



**ERCOT Monthly Operations Report
April 2019**

ERCOT Public
May 22, 2019

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Monthly Highlights

- April 2019 saw new monthly generation records for the wind and solar fleets
 - Wind generated 7,148 GWh* (26.7% of total demand)
 - Previous record was 7,060 GWh in May 2018
 - Solar generated 408 GWh* (1.5% of total demand)
 - Previous record was 368 GWh in June 2018
- The hourly maximum demand in April 2019 was 51,635 MW**, a 3.7 GW increase from the April 2018 maximum demand.
- Notable public notifications:
 - April 4th: One Advisory issued for postponement of the deadline for the posting of the DAM Solution.

* Preliminary values from May release of Demand and Energy 2019 report.

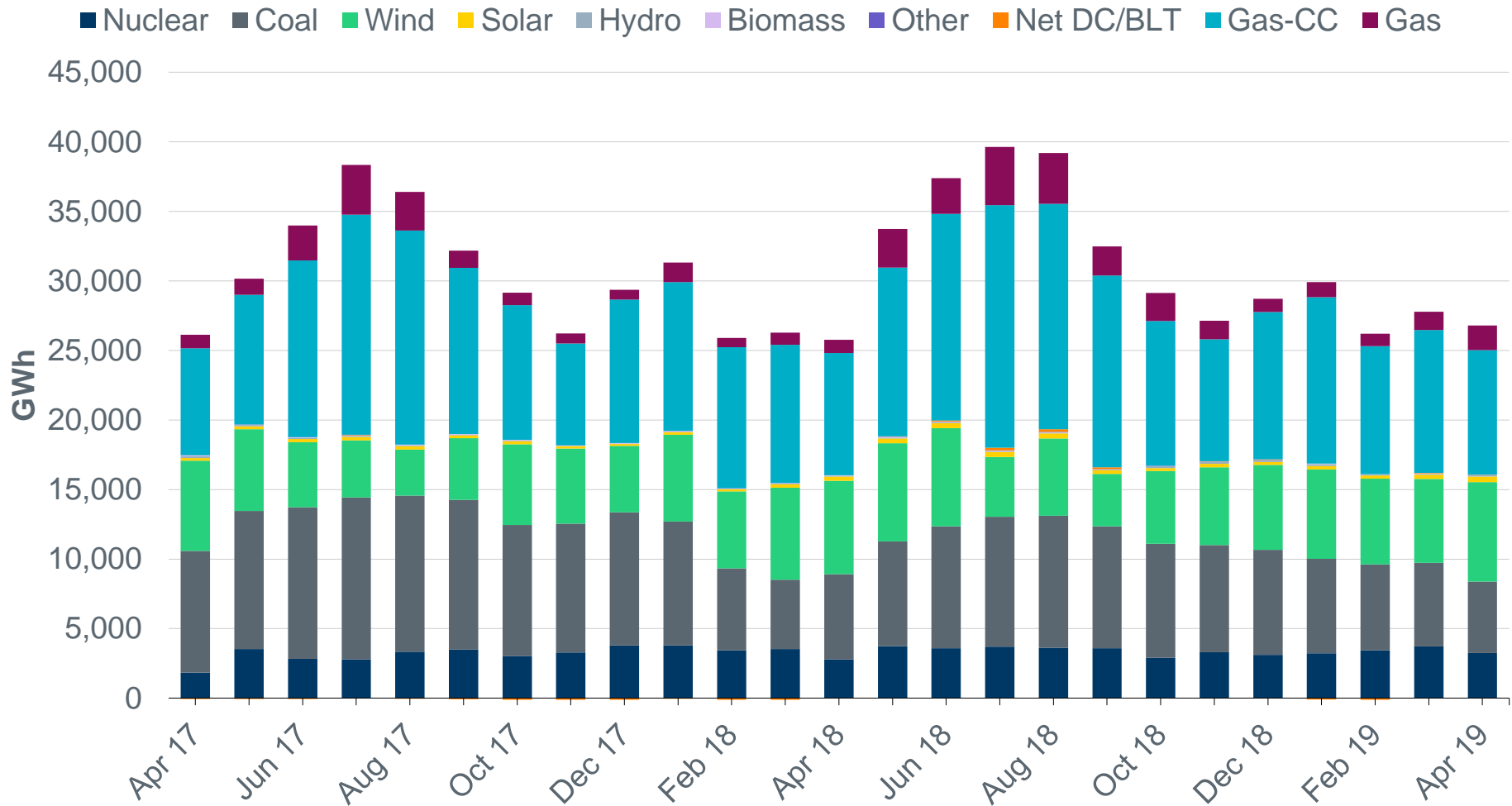
**Preliminary value based on net system hourly data from May release of Demand and Energy 2019 report.

Resource Fuel Mix, Demand and Transmission Activity

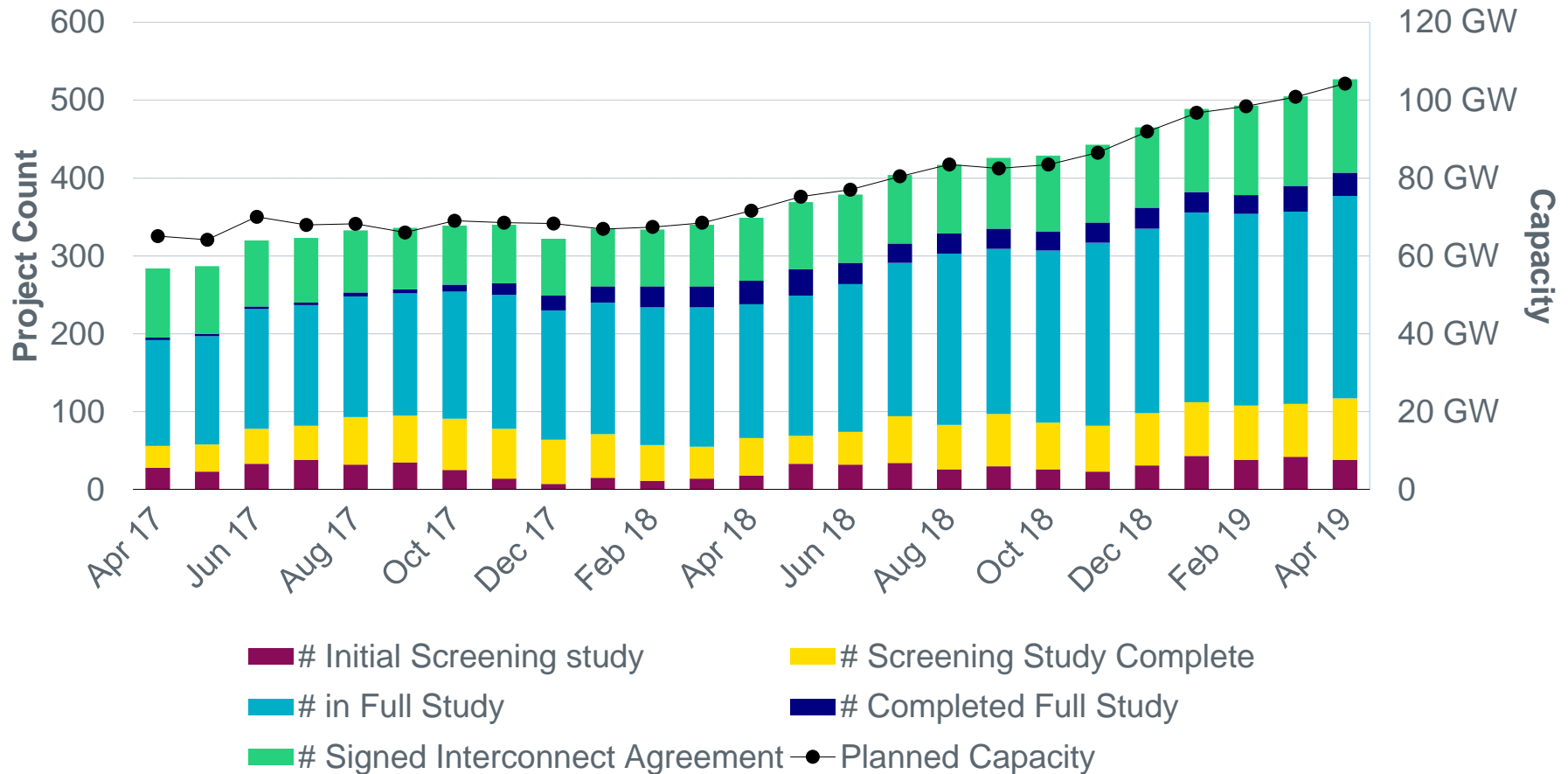


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Monthly energy generation by fuel type



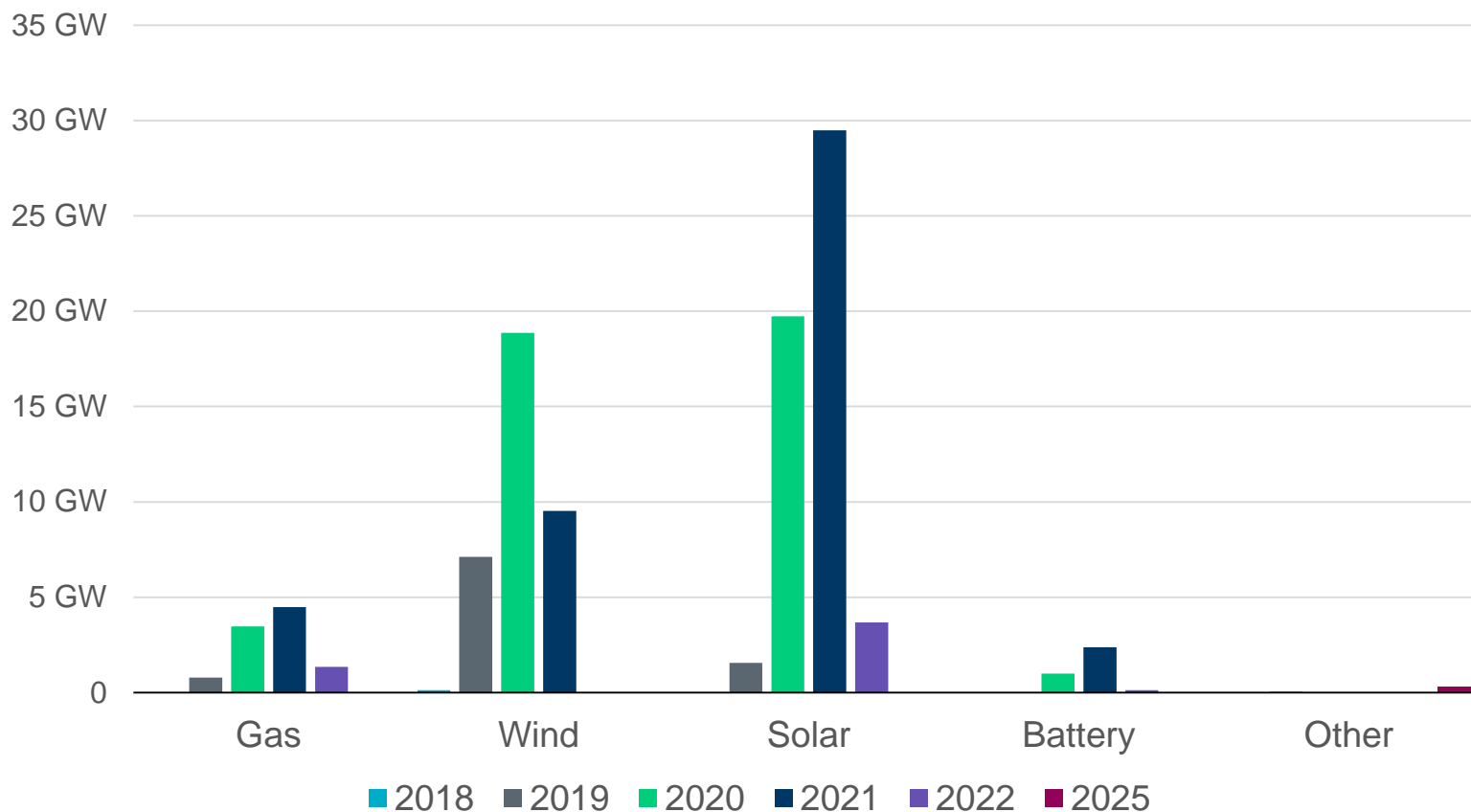
Generation interconnection activity by project phase



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>

Planned solar projects now represent 52% of the interconnection queue with a cumulative capacity of 55 GW

Wind represents 34% of queue with 36 GW and gas represents 10% of queue with 10 GW.

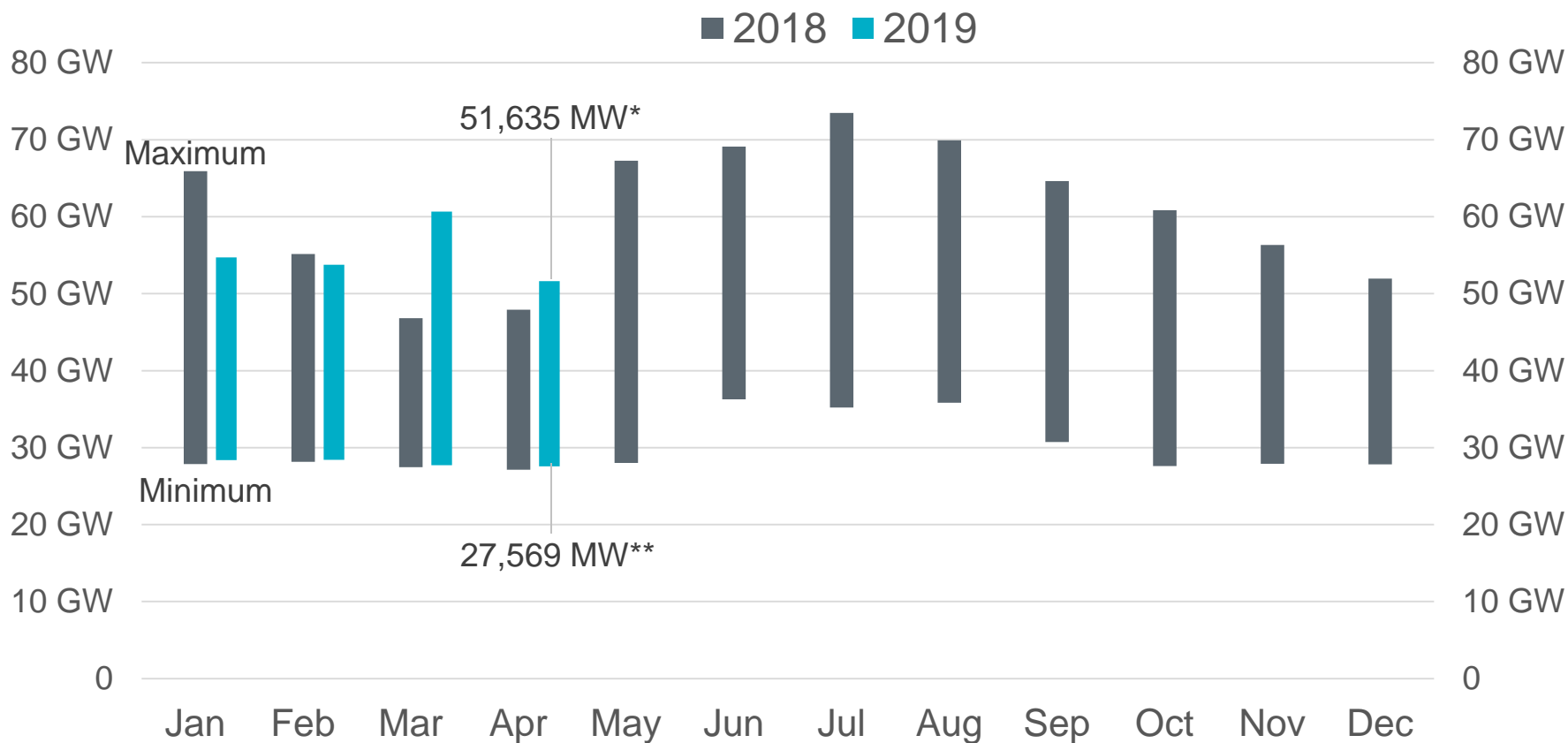


A break out by zone can be found in the monthly Generator Interconnection Status (GIS) reports available on the ERCOT Resource Adequacy Page: <http://www.ercot.com/gridinfo/resource>

Planning Summary

- ERCOT is currently tracking 527 active generation interconnection requests totaling 104,249 MW. This includes 54,655 of solar projects and 35,644 MW of wind projects as of April 30th, 2019.
- ERCOT is currently reviewing proposed transmission improvements with a total estimated cost of \$602.5 Million as of April 30th, 2019.
- Transmission Projects endorsed in 2019 total \$158.53 Million as of April 30th, 2019.
- All projects (in engineering, routing, licensing and construction) total approximately \$5.07 Billion as of March 1st, 2019.
- Transmission Projects energized in 2019 total about \$89.98 Million as of March 1st, 2019.

The maximum demand in April 2019 was 3.7 GW higher than the April 2018 maximum demand



*Value based on net system hourly data from May release of Demand and Energy 2019 report.

**Value based on 15-minute metered data from May release of Demand and Energy 2019 report.

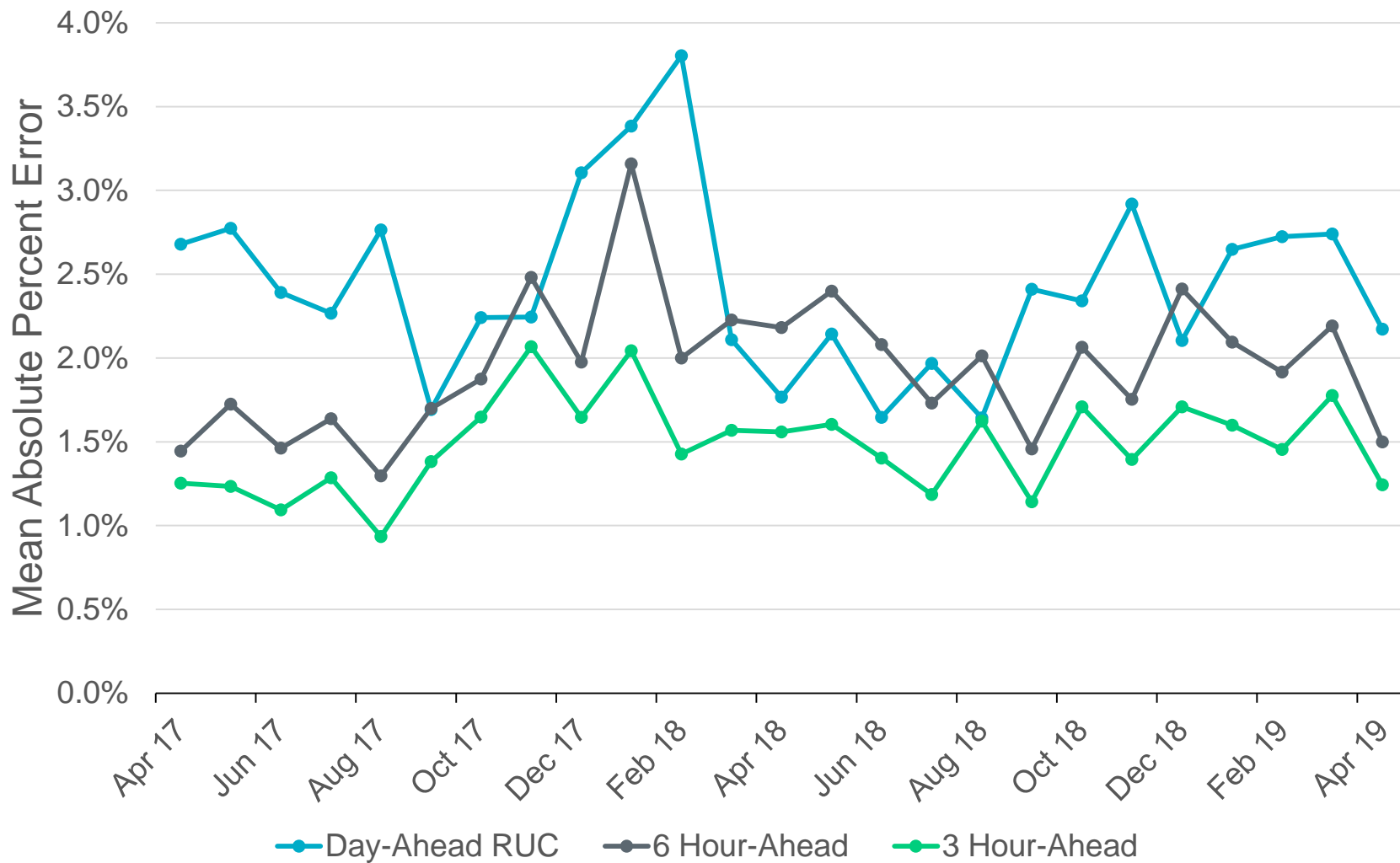
Data is preliminary for the latest two months of the current year.

Grid Operations



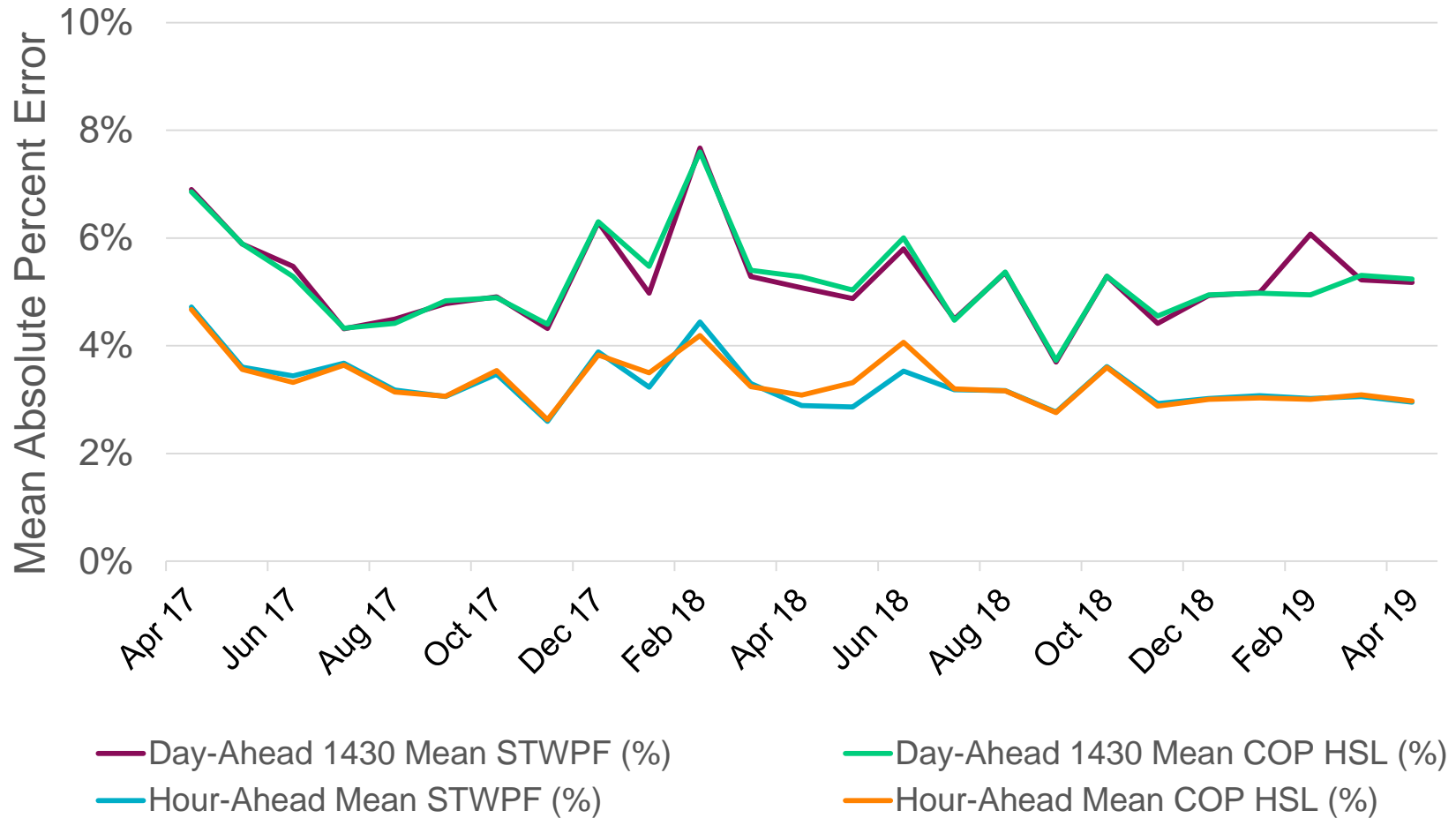
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Mid-Term Load Forecast performance



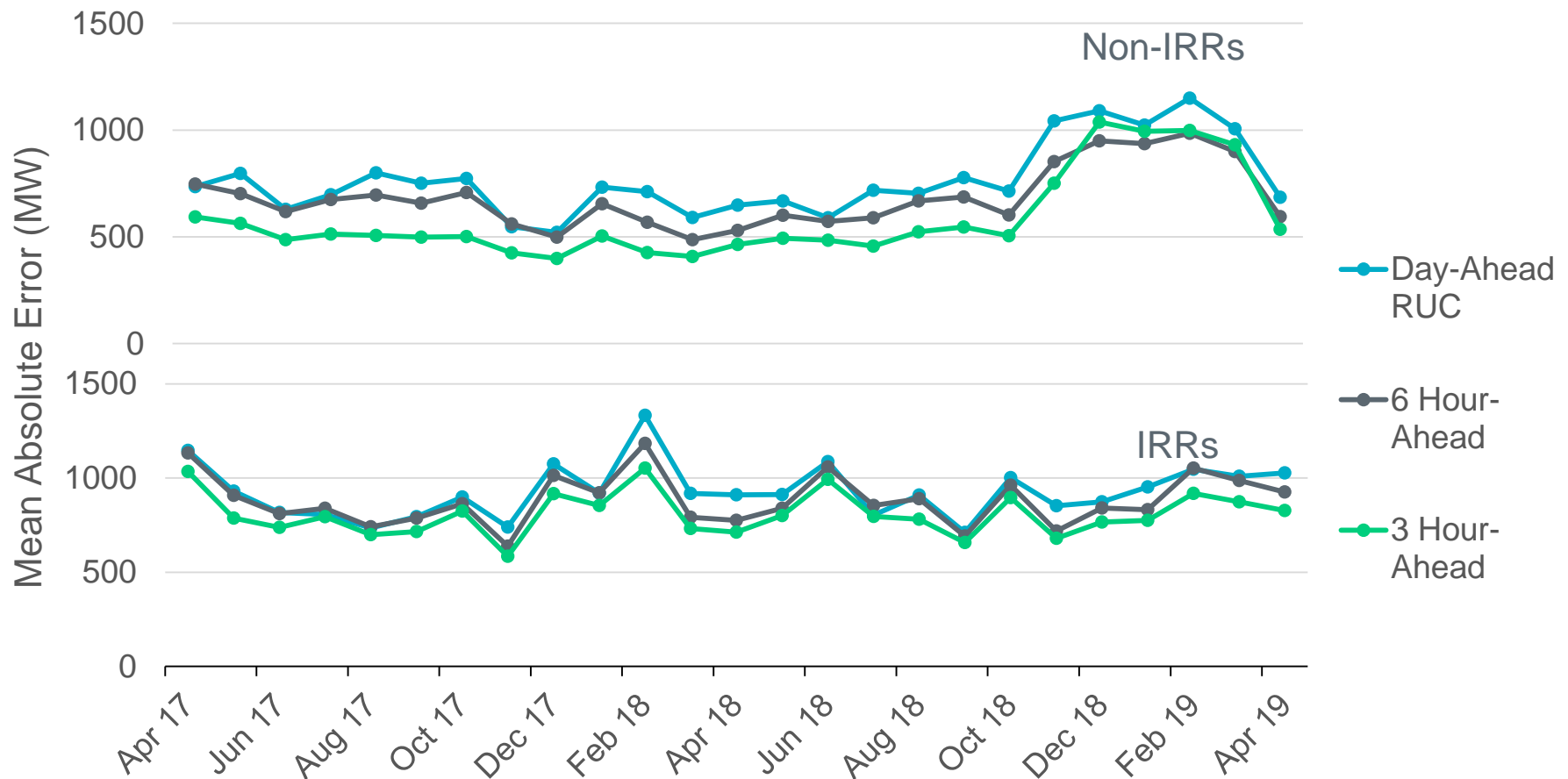
The Mid-Term Load Forecast is an hourly forecast that looks 7 days into the future

Wind Forecast performance



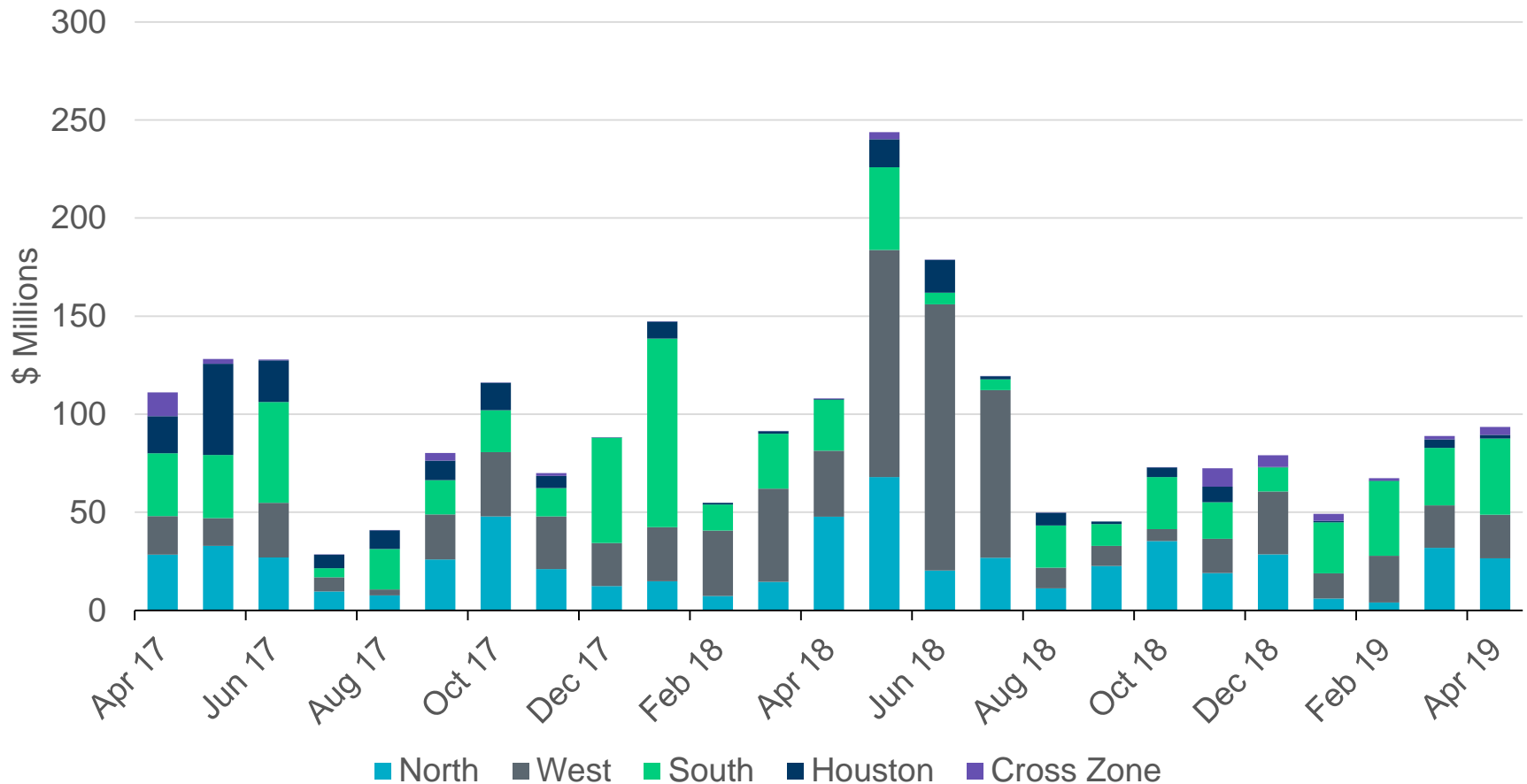
The Short-Term Wind Power Forecast (STWPF) is an ERCOT produced hourly 50% probability of exceedance forecast of the generation in MWh per hour from each Wind Generation Resource.

COP errors for IRRs and non-IRR



- Current Operating Plans for IRRs are derived from wind-power and solar-power forecasts from ERCOT with adjustments from Qualified Scheduling Entities.
- The installed capacity of existing IRRs, plus newly commissioned IRRs with ERCOT synchronization approvals, is 23,832 MW (as of April 30, 2019).

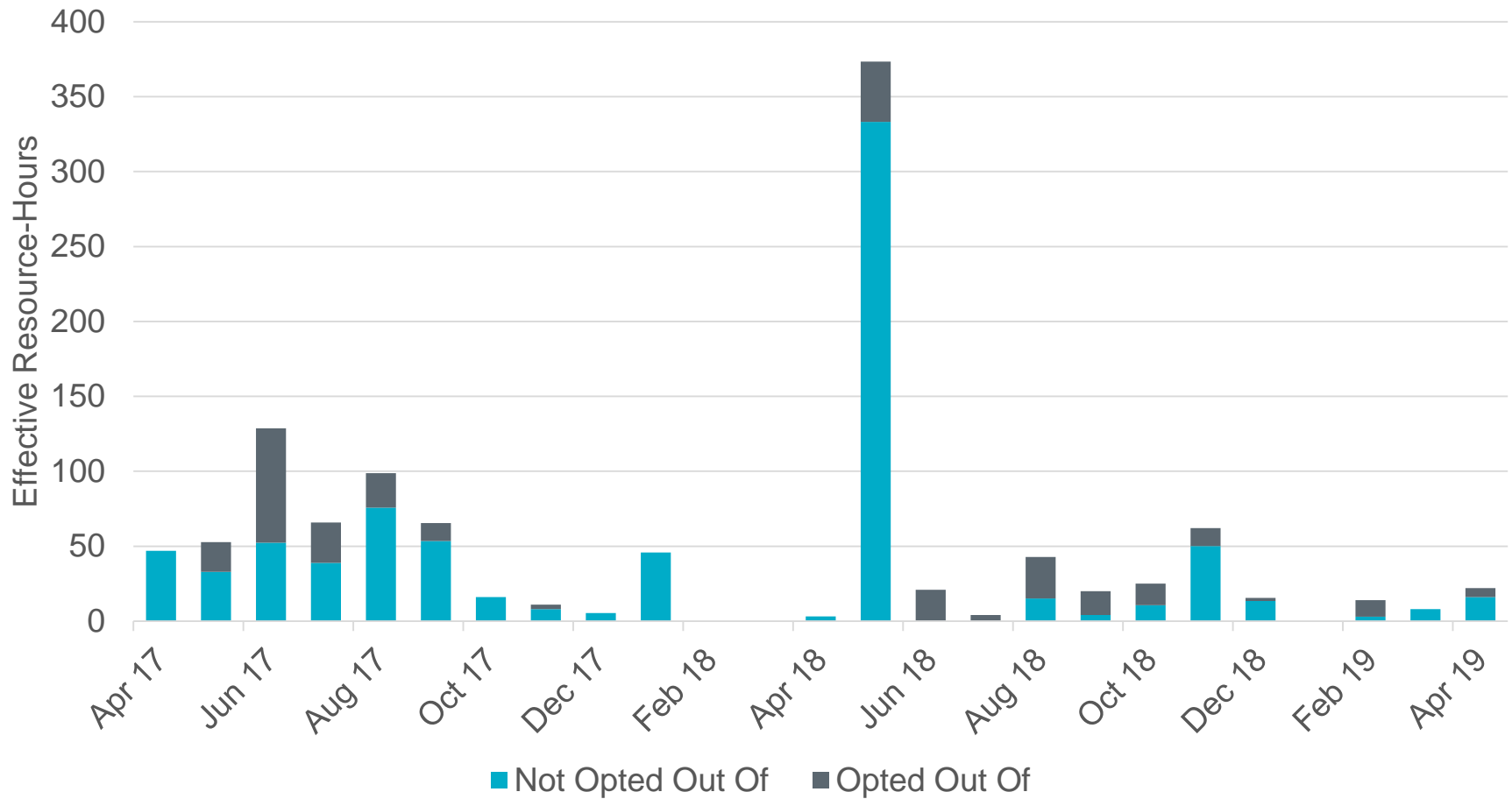
Real-Time Congestion Rent by Zone



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.

3 Resources committed in April for congestion



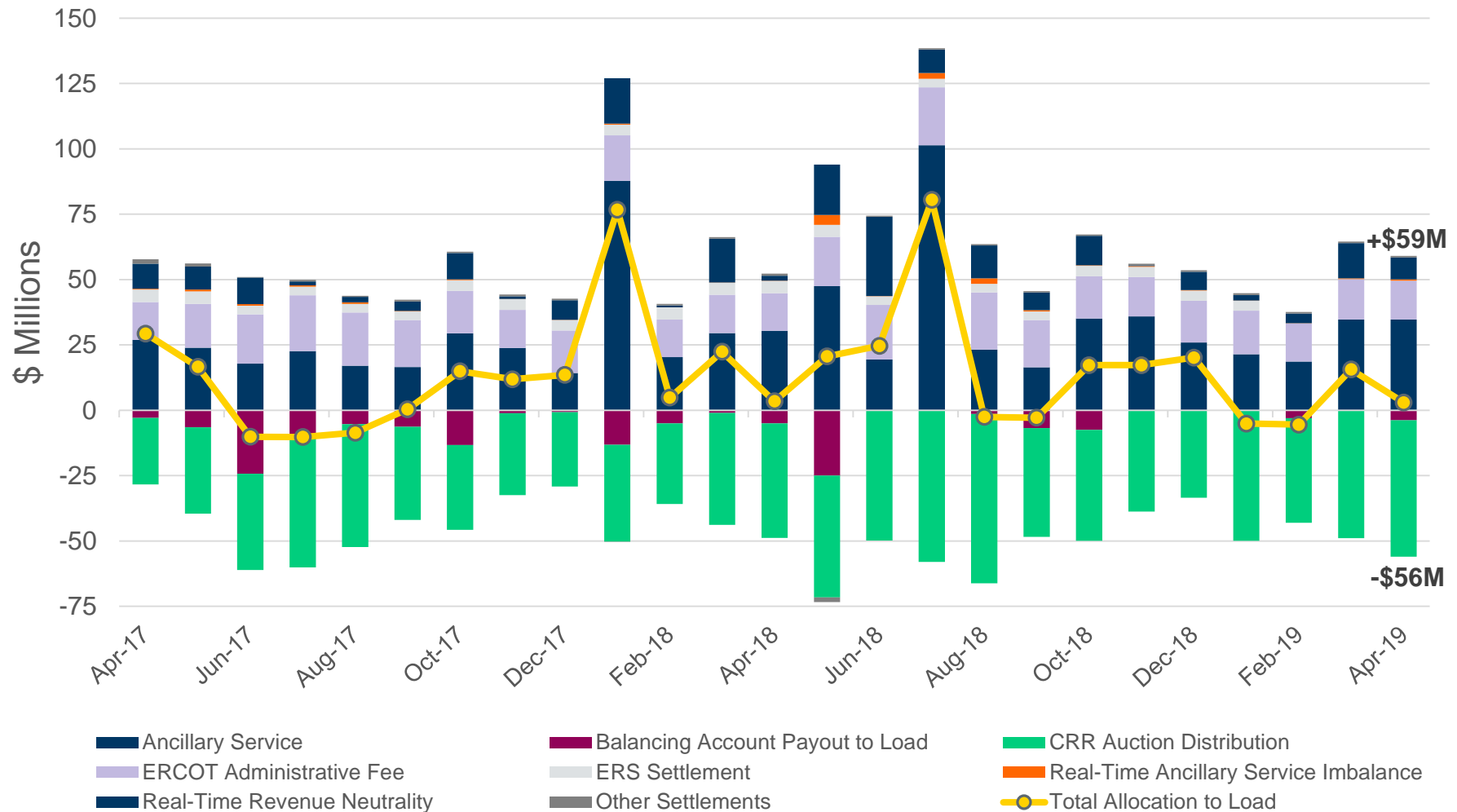
“Effective Resource-hours” excludes periods where Resources are starting up, shutting down, or off-line during the Reliability Unit Commitment hour.

Market Performance



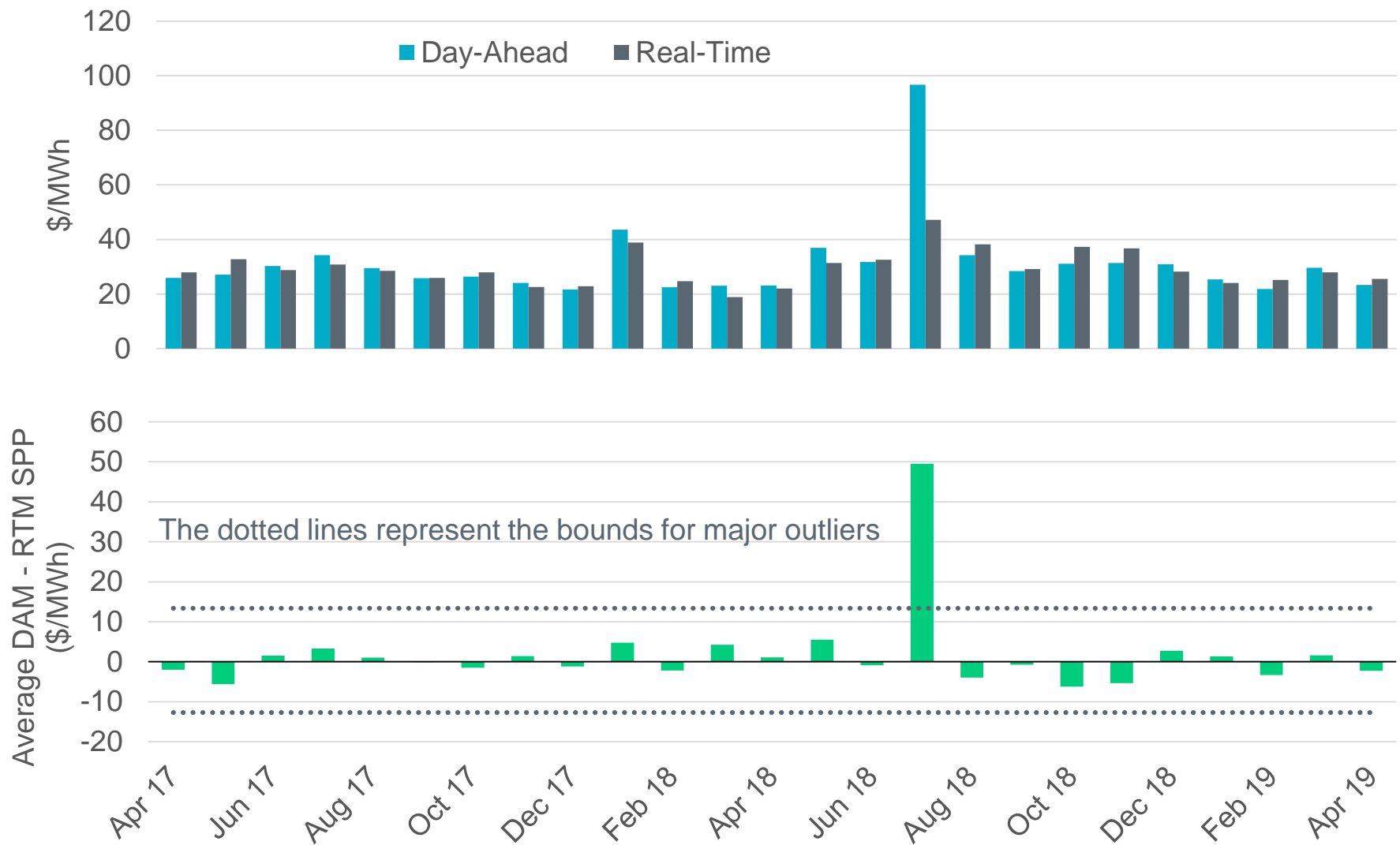
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Net Allocation to load in April 2019 was +\$3.0 Million

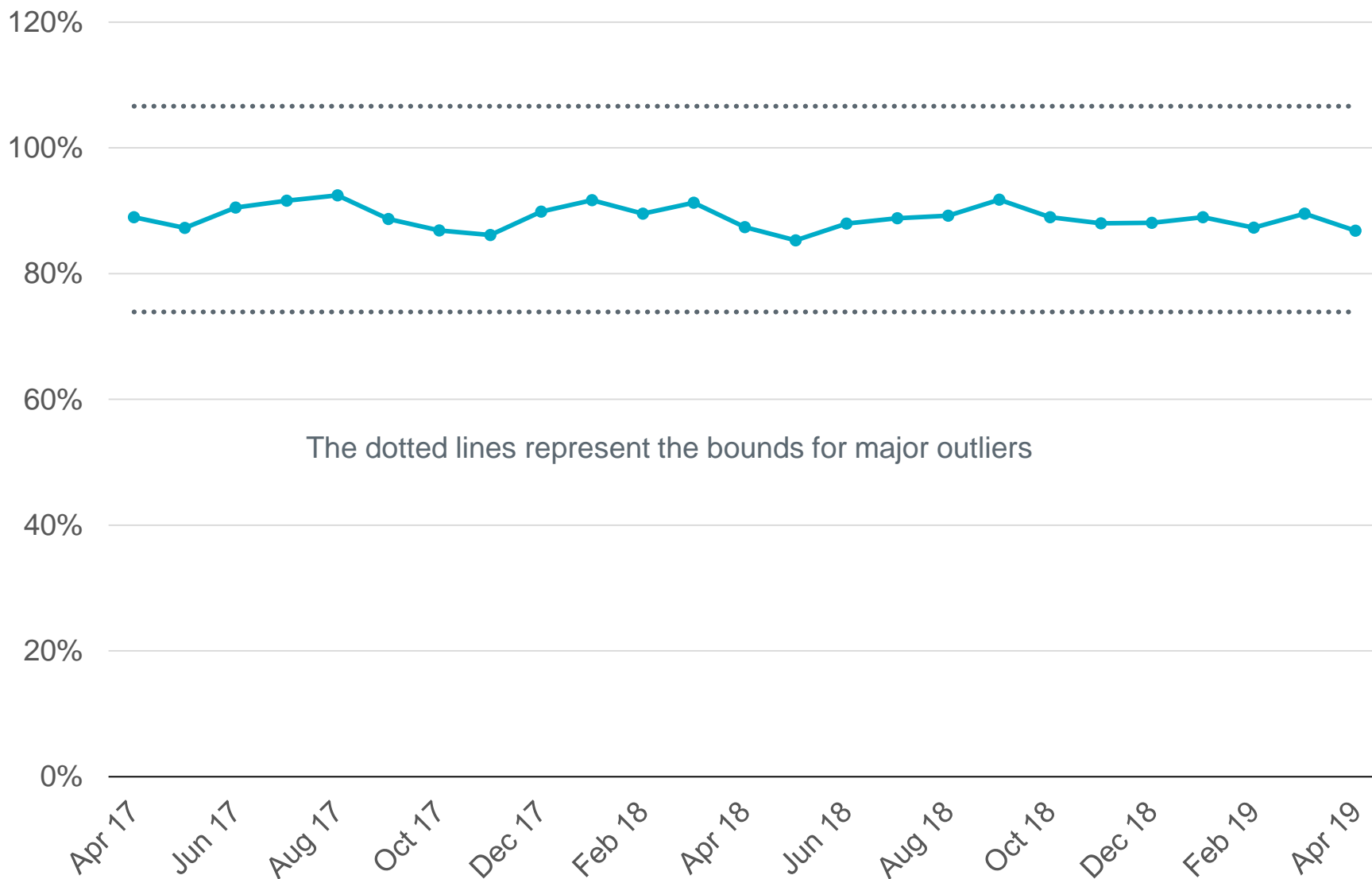


This information is available in tabular form in the Settlement Stability Report presented quarterly to the [Market Settlement Working Group](#) and [Wholesale Market Subcommittee](#)

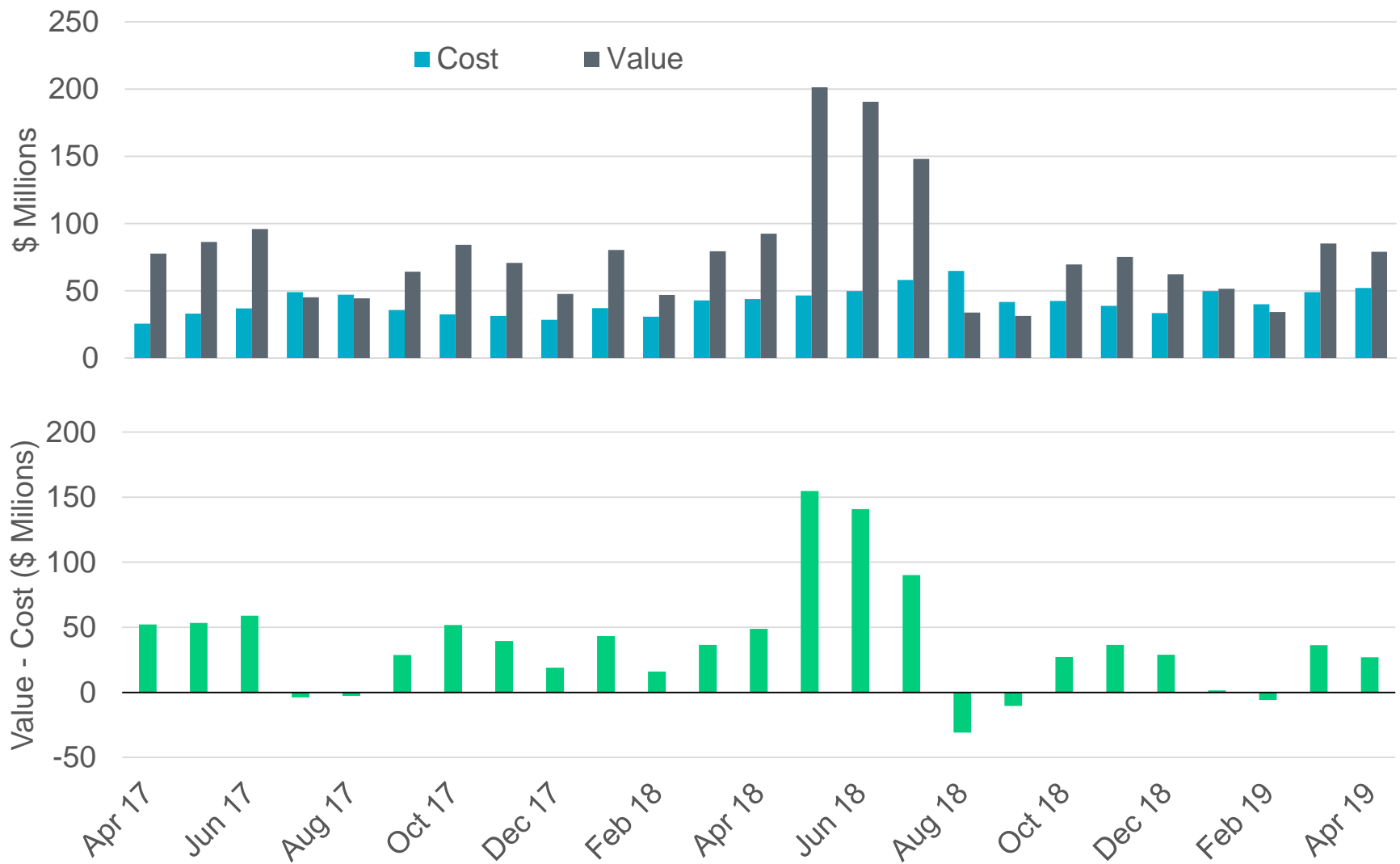
Day-Ahead and Real-Time Market Price Differences



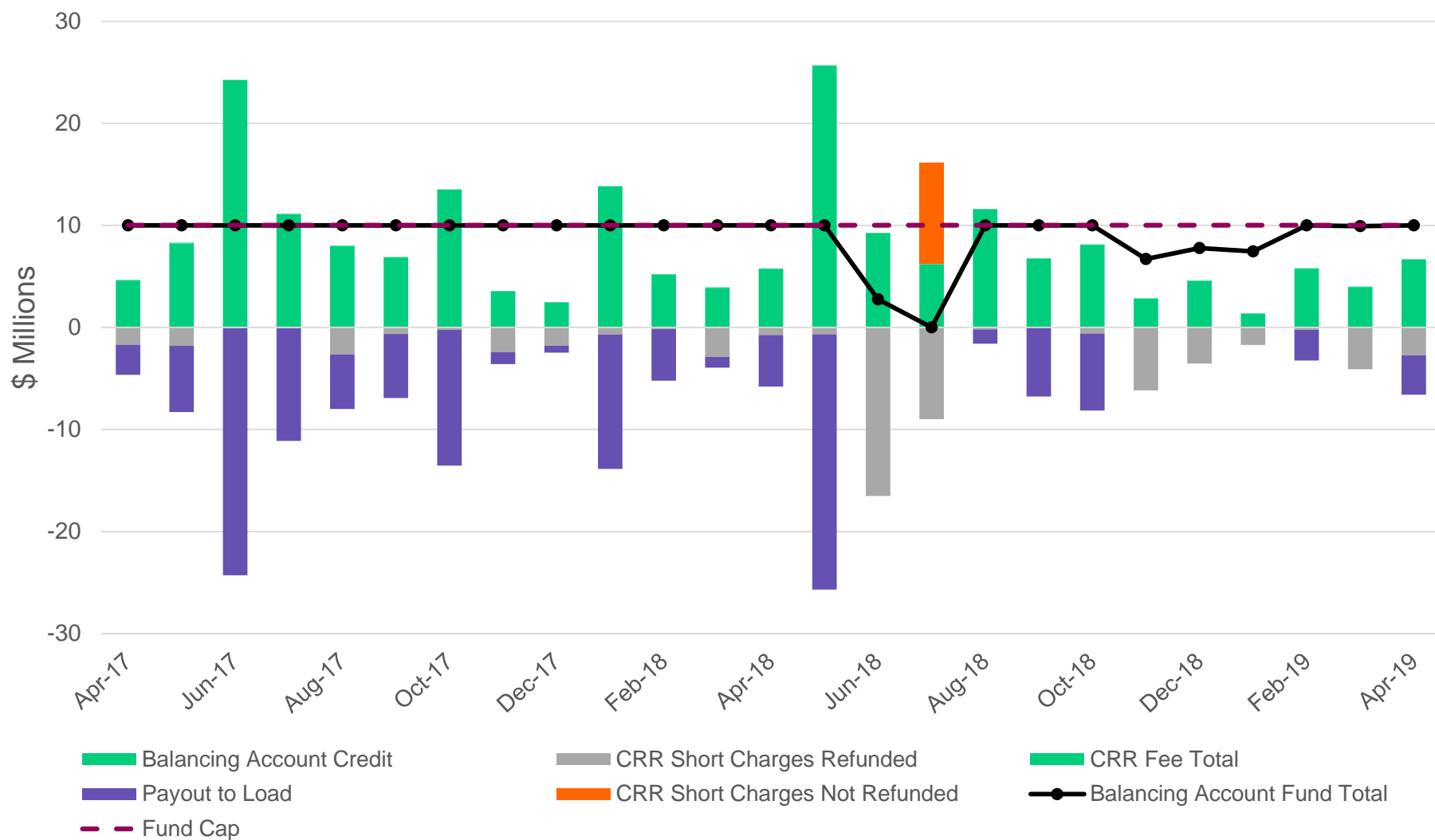
Percentage of Real-Time Load Transacted in the Day-Ahead Market



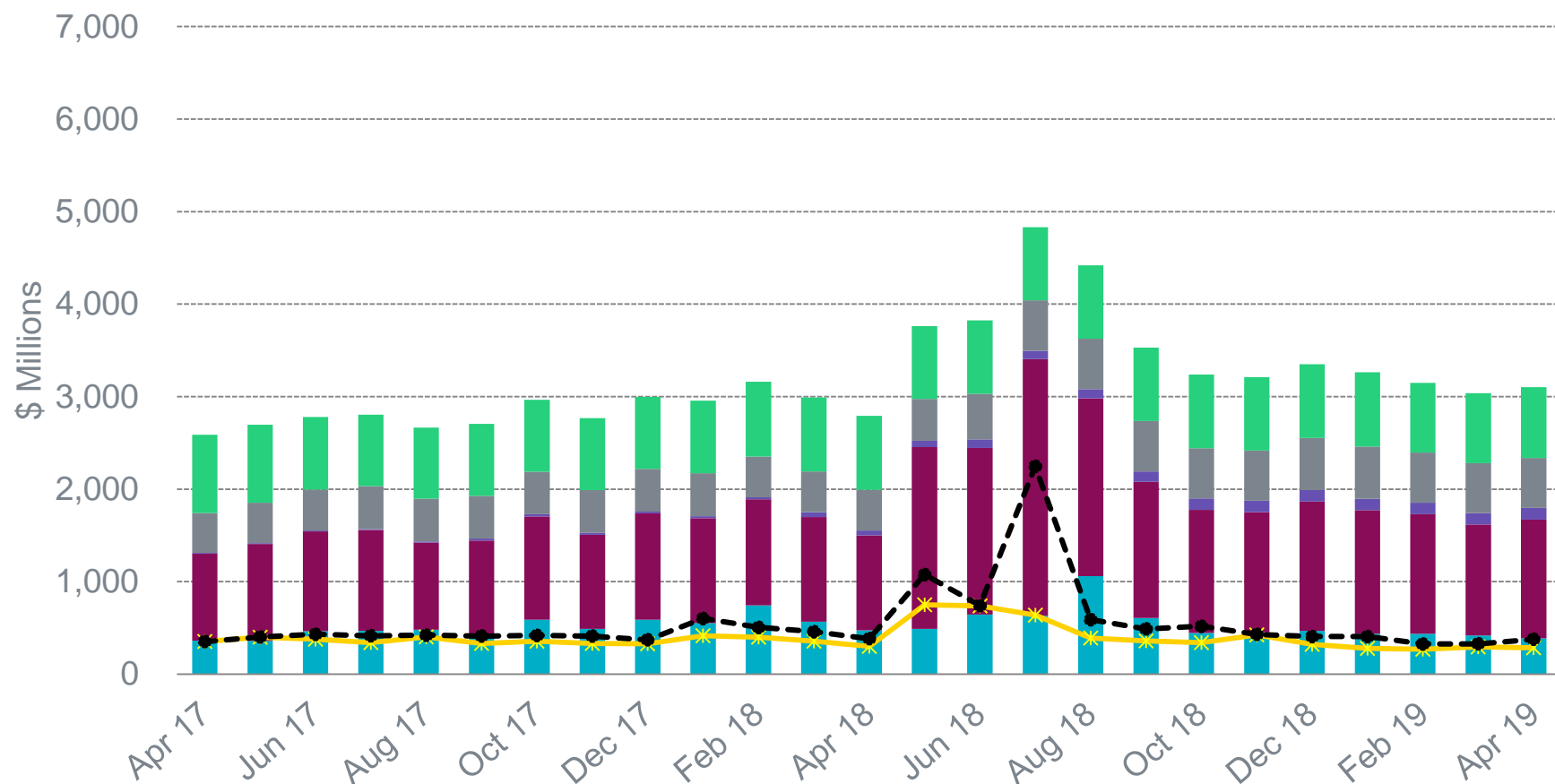
CRR Value and Cost Differences



The CRR Balancing Account was fully funded and excess amounts were allocated to Load



Available Credit by Type Compared to Total Potential Exposure (TPE)



Available Credit by Type



Retail Transaction Volumes – Summary – April 2019

	Year-To-Date		Transactions Received	
Transaction Type	April 2019	April 2018	April 2019	April 2018
Switches	415,959	341,502	121,897	81,291
Acquisition	0	0	0	0
Move - Ins	929,853	895,359	237,124	225,380
Move - Outs	423,744	434,496	111,944	113,795
Continuous Service Agreements (CSA)	466,001	194,628	65,525	55,581
Mass Transitions	0	0	0	0
Total	2,235,557	1,865,985	536,490	476,047