



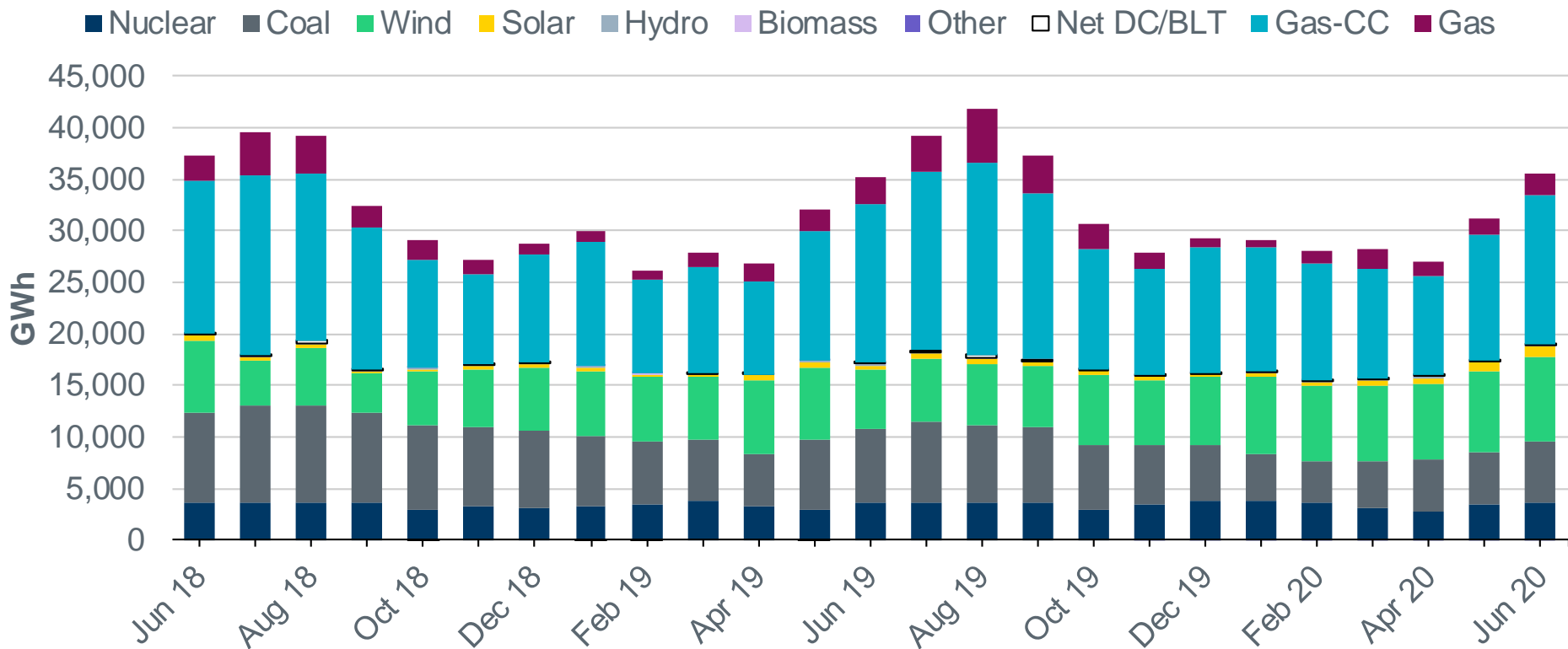
## ERCOT Monthly Operational Overview (June 2020)

ERCOT Public  
July 15, 2020

## Monthly Highlights

- The maximum demand in June 2020 was 68,043 MW\*, which was 116 MW less than the June 2020 demand of 68,159 MW.
- ERCOT issued 6 notifications:
  - 3 Advisories for delay in clearing DAM and posting DAM solution.
  - 1 Advisory for Physical Responsive Capability (PRC) < 3000 MW.
  - 1 OCN due to ERCOT modifying the Panhandle generic transmission constraint due to the Coulomb – Gauss – Clear Crossing + Edith Clarke – Gauss – Smoky Hill 345 kV outage becoming a valid N-1 scenario.
  - 1 DC Tie Curtailment Notice (for Laredo).

# Monthly energy generation increased by 1% year-over-year to 35,509 GWh in June 2020, compared to 35,170 GWh in June 2019

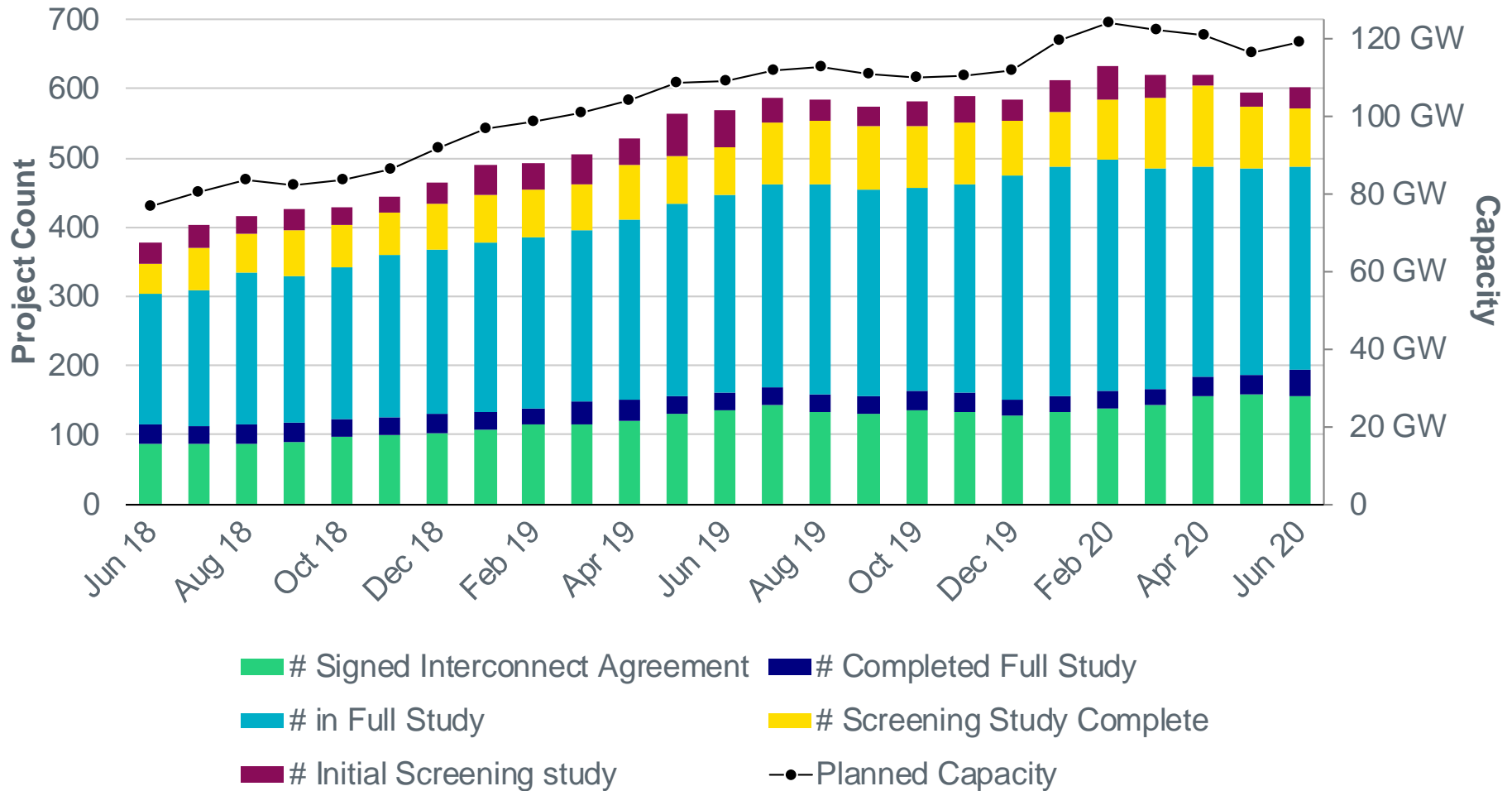


Data for latest two months are based on preliminary settlements.



# Generation Interconnection activity by project phase

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



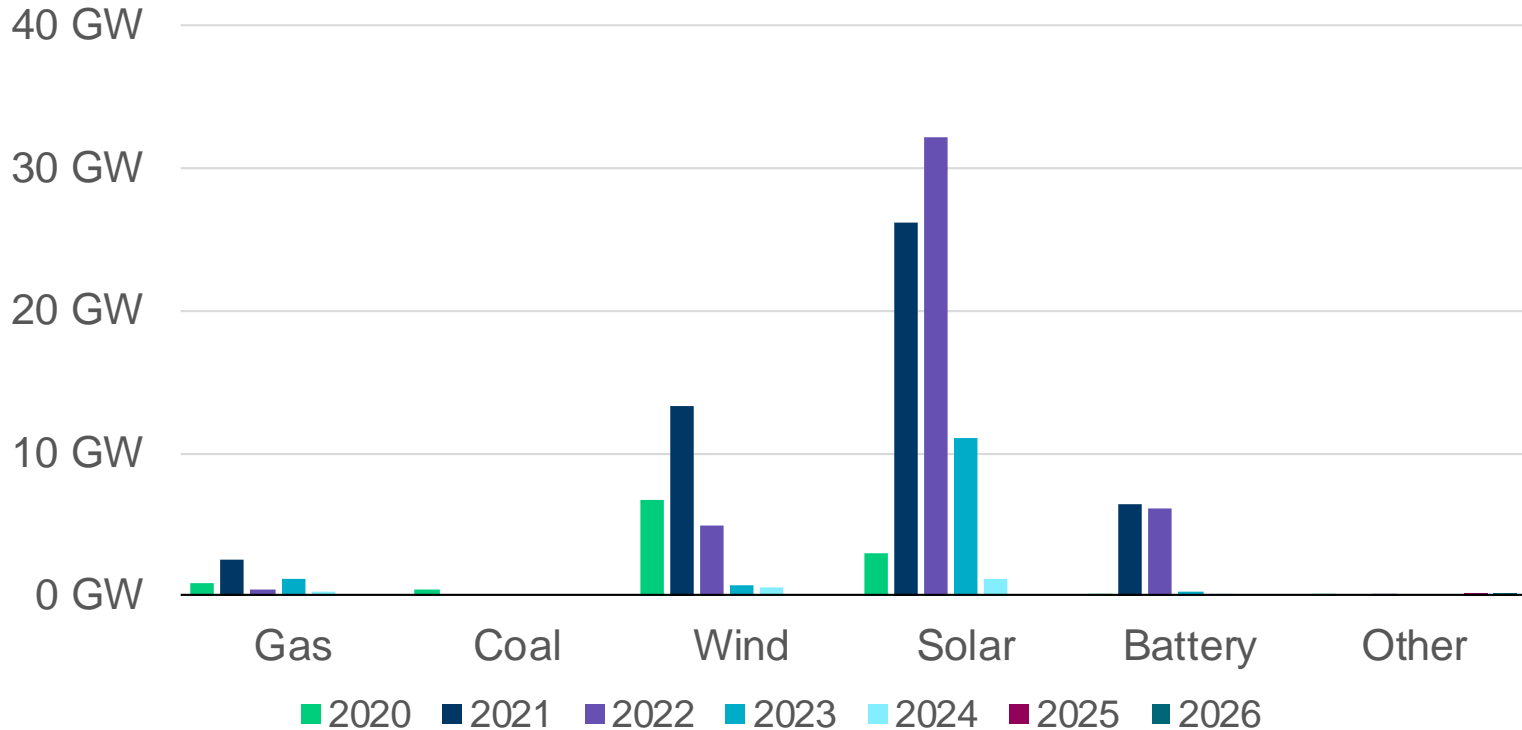
A break out by fuel type can be found in the monthly Generator Interconnection Status (GIS) reports available on the ERCOT Resource Adequacy Page: <http://www.ercot.com/gridinfo/resource>



# Interconnection Queue Capacity by Fuel Type

Queue totals: Solar 74 GW (61.7%), Wind 26 GW (22.0%), Gas 5 GW (4.5%), Battery 13 GW (10.9%), Coal 0.4 GW (0.4%)

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

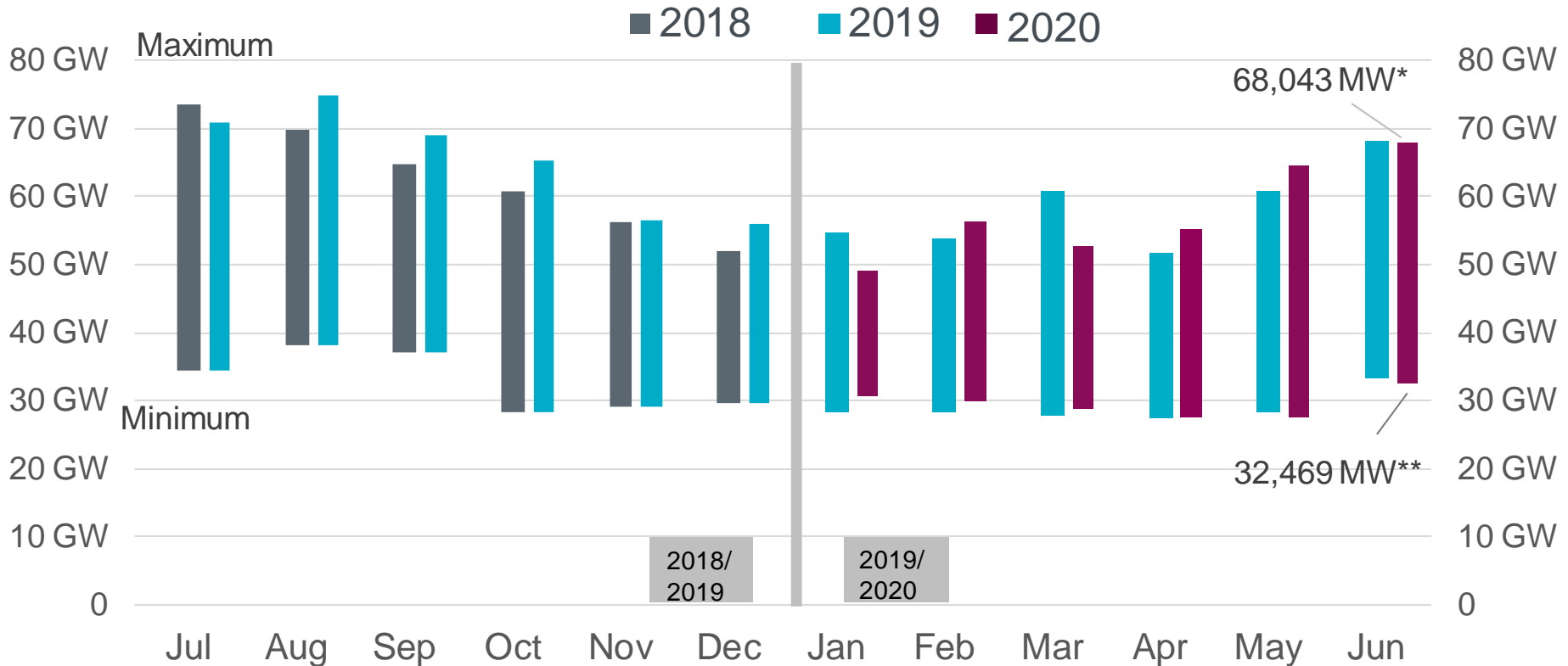


A break out by zone can be found in the monthly Generator Interconnection Status (GIS) reports available on the ERCOT Resource Adequacy Page: <http://www.ercot.com/gridinfo/resource>

# Planning Summary

- ERCOT is currently tracking 602 active generation interconnection requests totaling 119,229 MW. This includes 73,655 MW of solar, 26,272 MW of wind, and 13,042 MW of battery projects as of June 30, 2020.
- ERCOT is currently reviewing proposed transmission improvements with a total estimated cost of \$1,034.6 Million as of June 30, 2020.
- Transmission Projects endorsed in 2020 total \$598.6 Million as of June 30, 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 68,043 MW\* in June 2020, which is 116 MW less than the June 2019 demand of 68,159 MW



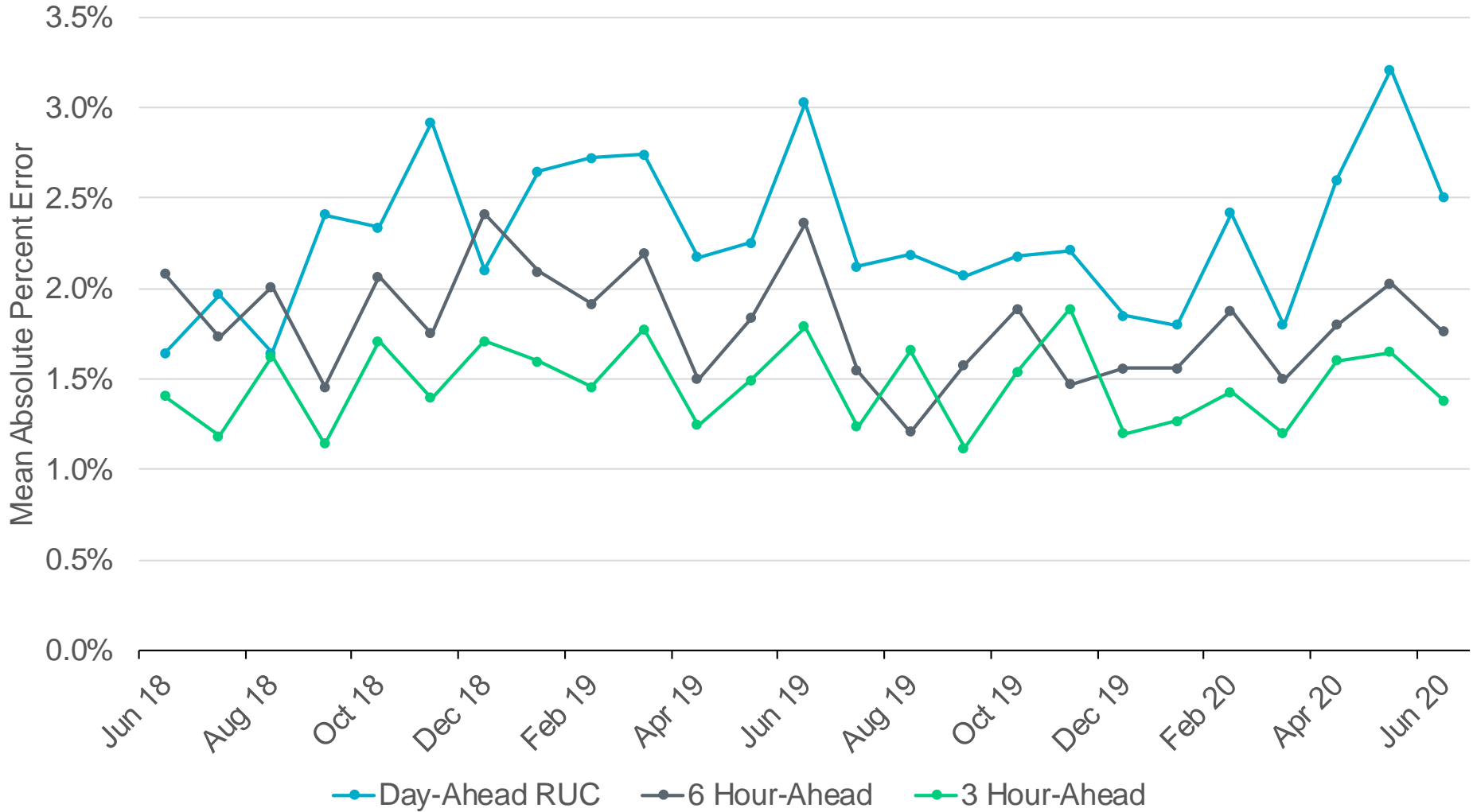
\*Based on the maximum net system hourly value from July release of Demand and Energy 2020 report.

\*\*Based on the minimum net system 15-minute interval value from July 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

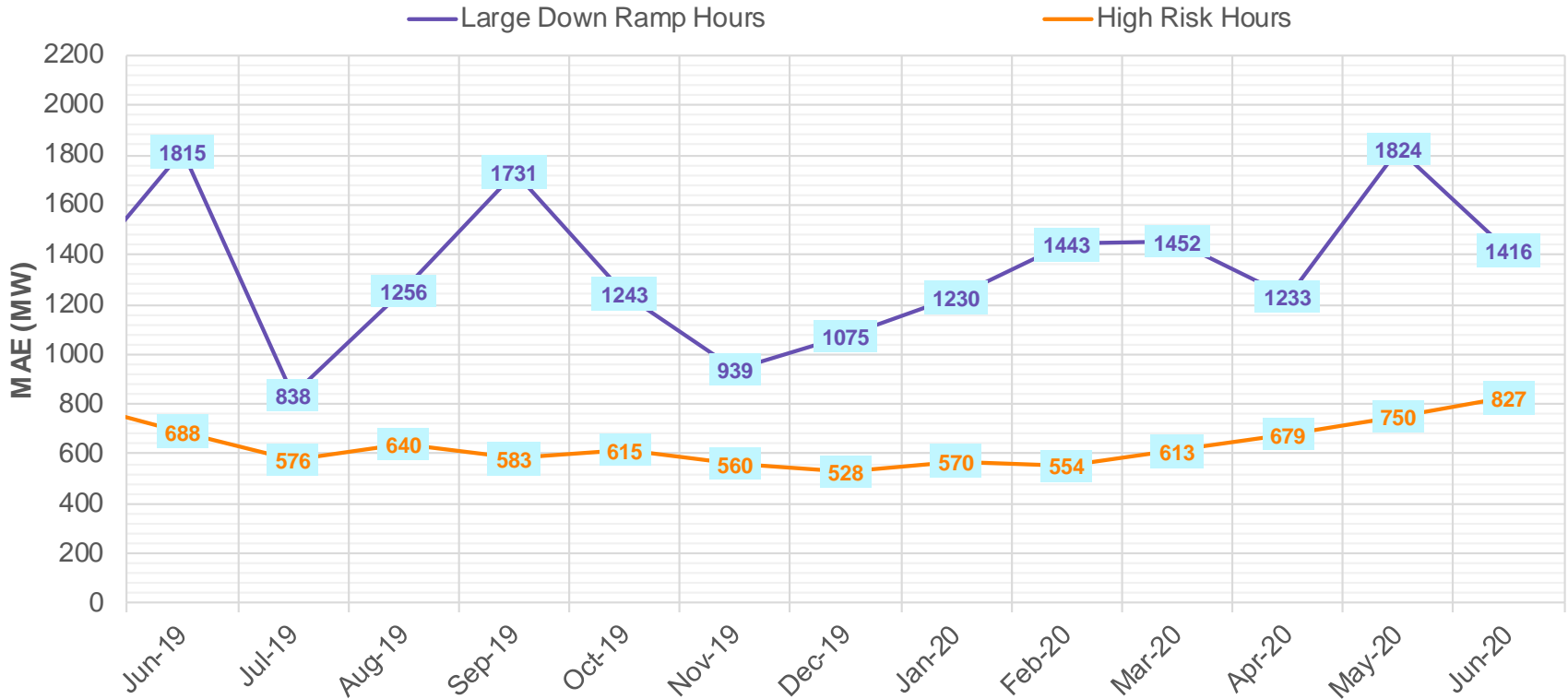


The Short-Term Wind Power Forecast (STWPF) is an ERCOT produced hourly 50% probability of exceedance forecast of the generation in MWh per hour from each Wind Generation Resource.



# Hour-Ahead Wind Forecast Performance

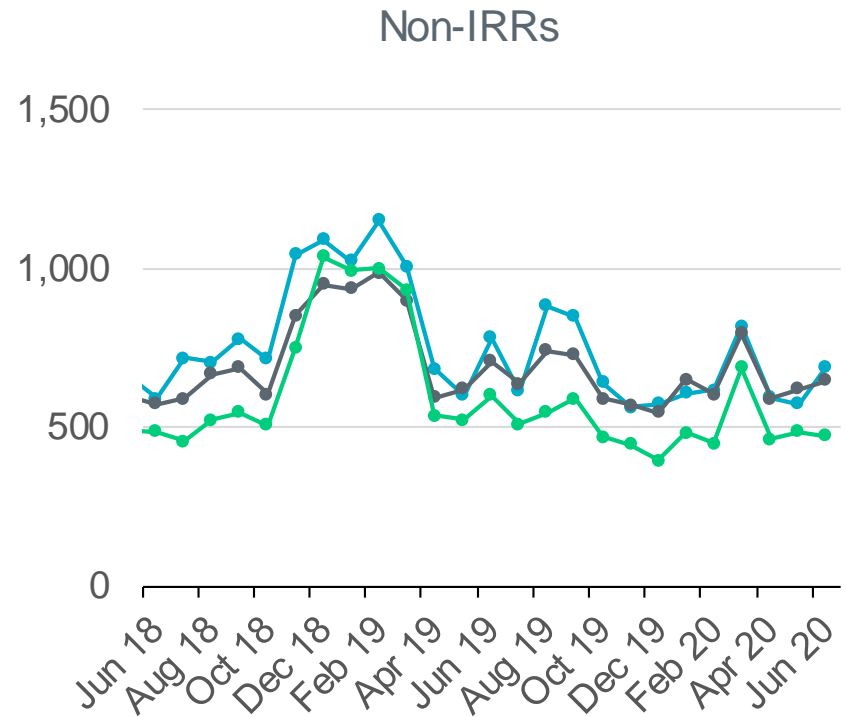
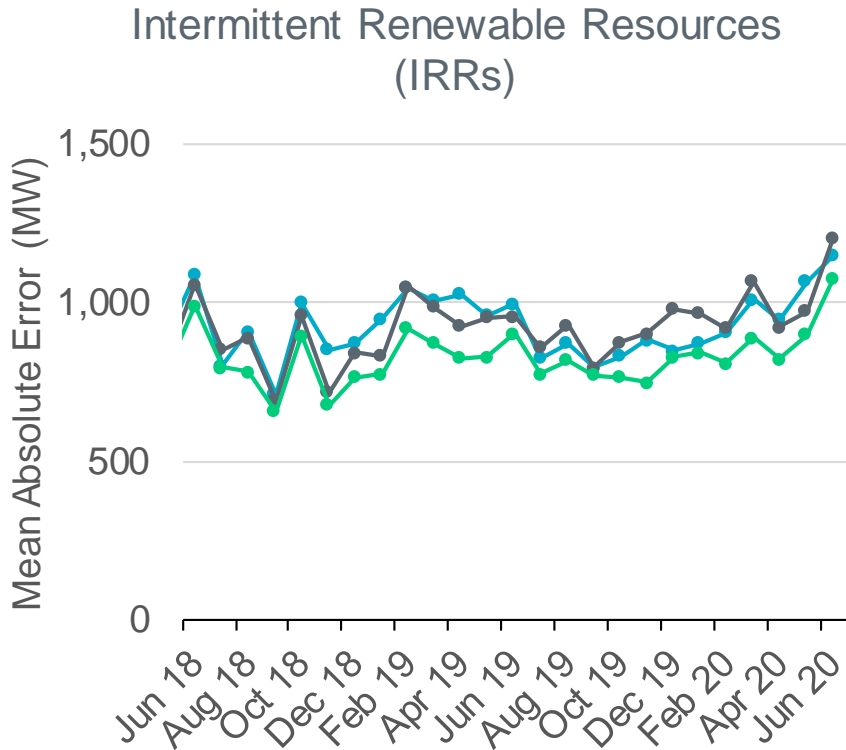
Hour-Ahead Mean Absolute Error (MAE) During Large Down Ramp (> 2000 MW) and High Risk Hours\*



\*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

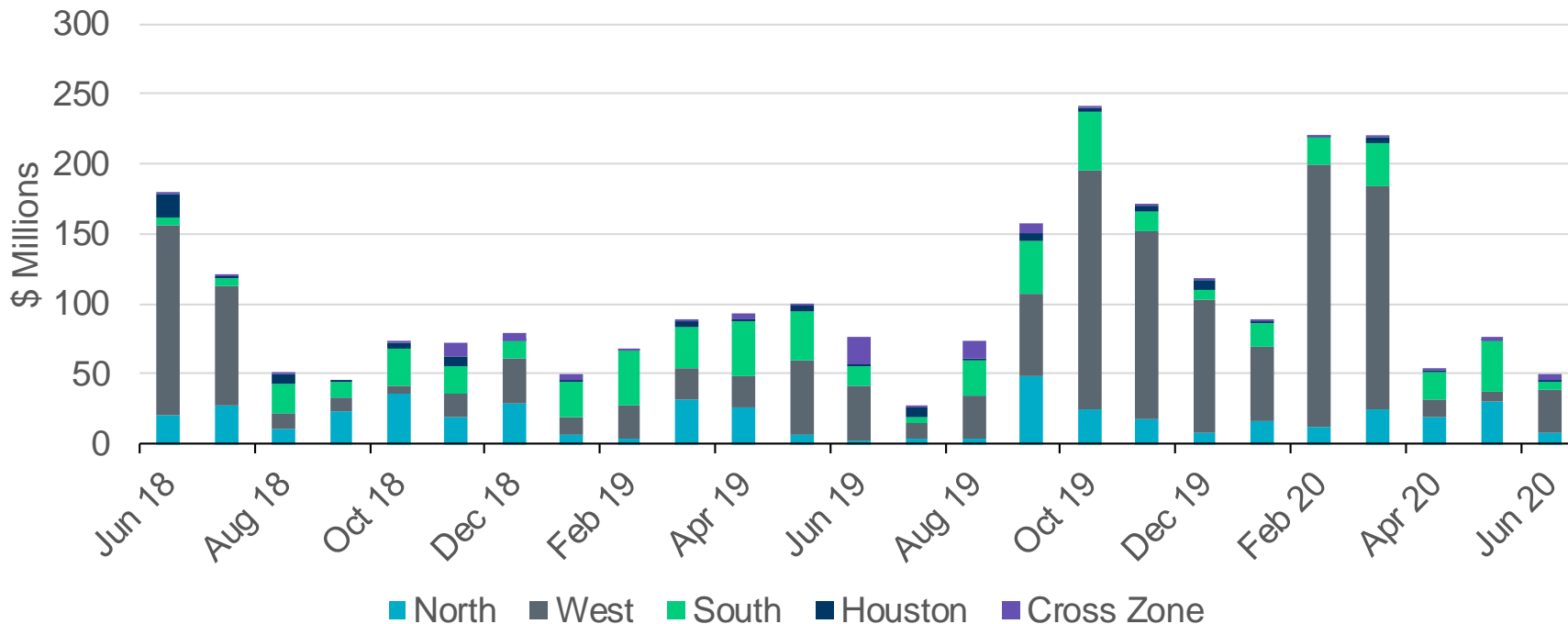


—●— Day-Ahead RUC   
 —●— 6 Hour-Ahead   
 —●— 3 Hour-Ahead

- 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 28,515 MW (as of June 30, 2020).
- The installed capacity of approved Solar Units is 3,950 MW (as of June 30, 2020).

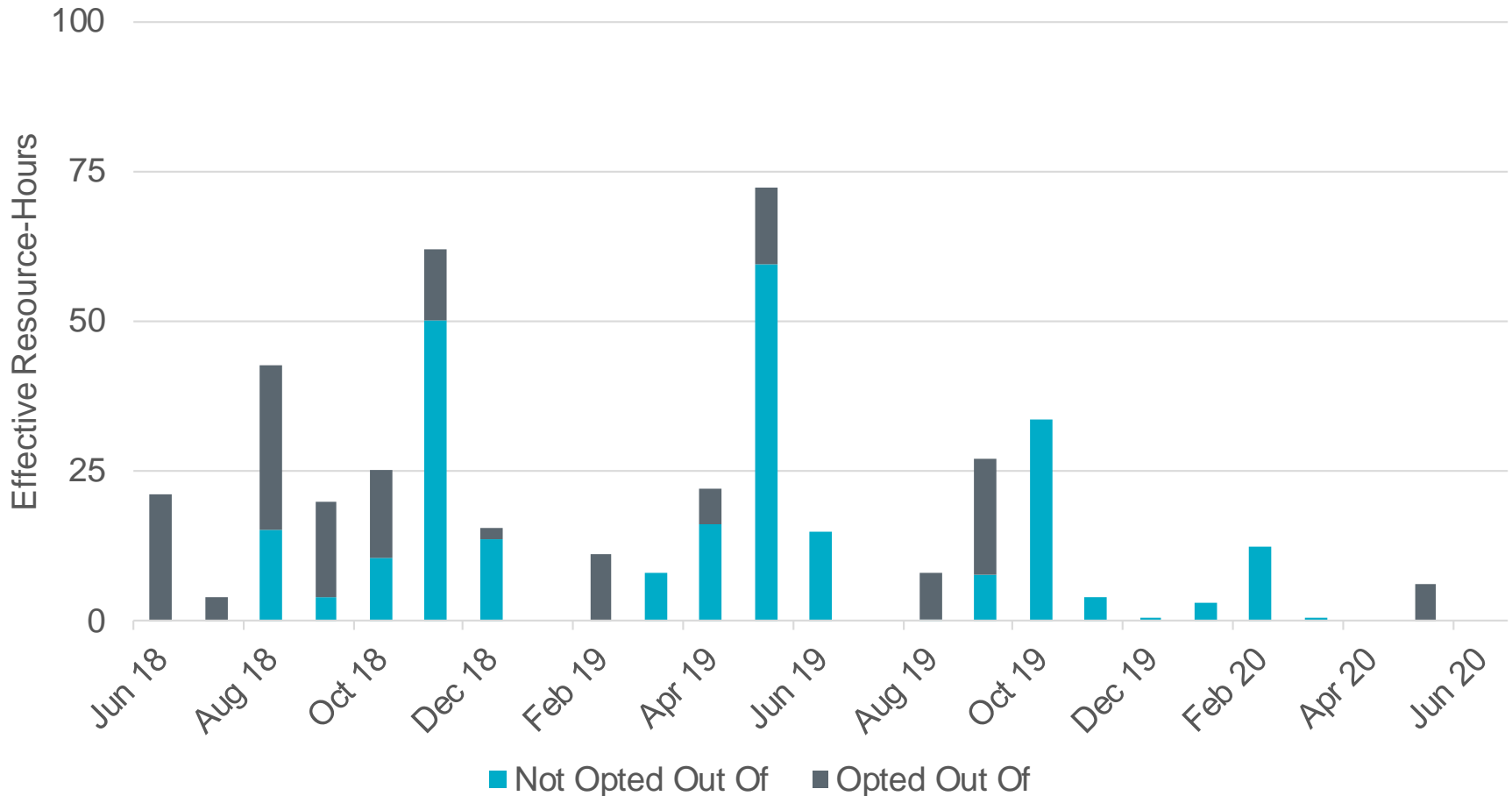


# Real-Time Congestion Rent by Zone



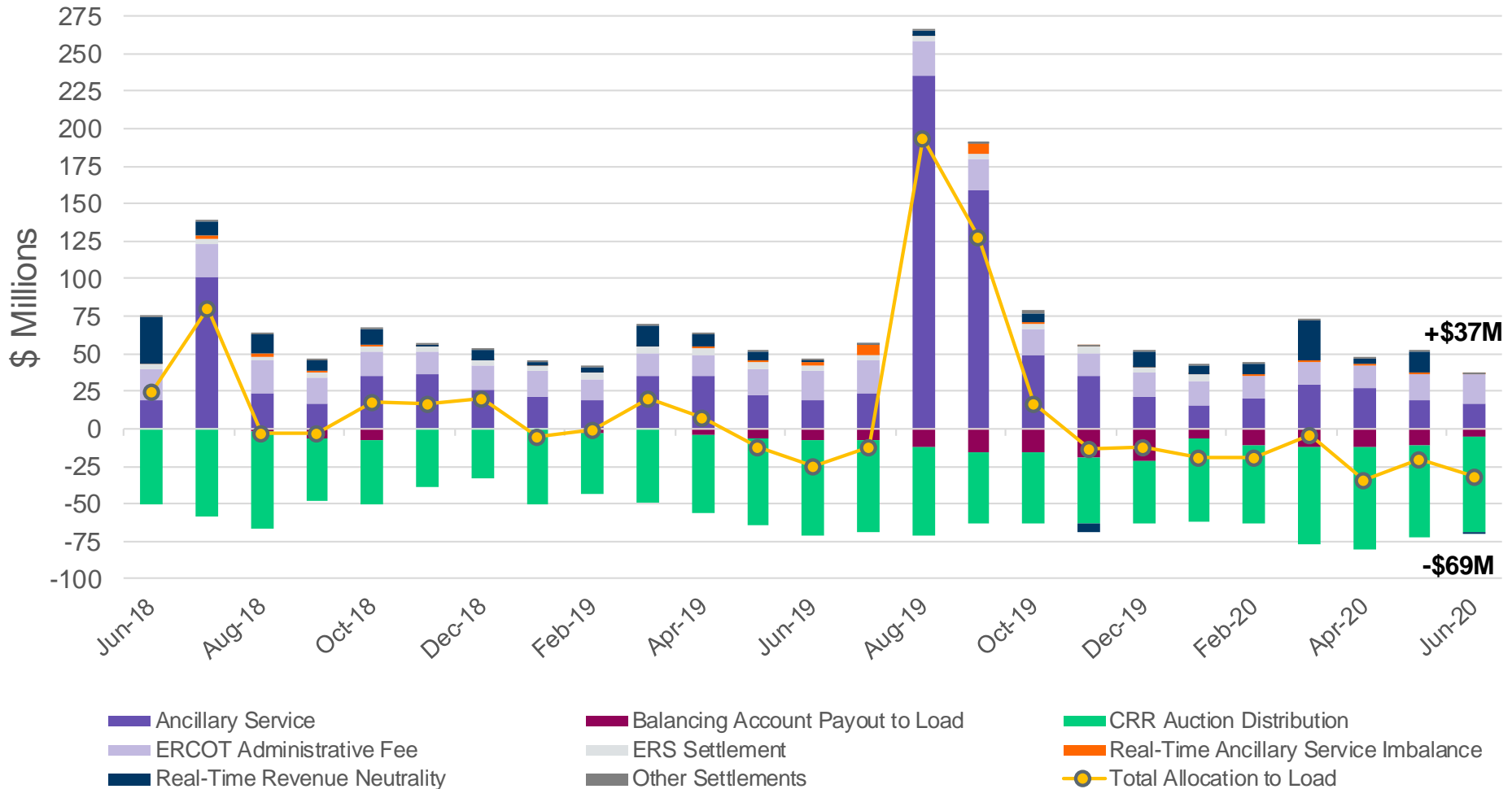
- The congestion rent for June significantly increased in the West Zone primarily due to BASE CASE: PNHNDL.
- Congestion Rent is determined using the shadow prices and MW flows for individual constraints in SCED as well as the length in time of SCED intervals.
- The “Cross Zone” category consists of cases in which the substations on either end of the constraint are in different zones.

# Zero Resources were Committed in June



“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.

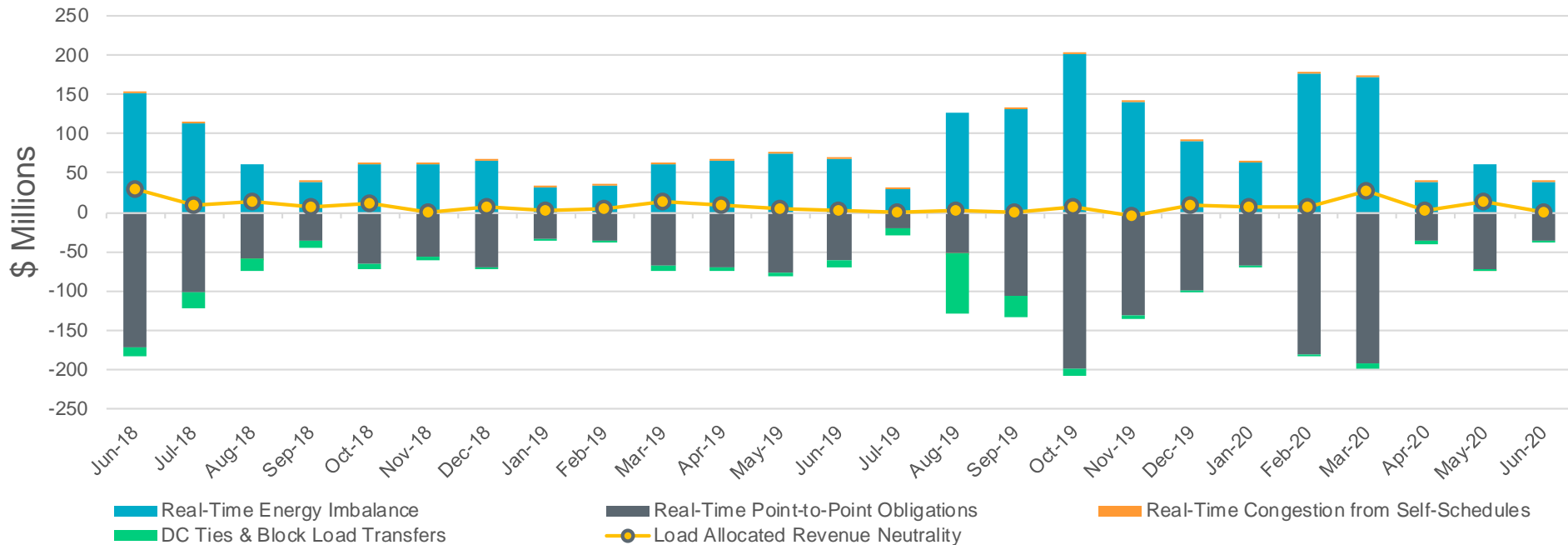
# Net Allocation to Load in June 2020 was **\$-32.4 Million**



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

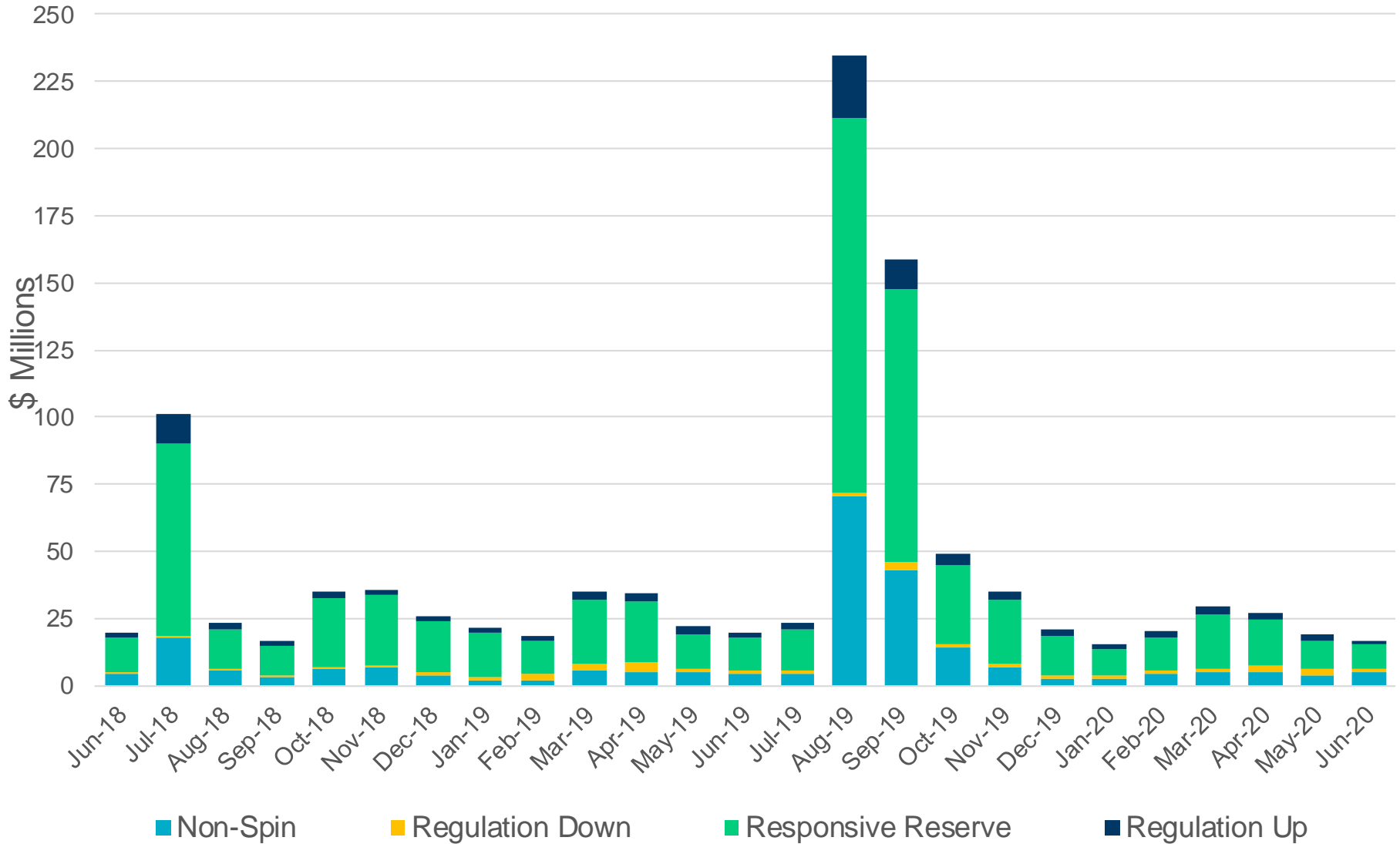


# Real-Time Revenue Neutrality Allocated to Load was **\$-0.44M** for June 2020



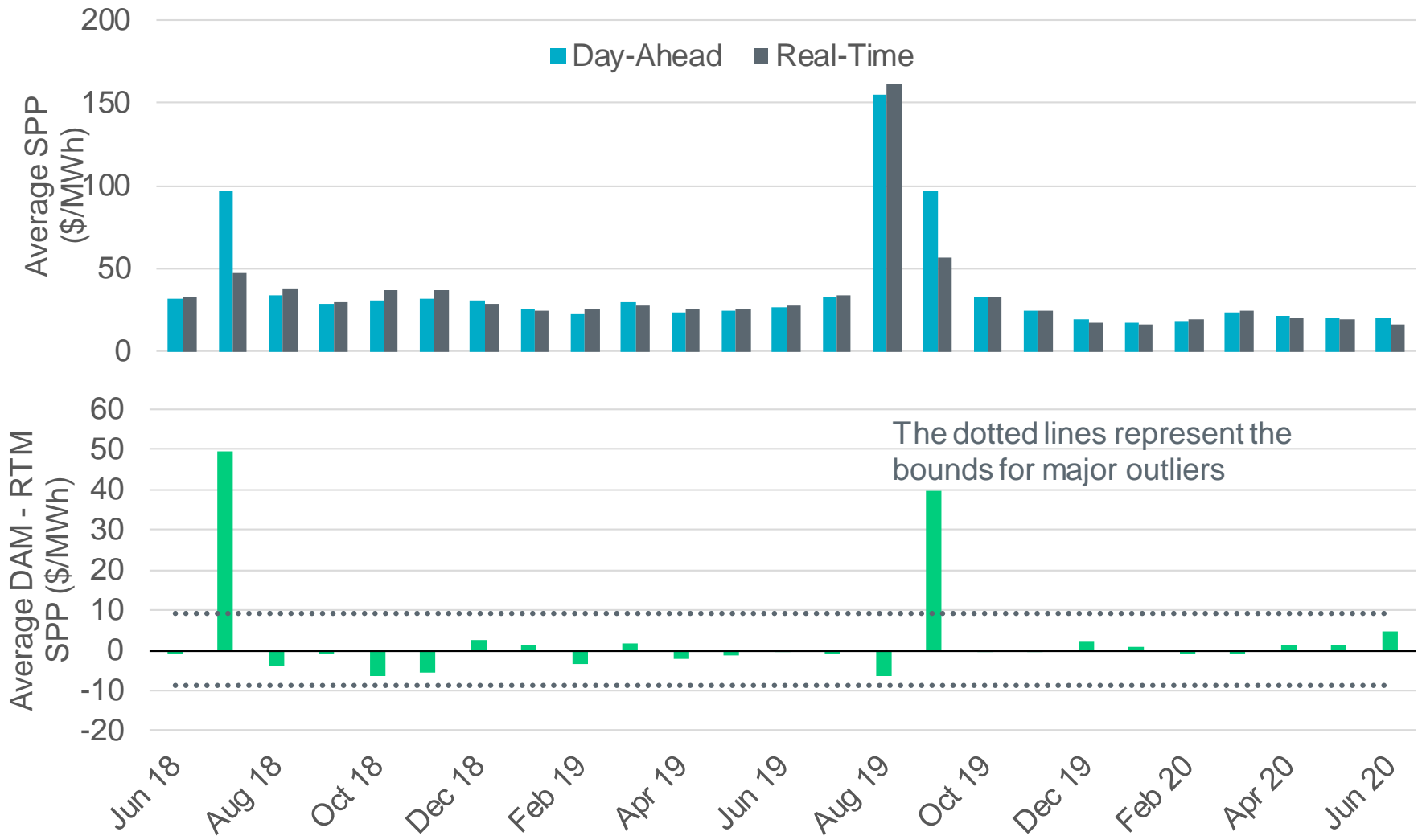
June 2020 (\$M)	
Real-Time Energy Imbalance	\$38.24
Real-Time Point-to-Point Obligation	(\$35.93)
Real-Time Congestion from Self-Schedules	\$0.03
DC Tie & Block Load Transfer	(\$1.91)
<b>Load Allocated Revenue Neutrality</b>	<b>(\$0.44)</b>

# Ancillary Services for June 2020 totaled \$16.87M





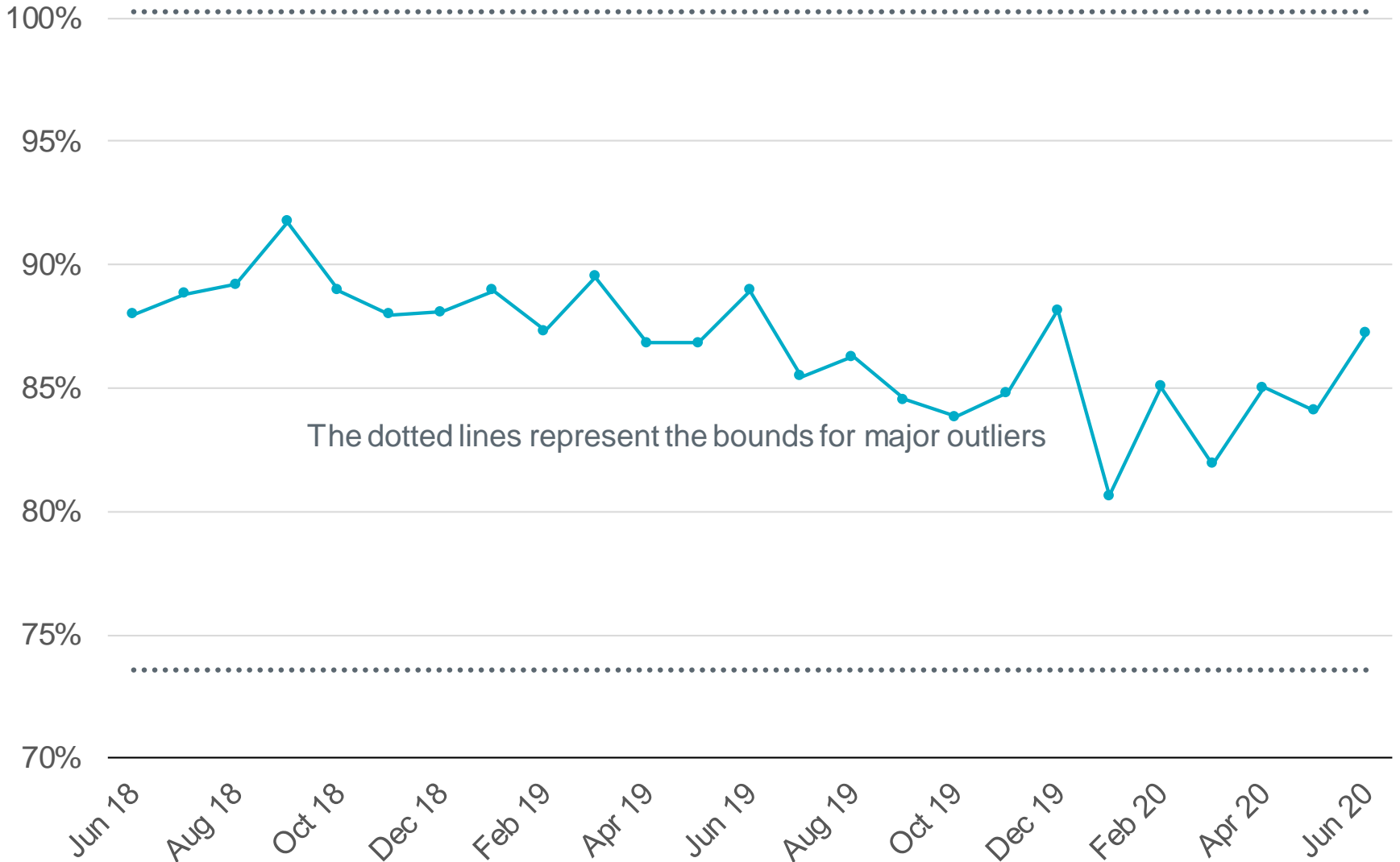
# Day-Ahead and Real-Time Market Price Differences



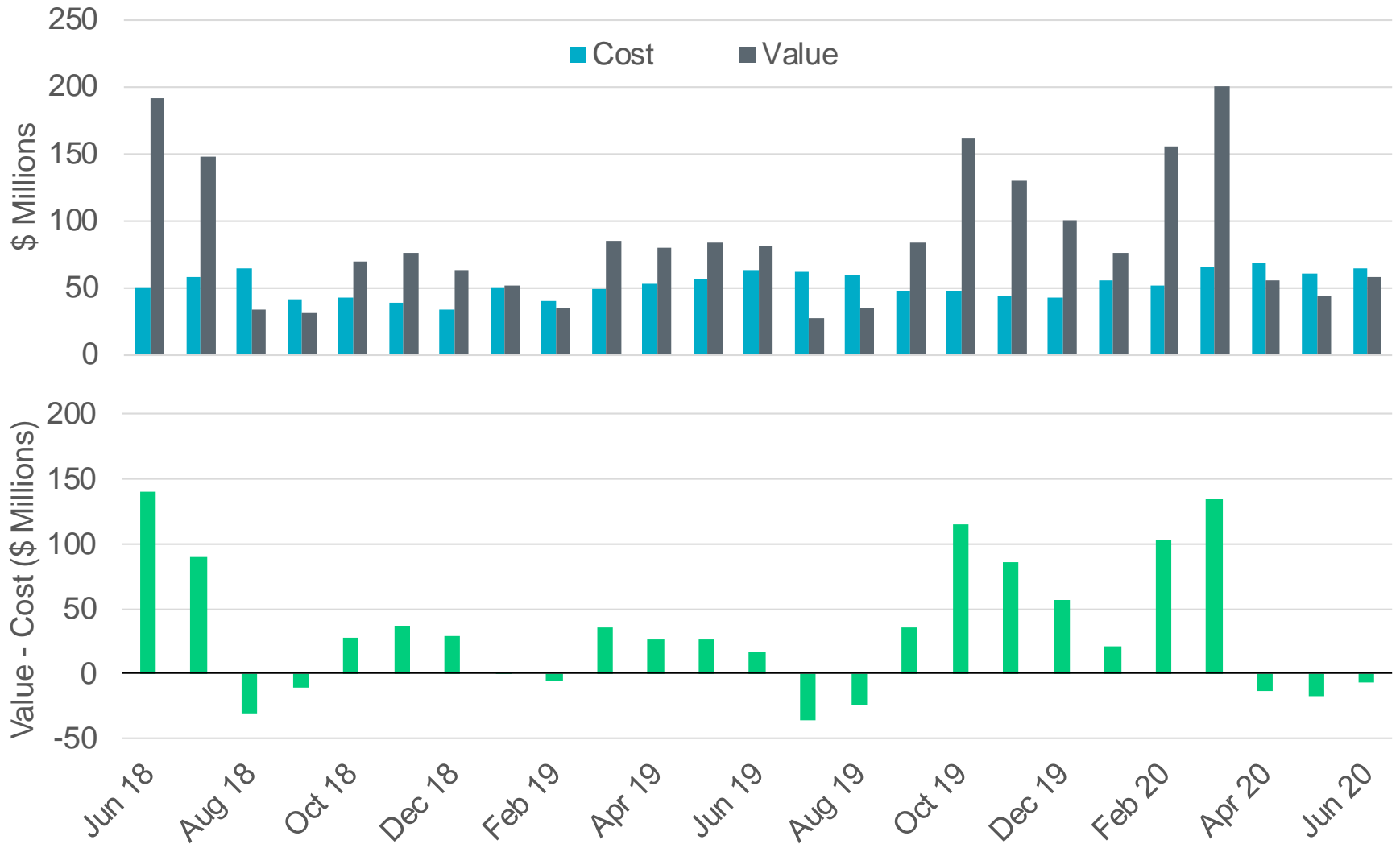
\*Averages are weighted by Real-Time Market Load



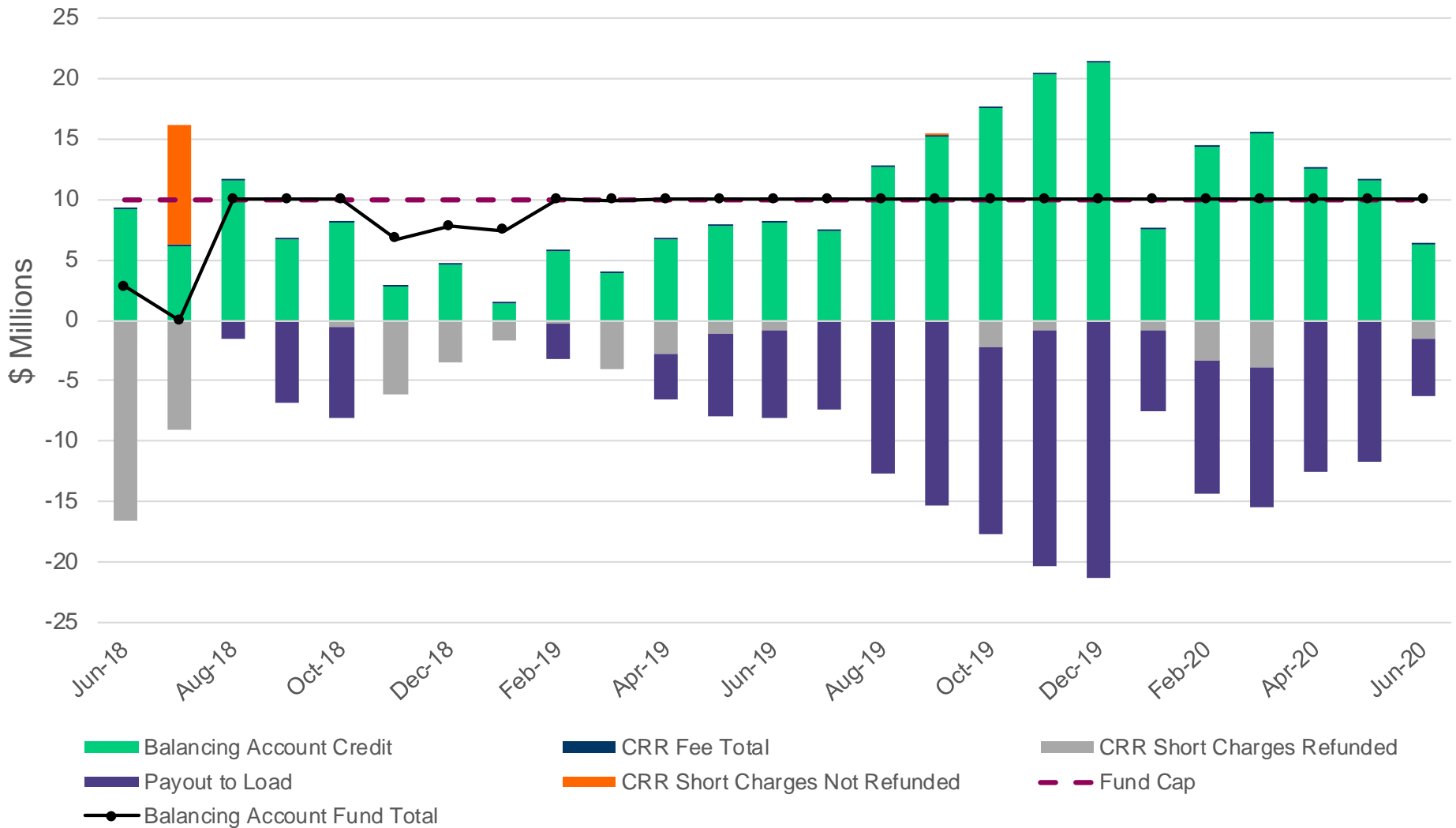
# Percentage of Real-Time Load Transacted in the Day-Ahead Market



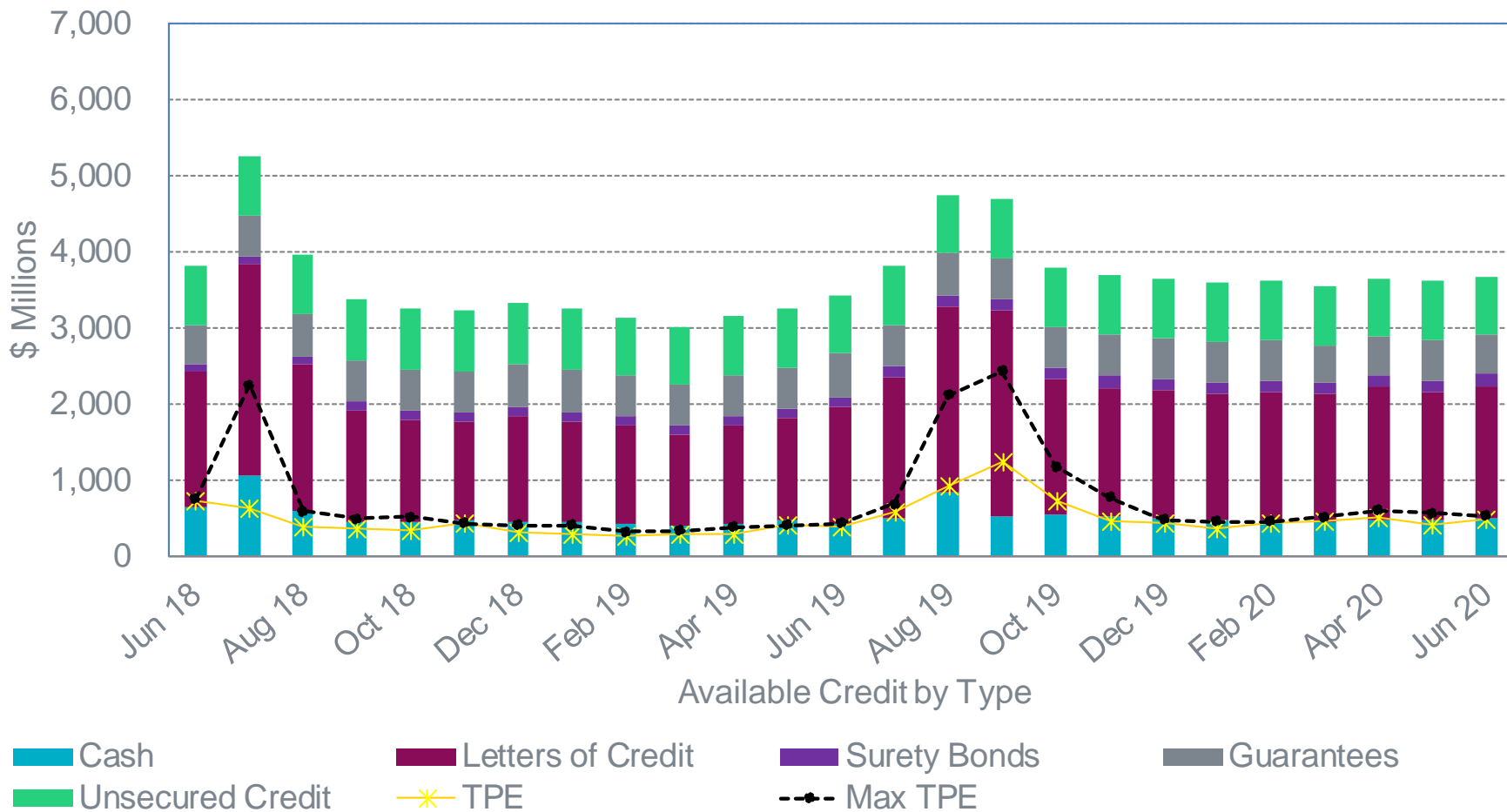
# CRR Value and Cost Differences



# 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 – June 2020

	Year-To-Date		Transactions Received	
Transaction Type	June 2020	June 2019	June 2020	June 2019
Switches	571,069	687,049	146,804	126,031
Acquisition	0	0	0	0
Move - Ins	1,301,531	1,439,083	241,696	255,608
Move - Outs	638,545	668,550	121,138	120,918
Continuous Service Agreements (CSA)	280,414	616,415	38,279	83,122
Mass Transitions	0	0	0	0
<b>Total</b>	<b>2,791,559</b>	<b>3,411,097</b>	<b>547,917</b>	<b>585,679</b>