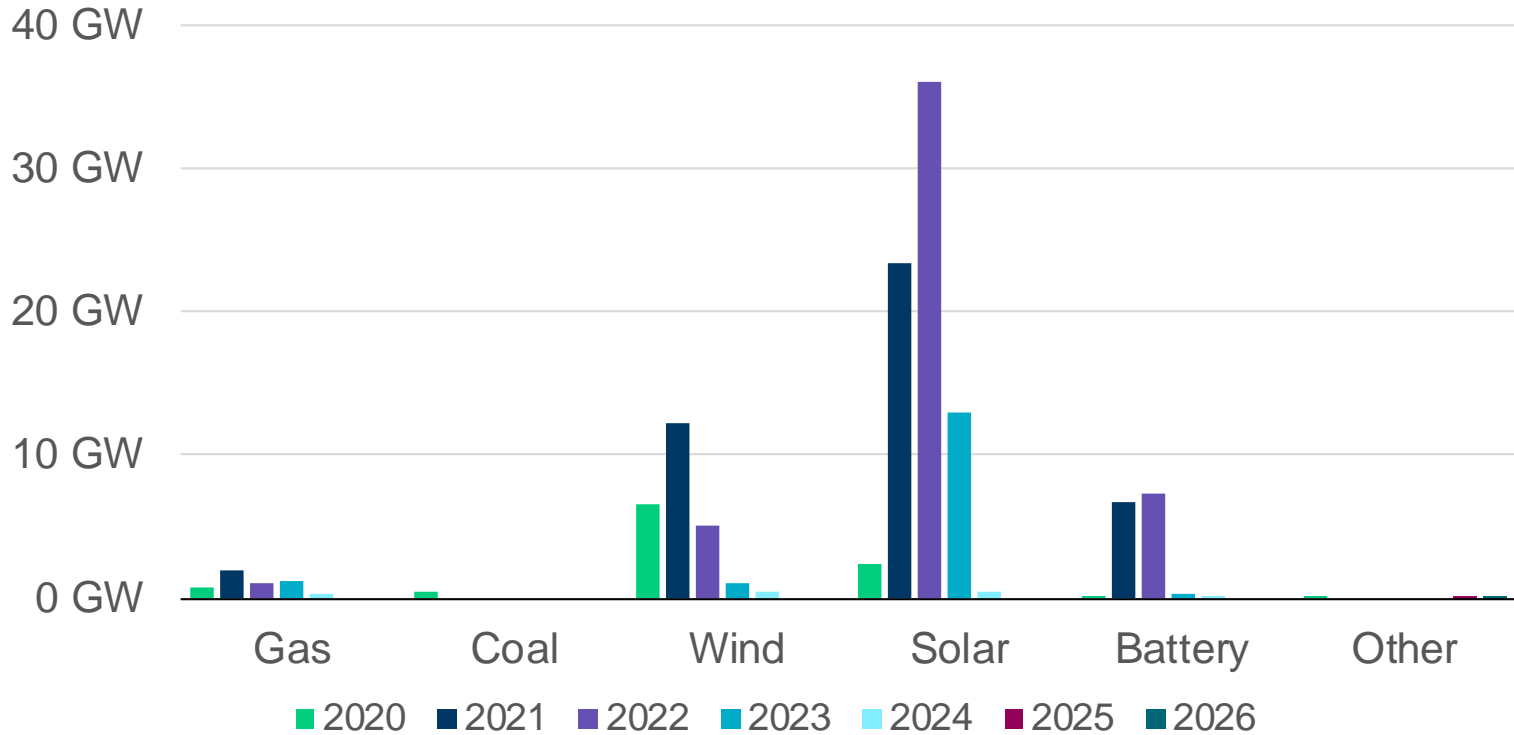
A break out by fuel type can be found in the monthly Generator Interconnection Status (GIS) reports available on the ERCOT Resource Adequacy Page: <http://www.ercot.com/gridinfo/resource>



Interconnection Queue Capacity by Fuel Type

Queue totals: Solar 75 GW (62.0%), Wind 25 GW (21.0%), Gas 5 GW (4.4%), Battery 14 GW (11.9%), Coal 0.4 GW (0.3%)

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

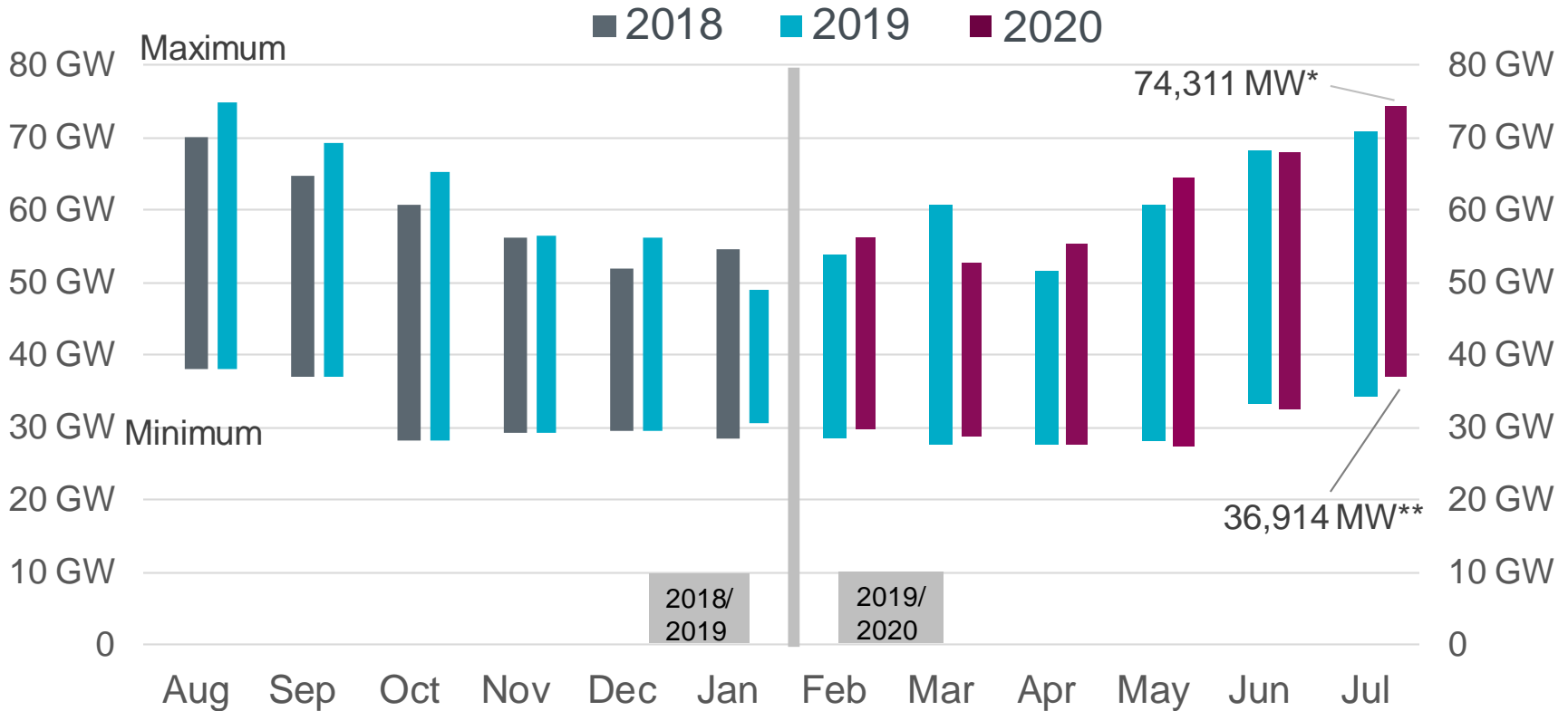


A break out by zone can be found in the monthly Generator Interconnection Status (GIS) reports available on the ERCOT Resource Adequacy Page: <http://www.ercot.com/gridinfo/resource>

Planning Summary

- ERCOT is currently tracking 615 active generation interconnection requests totaling 121,432 MW. This includes 75,322 MW of solar, 25,478 MW of wind, and 14,476 MW of battery projects as of July 31, 2020.
- ERCOT is currently reviewing proposed transmission improvements with a total estimated cost of \$1,078.4 Million as of July 31, 2020.
- Transmission Projects endorsed in 2020 total \$639.1 Million as of July 31, 2020.
- All projects (in engineering, routing, licensing and construction) total approximately \$7.26 Billion as of June 1, 2020.
- Transmission Projects energized in 2020 total about \$1.06 Billion as of June 1, 2020.

ERCOT set a maximum peak demand of 74,311 MW* in July 2020, which is 3,341 MW more than the July 2019 demand of 70,970 MW



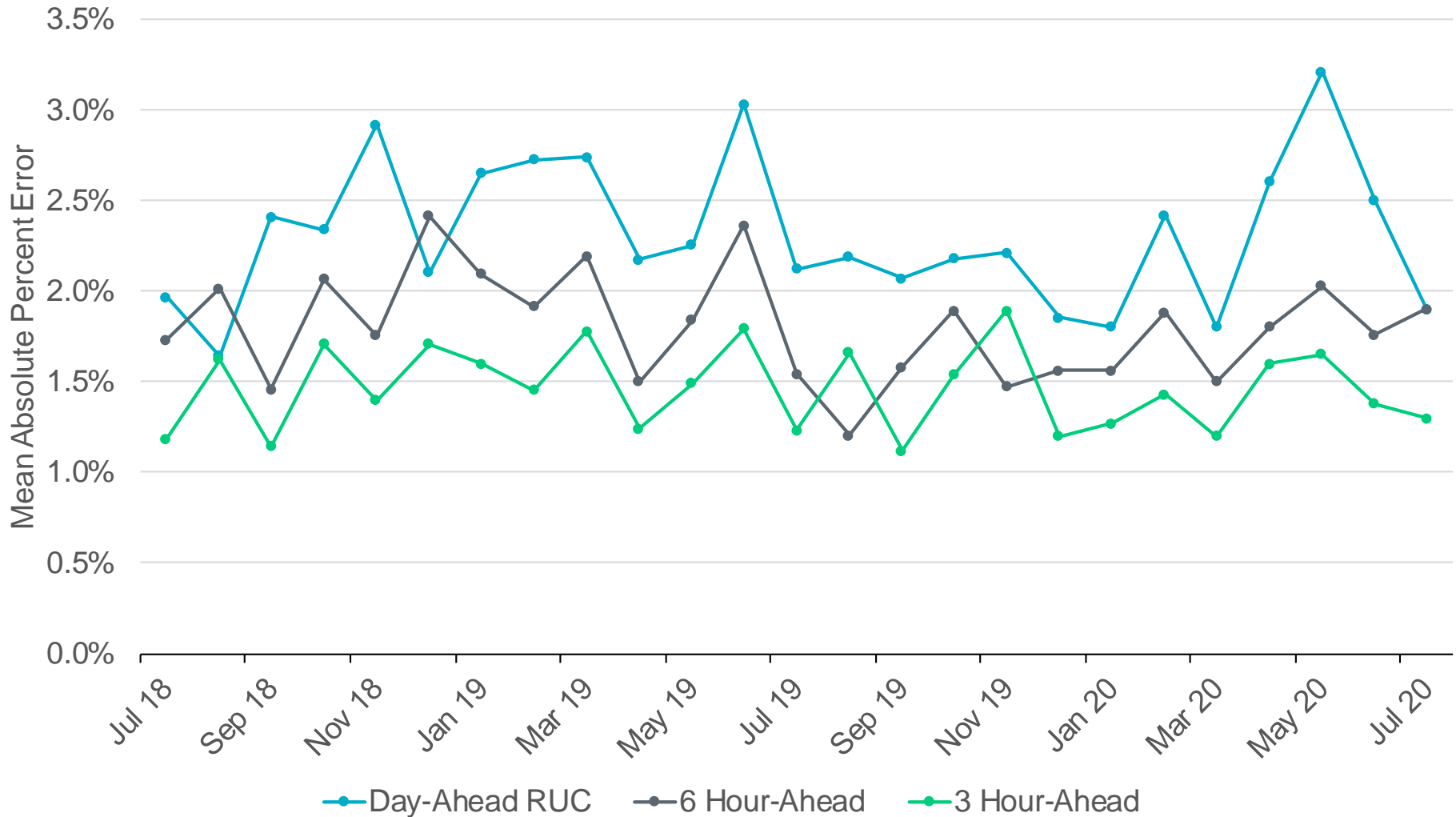
*Based on the maximum net system hourly value from August release of Demand and Energy 2020 report.

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

Data for latest two months are based on preliminary settlements.



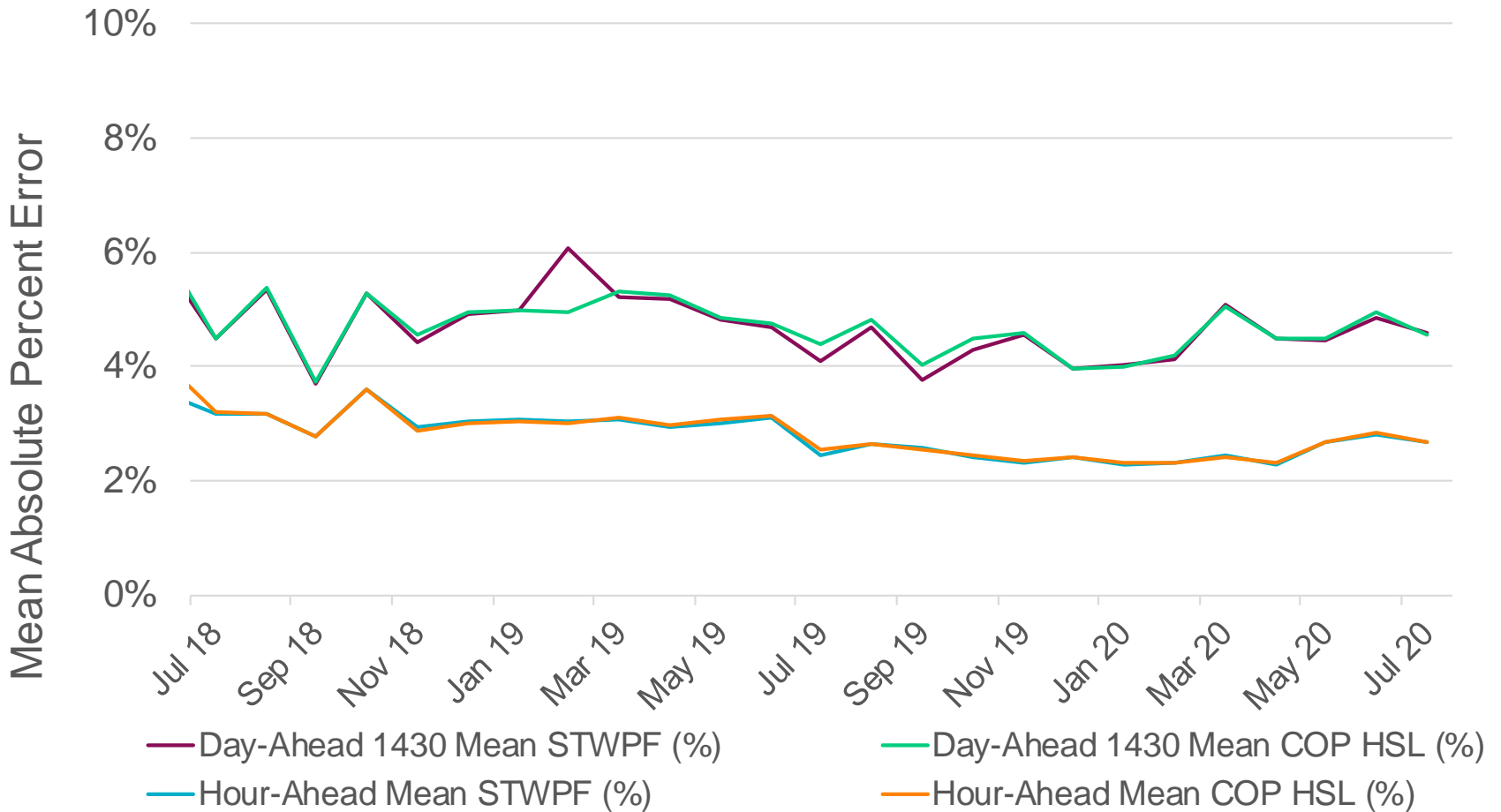
Mid-Term Load Forecast Performance



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



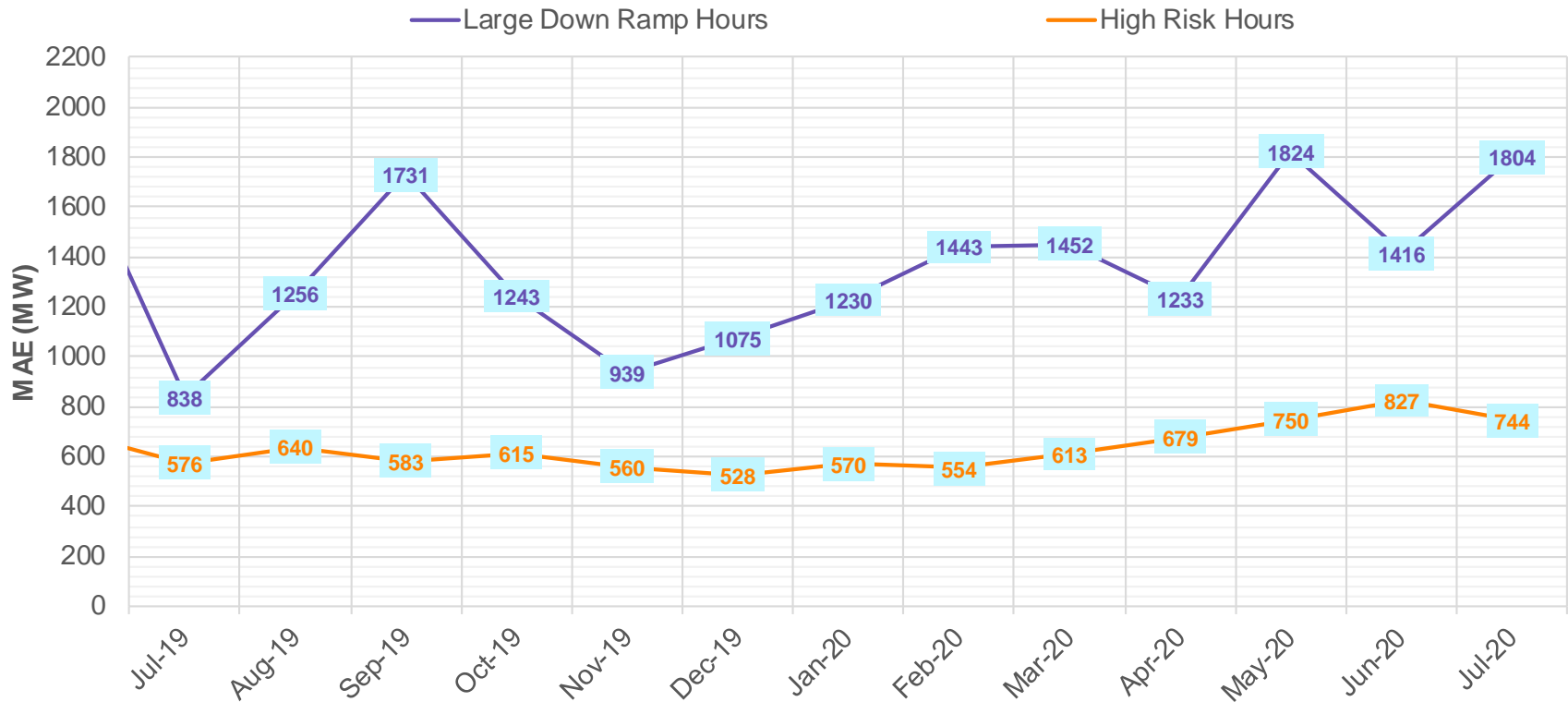
Wind Forecast Performance



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

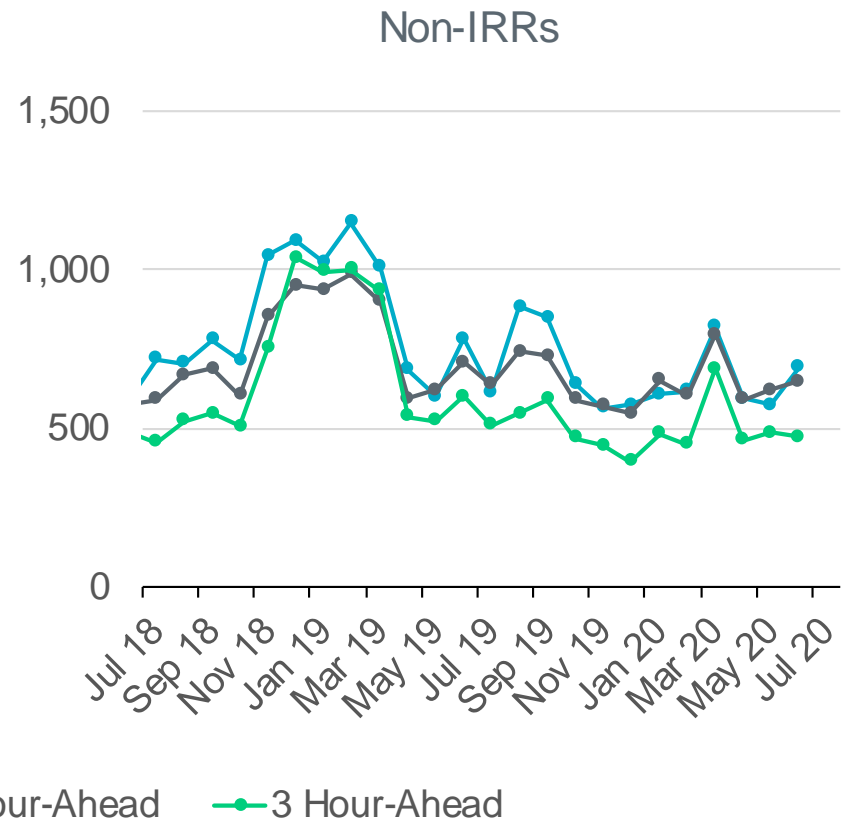
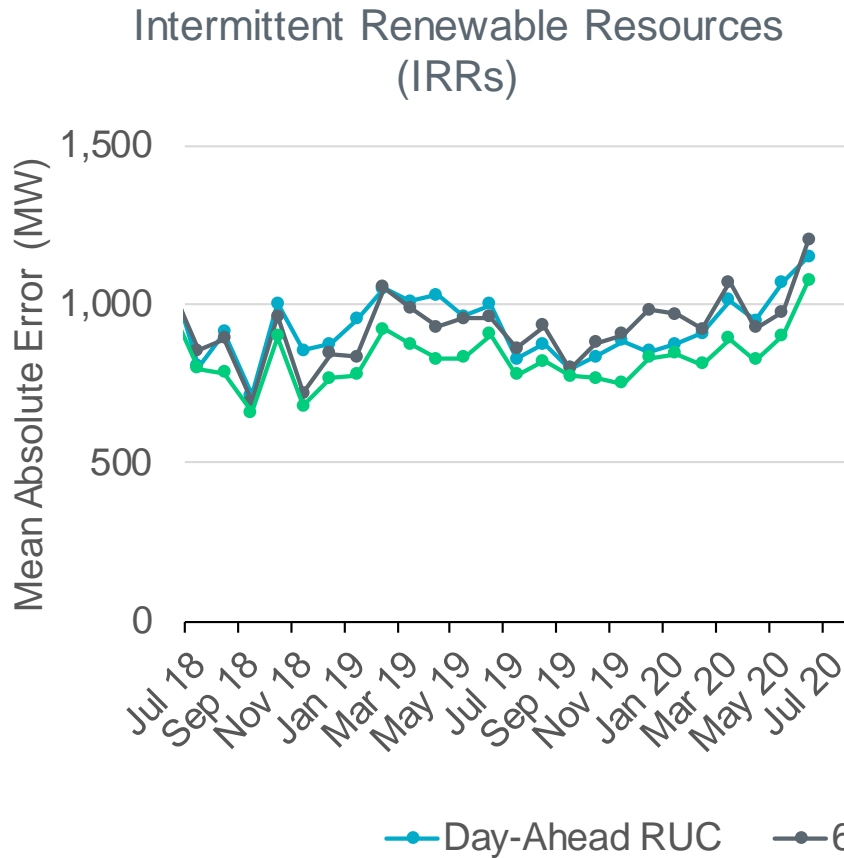
Hour-Ahead Mean Absolute Error (MAE) During Large Down Ramp (> 2000 MW) and High Risk Hours*



*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.

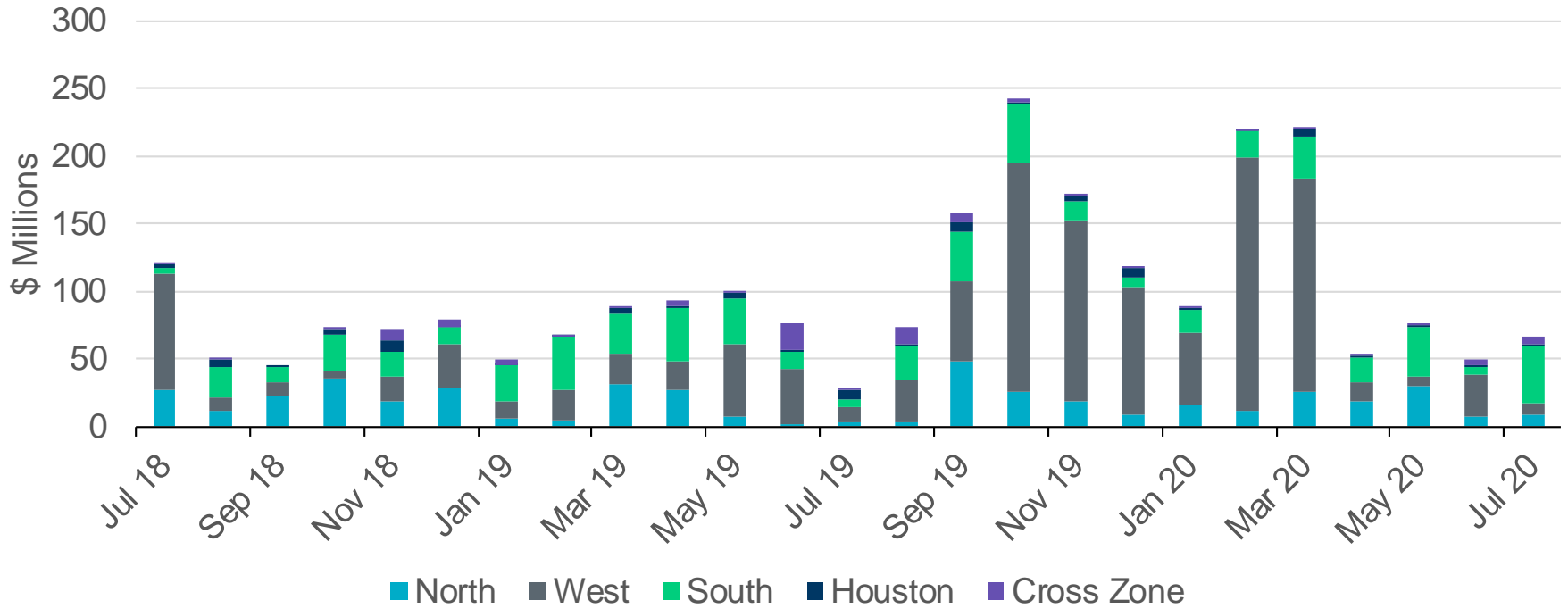
Forecast performance during large down ramp (wind ramp > 2000 MW) hours and high risk hours (historic risk of load ramping up and wind ramping down is high) is focused upon. Note that for the purposes of forecast performance measurement every hour in a month is classified as either a large down ramp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



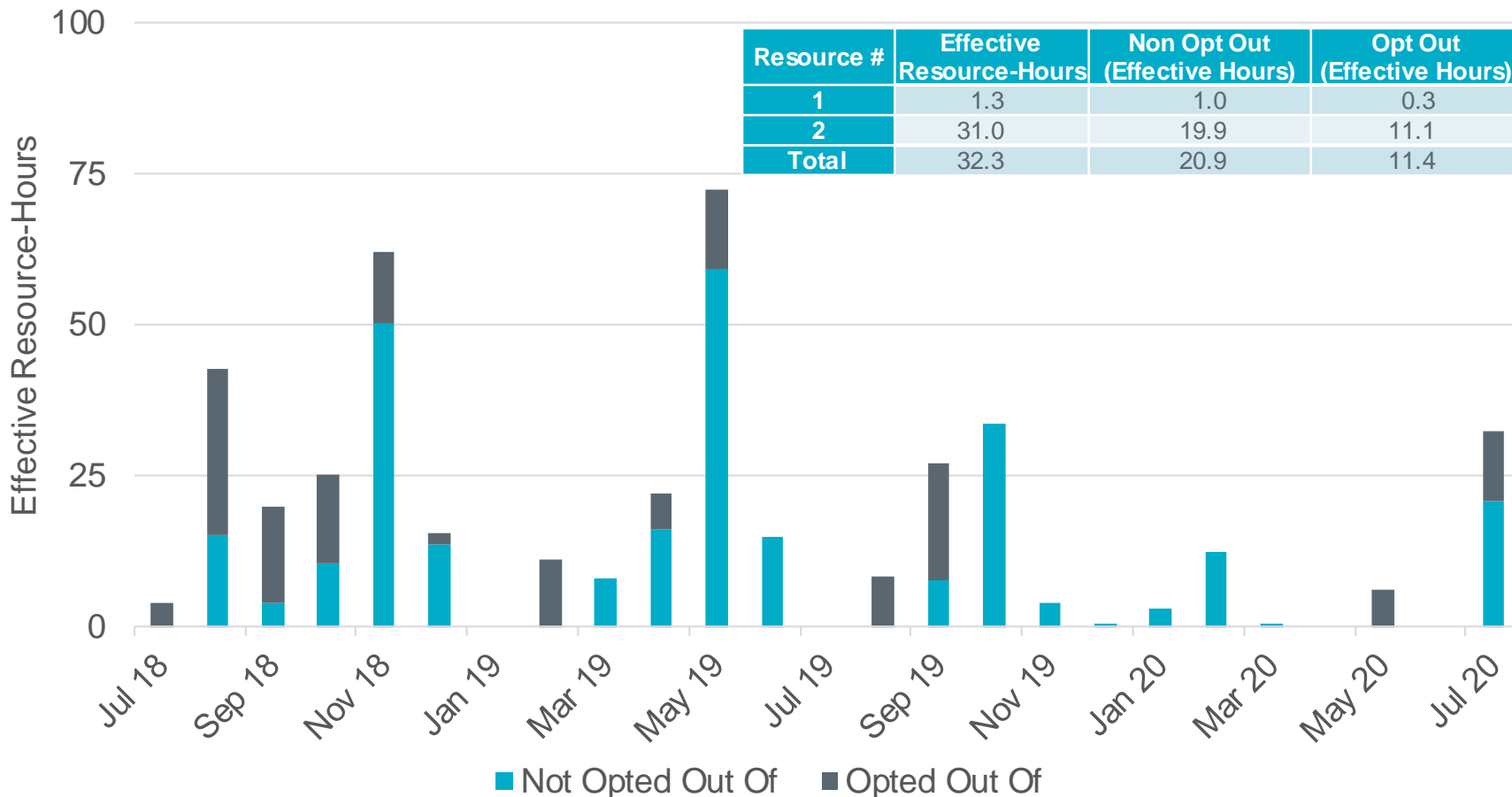
- COPs for IRRs are derived from wind and solar forecasts from ERCOT with any adjustments from Qualified Scheduling Entities.
- The installed capacity of approved Wind Units is 28,763 MW (as of July 31, 2020).
- The installed capacity of approved Solar Units is 3,950 MW (as of July 31, 2020).

Real-Time Congestion Rent by Zone



- The congestion rent in the South Zone increased primarily due to the constraint DNEDWED8: AZTECA_HEC1_1 driven by damage from Hurricane Hanna.
- 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.

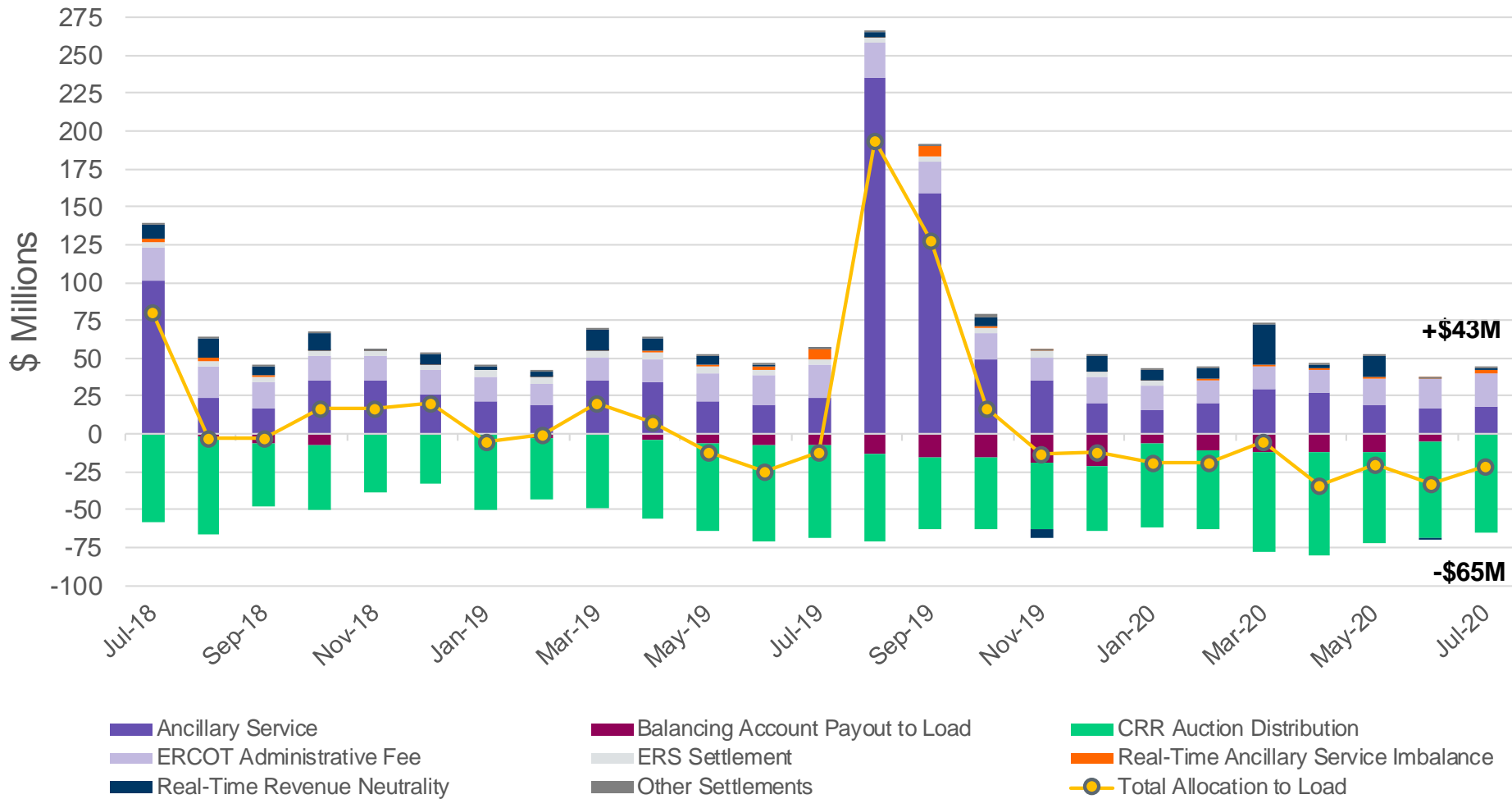
Two Resources were Committed in July for Congestion



“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.



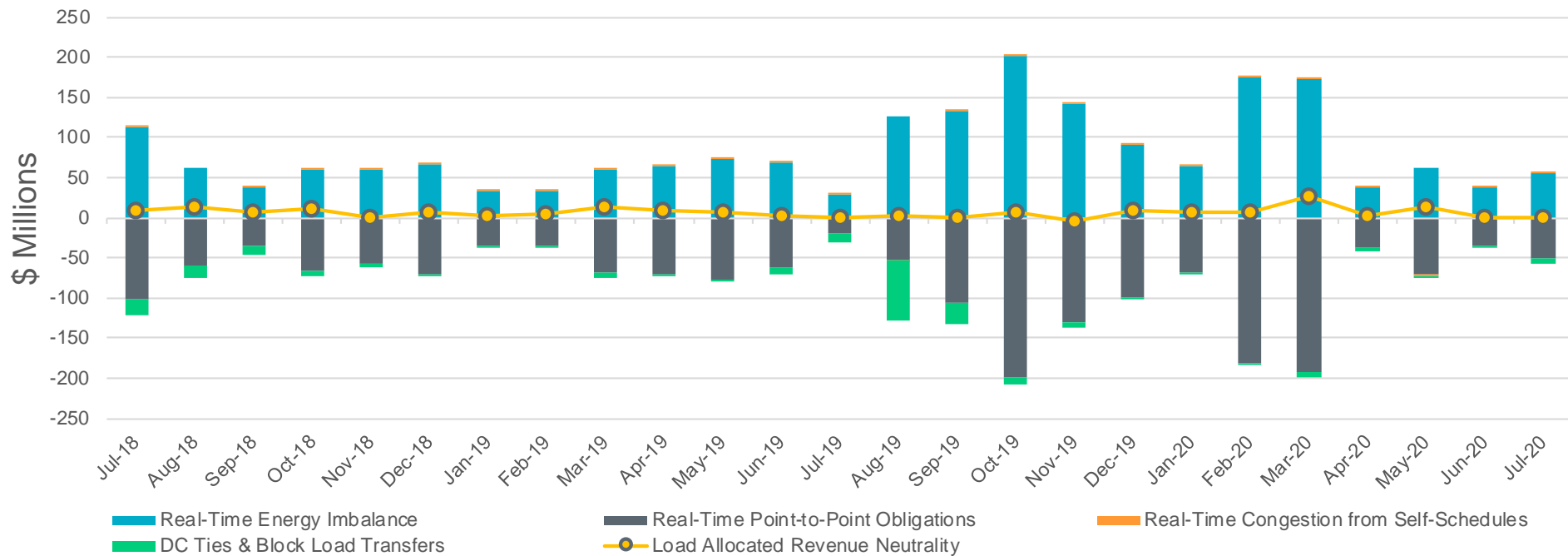
Net Allocation to Load in July 2020 was \$-21.8 Million



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



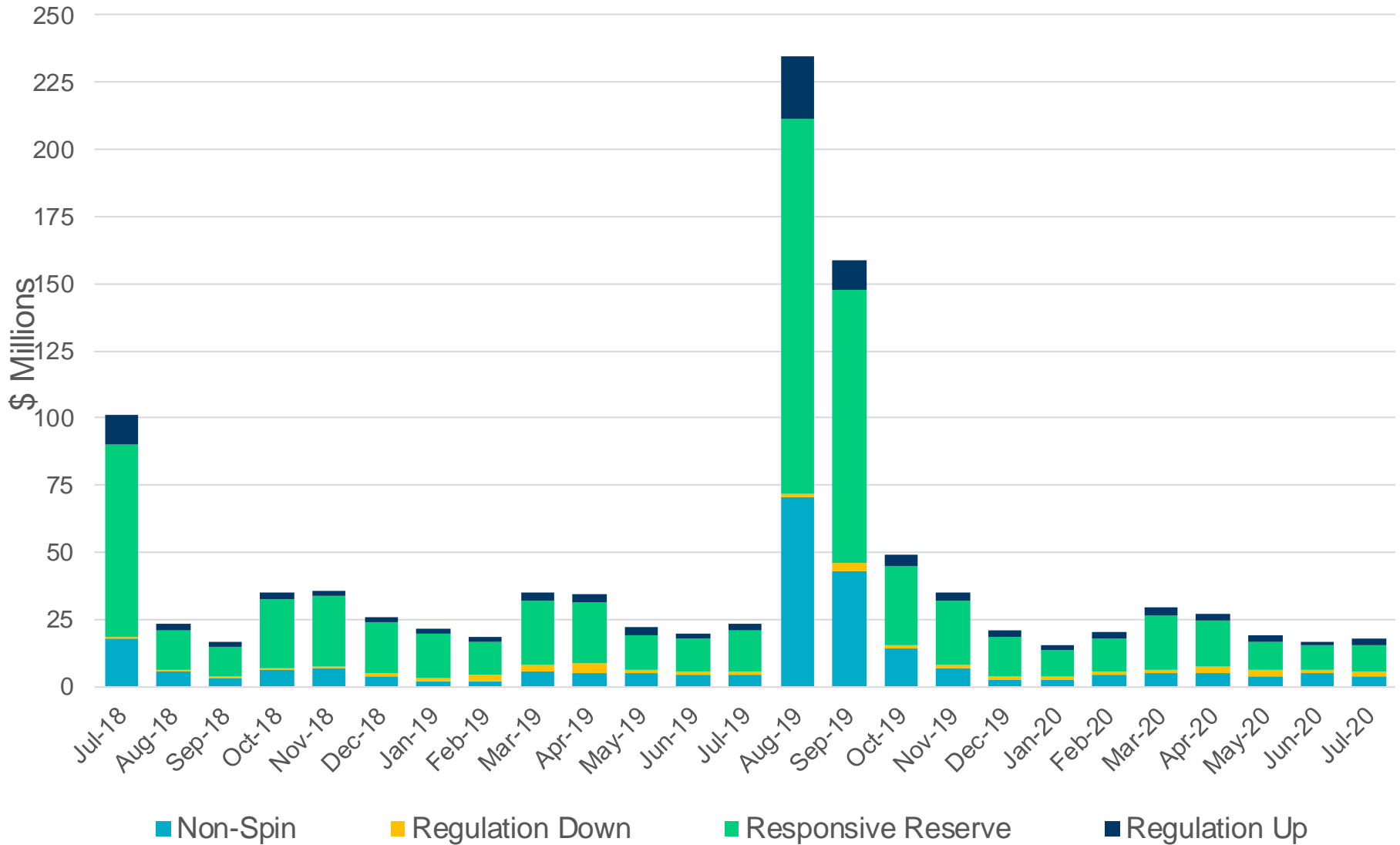
Real-Time Revenue Neutrality Allocated to Load was \$0.98M for July 2020



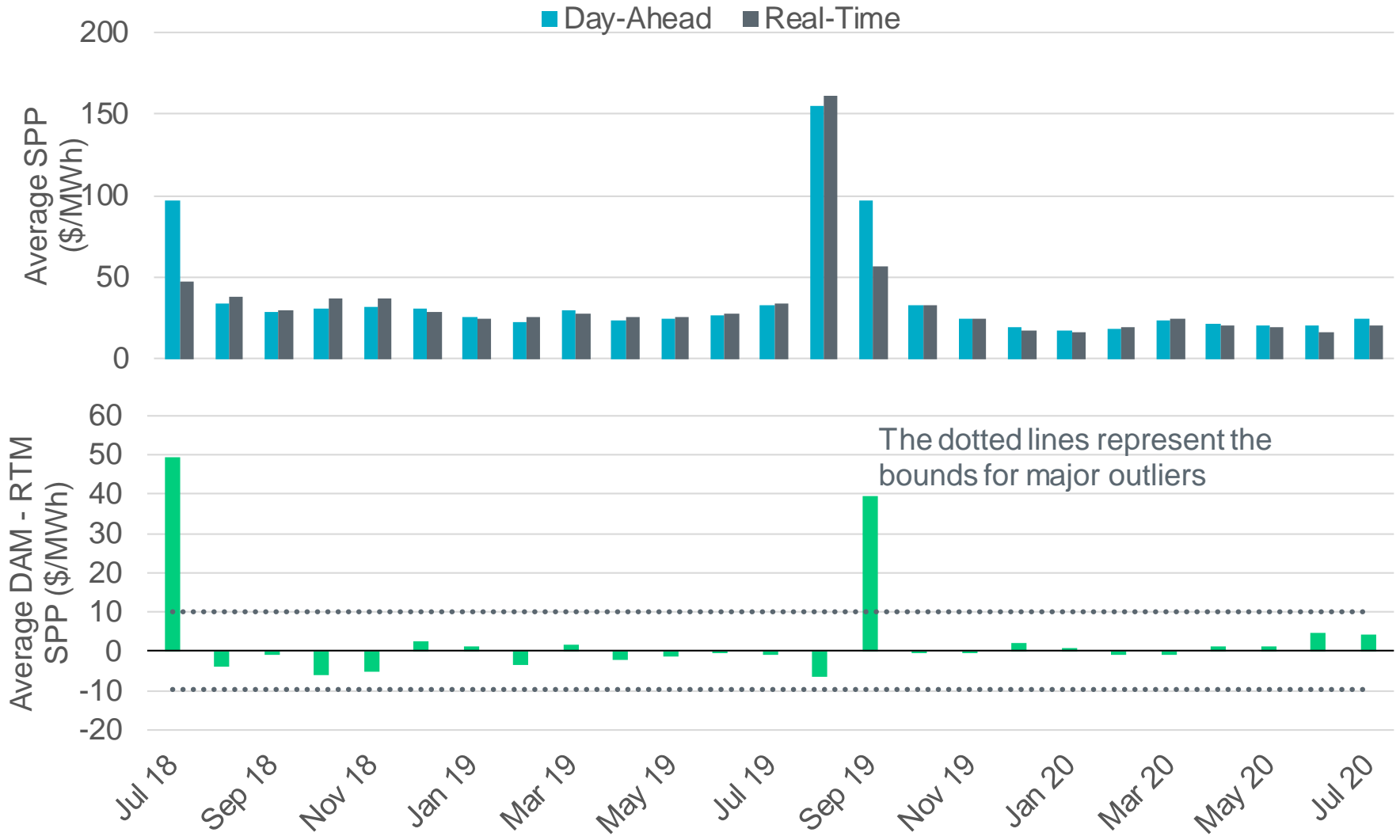
JULY 2020 (\$M)	
Real-Time Energy Imbalance	\$54.34
Real-Time Point-to-Point Obligation	(\$50.82)
Real-Time Congestion from Self-Schedules	\$1.09
DC Tie & Block Load Transfer	(\$5.59)
Load Allocated Revenue Neutrality	\$0.98



Ancillary Services for July 2020 totaled \$17.73M



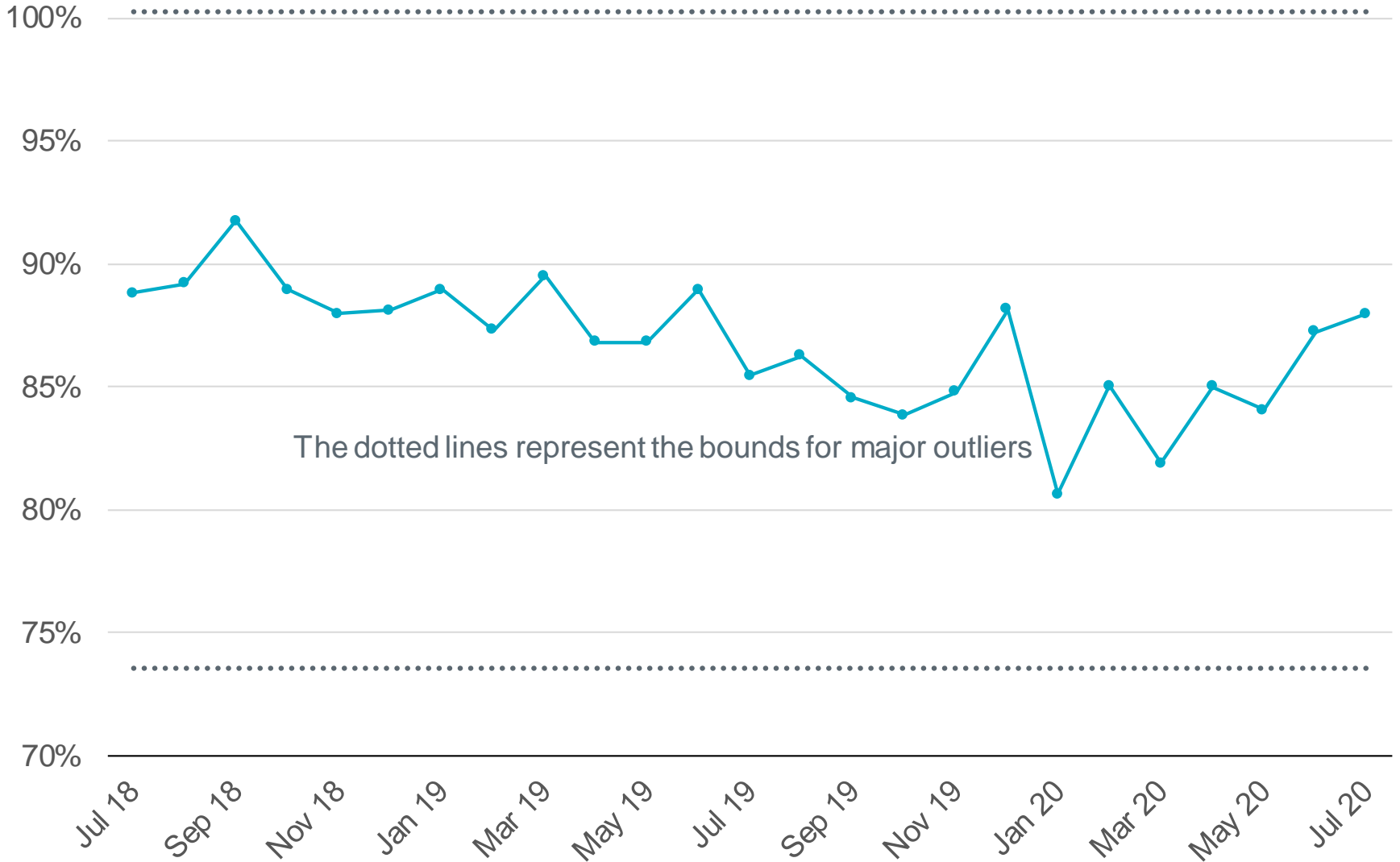
Day-Ahead and Real-Time Market Price Differences



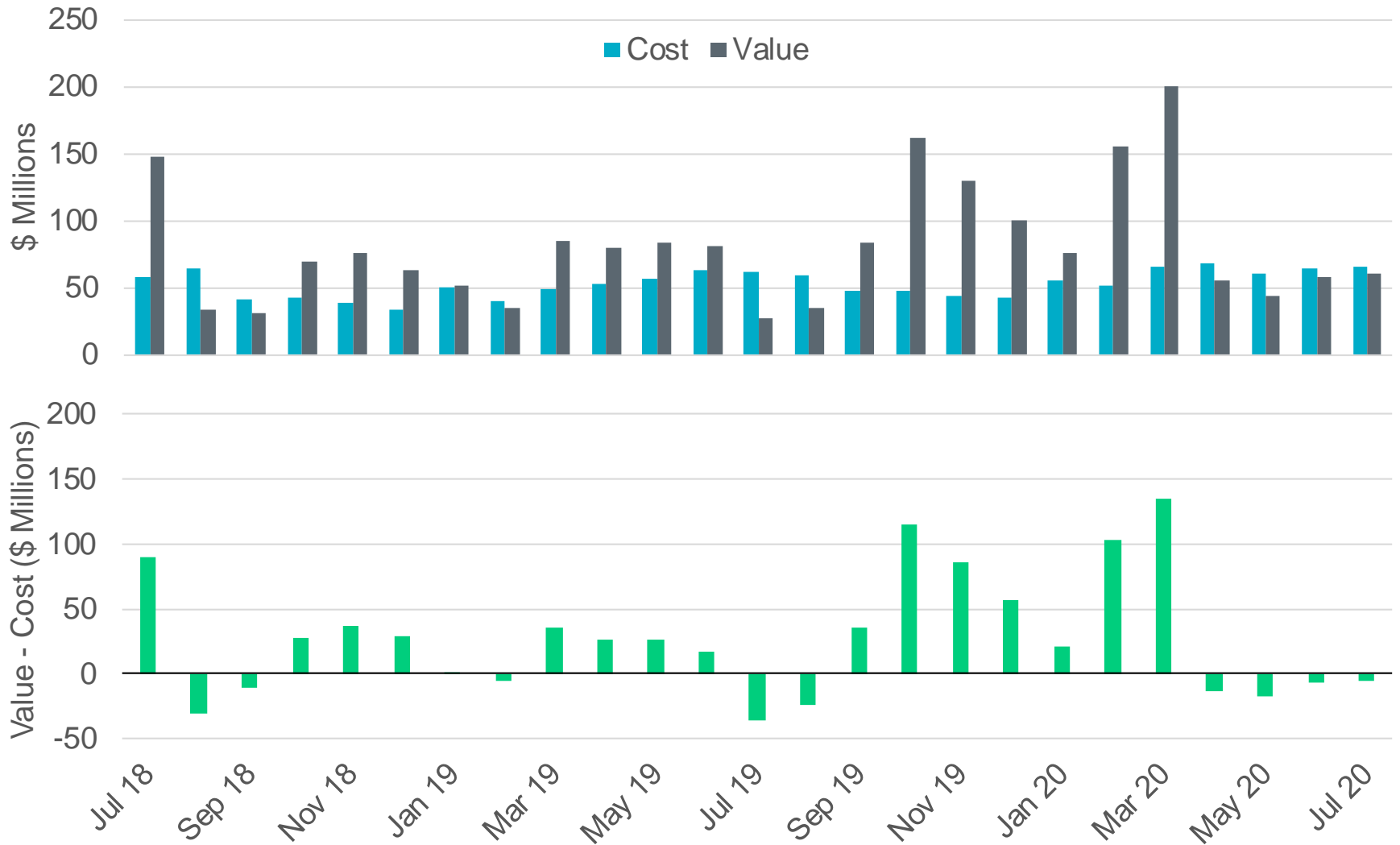
*Averages are weighted by Real-Time Market Load



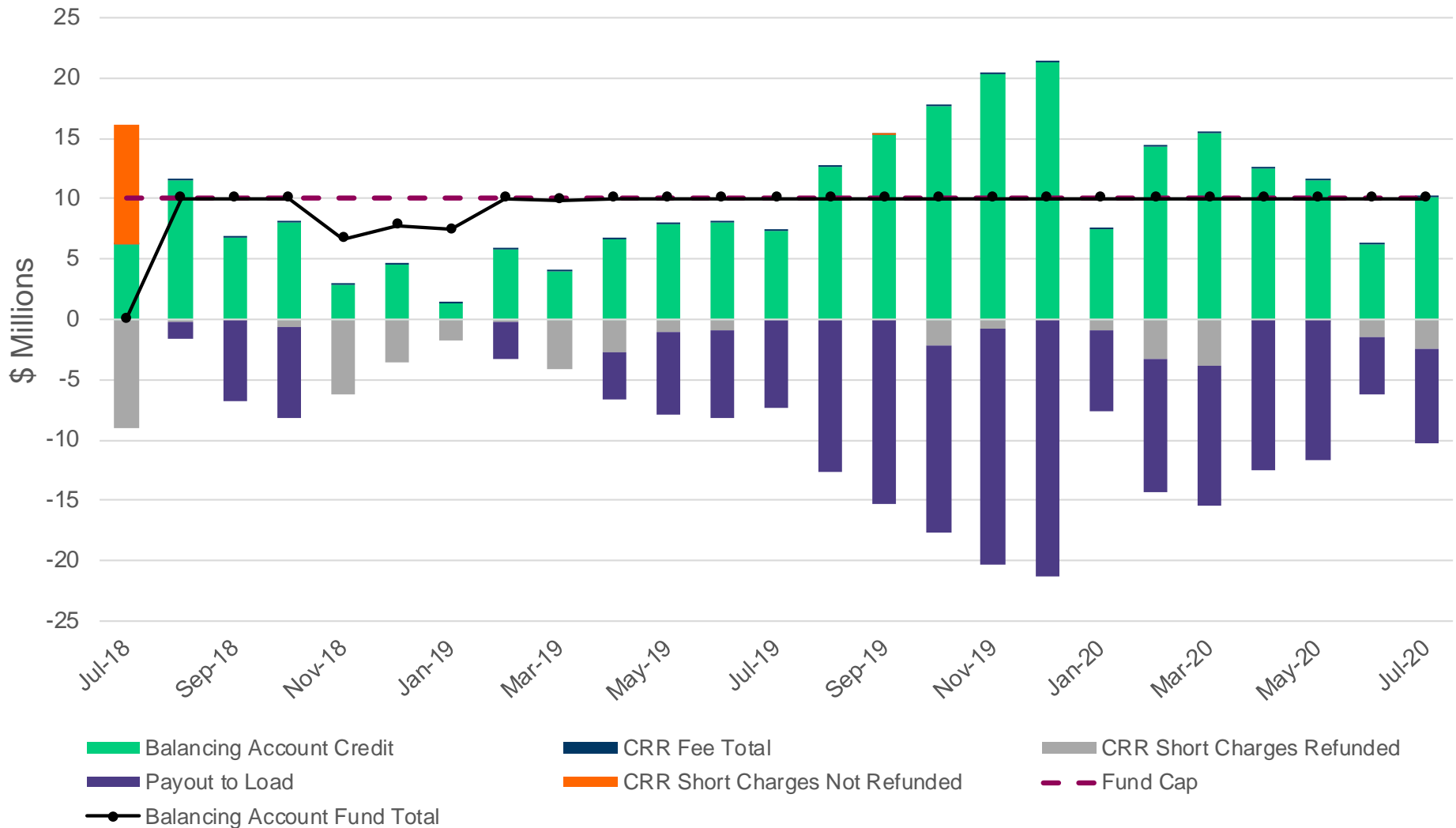
Percentage of Real-Time Load Transacted in the Day-Ahead Market



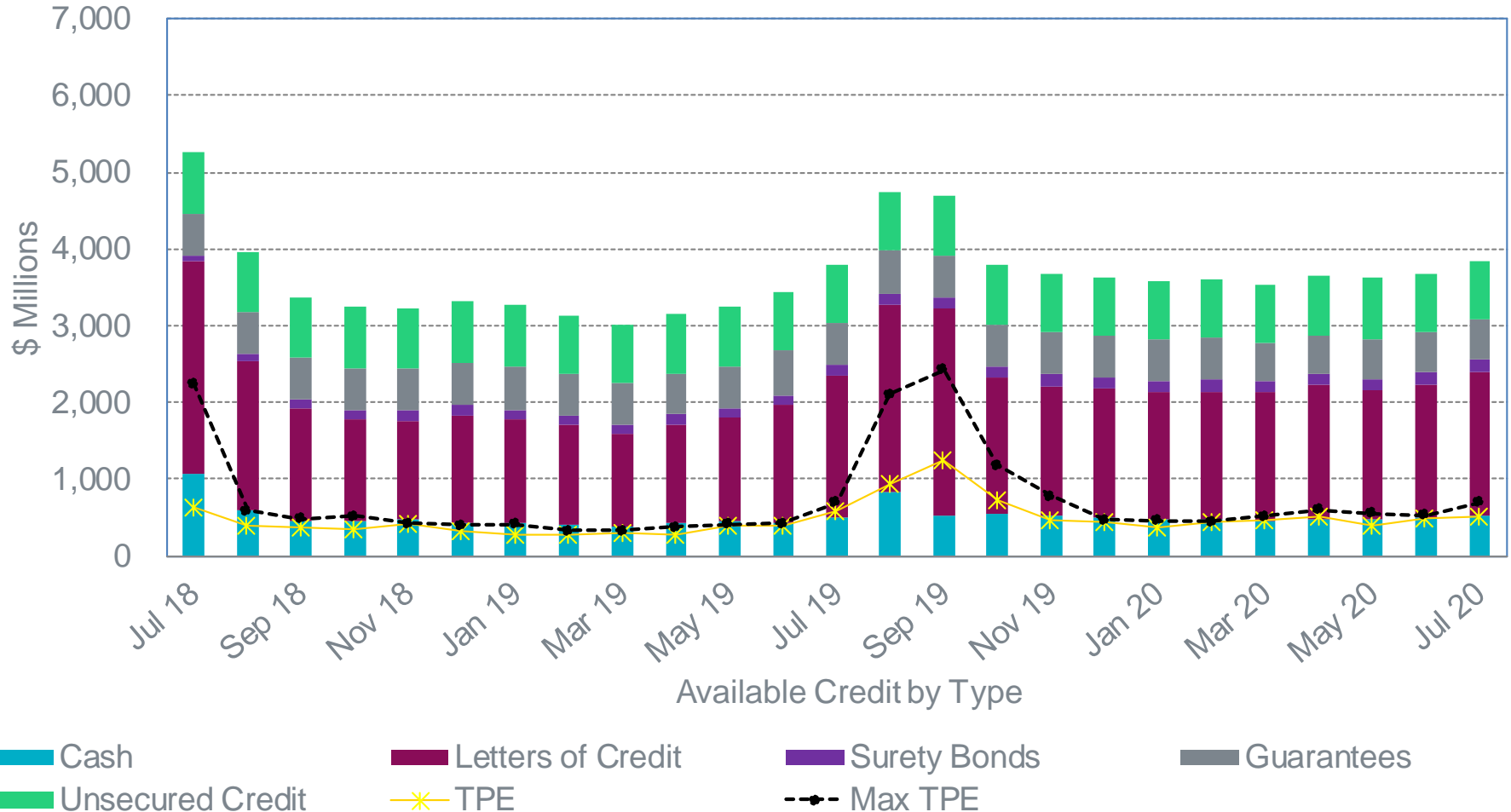
CRR Value and Cost Differences



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 – July 2020

	Year-To-Date		Transactions Received	
Transaction Type	July 2020	July 2019	July 2020	July 2019
Switches	680,423	829,467	109,354	142,418
Acquisition	0	0	0	0
Move - Ins	1,568,770	1,727,199	267,239	288,116
Move - Outs	766,989	806,891	128,444	138,341
Continuous Service Agreements (CSA)	315,556	664,196	35,142	47,781
Mass Transitions	0	0	0	0
Total	3,331,738	4,027,753	540,179	616,656