ERCOT Monthly Operational Overview
(May 2020)

ERCOT Public
June 17, 2020

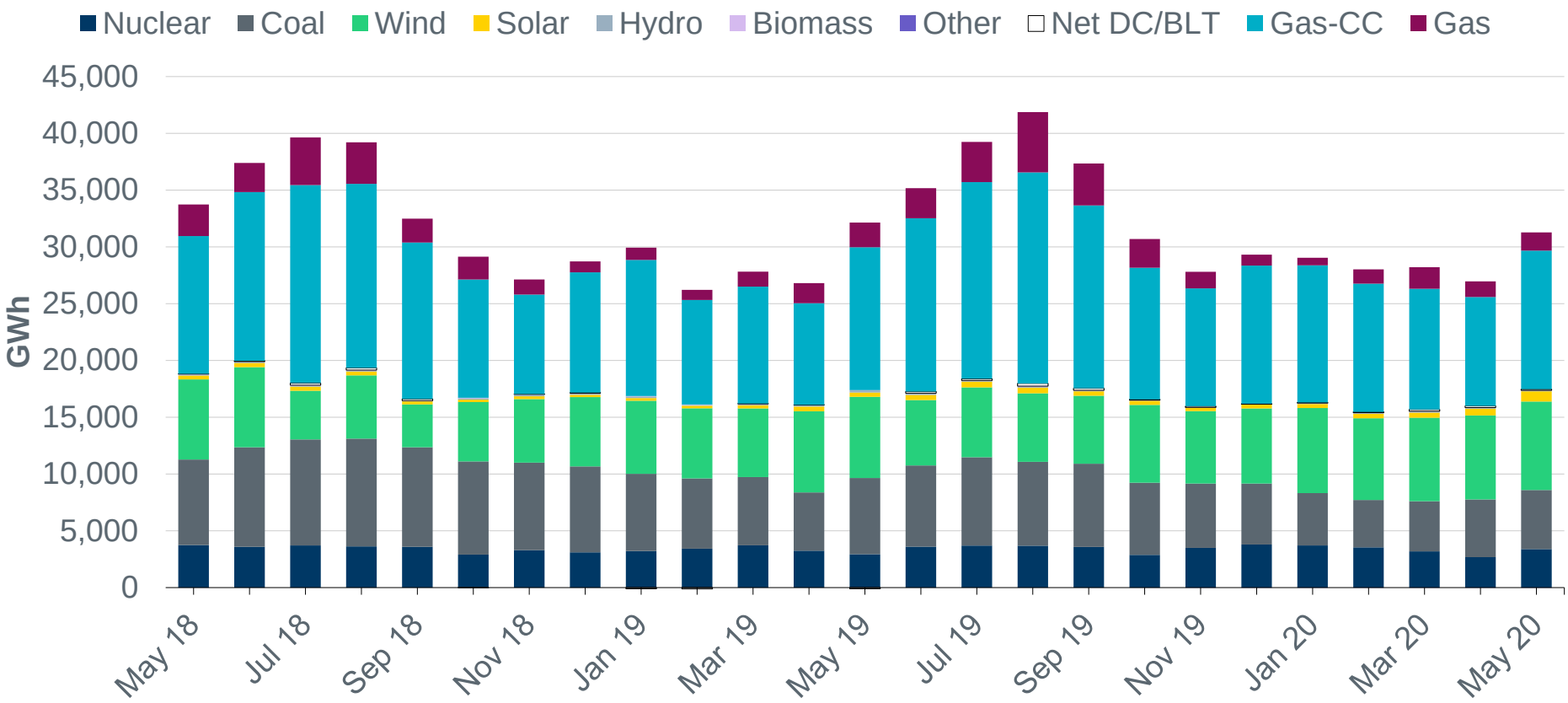
Monthly Highlights

- The maximum demand in May 2020 was 64,396 MW*, which was 3,564 MW more than the May 2019 demand of 60,832 MW.

- ERCOT issued 5 notifications:
  - 5 Advisories issued for delay in clearing DAM and posting DAM solution.

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

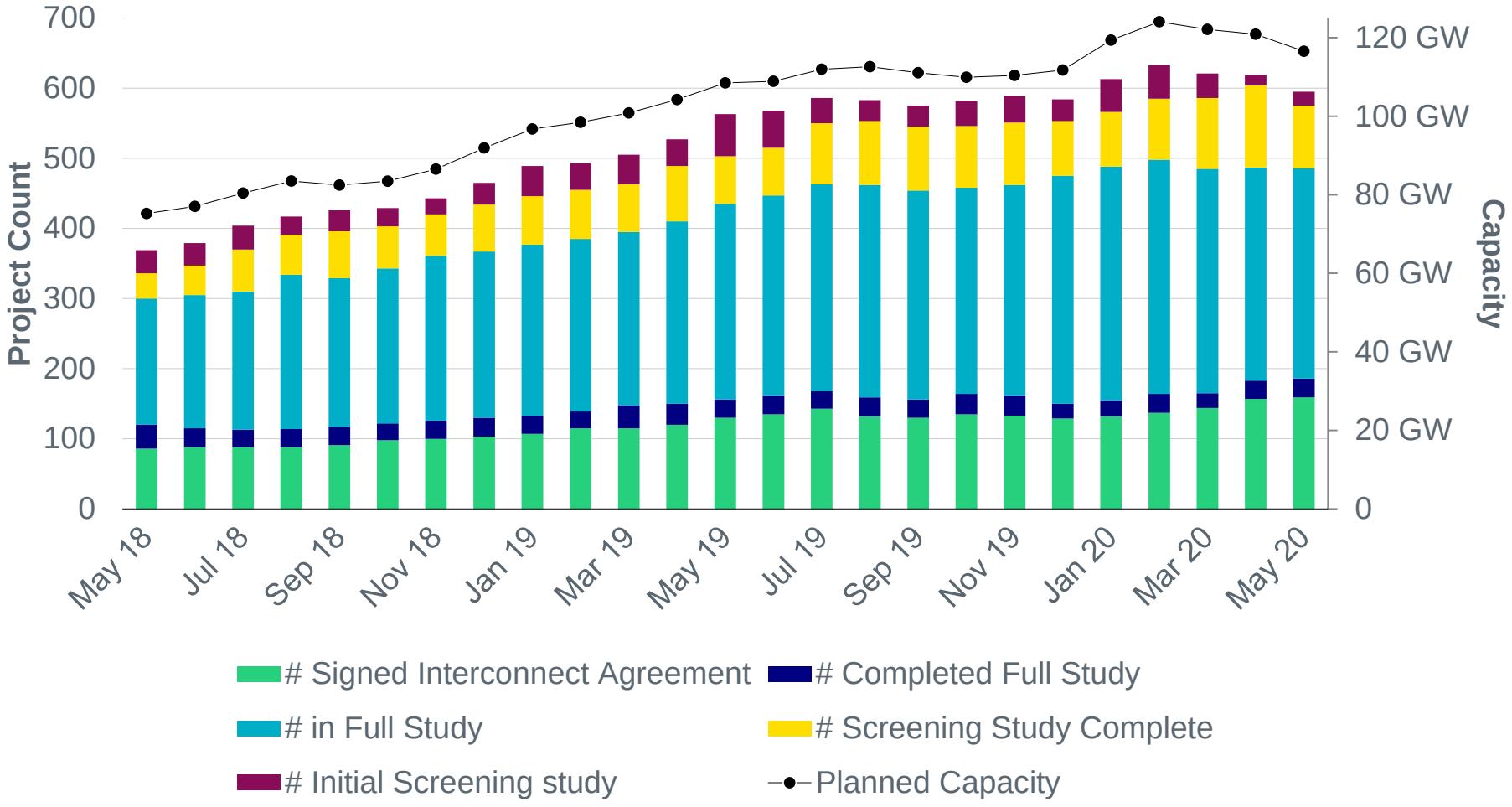
Monthly energy generation decreased by 2% year-over-year to 31,272 GWh in May 2020, compared to 32,042 GWh in May 2019



Data for latest two months are based on preliminary settlements.

Generation Interconnection activity by project phase

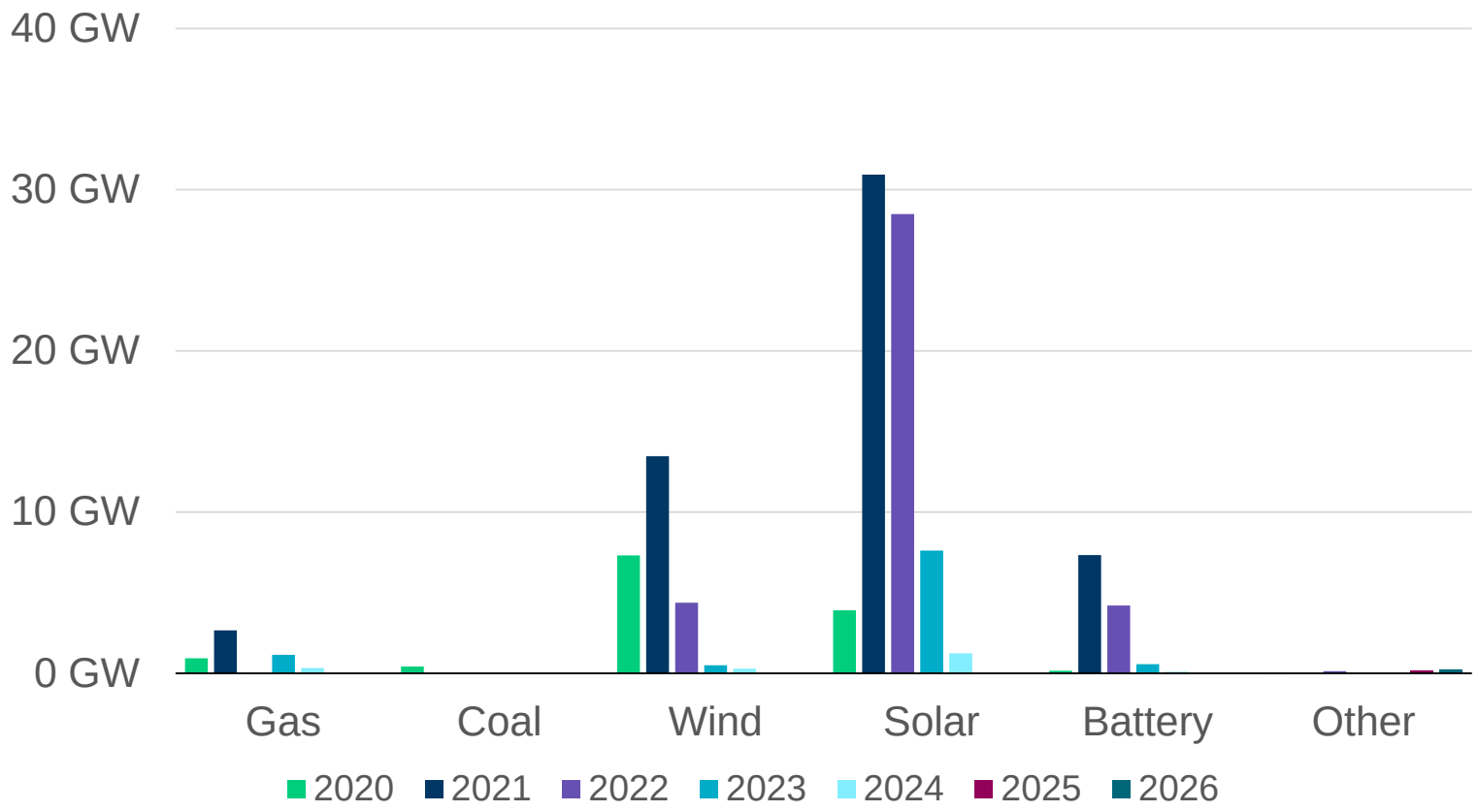
(excludes capacity associated with Projects designated as Inactive per Planning Guide Section 5.7.6)



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 72 GW (62%), Wind 26 GW (22%), Gas 5 GW (4%), Battery 12 GW (11%), Coal 0.4 GW (0.4%)
(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 595 active generation interconnection requests totaling 116,528 MW. This includes 72,191 MW of solar, 25,958 MW of wind, and 12,381 MW of battery projects as of May 2020.

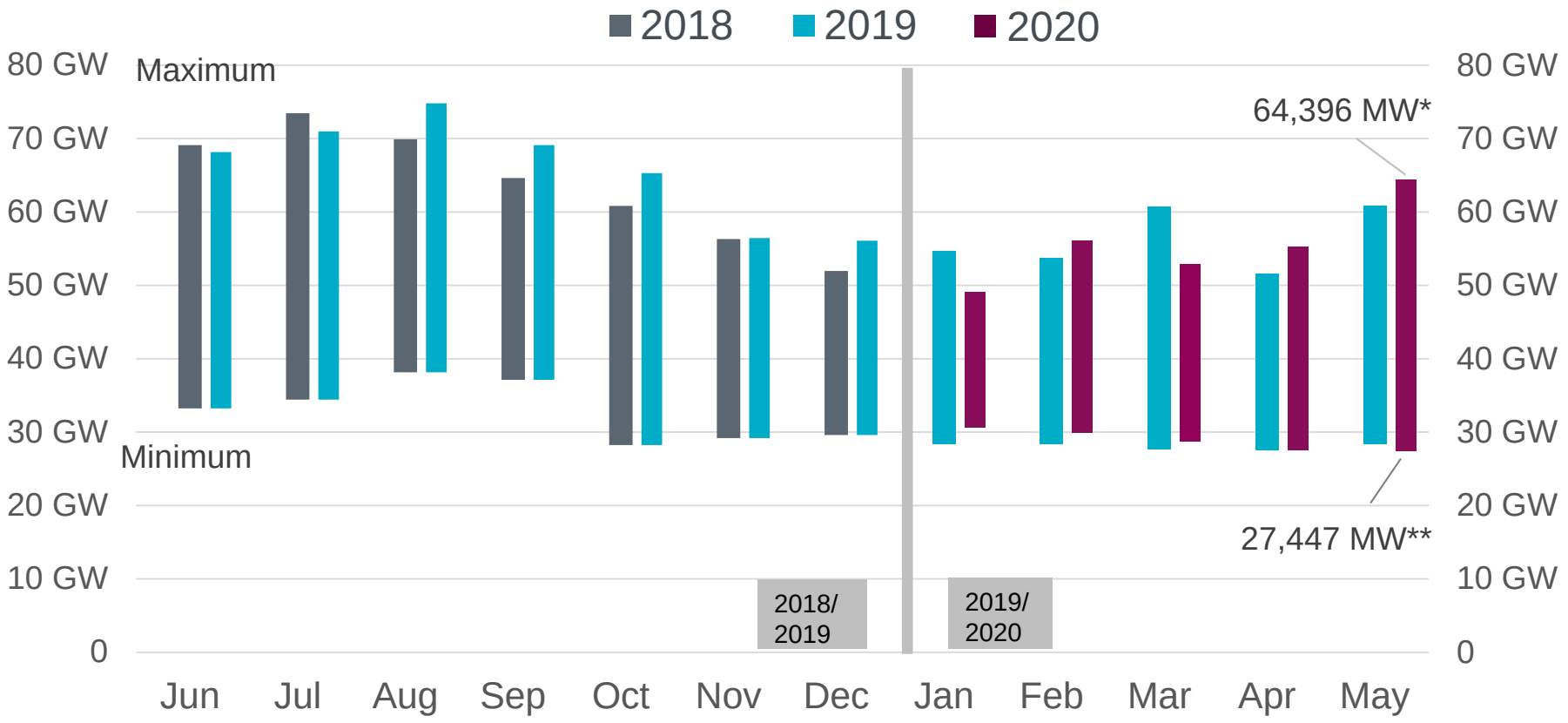
- ERCOT is currently reviewing proposed transmission improvements with a total estimated cost of $1,314.67 Million as of May 31, 2020.

- Transmission Projects endorsed in 2020 total $319.10 Million as of May 31, 2020.

- All projects (in engineering, routing, licensing and construction) total approximately $7.45 Billion as of February 1, 2020.

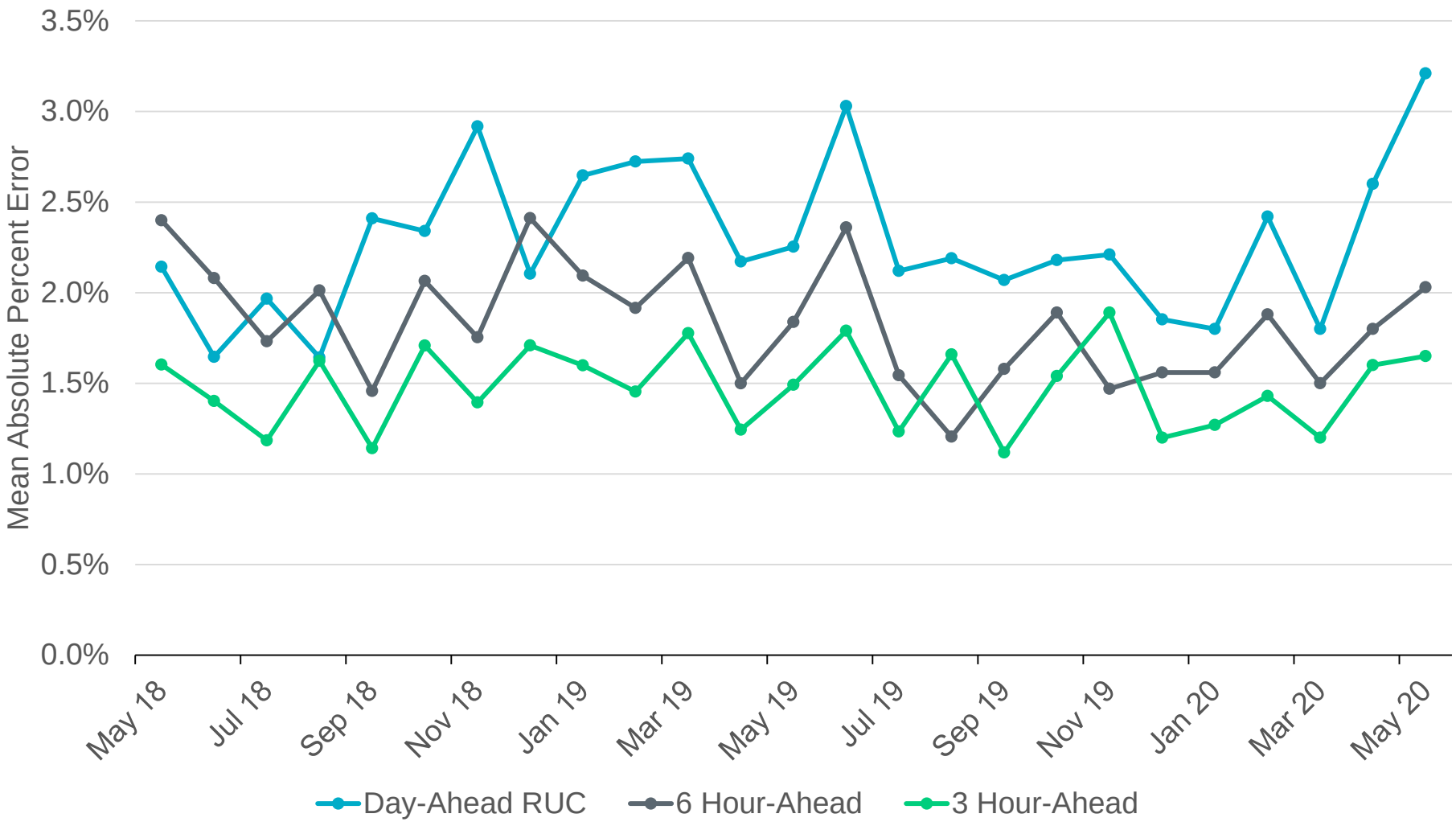
- Transmission Projects energized in 2020 total about $122 Million as of February 1, 2020.

ERCOT set a maximum peak demand of 64,396 MW* in May 2020, which is 3,564 MW more than the May 2019 demand of 60,832 MW



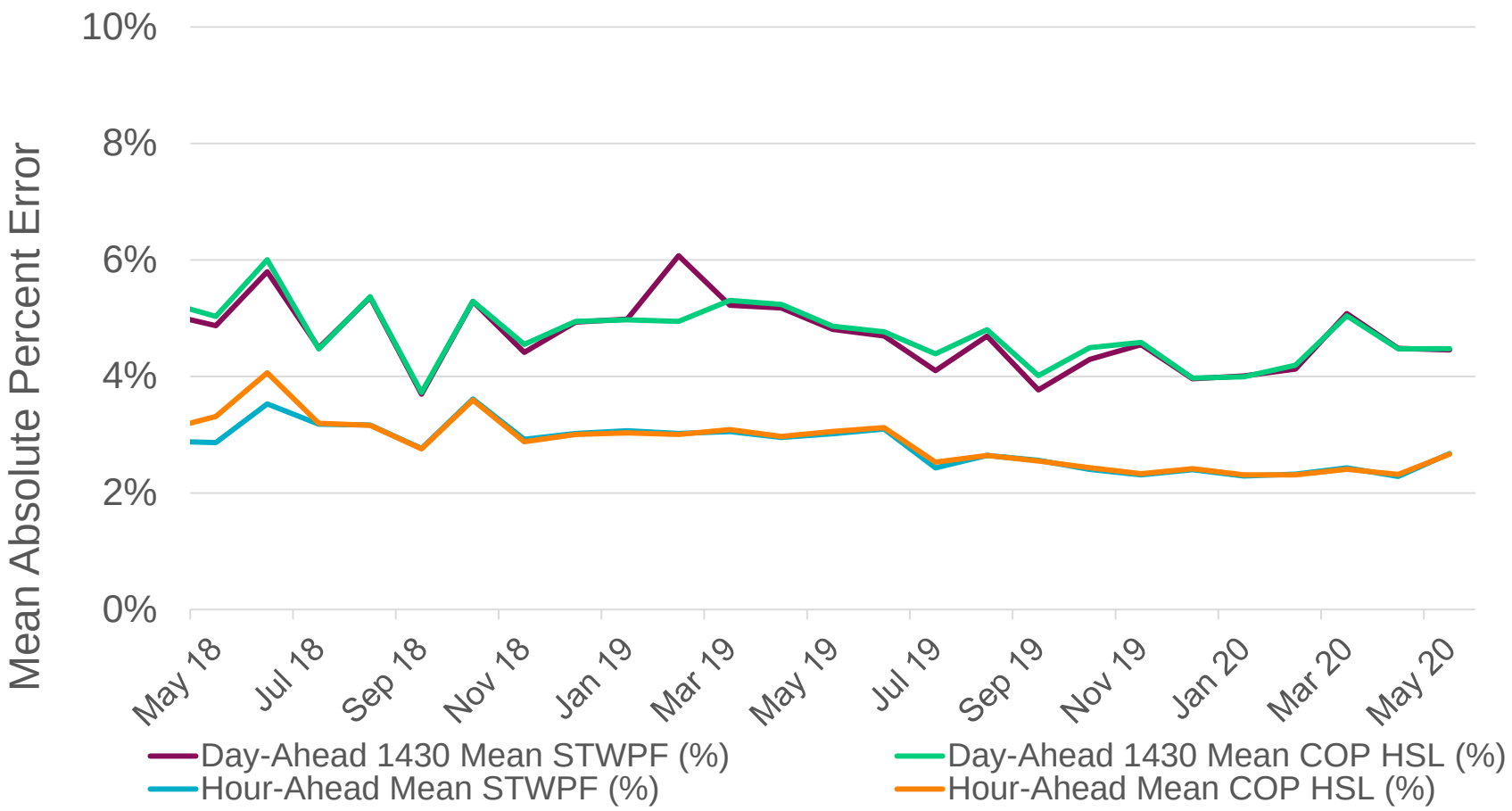
*Based on the maximum net system hourly value from June release of Demand and Energy 2020 report.
**Based on the minimum net system 15-minute interval value from June release of Demand and Energy 2020 report.
Data for latest two months are based on preliminary settlements.

Mid-Term Load Forecast Performance



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

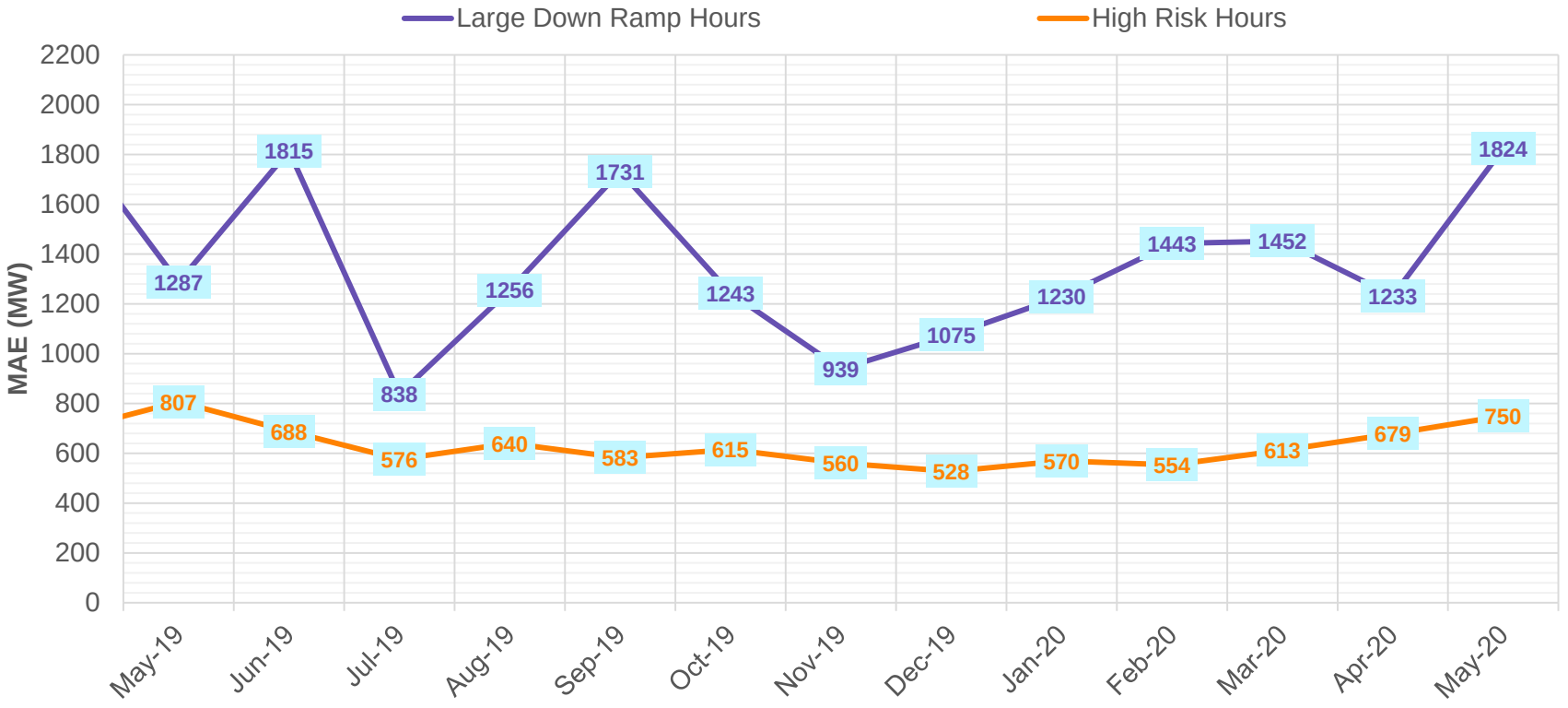
Wind Forecast Performance



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

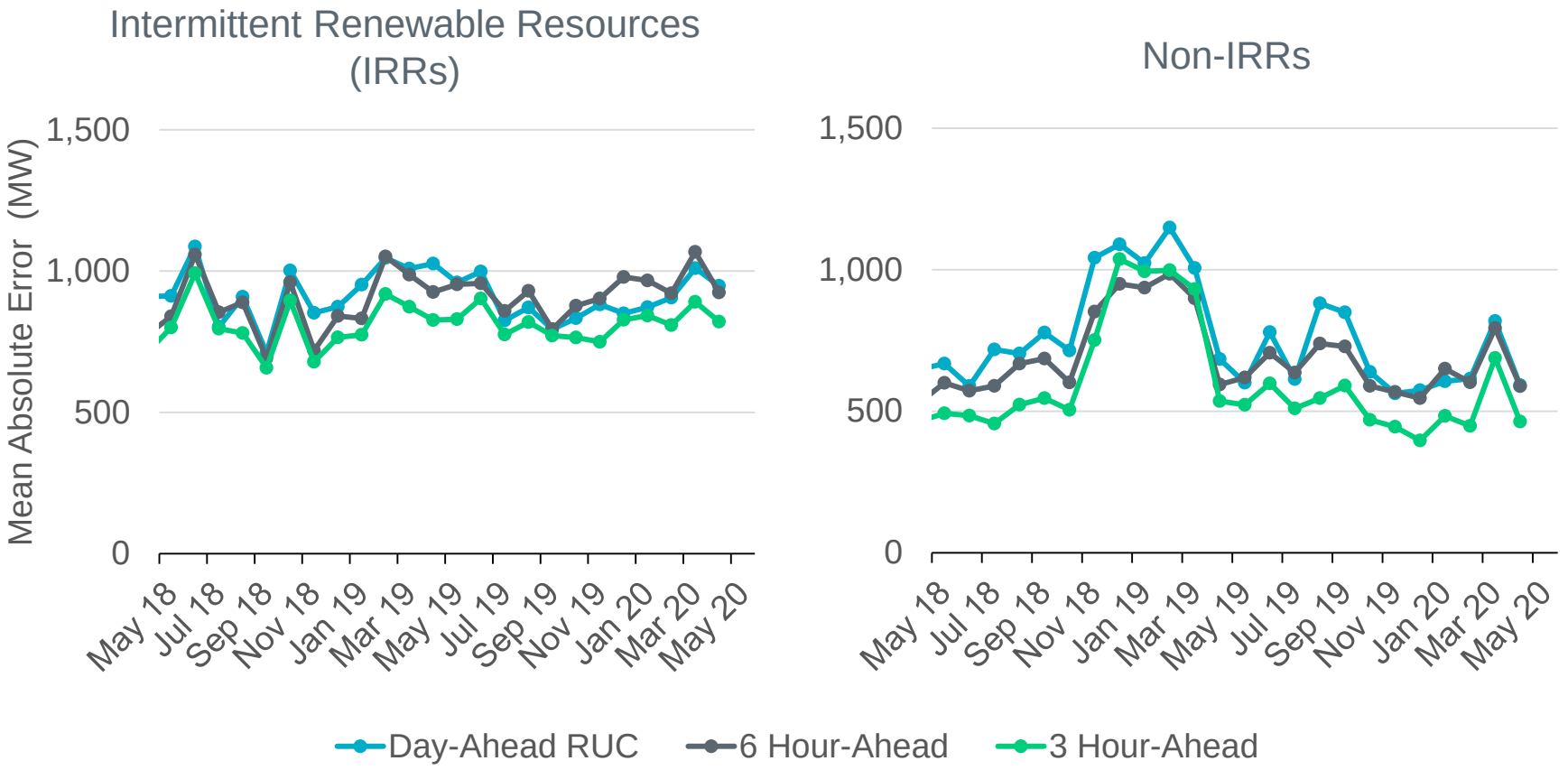
Hour-Ahead Mean Absolute Error (MAE) During Large Down Ramp (> 2000 MW) and High Risk Hours*



**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.*

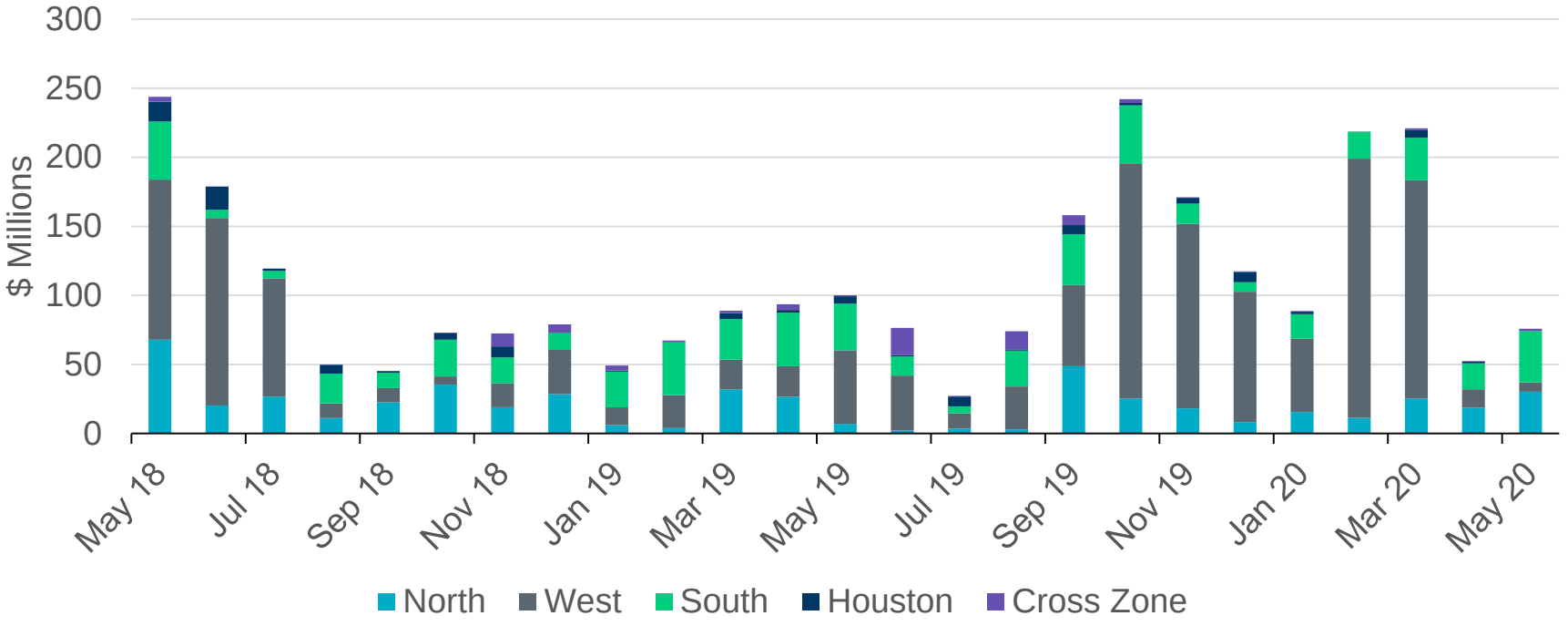
Forecast performance during large down ramp (wind ramp > 2000 MW) hours and high risk hours (historic risk of load ramping up and wind ramping down is high) is focused upon. Note that for the purposes of forecast performance measurement every hour in a month is classified as either a large down ramp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



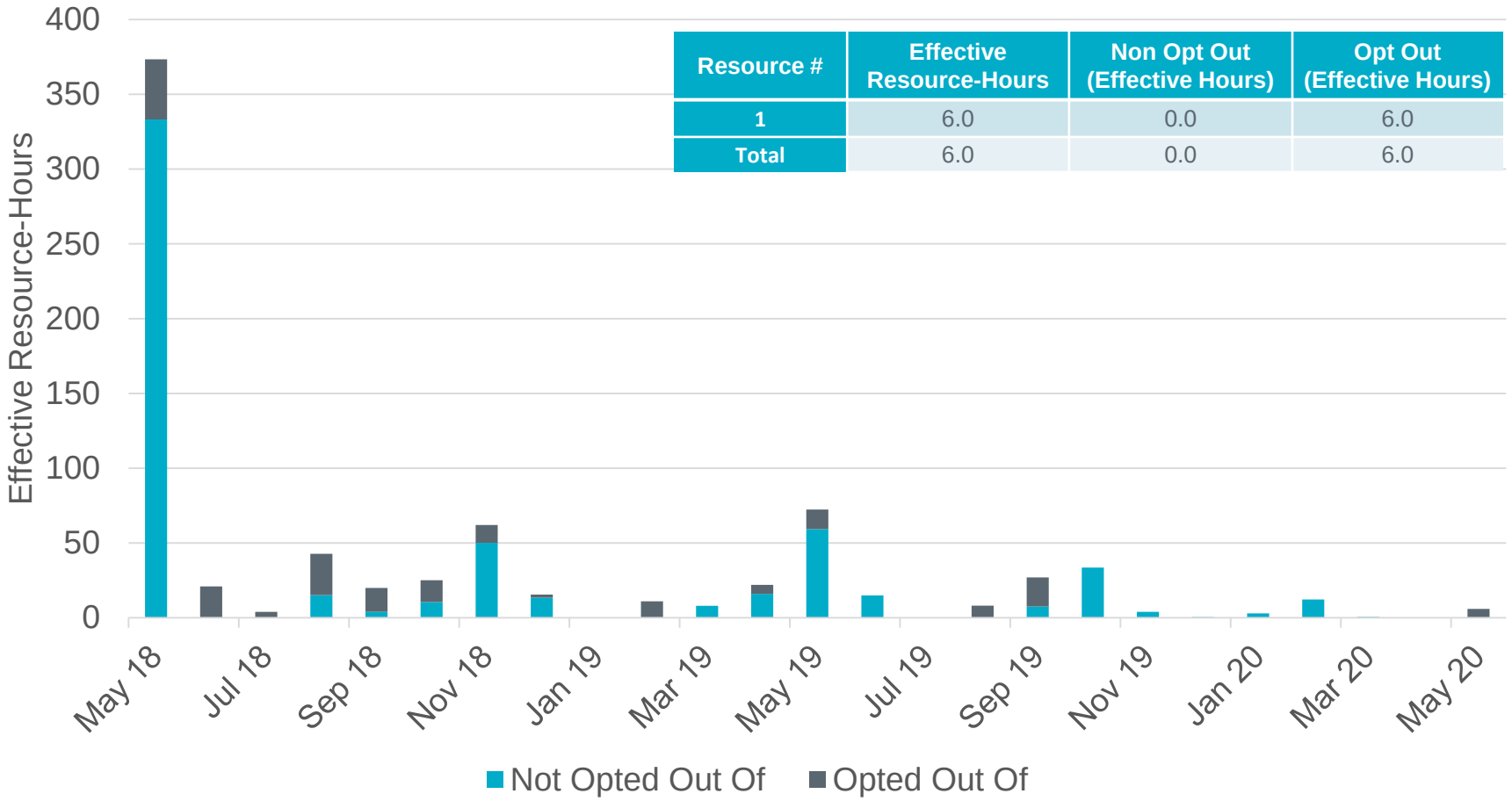
- COPs for IRRs are derived from wind and solar forecasts from ERCOT with any adjustments from Qualified Scheduling Entities.
- The installed capacity of approved Wind Units is 27,973 MW (as of May 31, 2020).
- The installed capacity of approved Solar Units is 3,800 MW (as of May 31, 2020).

Real-Time Congestion Rent by Zone



- The most significant constraints in May include DJEWSNG5: JK_TOKSW_1 and DHCKSAG8: 6265__A in the North Zone and DCC3_NED: NEDIN_138H and XNED258: NEDIN_138H 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.

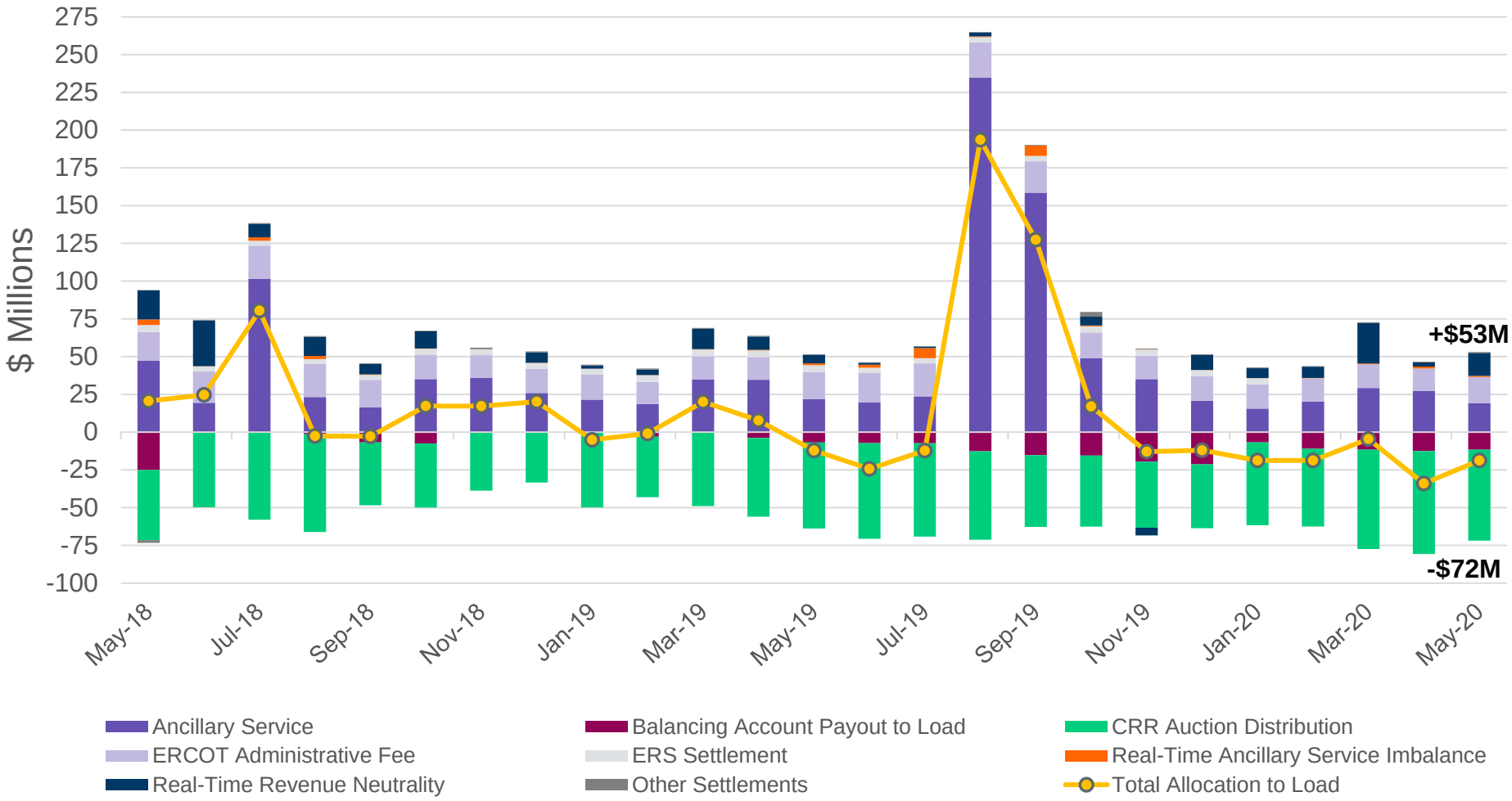
One Resource was Committed in May for Congestion



Resource #	Effective Resource-Hours	Non Opt Out (Effective Hours)	Opt Out (Effective Hours)
1	6.0	0.0	6.0
Total	6.0	0.0	6.0

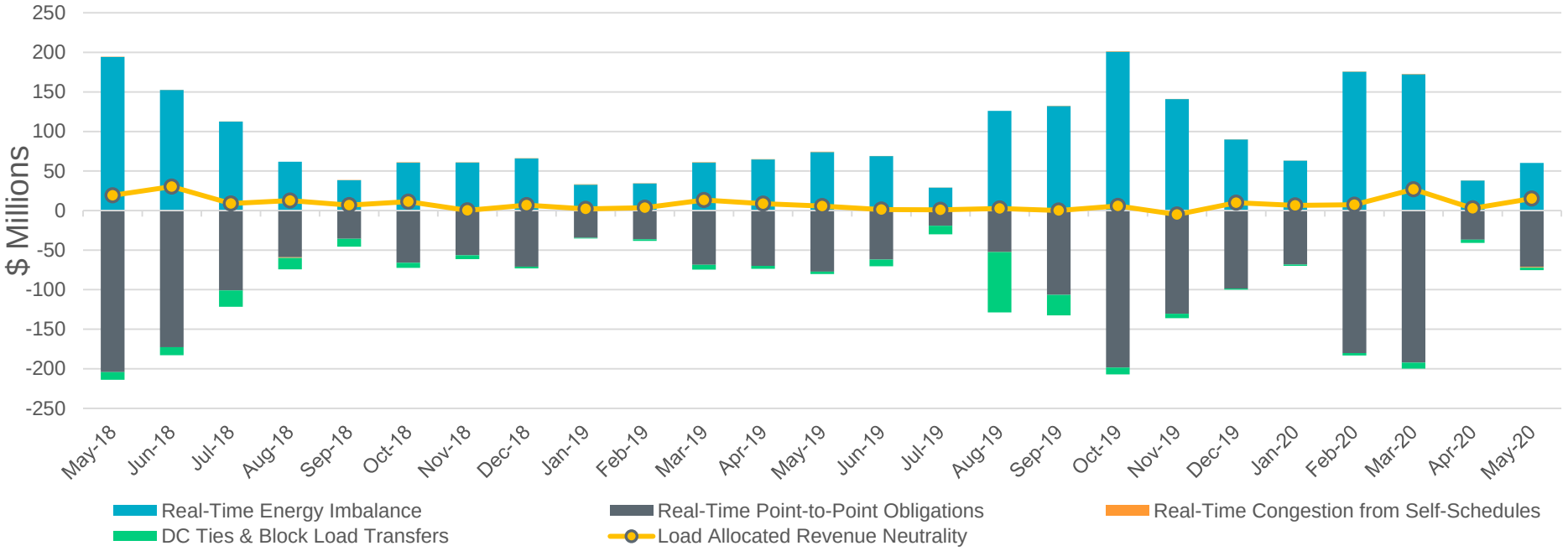
"Effective Resource-hours" excludes any period during a Reliability Unit Commitment hour when the RUC-committed Resource was starting up, shutting down, off-line, or otherwise not available for dispatch by SCED.

Net Allocation to Load in May 2020 was $-18.8 Million



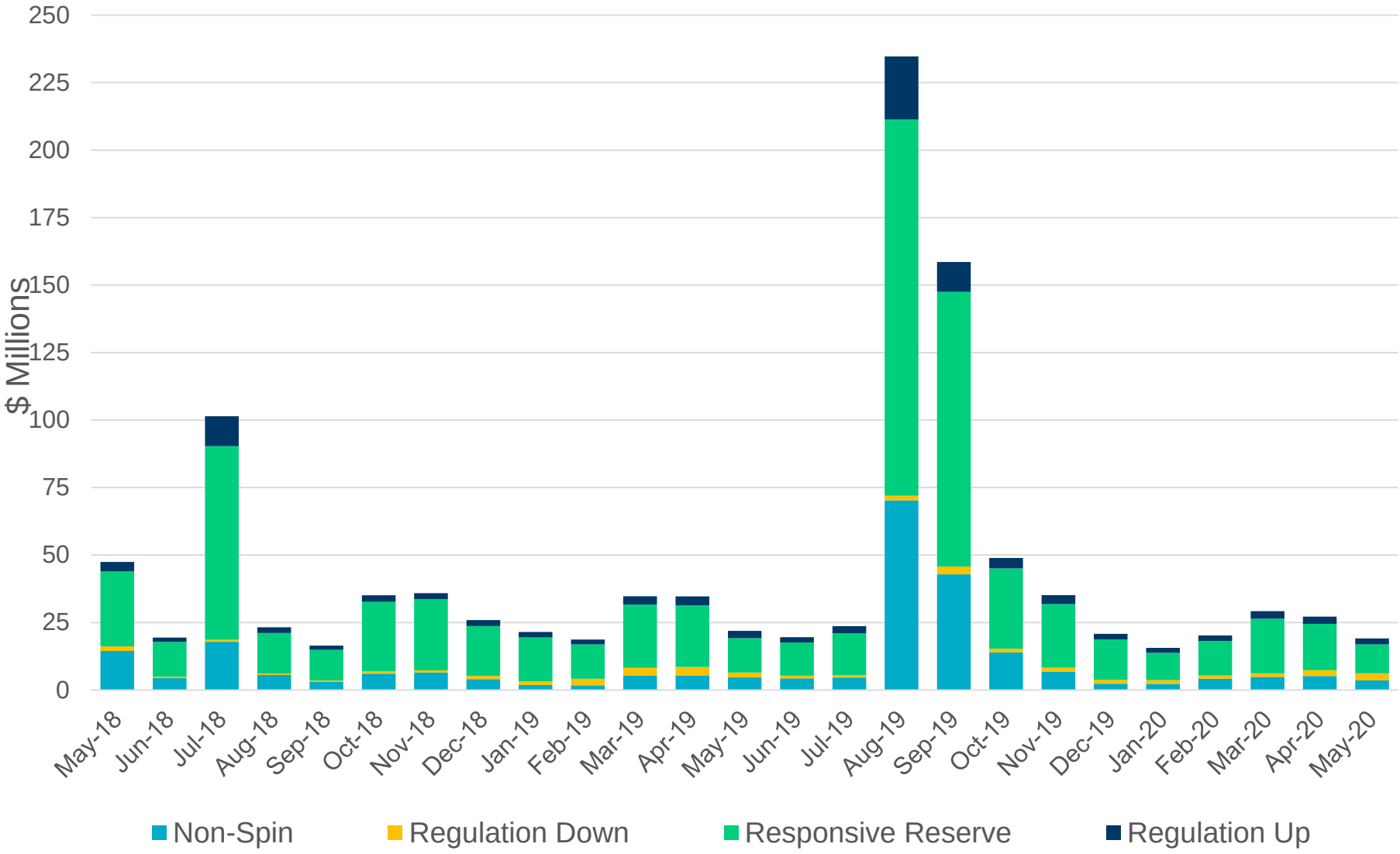
This information is available in tabular form in the Settlement Stability Report presented quarterly to the Wholesale Market Subcommittee

Real-Time Revenue Neutrality Allocated to Load was $15.15M for May 2020

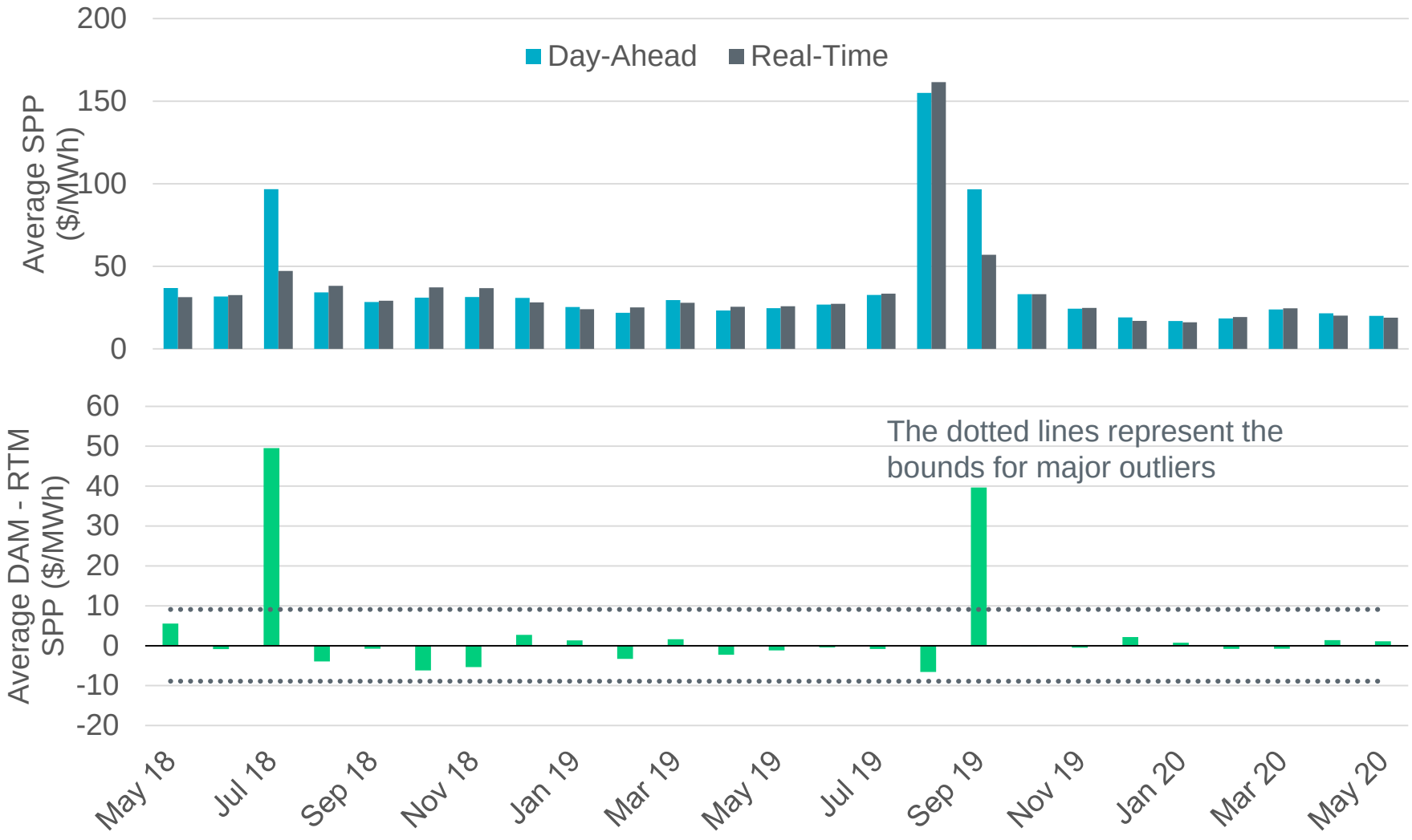


	May 2020 ($M)
Real-Time Energy Imbalance	$60.25
Real-Time Point-to-Point Obligation	($71.17)
Real-Time Congestion from Self-Schedules	($0.88)
DC Tie & Block Load Transfer	($3.35)
Load Allocated Revenue Neutrality	**$15.15**

Ancillary Services for May 2020 totaled $19.09M

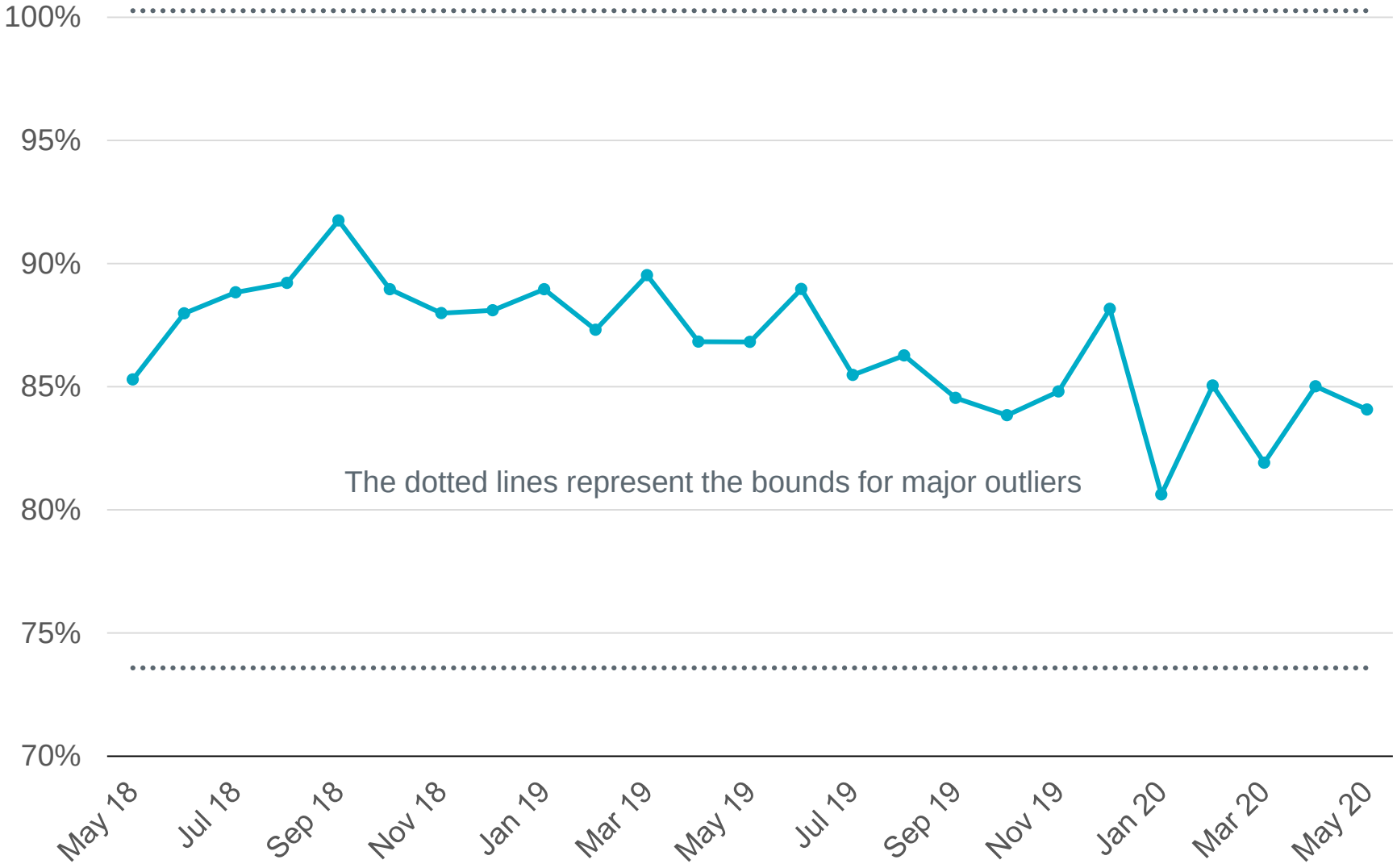


Day-Ahead and Real-Time Market Price Differences

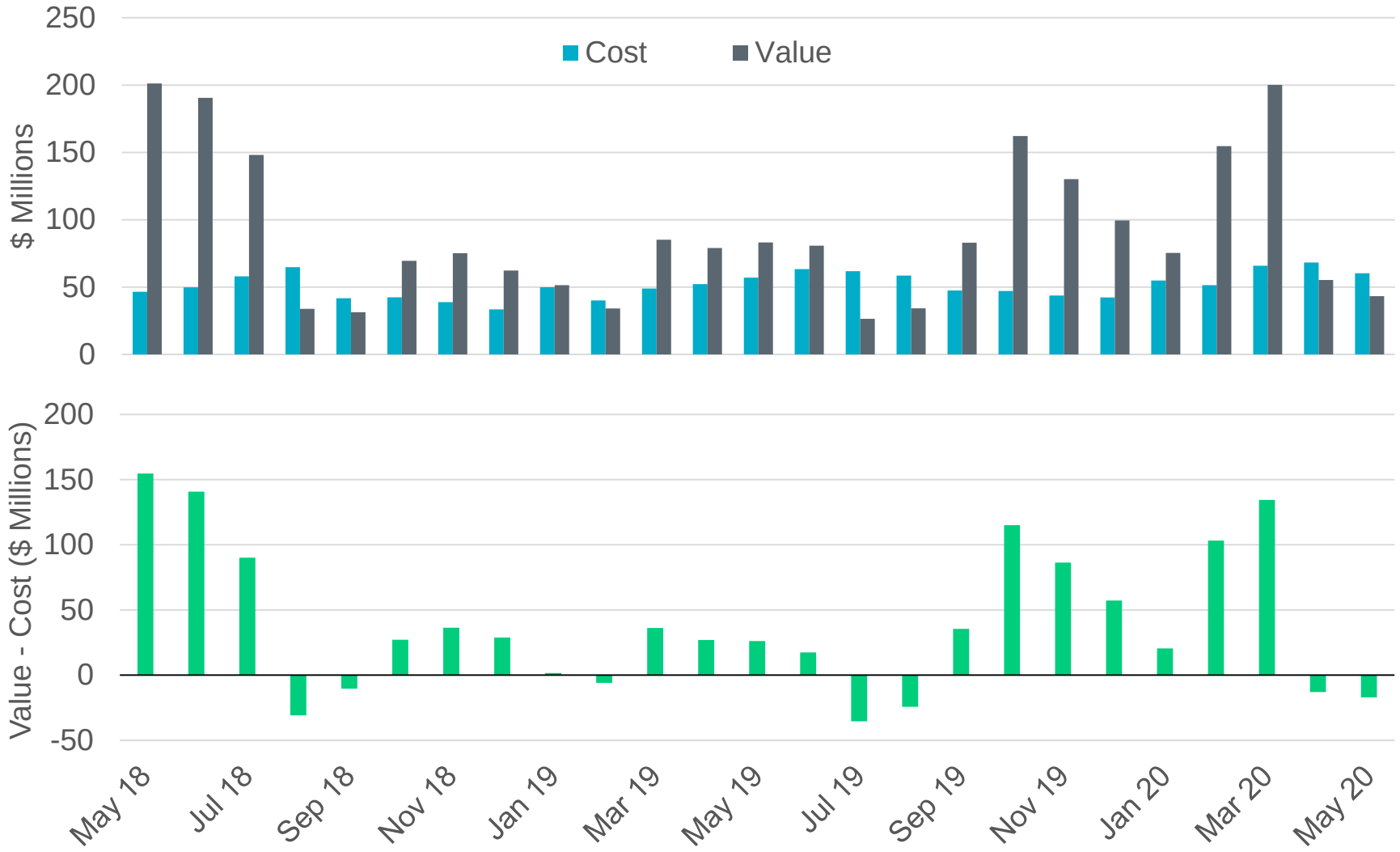


*Averages are weighted by Real-Time Market Load

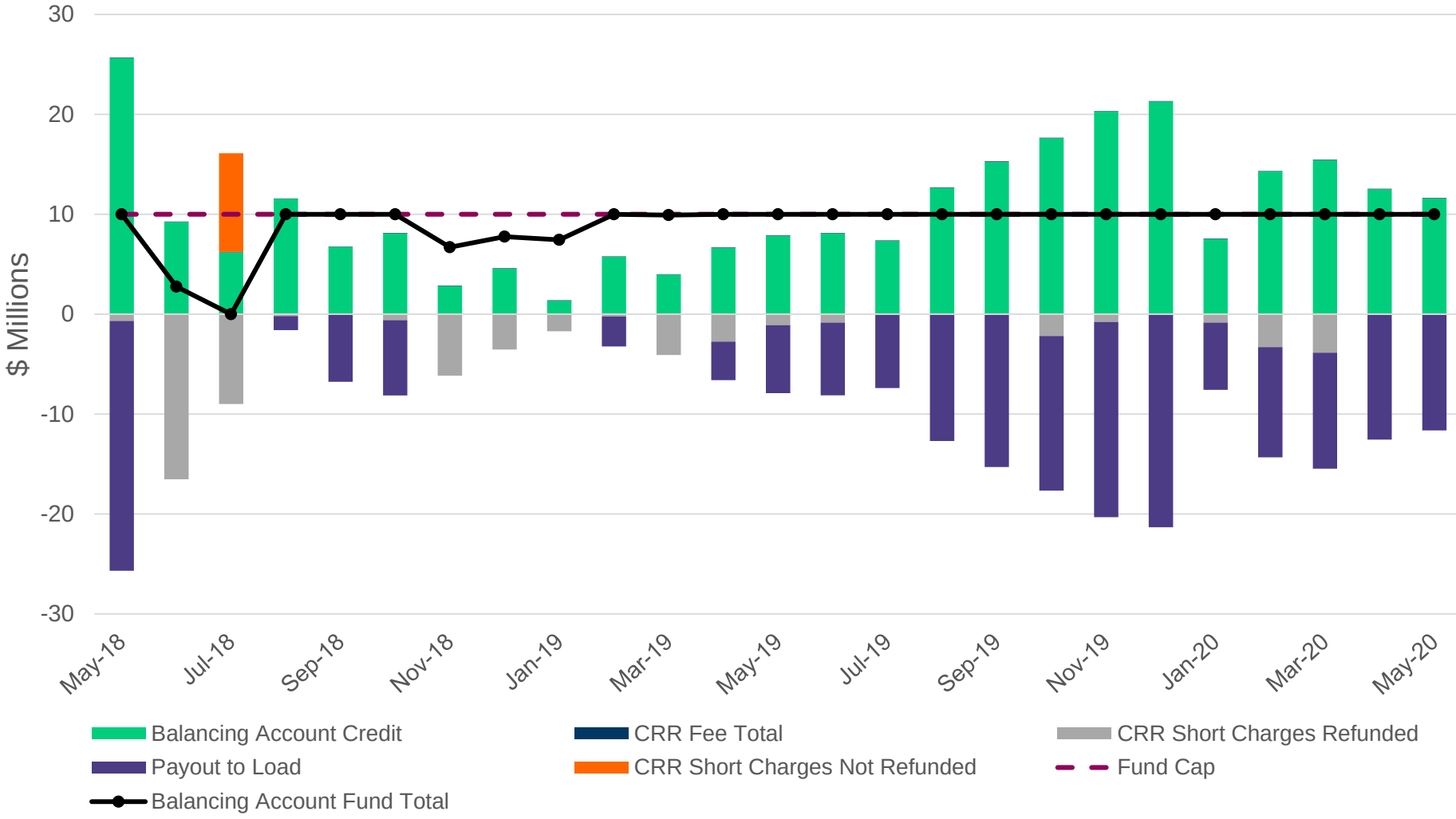
Percentage of Real-Time Load Transacted in the Day-Ahead Market



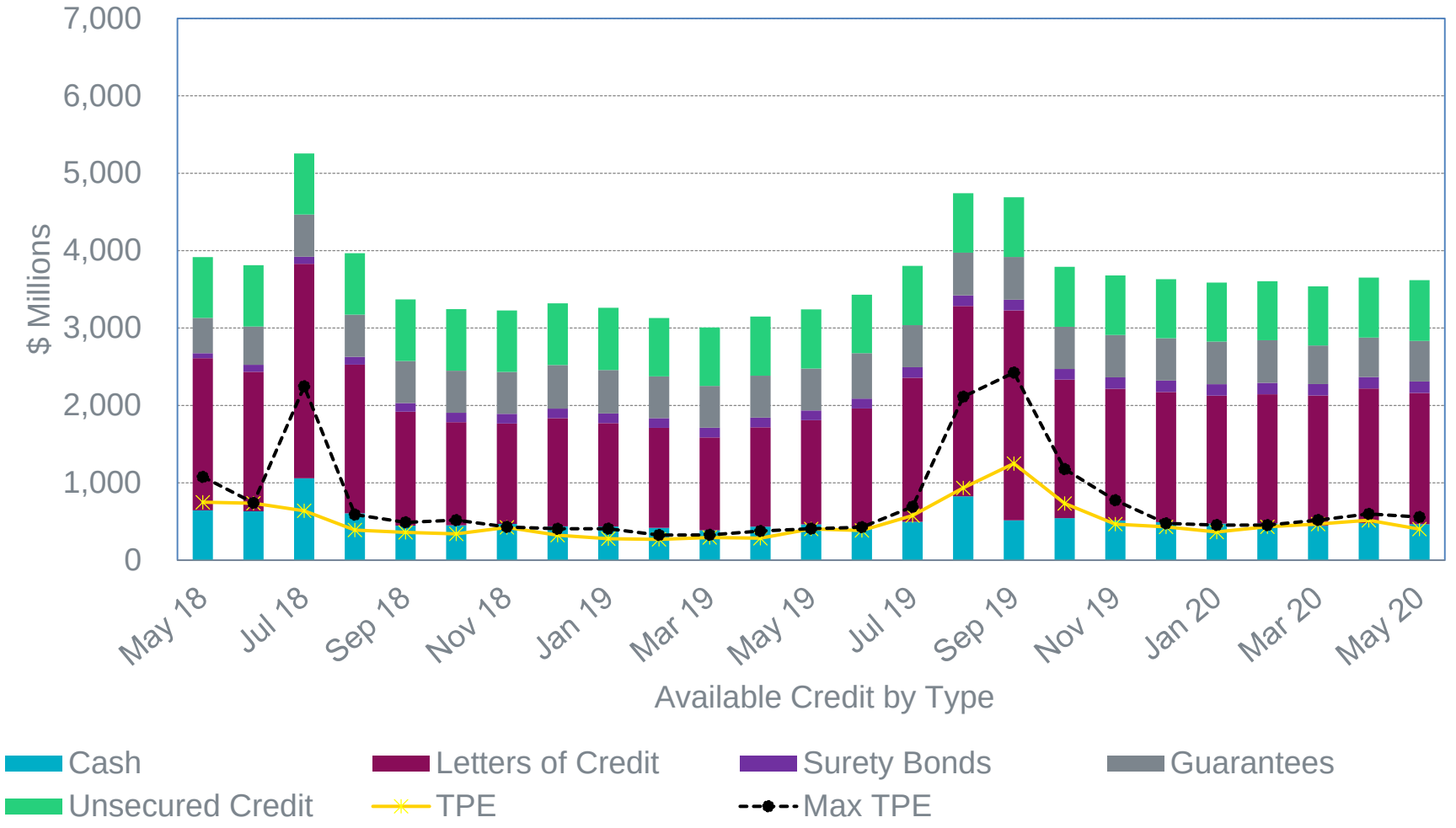
CRR Value and Cost Differences



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 – May 2020

	Year-To-Date		Transactions Received	
Transaction Type	May 2020	May 2019	May 2020	May 2019
Switches	424,265	561,018	99,776	145,059
Acquisition	0	0	0	0
Move - Ins	1,059,835	1,183,475	208,903	253,622
Move - Outs	517,407	547,632	108,513	123,888
Continuous Service Agreements (CSA)	242,135	533,293	25,369	67,292
Mass Transitions	0	0	0	0
Total	2,243,642	2,825,418	442,561	589,861