



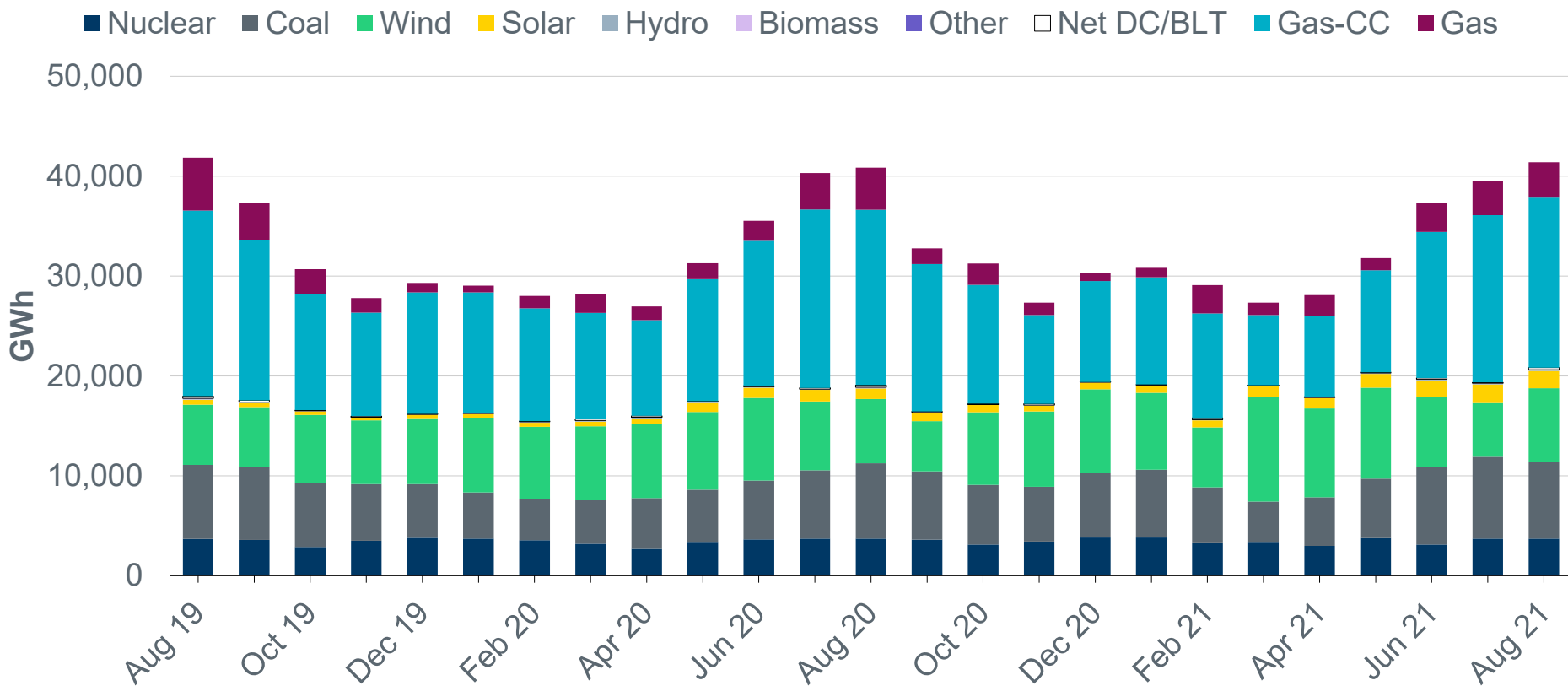
## ERCOT Monthly Operational Overview (August 2021)

ERCOT Public  
September 20, 2021

# Notifications and Records

- ERCOT set a maximum peak demand of 73,651 MW\* in August 2021, which is 725 MW less than the August 2020 demand of 74,376 MW.
- ERCOT issued 1 notification:
  - 1 Advisory for delay in clearing DAM and posting of DAM Solution

# Monthly energy generation increased by 1.3% year-over-year to 41,384 GWh in August 2021, compared to 40,847 GWh in August 2020

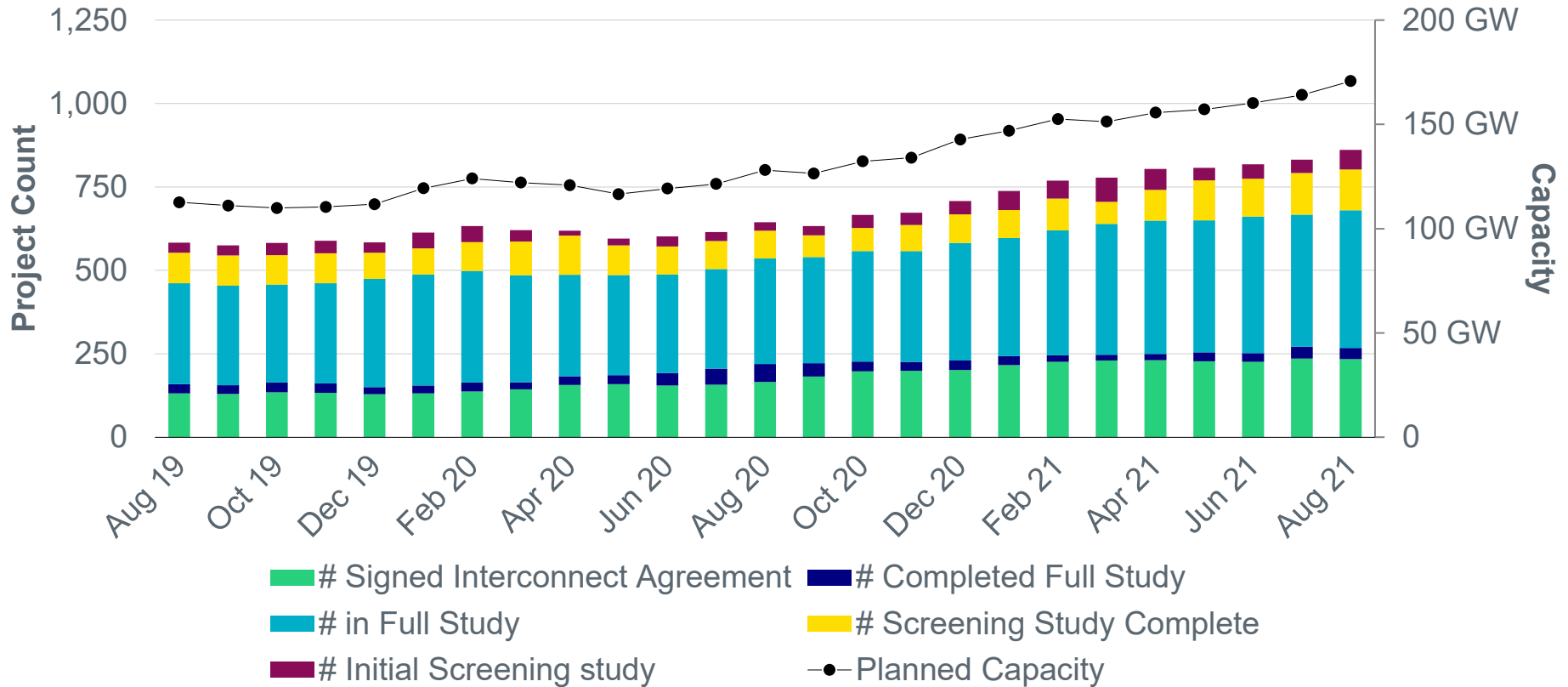


Data for latest two months are based on preliminary settlements.



# Generation Interconnection activity by project phase

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

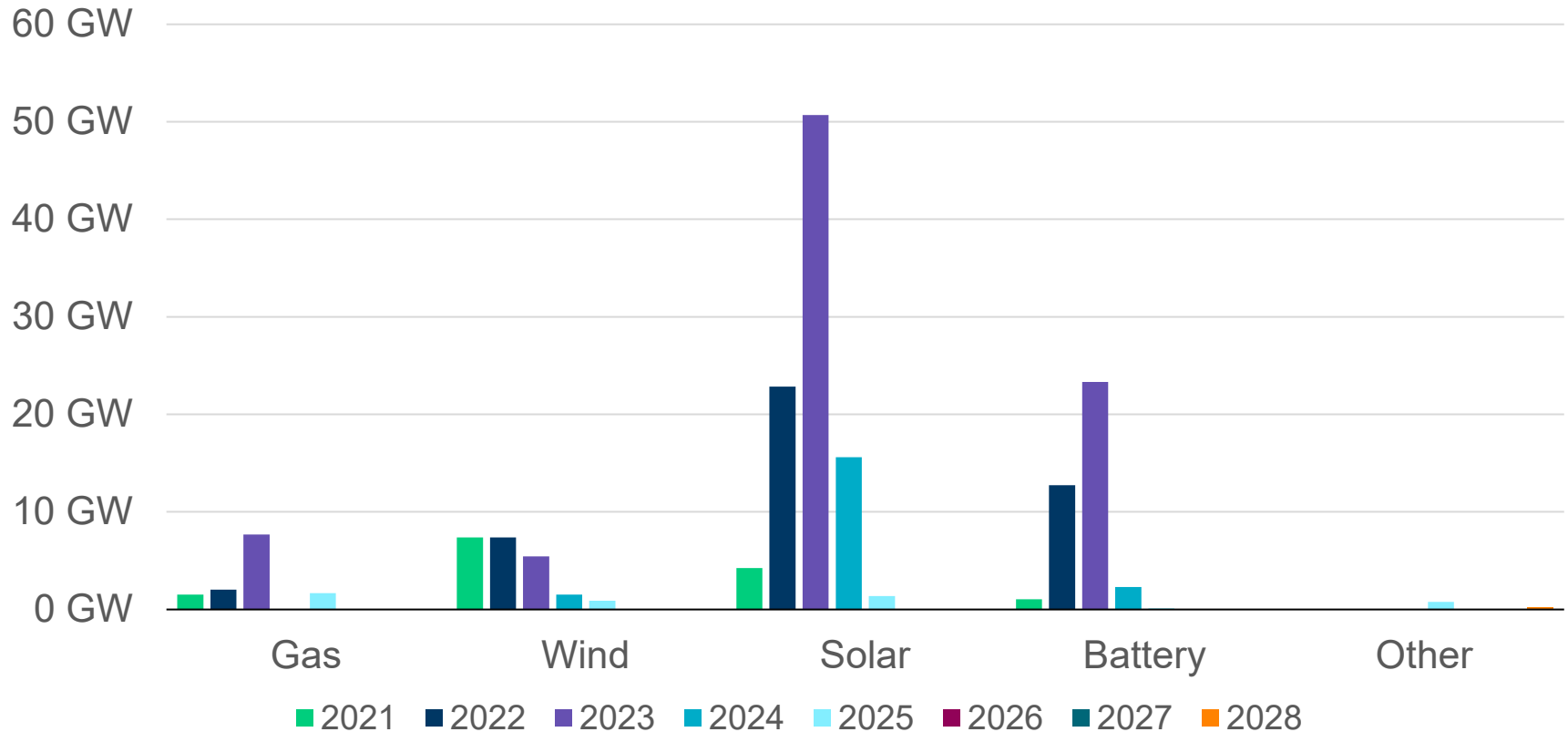


A break-out by fuel type can be found in the monthly Generator Interconnection Status (GIS) reports available on the ERCOT Resource Adequacy Page: <http://www.ercot.com/gridinfo/resource>



# Interconnection Queue Capacity by Fuel Type

Queue totals: Solar 95 GW (55.5%), Wind 23 GW (13.3%), Gas 13 GW (7.6%), Battery 39 GW (23.1%)  
 (Excludes capacity associated with Projects designated as Inactive per Planning Guide Section 5.7.6)

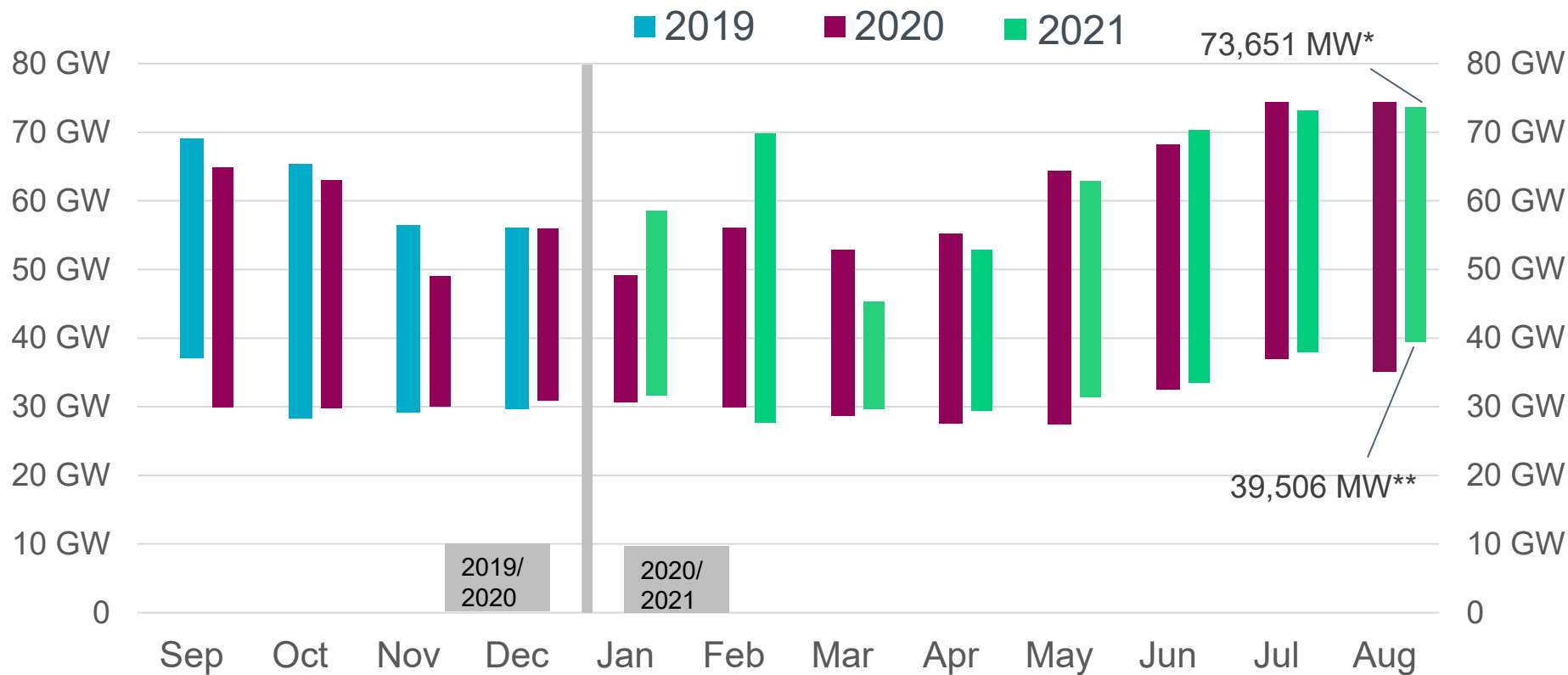


A break-out by zone can be found in the monthly Generator Interconnection Status (GIS) reports available on the ERCOT Resource Adequacy Page: <http://www.ercot.com/gridinfo/resource>

# Planning Summary

- ERCOT was tracking 861 active generation interconnection requests totaling 170,751 MW as of August 31. This includes 94,746 MW of solar, 22,626 MW of wind, 39,488 MW of battery, and 12,907 MW of gas projects; 66 projects were categorized as inactive, up from 62 inactive projects in July.
- ERCOT is currently reviewing proposed transmission improvements with a total estimated cost of \$1,270.01 Million as of August 31, 2021.
- Transmission Projects endorsed in 2021 total \$640.95 Million as of July 31, 2021.
- All projects (in engineering, routing, licensing and construction) total approximately \$7.44 Billion as of June 1, 2021.
- Transmission Projects energized in 2021 total about \$999.2 Million as of June 1, 2021.

# ERCOT set a maximum peak demand of 73,651 MW\* in August 2021, which is 725 MW less than the August 2020 demand of 74,376 MW



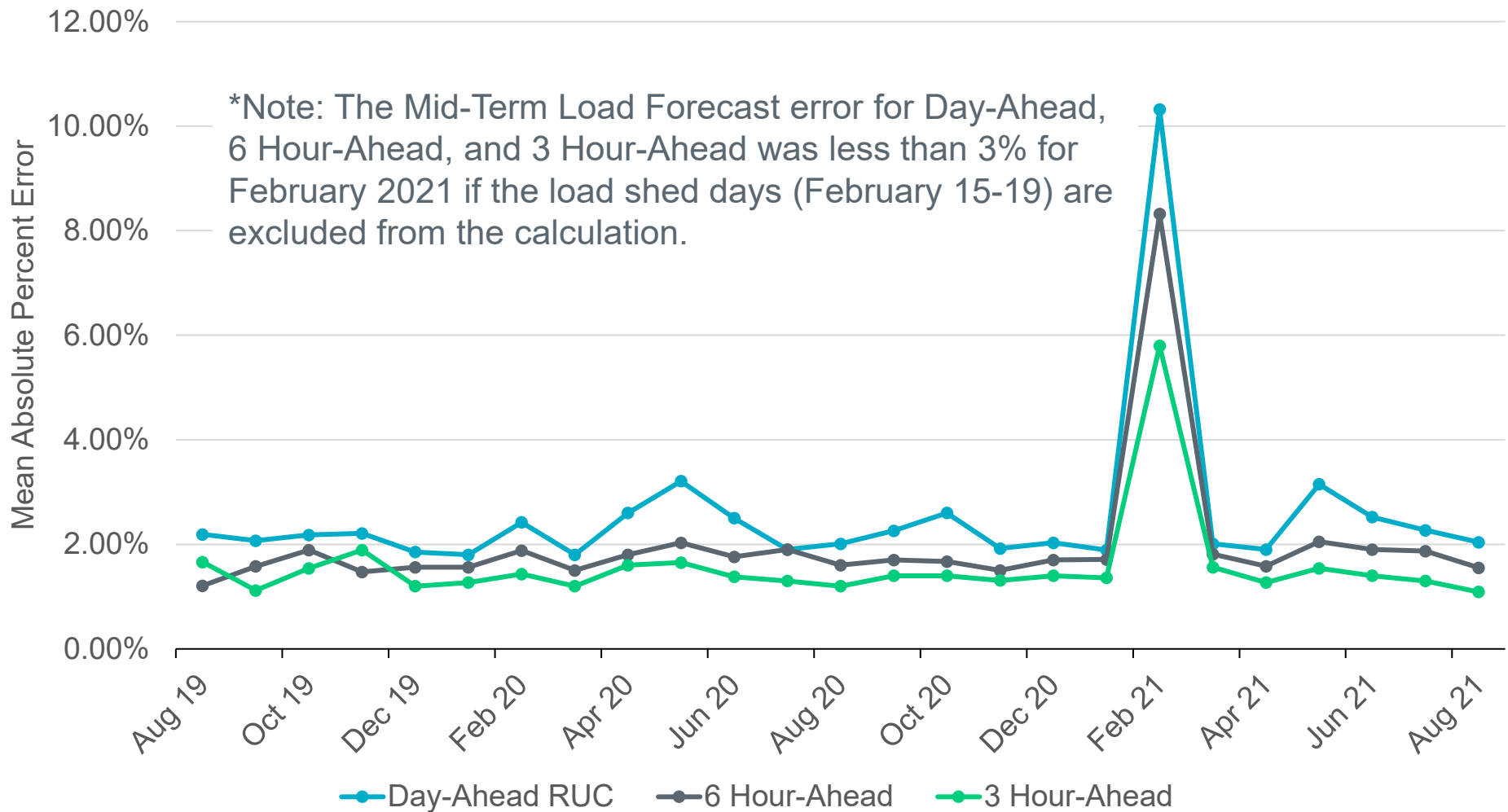
\*Based on the maximum net system hourly value from September release of Demand and Energy 2021 report.

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

Data for latest two months are based on preliminary settlements.



# Mid-Term Load Forecast Performance

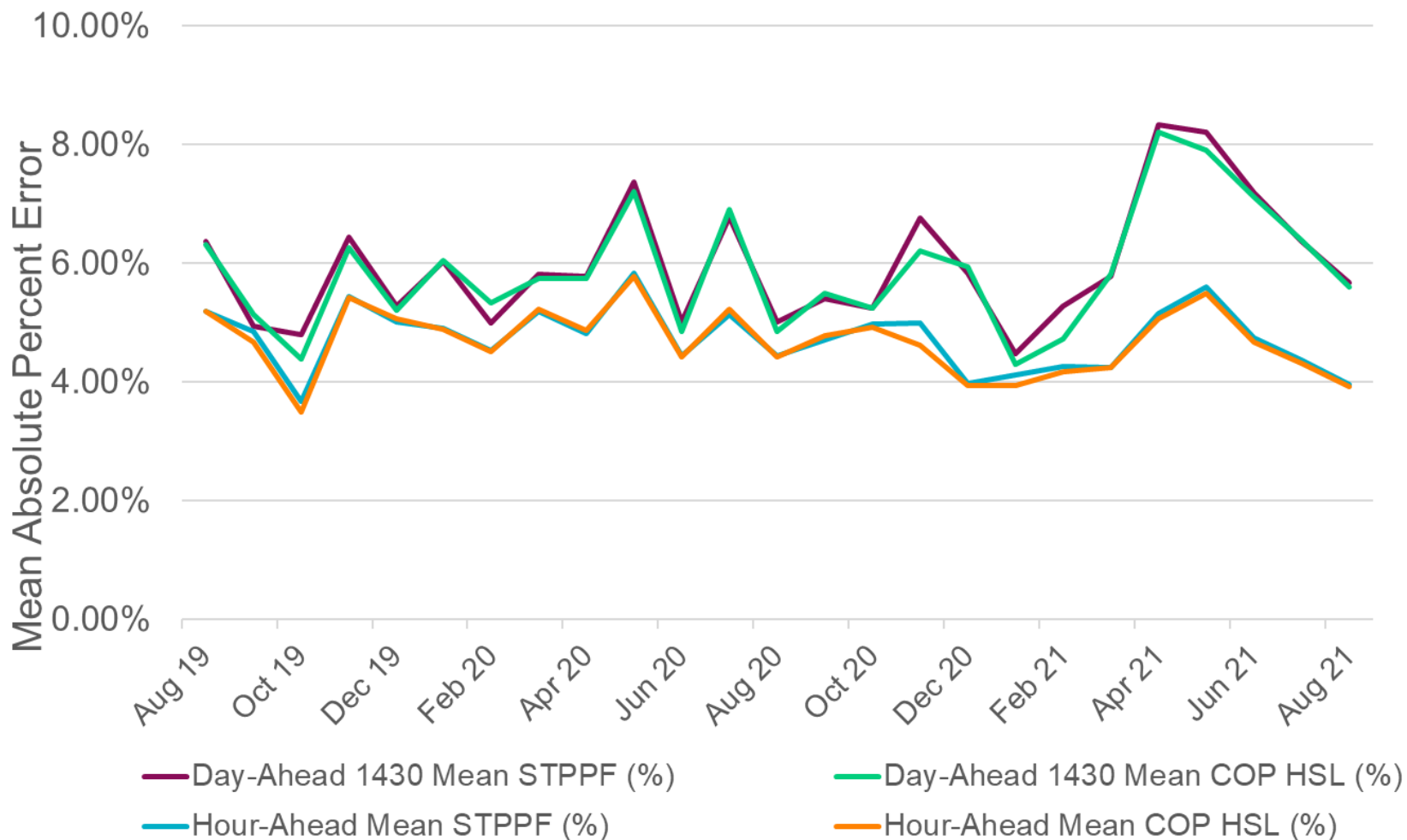


The Mid-Term Load Forecast is an hourly forecast that looks 7 days into the future





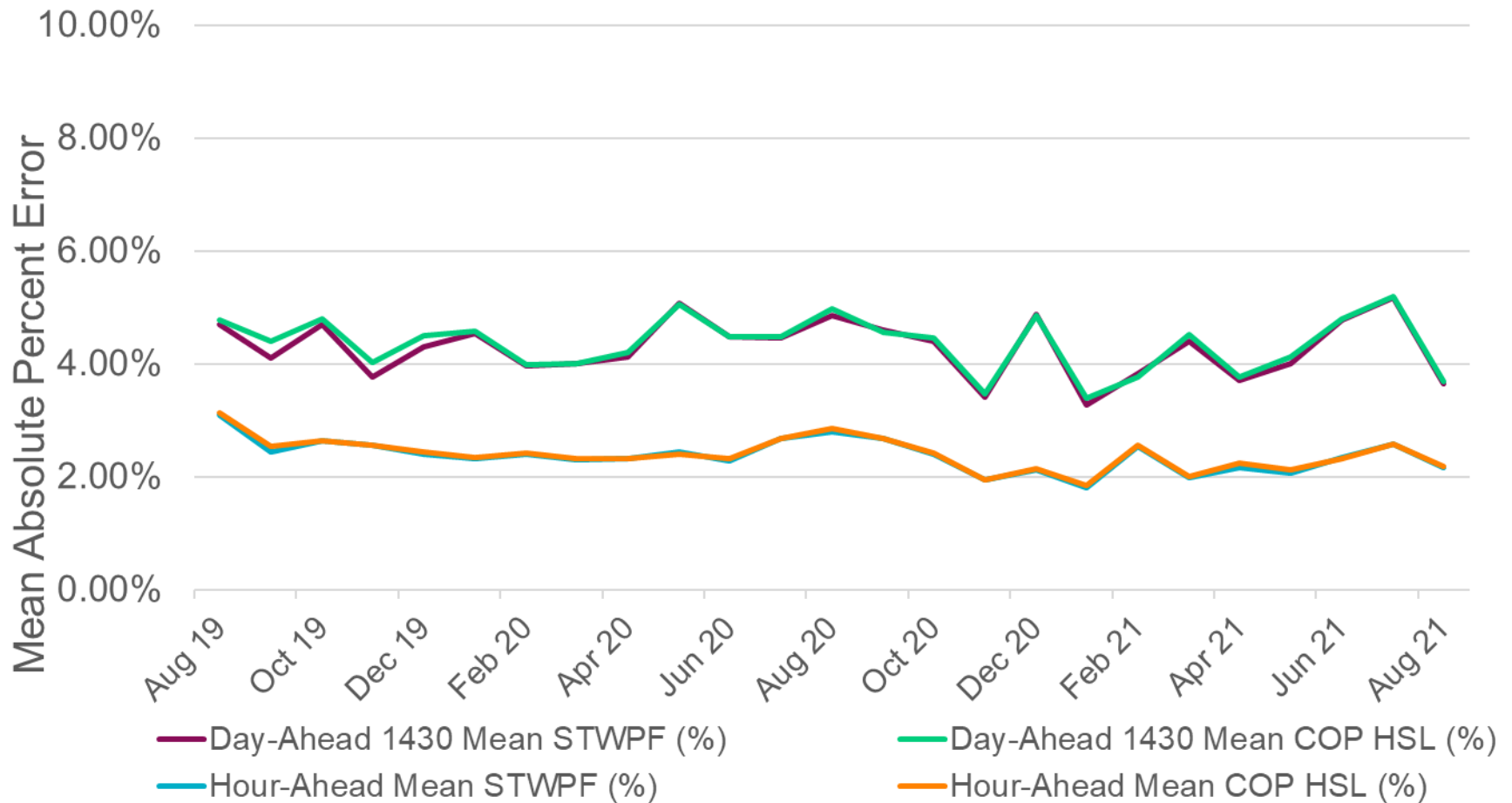
# Solar Forecast Performance



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



# Wind Forecast Performance

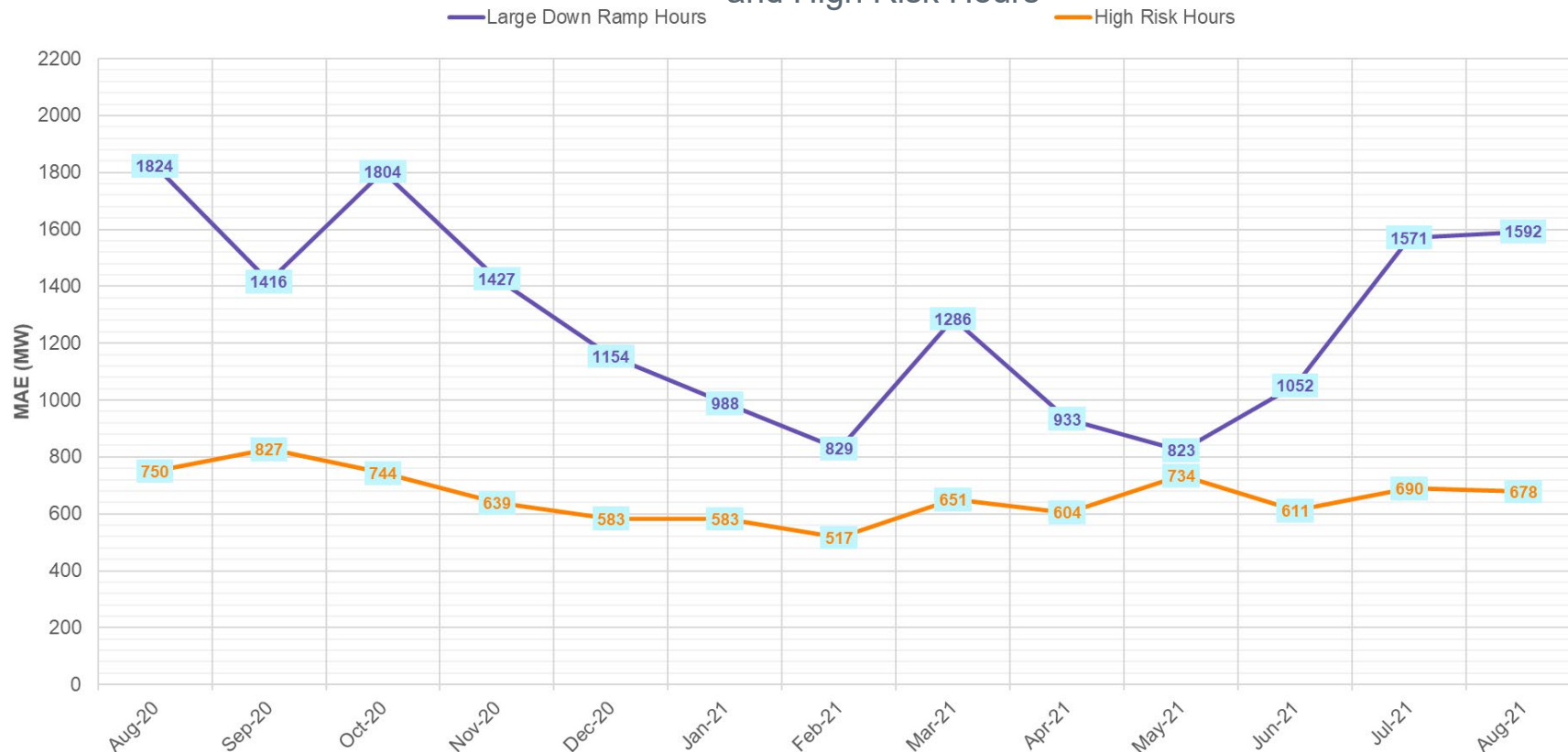


The Short-Term Wind Power Forecast (STWPF) is an ERCOT produced hourly 50% probability of exceedance forecast of the generation in MWh per hour from each Wind Generation Resource.



# Hour-Ahead Wind Forecast Performance

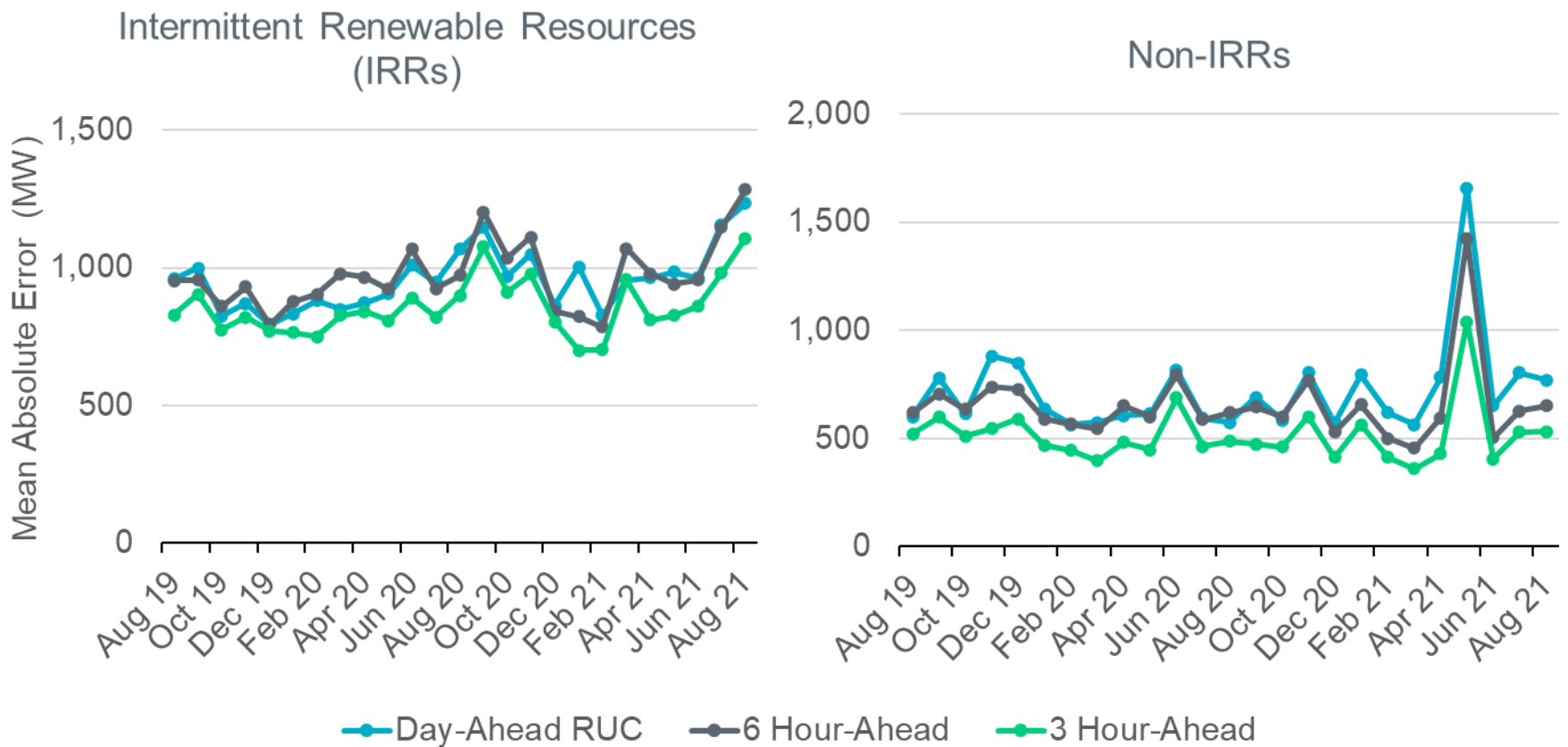
Hour-Ahead Mean Absolute Error (MAE) During Large Down Ramp (> 2000 MW) and High Risk Hours\*



\*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.

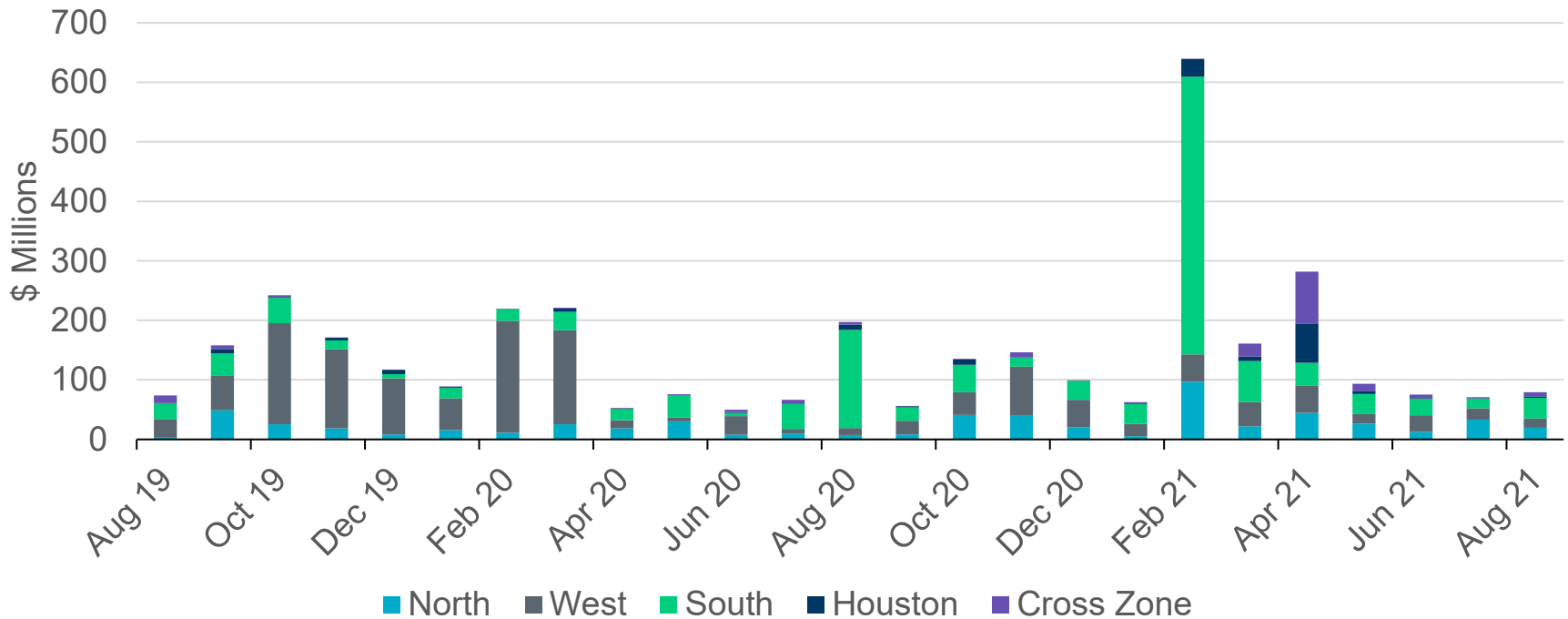
Forecast performance during large down ramp (wind ramp > 2000 MW) hours and high risk hours (historic risk of load ramping up and wind ramping down is high) is focused upon. Note that for the purposes of forecast performance measurement every hour in a month is classified as either a large down ramp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



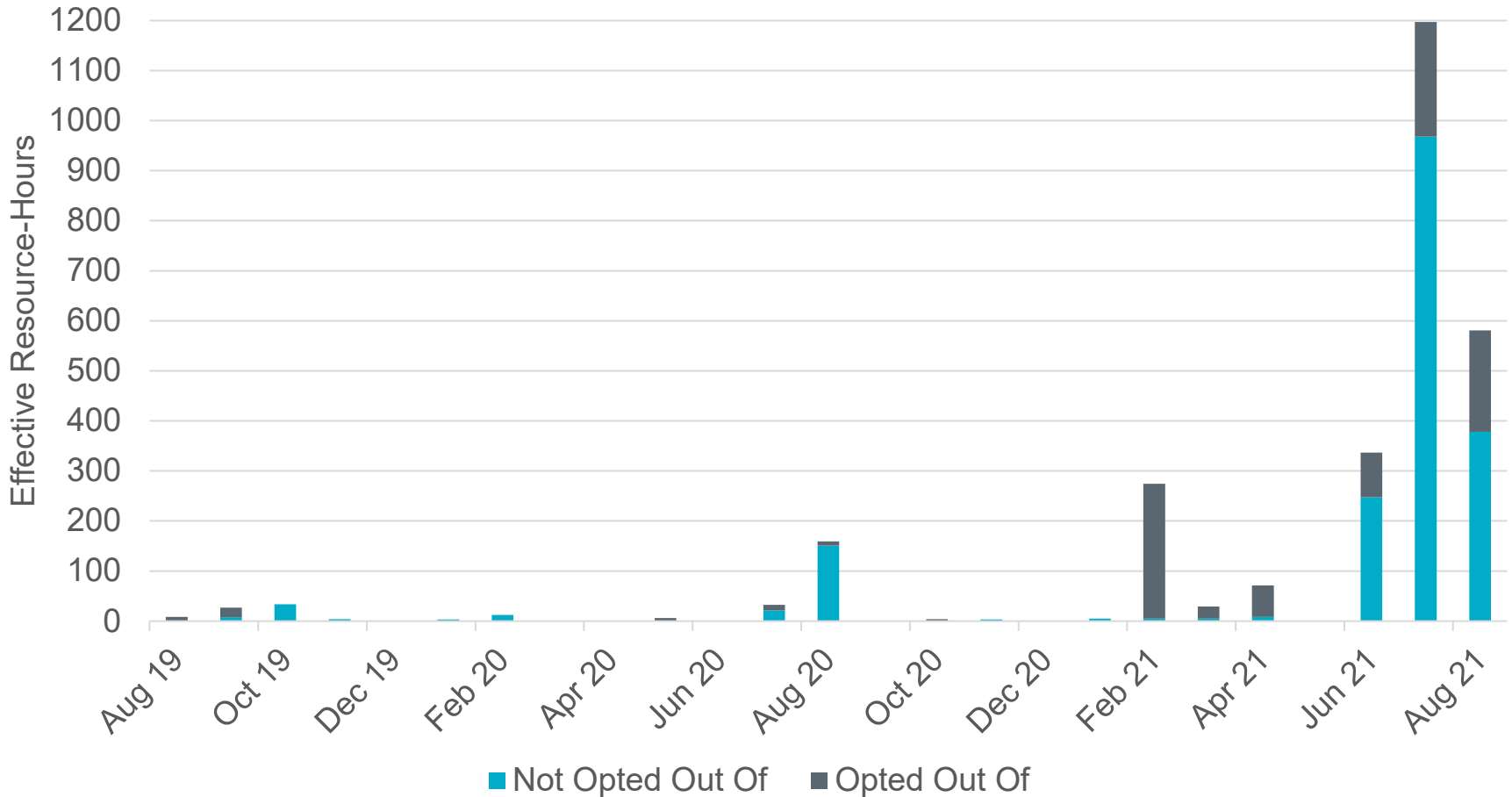
- COPs for IRRs are derived from wind and solar forecasts from ERCOT with any adjustments from Qualified Scheduling Entities.
- The installed capacity of approved Wind Units is 32,926 MW (as of August 31, 2021).
- The installed capacity of approved Solar Units is 8,274 MW (as of August 31, 2021).

# Real-Time Congestion Rent by Zone



- The congestion rent for August increased in the South Zone and Cross Zone when compared to July. The most significant constraints for August are MHARNED5: HAINE\_\_LA\_PAL1\_1 and BASE CASE: NE\_LOB 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.

# Twenty-Three Resources were Committed through RUC in August for Capacity and Minimum Run-Time



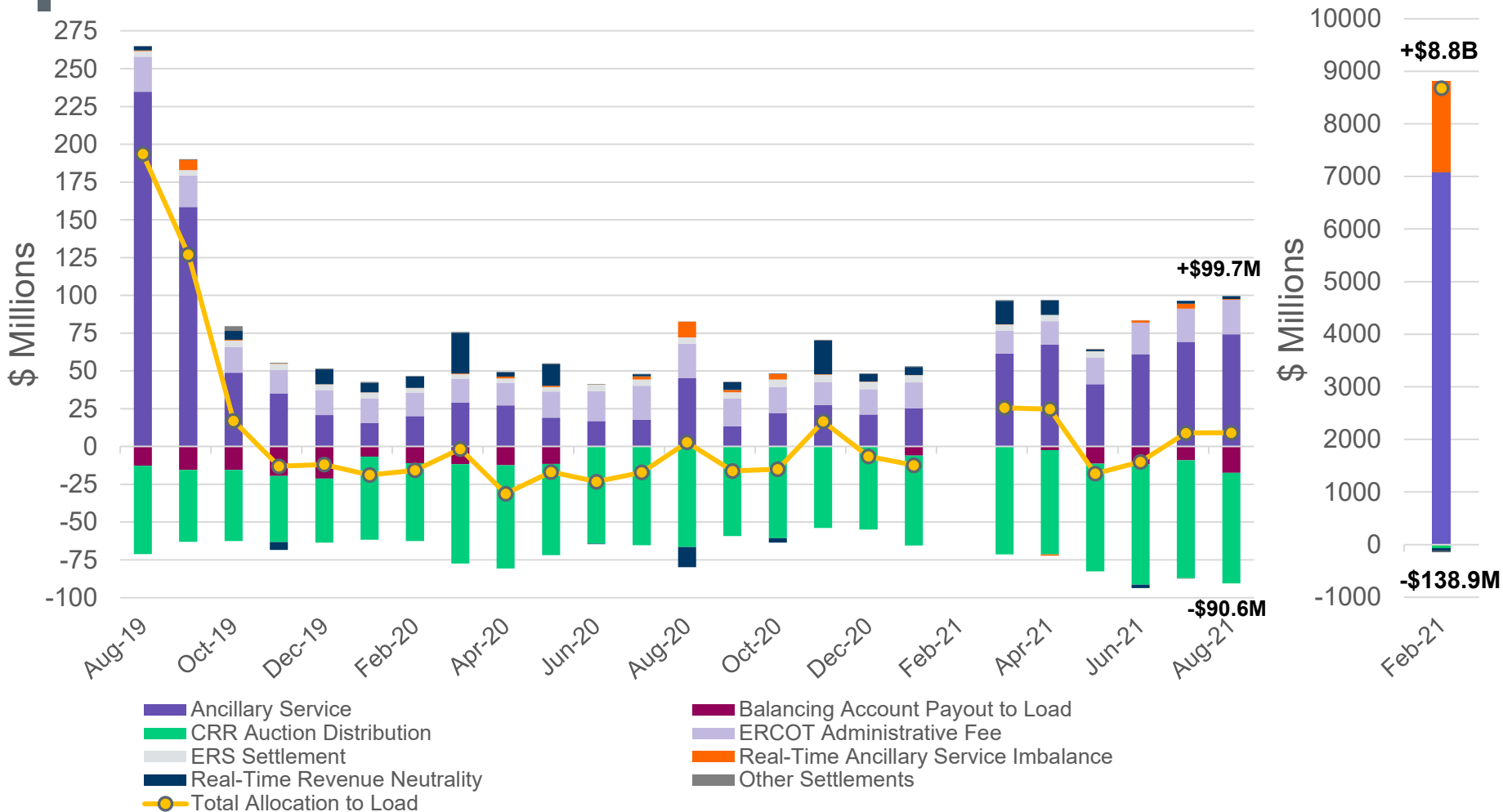
“Effective Resource-hours” excludes any period during a Reliability Unit Commitment hour when the RUC-committed Resource was starting up, shutting down, off-line, or otherwise not available for dispatch by SCED.

## Twenty-Three Resources were Committed through RUC in August for Capacity and Minimum Run-Time

Resource #	Effective Resource-hours	Non Opt Out (Effective Hours)	Opt Out (Effective Hours)
1	6.0	0.0	6.0
2	42.9	32.9	10.0
3	7.0	7.0	0.0
4	7.0	7.0	0.0
5	62.7	53.7	9.0
6	27.0	18.0	9.0
7	9.0	9.0	0.0
8	77.8	43.9	33.9
9	32.8	32.8	0.0
10	16.0	0.0	16.0
11	8.0	0.0	8.0
12	34.2	10.2	24.0
13	60.0	12.0	48.0
14	8.0	0.0	8.0
15	9.9	0.0	9.9
16	9.9	9.9	0.0
17	2.0	2.0	0.0
18	54.9	54.9	0.0
19	29.0	29.0	0.0
20	18.8	6.9	11.9
21	2.9	2.9	0.0
22	54.7	45.7	9.0
23	0.3	0.3	0.0

“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 August 2021 was \$9 Million



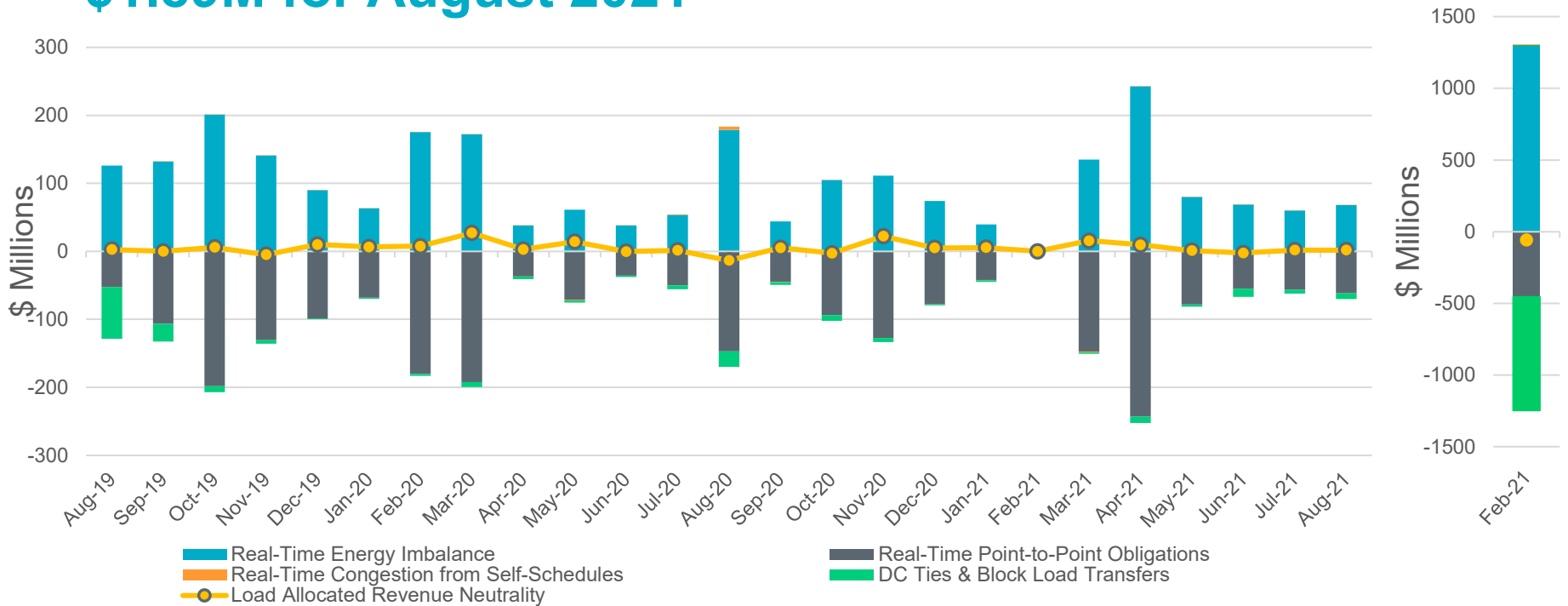
This information is available in tabular form in the Settlement Stability Report presented quarterly to the [Wholesale Market Subcommittee](#)

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 \$1.89M for August 2021

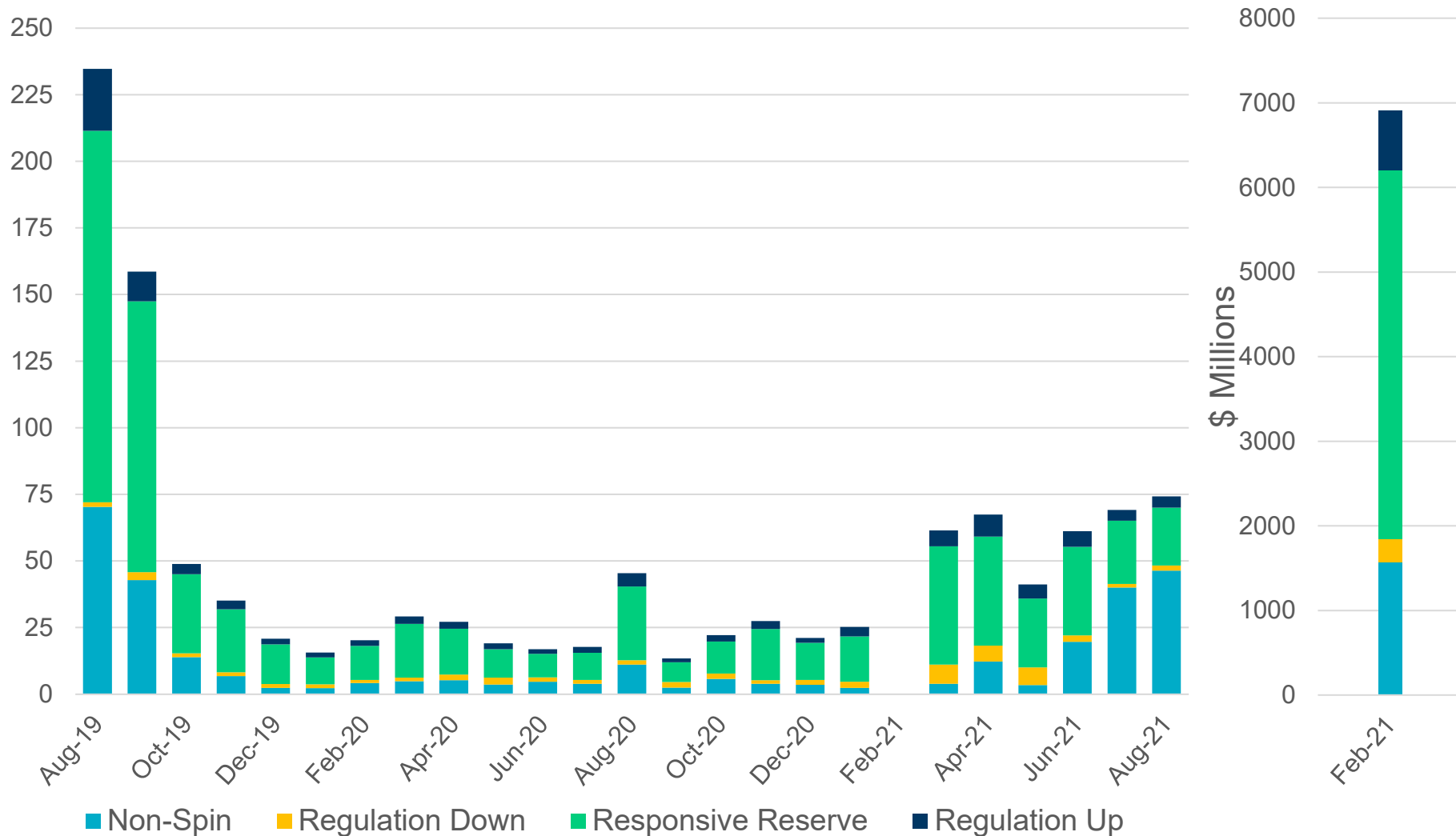


August 2021 (\$M)	
Real-Time Energy Imbalance	\$67.85
Real-Time Point-to-Point Obligation	(\$61.76)
Real-Time Congestion from Self-Schedules	\$0.41
DC Tie & Block Load Transfer	(\$8.40)
<b>Load Allocated Revenue Neutrality</b>	<b>\$1.89</b>

Note: For visual purposes, February 2021 has been separated into its own graph with different scaling. The legend applies for both graphs.



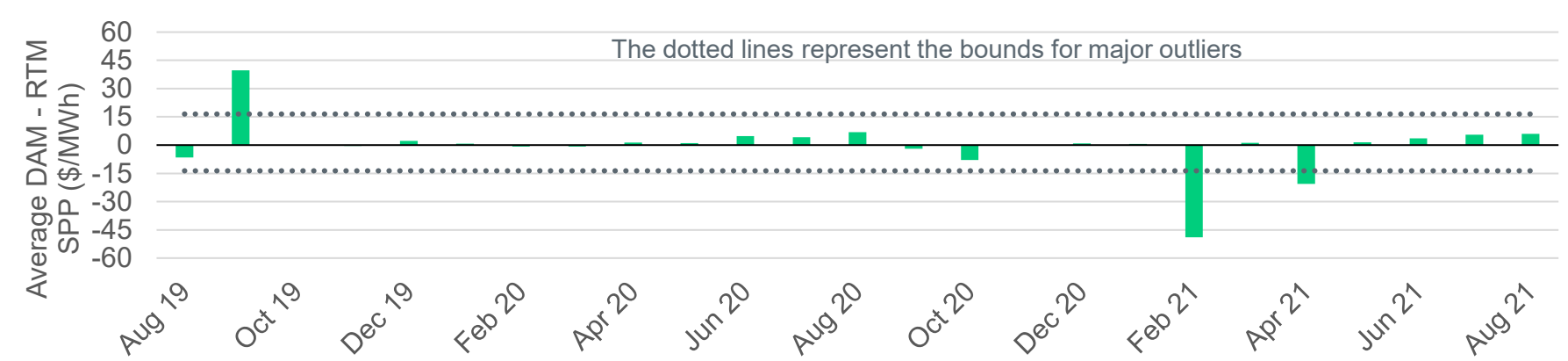
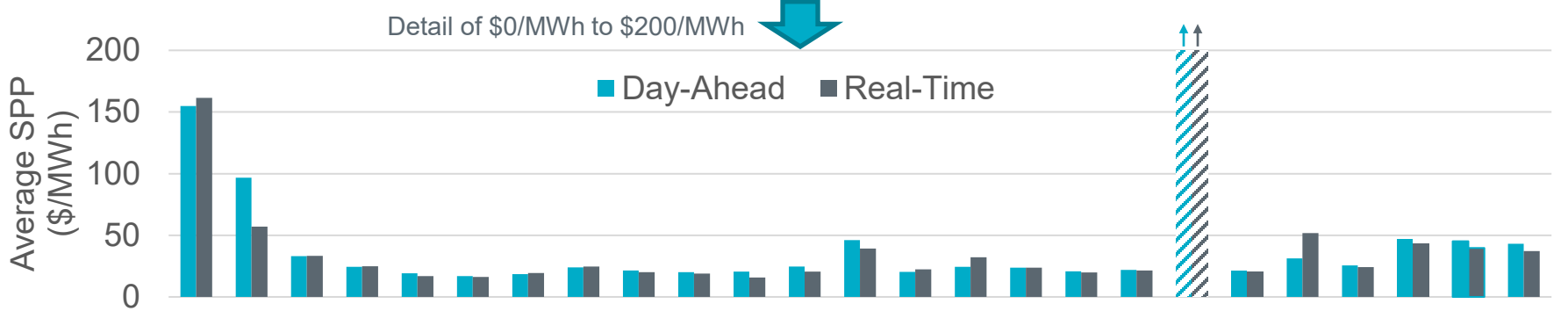
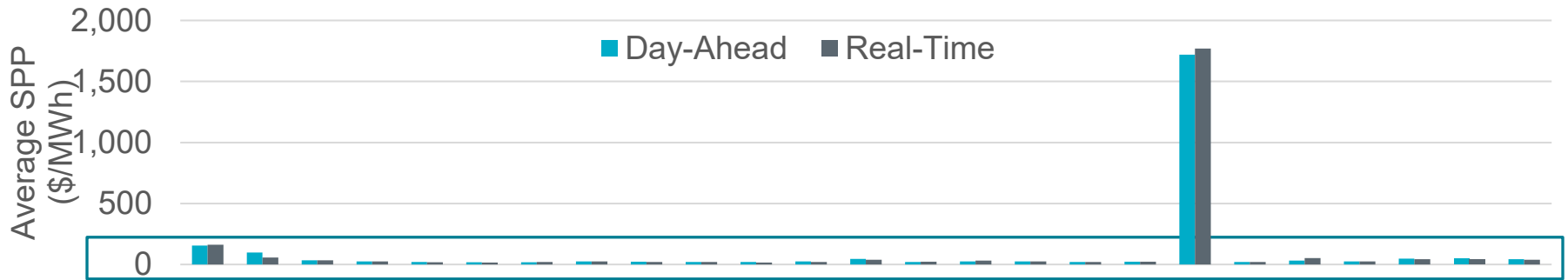
# Ancillary Services for August 2021 totaled \$74.19M



Note: For visual purposes, February 2021 has been separated into its own graph with different scaling. The legend applies for both graphs.



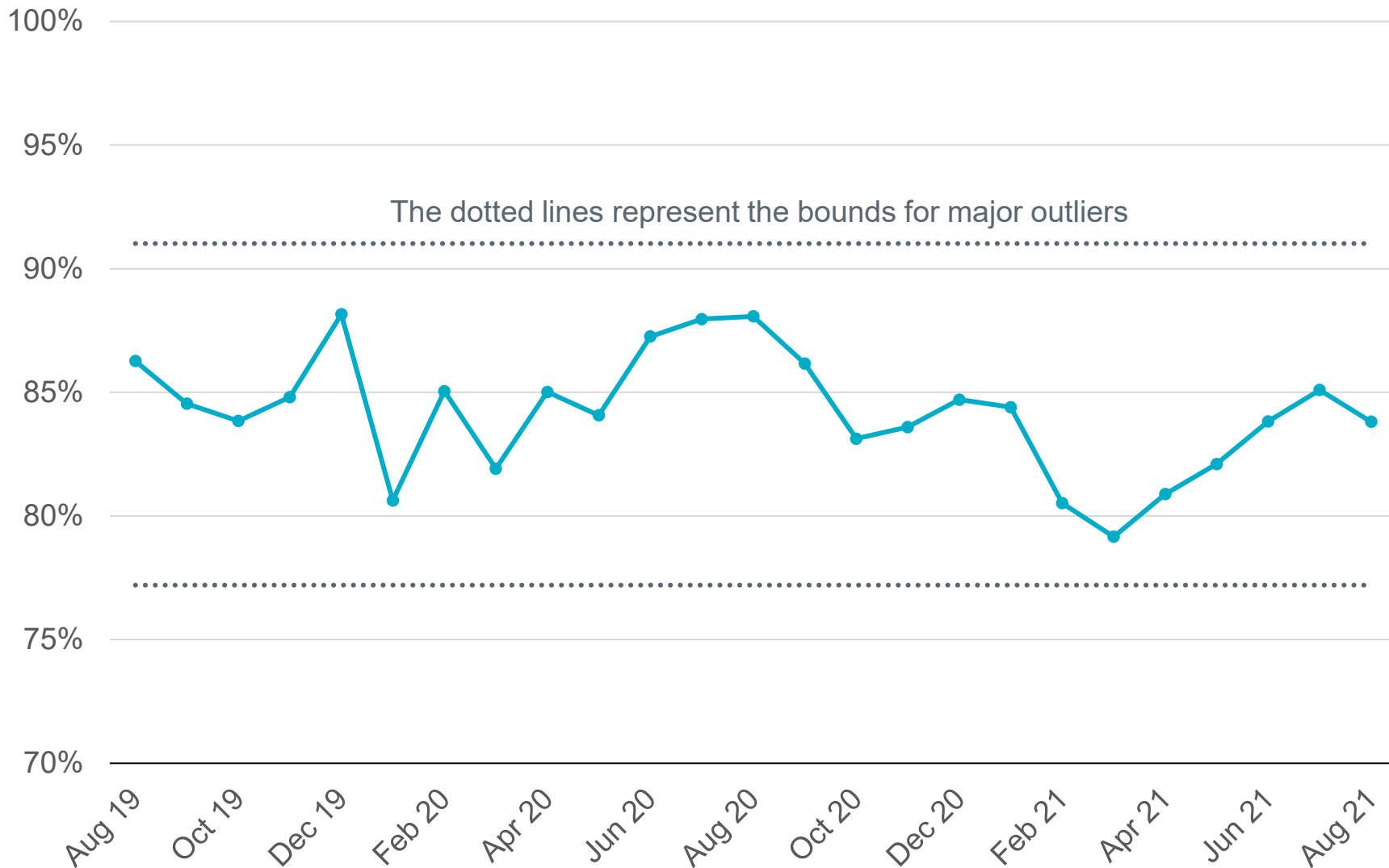
# Day-Ahead and Real-Time Market Price Differences



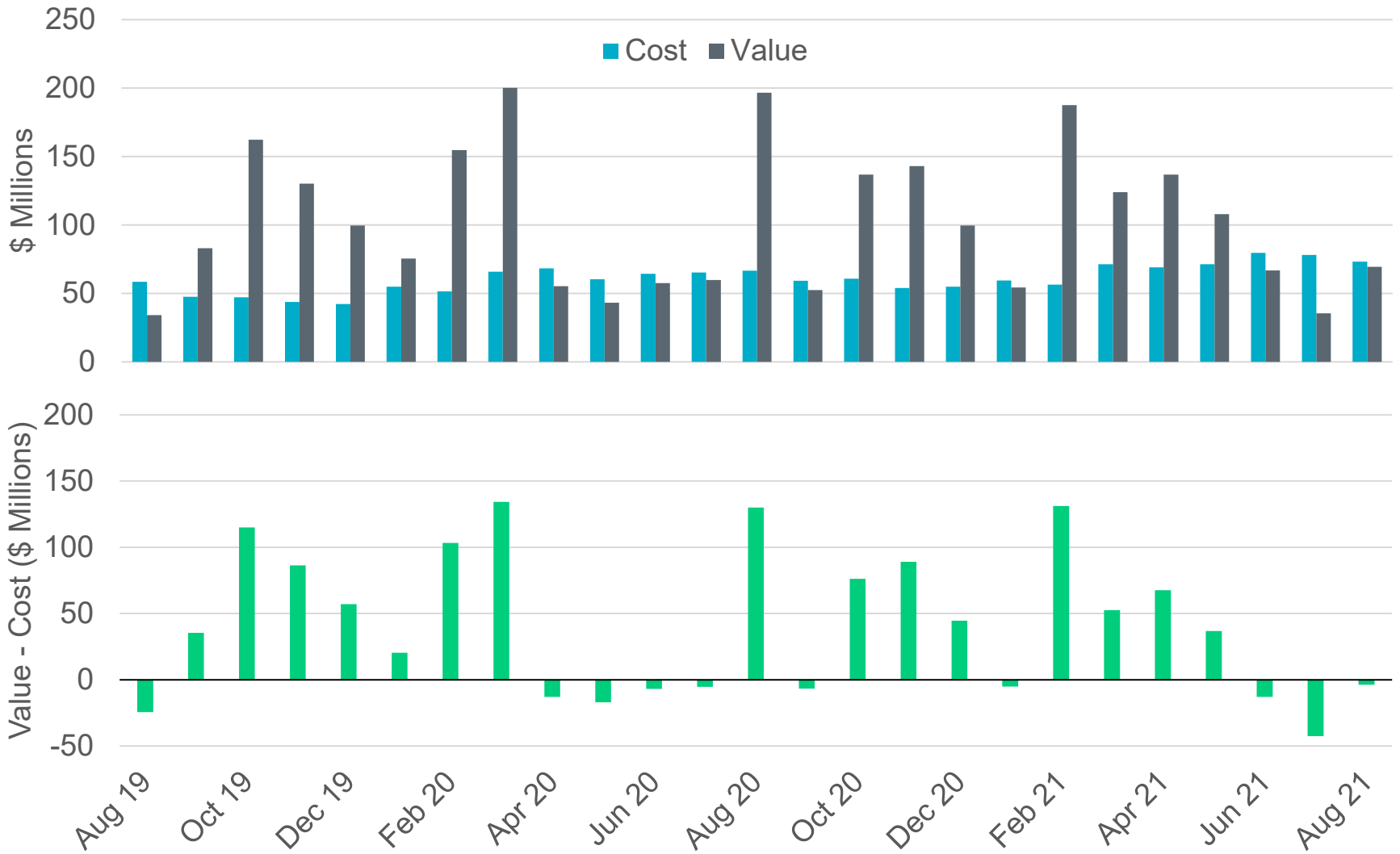
\*Averages are weighted by Real-Time Market Load



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



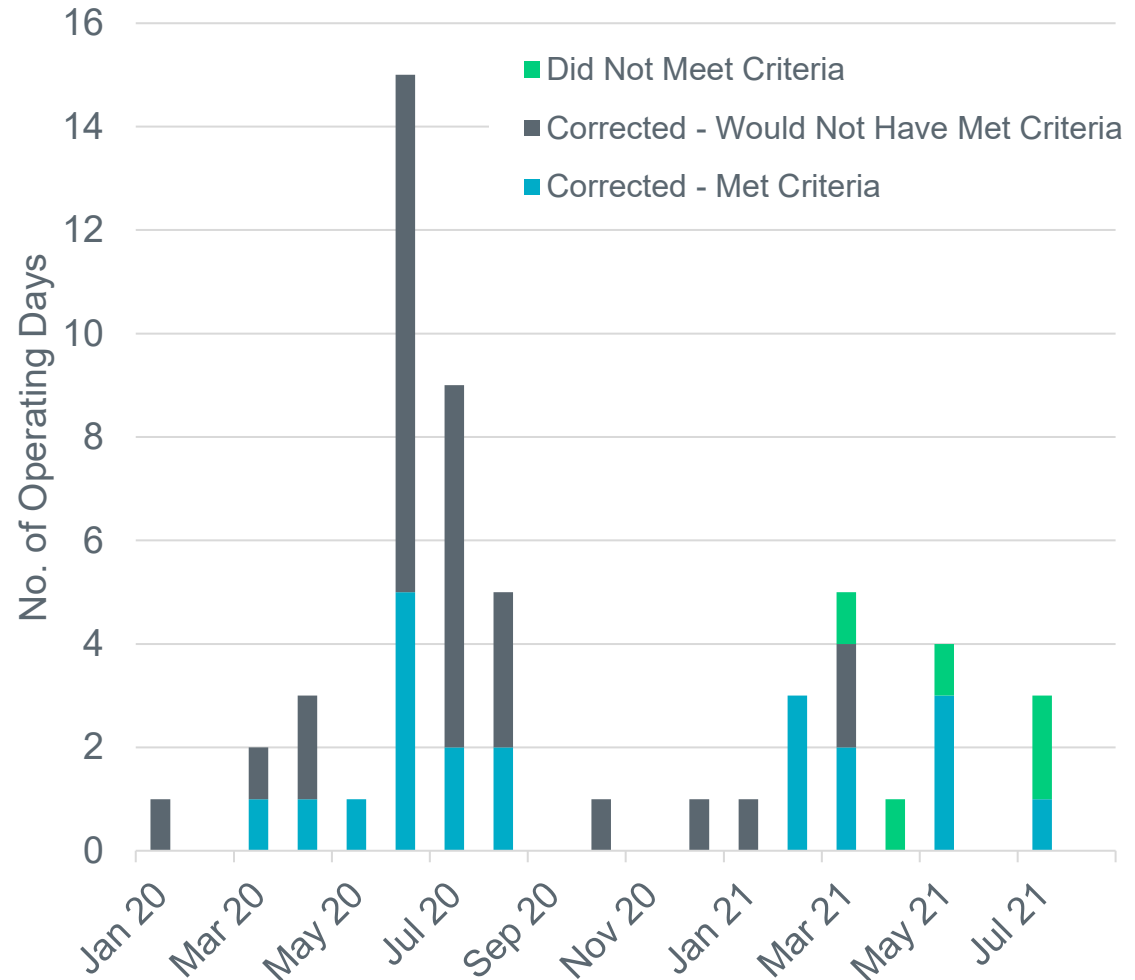
# CRR Value and Cost Differences



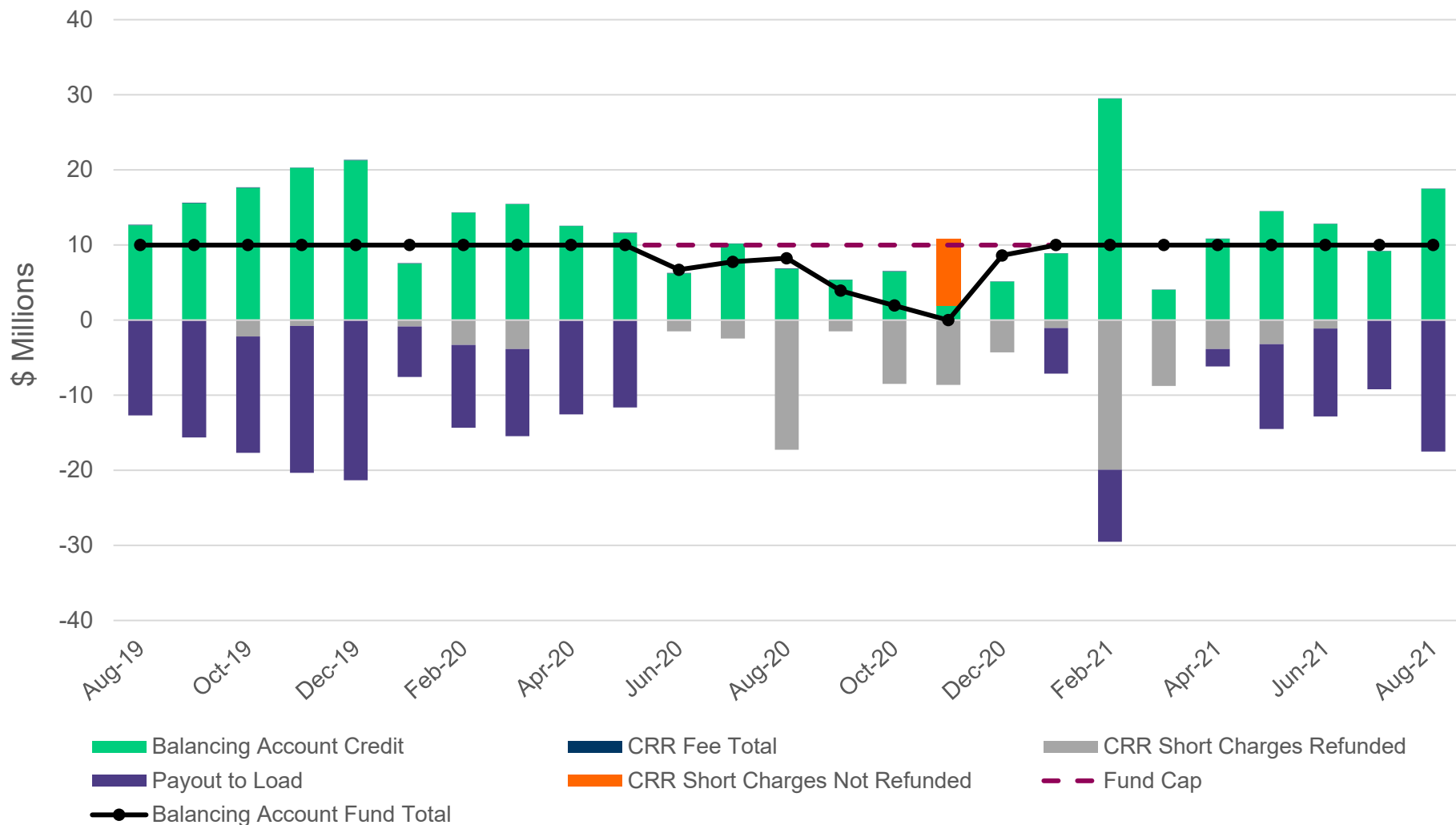
# Price Issues and the Impact of Nodal Protocol Revision Request (NPRR) 1024 on Price Corrections

This graph looks at the recent history of price issues in the RTM or DAM and breaks the impacted Operating Days into three categories:

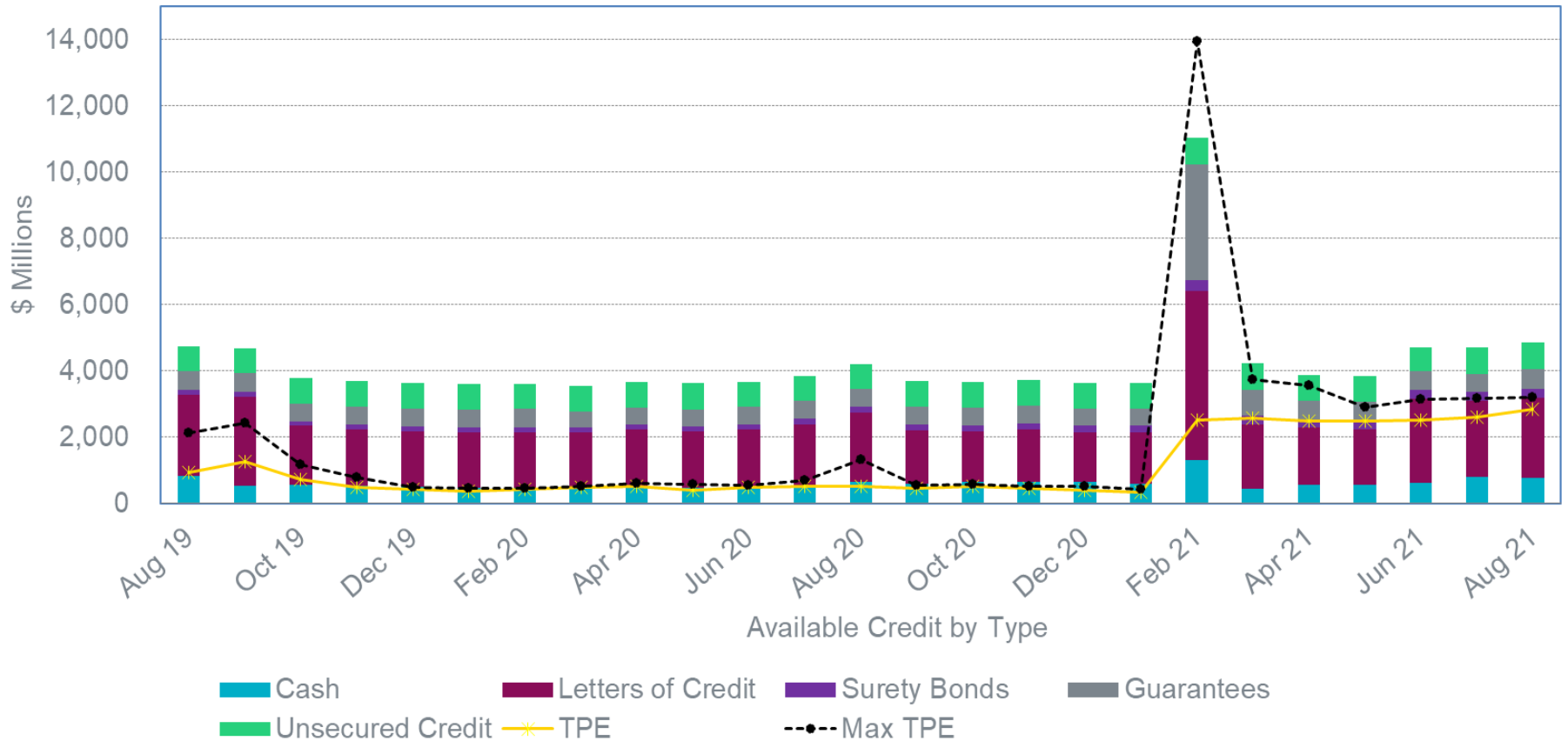
- Days that met the criteria for “significance” under NPRR1024 and were corrected;
- Days that would not have met the criteria for “significance” under NPRR1024, but were corrected because NPRR1024 was not yet in place; and
- Days that were not corrected because they did not meet the criteria for “significance” under NPRR1024.



# 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 – August 2021

Transaction Type	Year-To-Date		Transactions Received	
	August 2021	August 2020	August 2021	August 2020
<b>Switches</b>	988,656	803,791	112,901	123,368
<b>Acquisitions</b>	48,862	0	0	0
<b>Move - Ins</b>	1,876,952	1,822,656	264,683	253,886
<b>Move - Outs</b>	873,789	887,989	125,885	121,000
<b>Continuous Service Agreements (CSA)</b>	448,491	341,557	56,737	26,001
<b>Mass Transitions</b>	26,584	0	0	0
<b>Total</b>	<b>4,263,334</b>	<b>3,855,993</b>	<b>560,206</b>	<b>524,255</b>