ERCOT Monthly Operational Overview
(December 2019)

ERCOT Public
January 15, 2020

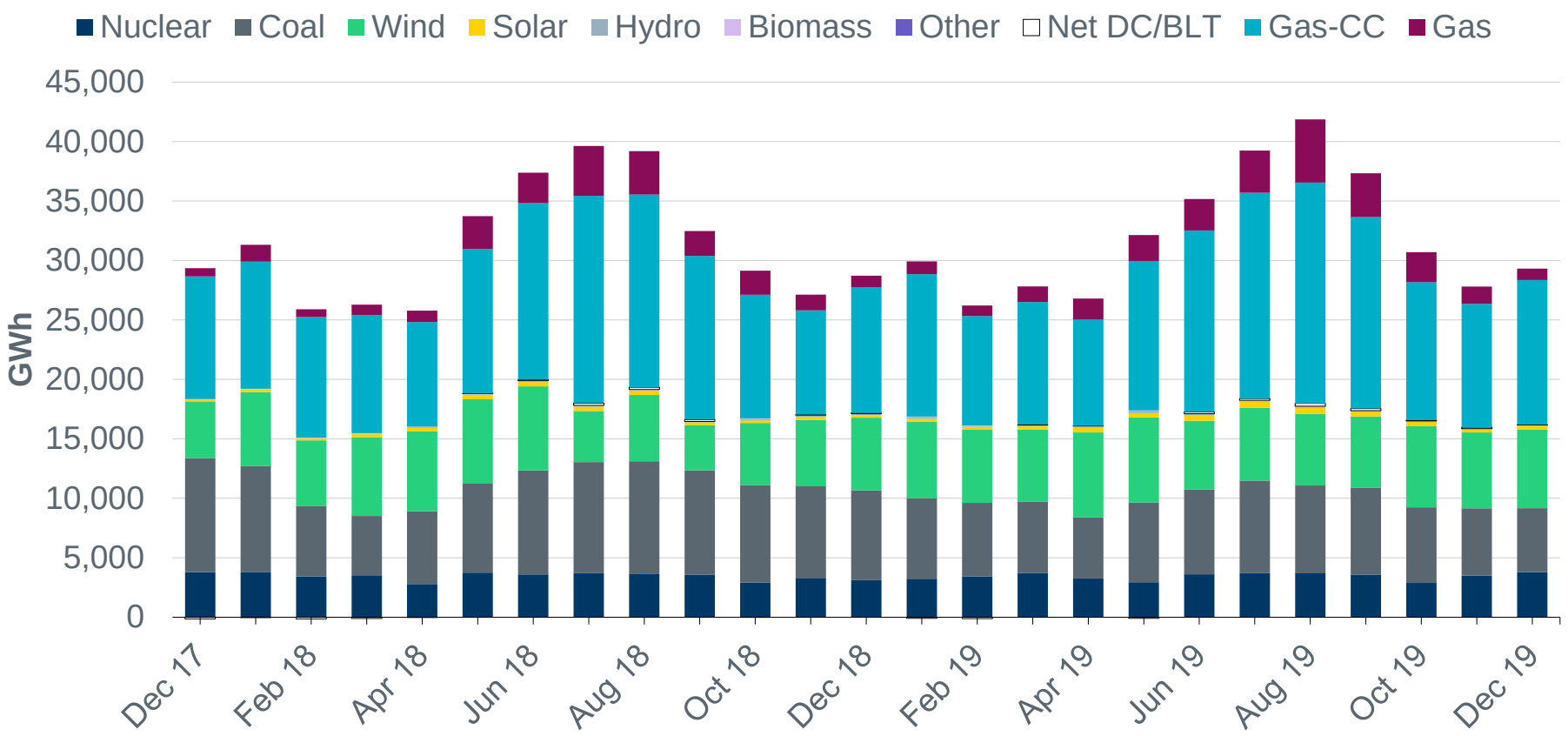
Monthly Highlights

- ERCOT set a maximum peak demand of 56,066 MW* in December 2019, which is 4,110 MW more than the December 2018 demand of 51,956 MW.

- ERCOT issued 8 notifications:
  - 3 DC Tie Curtailment Notices (2 for Laredo, 1 for Eagle Pass).
  - 3 Advisories issued for postponement of the DAM solution posting deadline due to long running solution.
  - 1 Advisory for the timeline deviation of the Day Ahead Market.
  - 1 Transmission Emergency Notice issued for Far West Texas.

* Preliminary value from December release of Demand and Energy 2019 report.

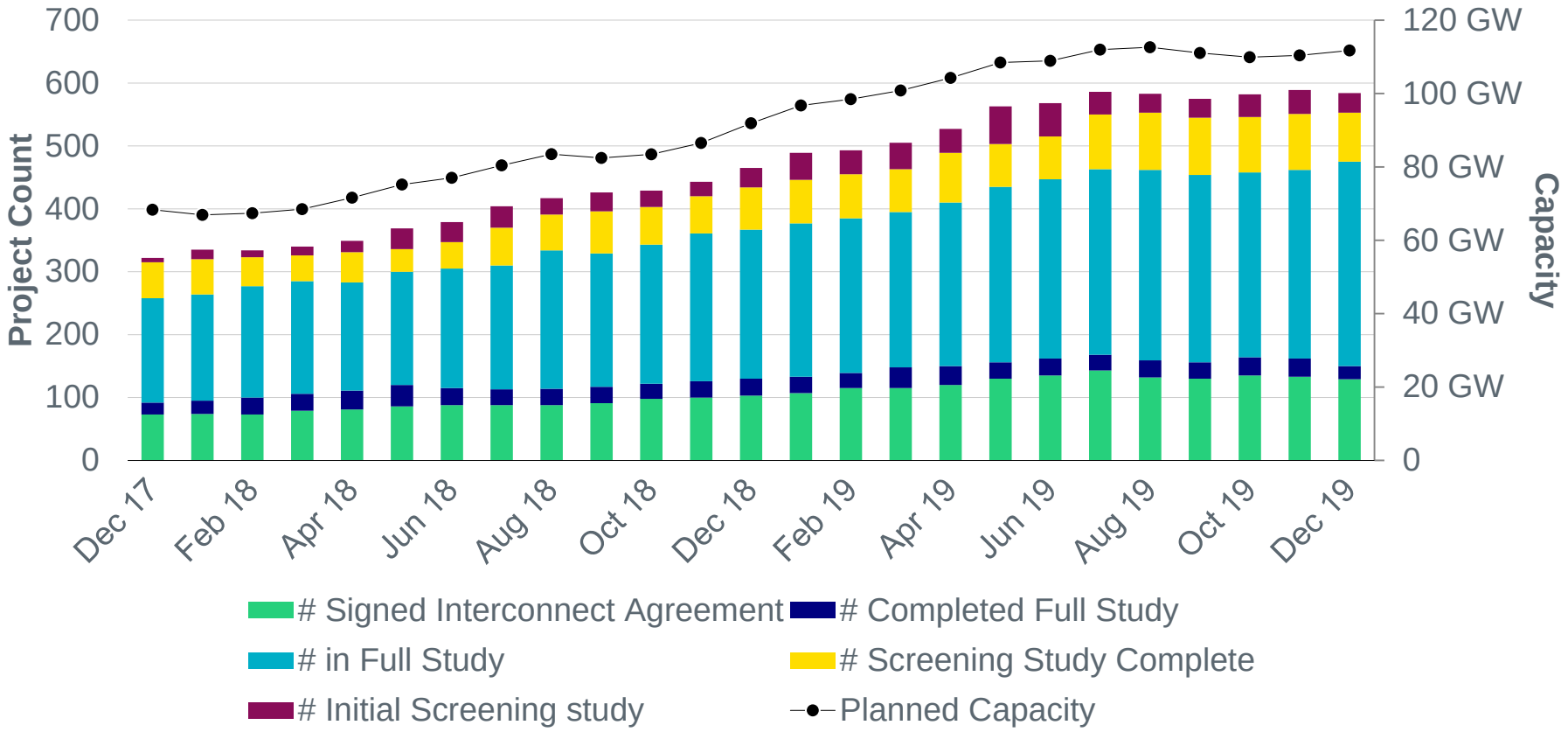
Monthly energy generation increased 2% year-over-year to 29,313 GWh in December 2019, compared to 28,725 GWh in December 2018



Data for latest two months are based on preliminary settlements.

Generation Interconnection activity by project phase

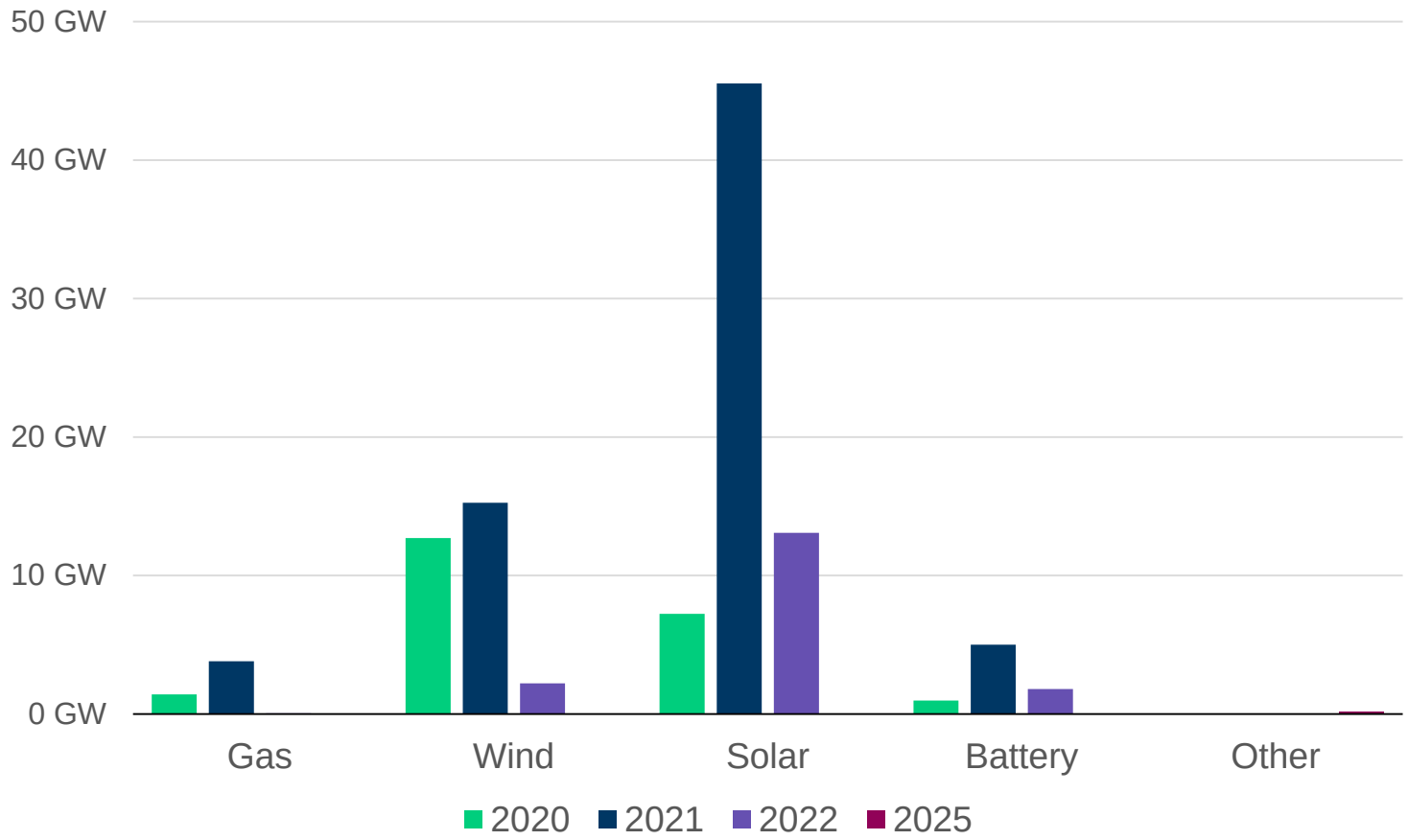
(excludes capacity associated with Projects designated as Inactive per Planning Guide Section 5.7.6)



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 68 GW (61%), Wind 30 GW (27%), Gas 6 GW (5%), Battery 8 GW (7%)
(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 584 active generation interconnection requests totaling 111,742 MW. This includes 67,808 MW of solar, 30,174 MW of wind, and 7,790 MW of battery projects as of December 31, 2019.

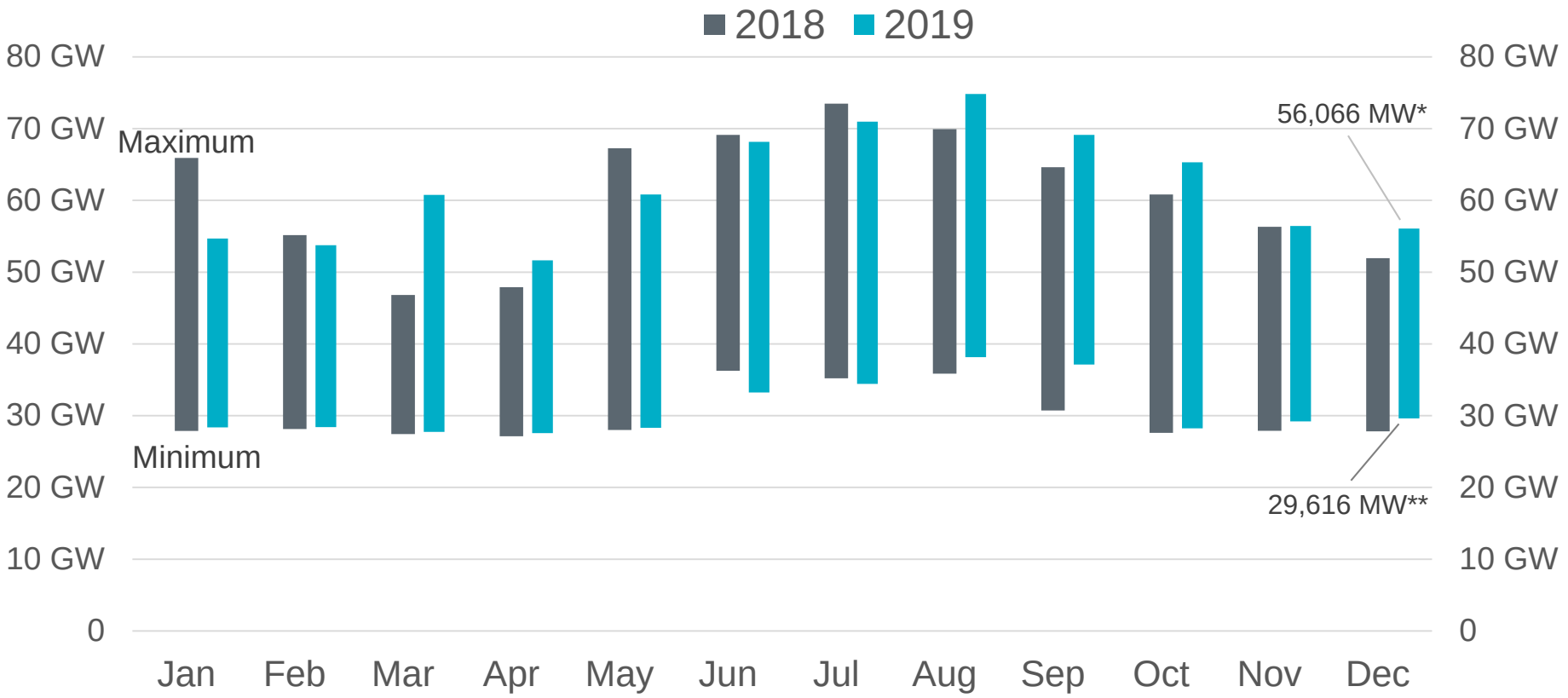
- ERCOT is currently reviewing proposed transmission improvements with a total estimated cost of $1,309.31 Million as of December 31, 2019.

- Transmission Projects endorsed in 2019 total $628.8 Million as of December 31, 2019.

- All projects (in engineering, routing, licensing and construction) total approximately $3.41 Billion as of October 1, 2019.

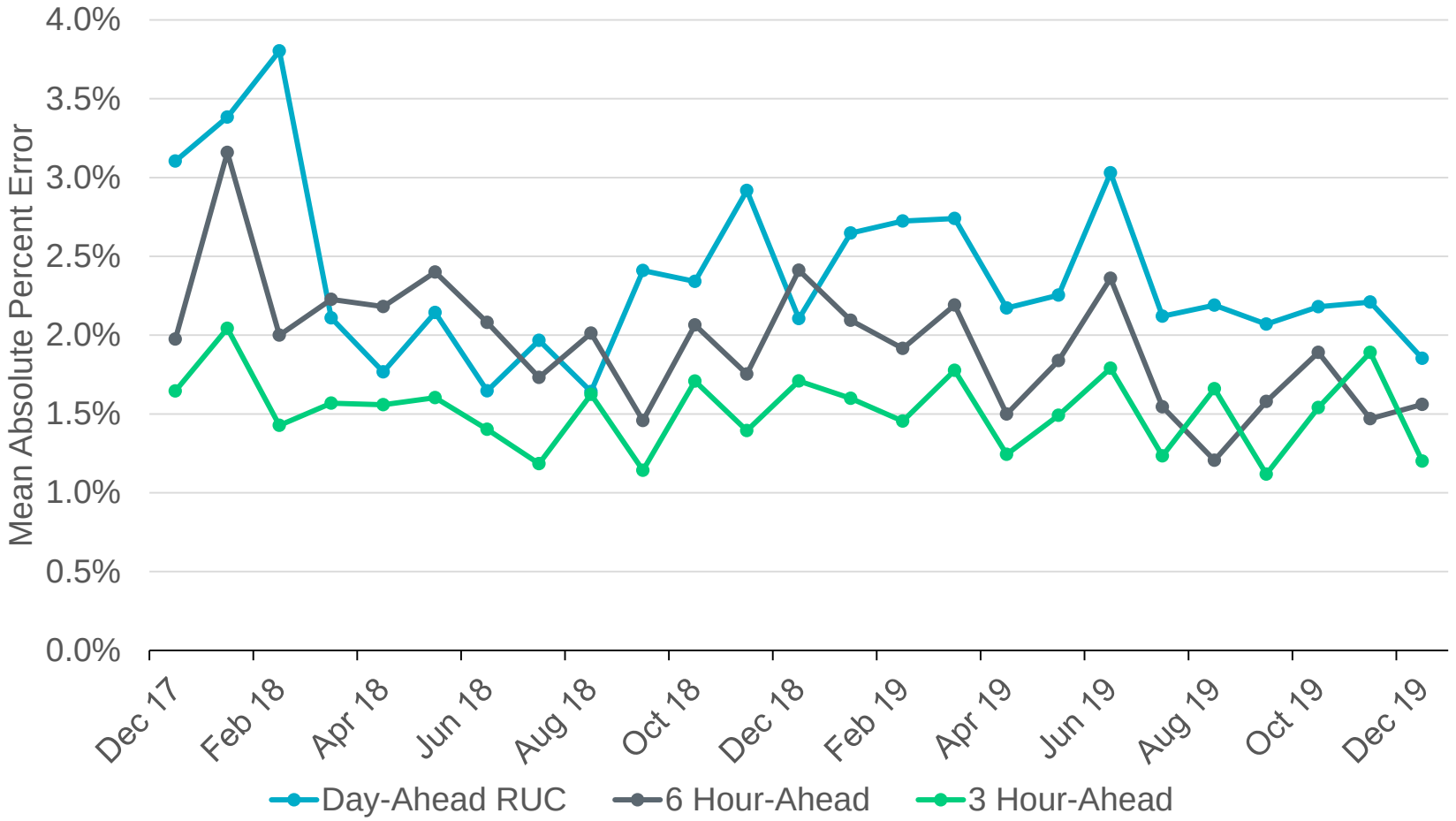
- Transmission Projects energized in 2019 total about $1.30 Billion as of October 1, 2019.

ERCOT set a maximum peak demand of 56,066 MW* in December 2019, which is 4,110 MW more than the December 2018 demand of 51,956 MW



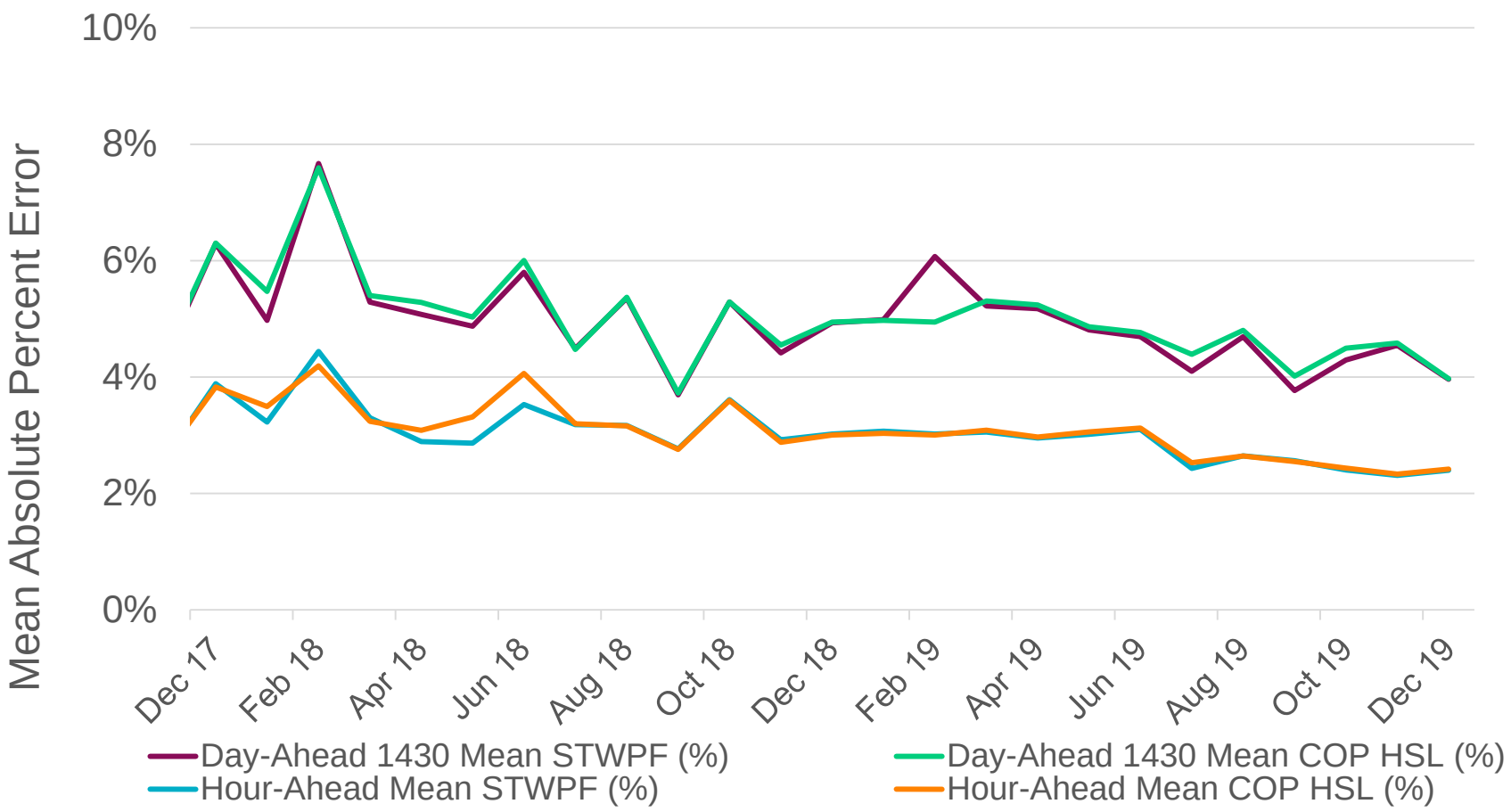
*Based on the maximum net system hourly value from December release of Demand and Energy 2019 report.
**Based on the minimum net system 15-minute interval value from December release of Demand and Energy 2019 report.
Data for latest two months are based on preliminary settlements.

Mid-Term Load Forecast Performance



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

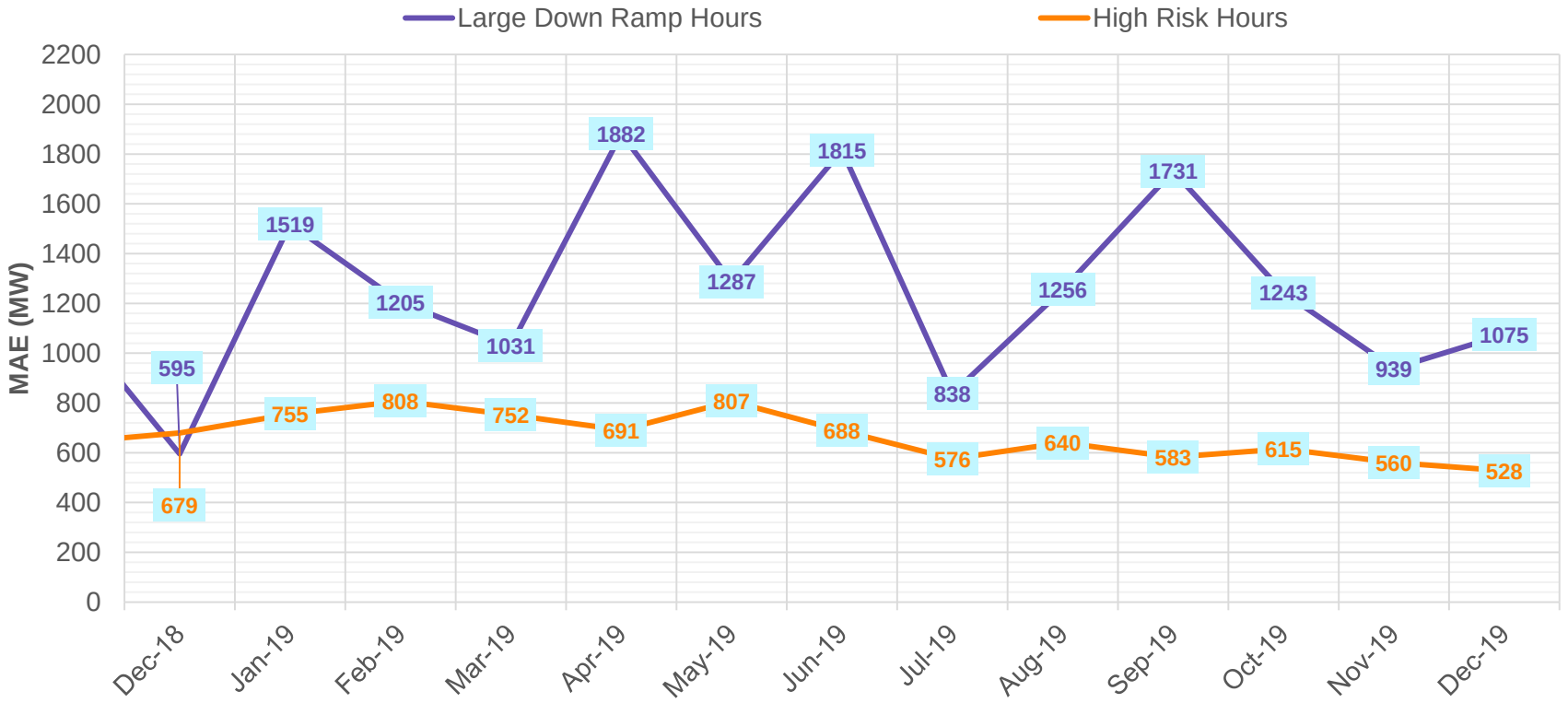
Wind Forecast Performance



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

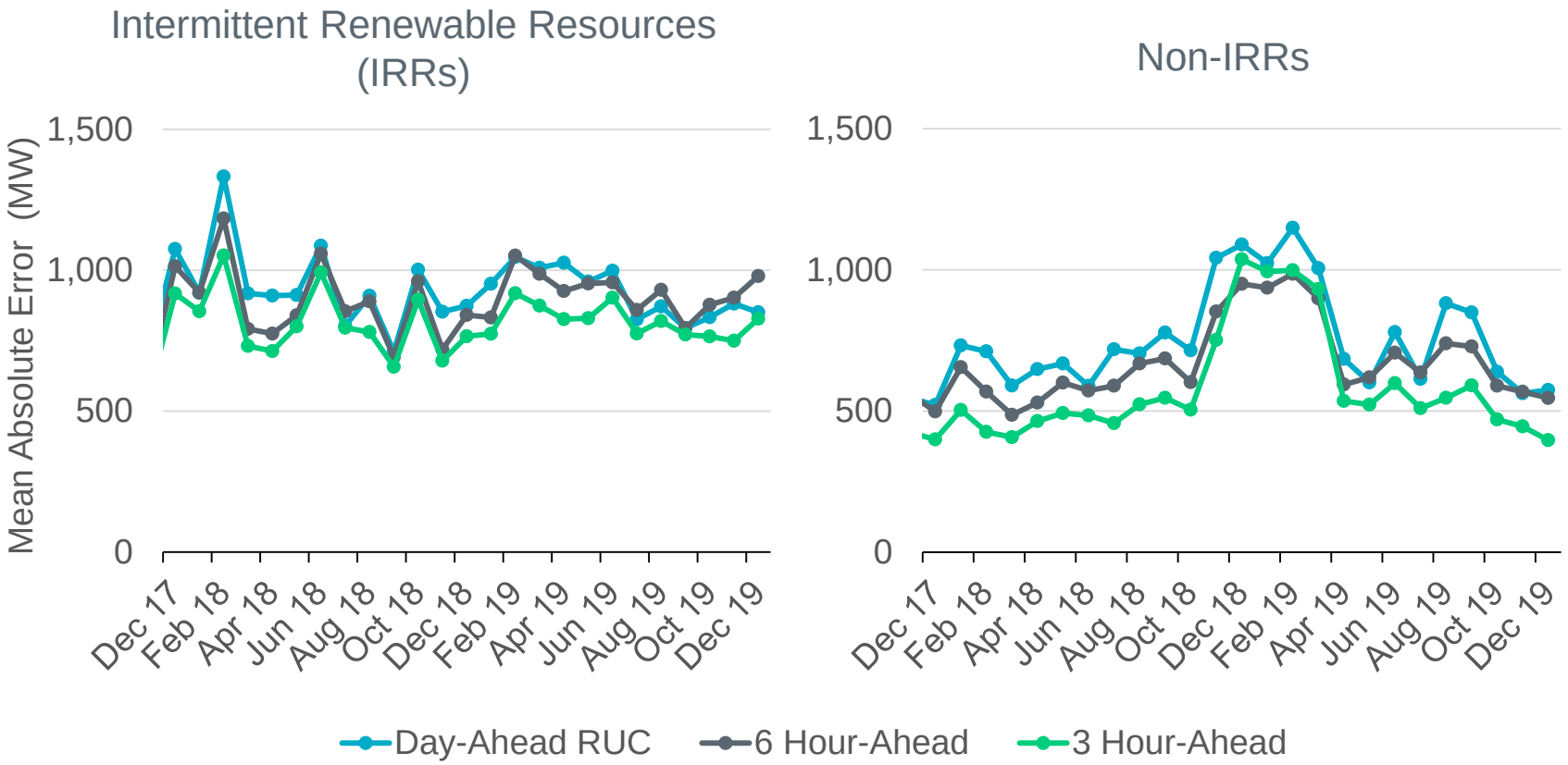
Hour-Ahead Mean Absolute Error (MAE) During Large Down Ramp (> 2000 MW) and High Risk Hours*



**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.*

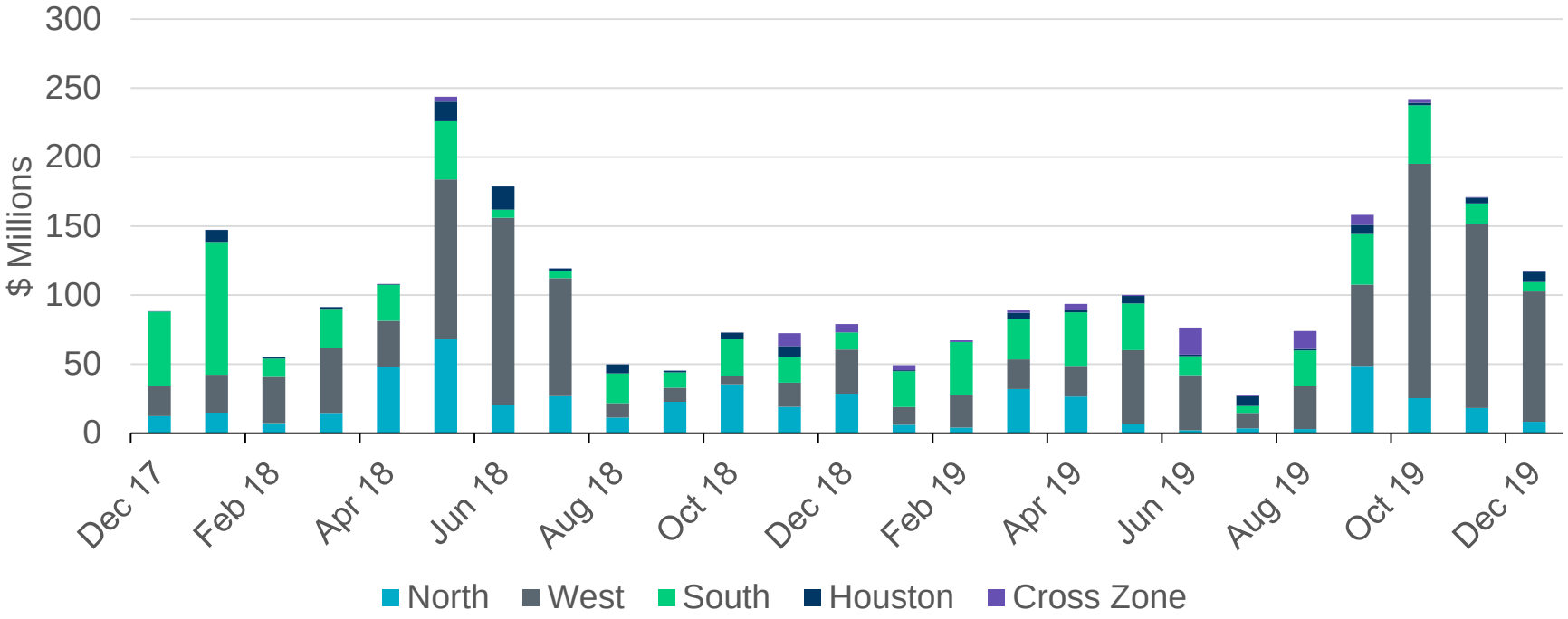
Forecast performance during large down ramp (wind ramp > 2000 MW) hours and high risk hours (historic risk of load ramping up and wind ramping down is high) is focused upon. Note that for the purposes of forecast performance measurement every hour in a month is classified as either a large down ramp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



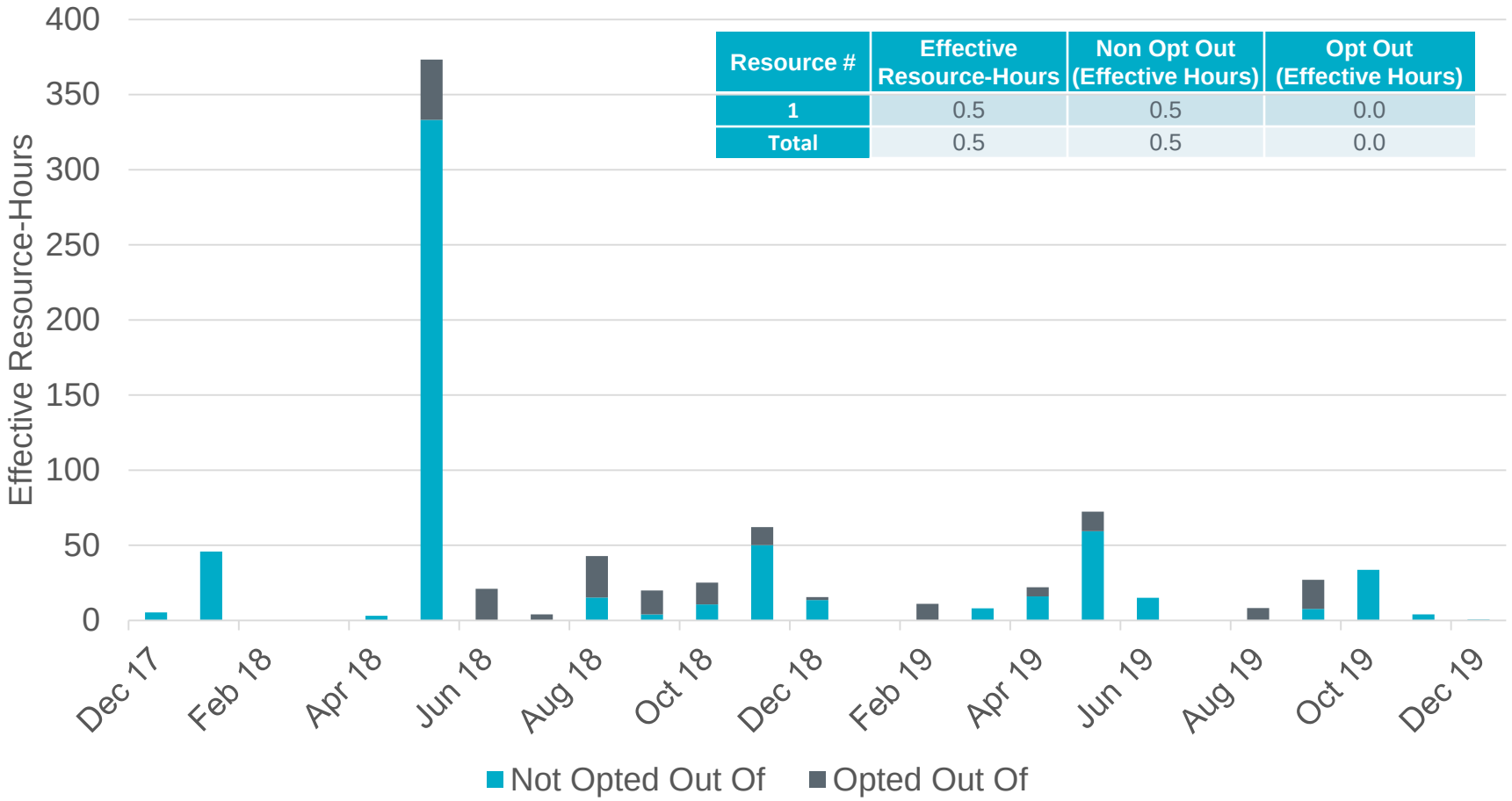
- COPs for IRRs are derived from wind and solar forecasts from ERCOT with any adjustments from Qualified Scheduling Entities.
- The installed capacity of approved IRRs is 27,040 MW (as of December 31, 2019).

Real-Time Congestion Rent by Zone



- The congestion rent in the West zone remained high for December, in part due to planned transmission outages. The most significant West zone constraints for December include SECNMO28: 6100__F and DWINDUN8: 6100__F in the Odessa – Midland area and 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.

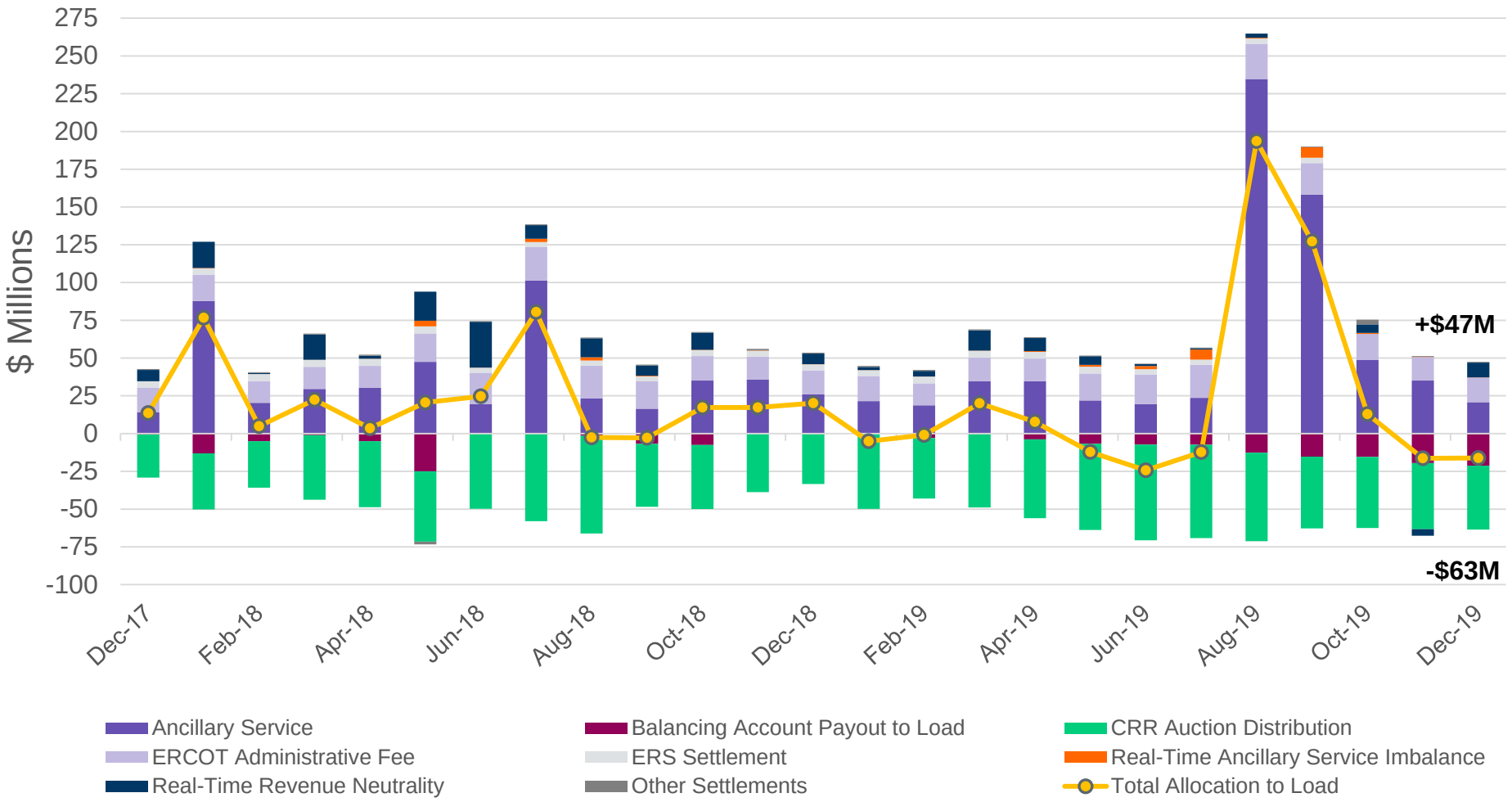
One Resource was Committed in December for Congestion



Resource #	Effective Resource-Hours	Non Opt Out (Effective Hours)	Opt Out (Effective Hours)
1	0.5	0.5	0.0
Total	0.5	0.5	0.0

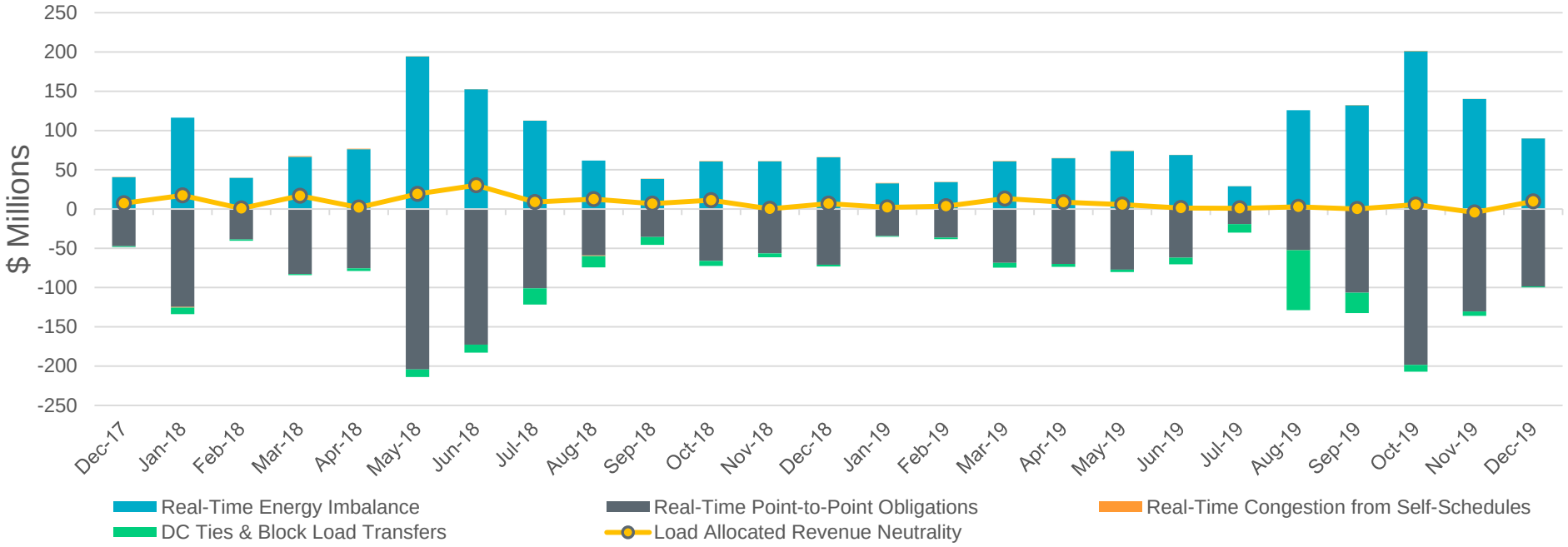
"Effective Resource-hours" excludes any period during a Reliability Unit Commitment hour when the RUC-committed Resource was starting up, shutting down, off-line, or otherwise not available for dispatch by SCED.

Net Allocation to Load in December 2019 was $-16.20 Million



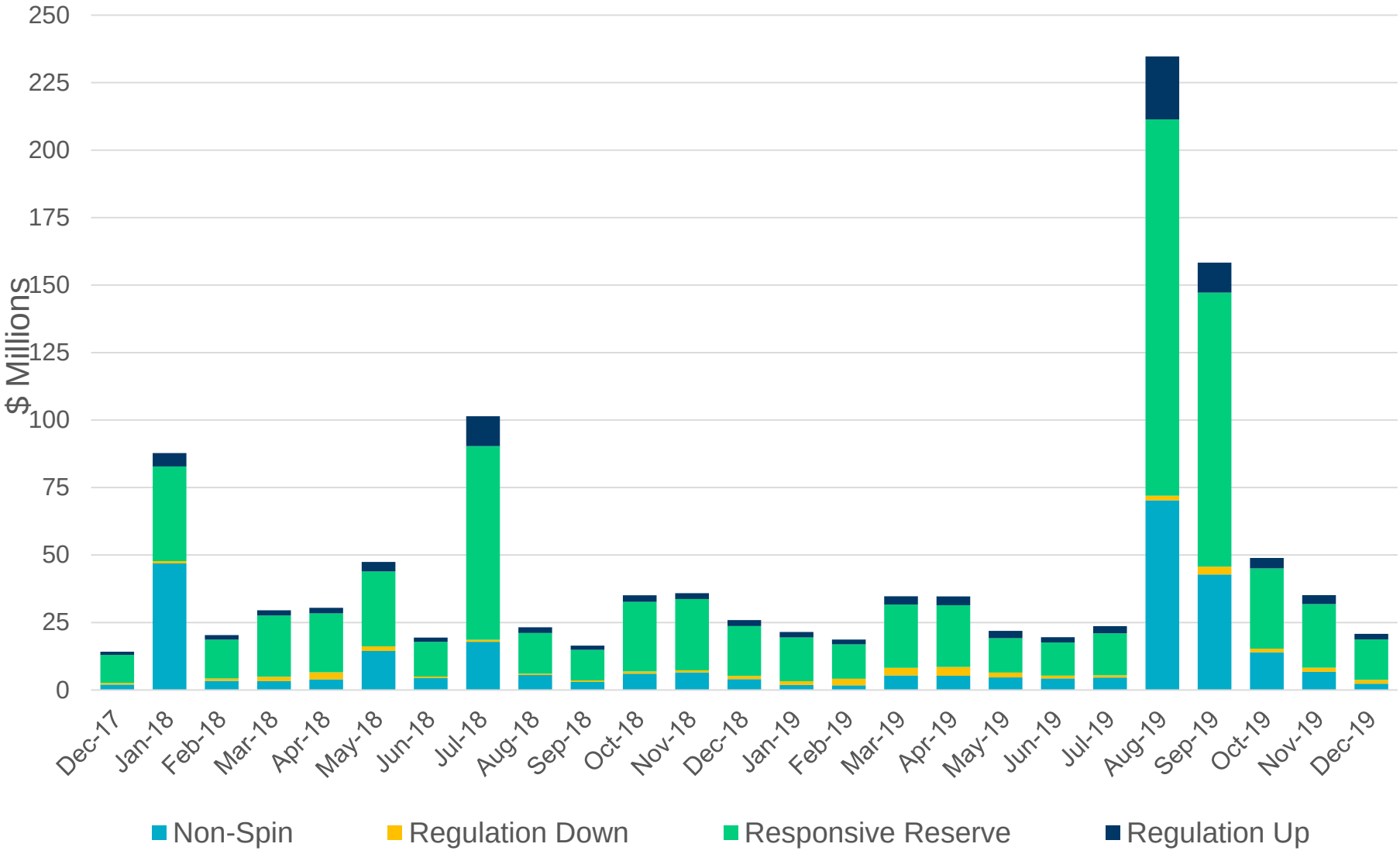
This information is available in tabular form in the Settlement Stability Report presented quarterly to the Market Settlement Working Group and Wholesale Market Subcommittee

Real-Time Revenue Neutrality Allocated to Load was $9.82M for December 2019

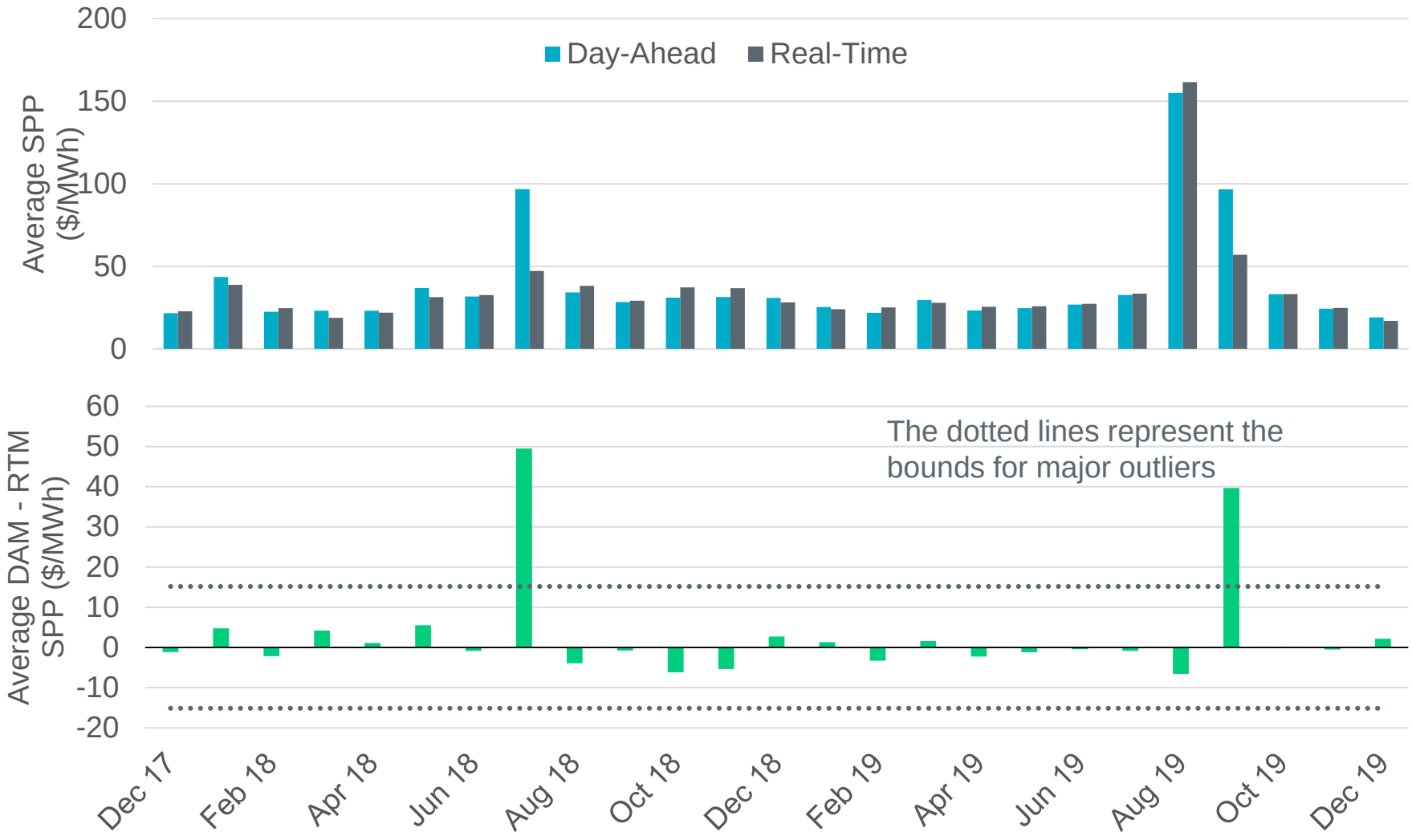


	November 2019 ($M)
Real-Time Energy Imbalance	$89.84
Real-Time Point-to-Point Obligation	($98.52)
Real-Time Congestion from Self-Schedules	$0.05
DC Tie & Block Load Transfer	($1.19)
Load Allocated Revenue Neutrality	**$9.82**

Ancillary Services for December 2019 totaled $20.82M

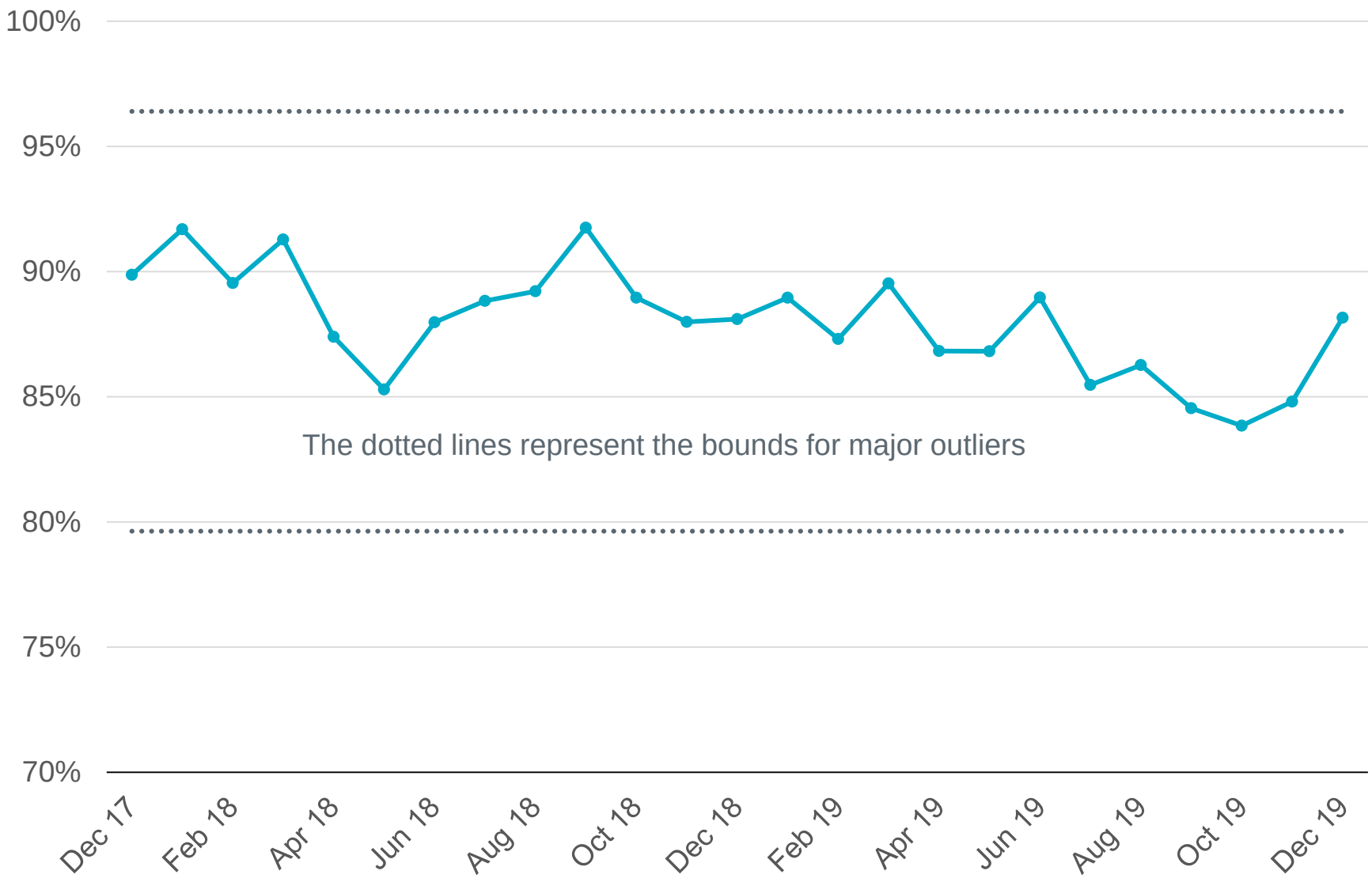


Day-Ahead and Real-Time Market Price Differences

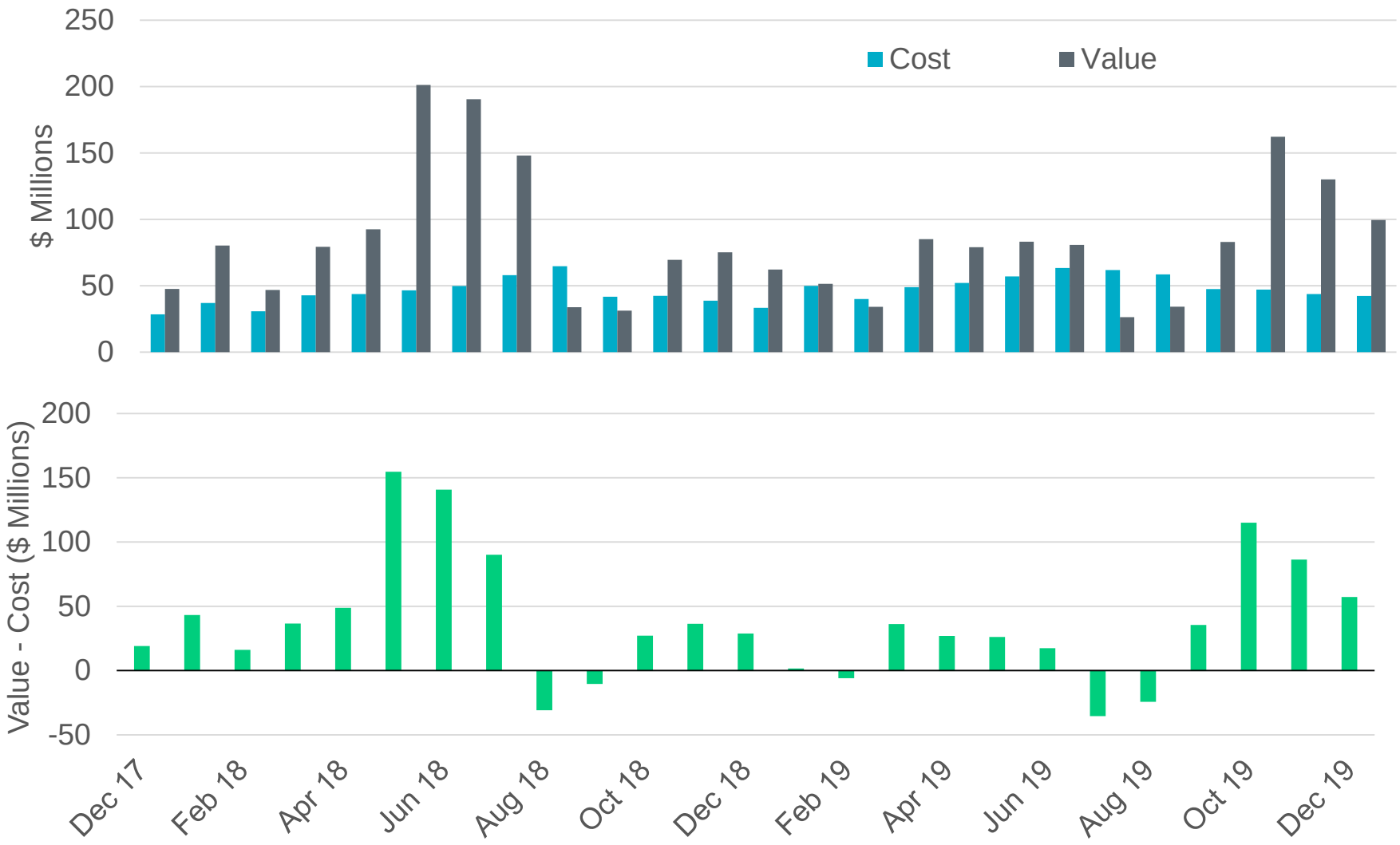


*Averages are weighted by Real-Time Market Load

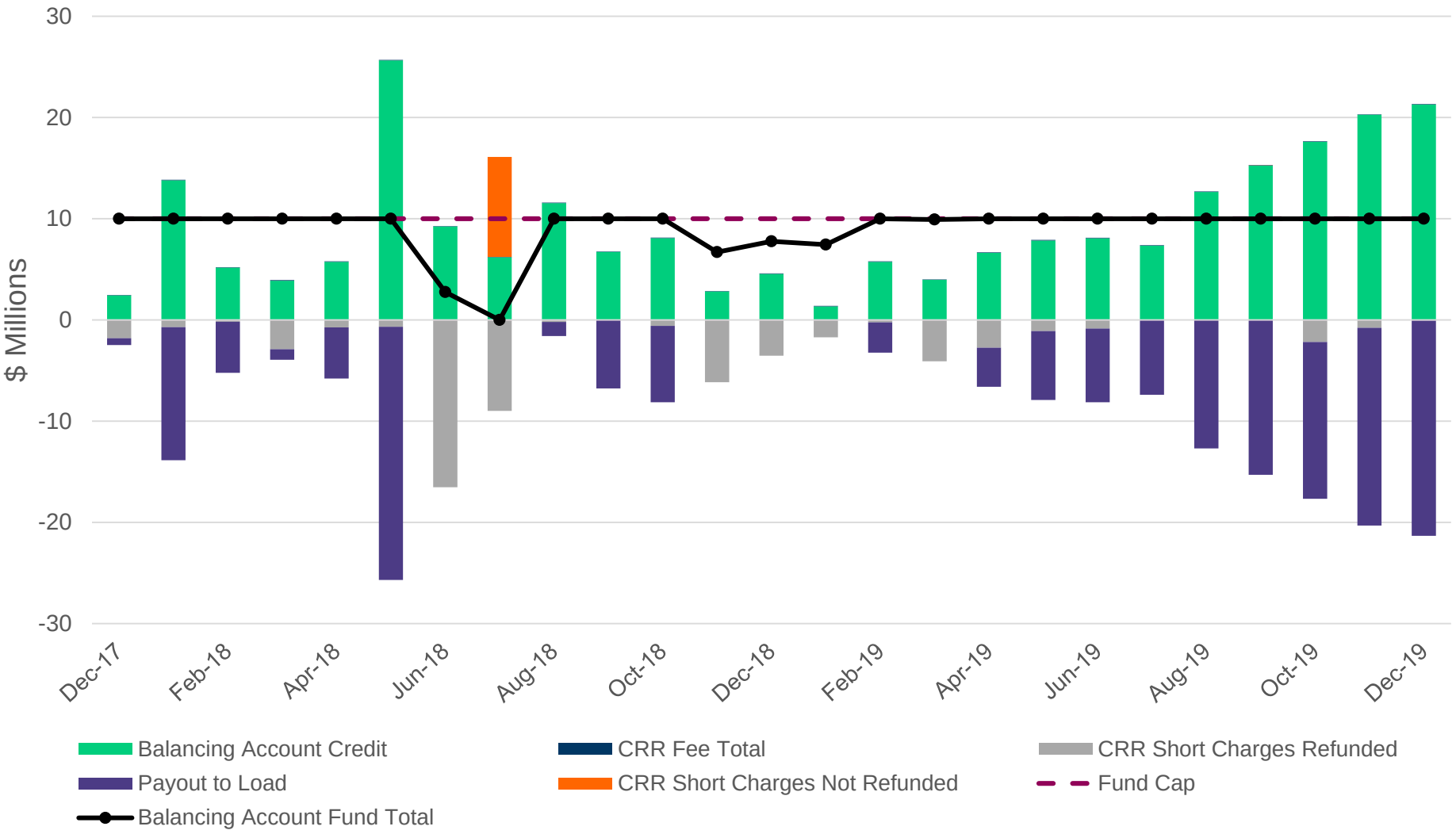
Percentage of Real-Time Load Transacted in the Day-Ahead Market



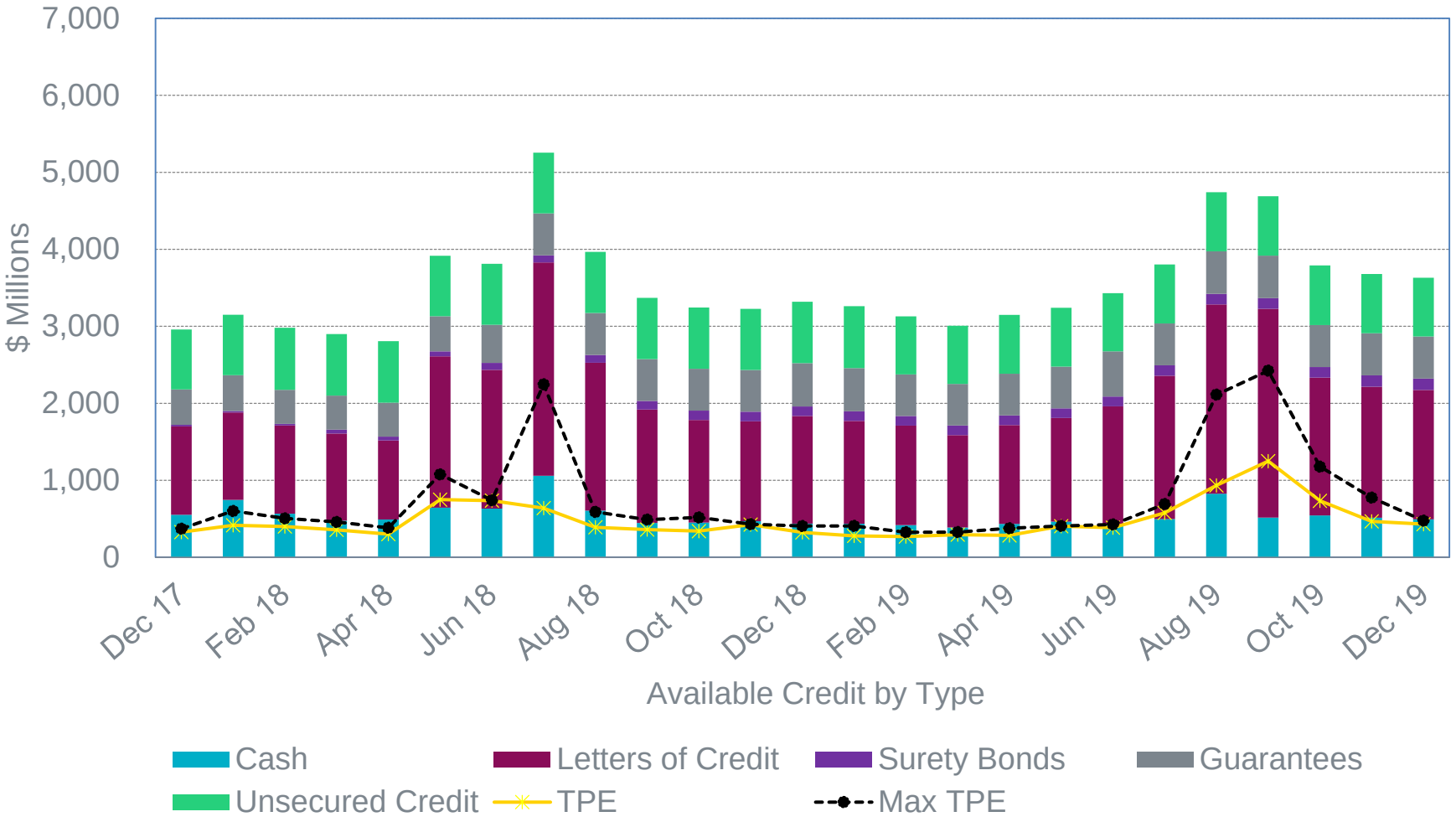
CRR Value and Cost Differences



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 – December 2019

	Year-To-Date		Transactions Received	
Transaction Type	December 2019	December 2018	December 2019	December 2018
Switches	1,322,647	1,214,662	74,363	65,380
Acquisition	0	0	0	0
Move - Ins	2,944,372	2,836,671	210,921	192,182
Move - Outs	1,374,753	1,362,069	102,744	92,240
Continuous Service Agreements (CSA)	831,238	635,614	36,030	44,361
Mass Transitions	0	9,034	0	0
Total	6,473,010	6,058,050	424,058	394,163