DON'T CALL IT A COMEBACK

Fundamental Edge Report | July 2020

ENVERUS

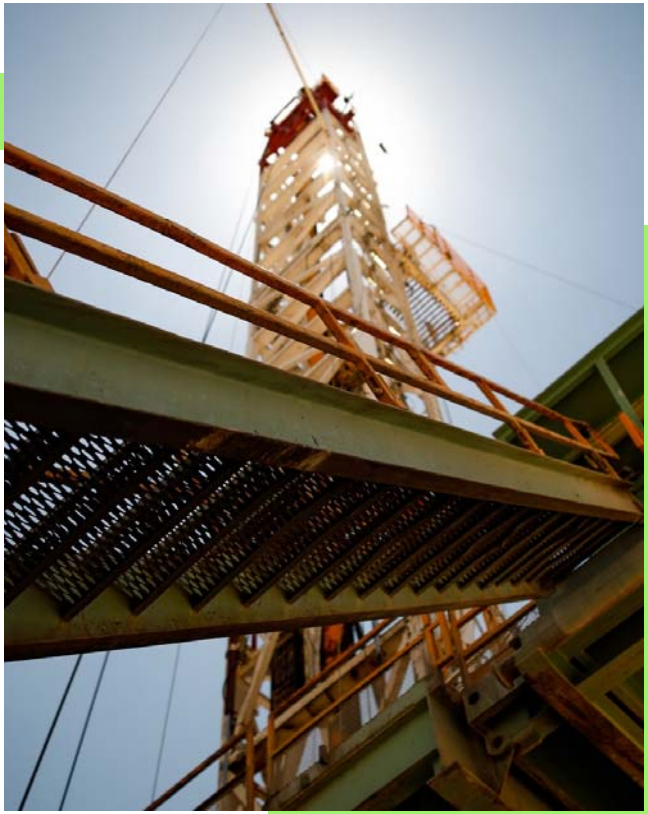
Introduction and Key Takeaways

- **Crude oil** prices staged an impressive recovery in May and June after deep production cuts and a partial recovery in demand for motor fuels. After a painful shock to the system, rebalancing is currently underway.
  - BUT …..The recovery in demand remains tenuous, though, and anemic refining margins and the recent rise in new COVID-19 cases do raise concerns.
  - We nevertheless remain cautiously optimistic that the rebalancing will continue, with much needed inventory draws coming over the second quarter of 2020, extending into 2021.

- The **natural gas** market remains very bearish, with prices averaging under $2/MMBtu in 2020. Demand losses due to COVID-19 have been higher than the production declines so far.
  - However, current production levels are not enough to meet the upcoming peak-demand winter months. Therefore, Enverus expects prices to increase north of $3.50/MMBtu as soon as this winter 2020-21 in order to incentivize drilling activity. Based on breakeven prices, production growth will come from the Marcellus/Utica, Haynesville, and Permian.

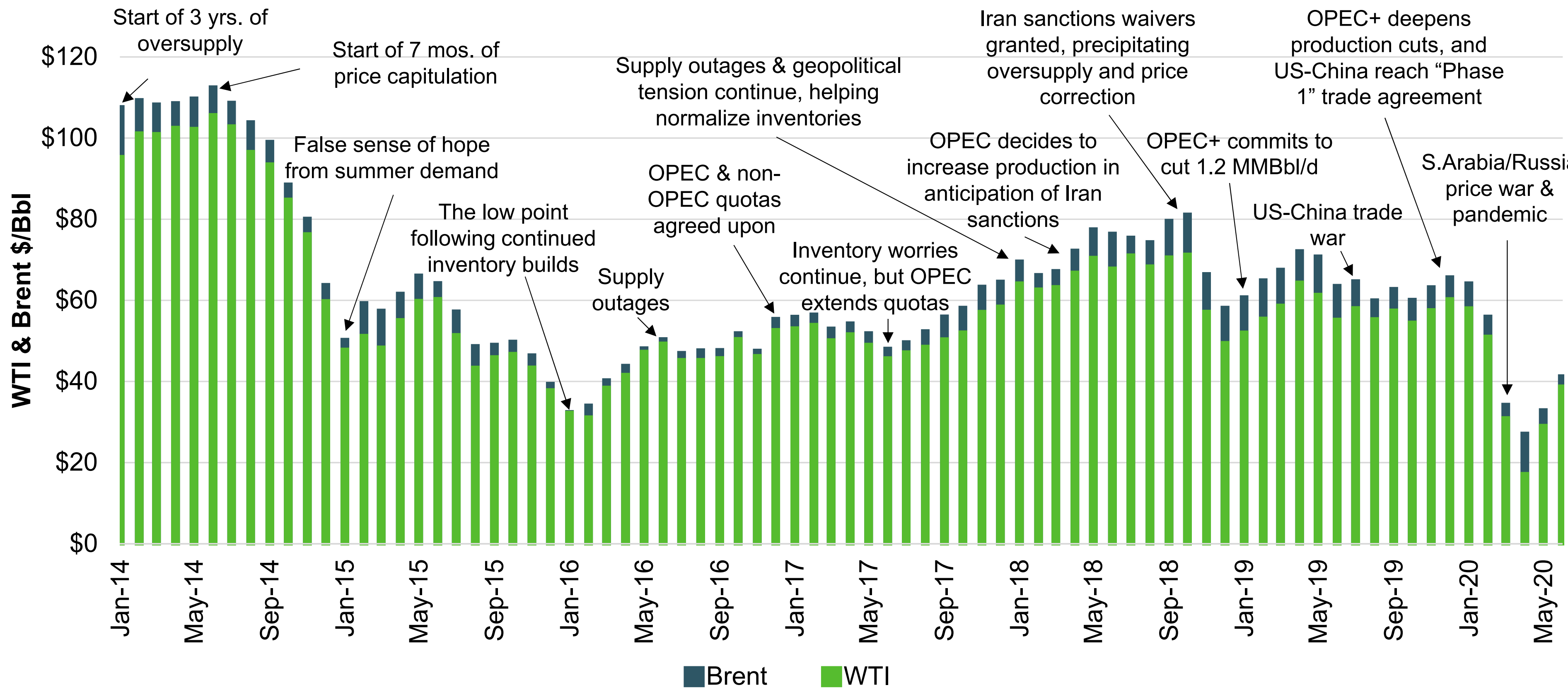
- Q2'20 earnings will begin in the back half of July. All eyes will be on curtailments, activity, costs, and liquidity. The April-through-June quarter saw a range of budget fluctuations, bankruptcies, shut-ins, and operational disruptions. With WTI eclipsing $40 in late June, we expect optimistic but erratic results, with a continued focus on balance sheet health and hedges to suppress near-term ambiguity.

CRUDE OIL



Overview

WTI & Brent $/Bbl Over Time



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Source: Enverus Trading & Risk

OPEC+ Production Cuts

Participant	Agreed Baseline	May-June Cut	July Cut	Aug-Dec Cut	Jan 21-Apr 22 Cut
Saudi Arabia	11,000	2,508	2,508	2,012	1,515
Iraq	4,653	1,061	1,061	851	641
UAE	3,168	722	722	579	436
Kuwait	2,809	641	641	514	387
Nigeria	1,829	417	417	335	252
Angola	1,528	348	348	279	211
Algeria	1,057	241	241	193	146
Congo	325	74	74	59	45
Gabon	187	43	43	34	26
Equatorial Guinea	127	29	29	23	17
Total OPEC	**26,683**	**6,084**	**6,084**	**4,880**	**3,676**
Russia	11,000	2,508	2,508	2,012	1,515
Kazakhstan	1,709	390	390	313	235
Mexico	1,753	100	0	0	0
Oman	883	201	201	161	122
Azerbaijan	718	164	164	131	99
Others	1,107	252	252	202	153
Total Non-OPEC	**17,170**	**3,616**	**3,516**	**2,820**	**2,124**
Total OPEC+	**43,853**	**9,700**	**9,600**	**7,700**	**5,800**

Notes: All baselines are based on agreed October 2018 production levels, except for Saudi Arabia and Russia (which agreed to set their baselines at 11 MMBbl/d). Iran, Libya, and Venezuela are exempt. Others include Bahrain, Brunei, Malaysia, Sudan, and South Sudan. Mexico will no longer be party to the agreement starting July 2020.

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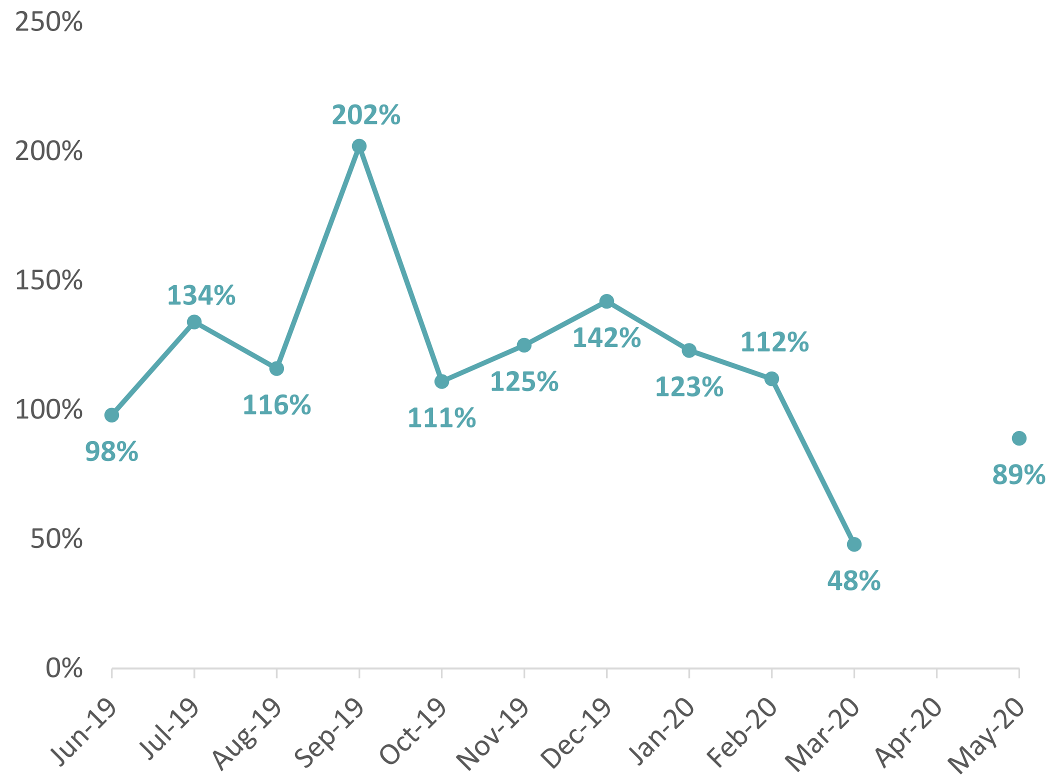
Source: OPEC, IEA

OPEC+ Compliance: May 2020

Participant	Agreed Baseline	Agreed Cut	Production Target	May Production	May Compliance
Saudi Arabia	11,000	2,508	8,492	8,500	100%
Iraq	4,653	1,061	3,592	4,170	46%
UAE	3,168	722	2,446	2,500	92%
Kuwait	2,809	641	2,168	2,200	95%
Nigeria	1,829	417	1,412	1,520	74%
Angola	1,528	348	1,180	1,270	74%
Algeria	1,057	241	816	810	102%
Congo	325	74	251	250	101%
Gabon	187	43	144	170	40%
Equatorial Guinea	127	29	98	90	128%
Total OPEC	**26,683**	**6,084**	**20,599**	**21,480**	**86%**
Russia	11,000	2,508	8,492	8,563	97%
Kazakhstan	1,709	390	1,319	1,423	73%
Mexico	1,753	100	1,653	1,585	168%
Oman	883	201	682	720	81%
Azerbaijan	718	164	554	557	98%
Others	1,107	252	855	919	74%
Total Non-OPEC	**17,170**	**3,616**	**13,554**	**13,767**	**94%**
Total OPEC+	**43,853**	**9,700**	**34,153**	**35,247**	**89%**

OPEC+ Compliance With Past and Current Supply Agreements



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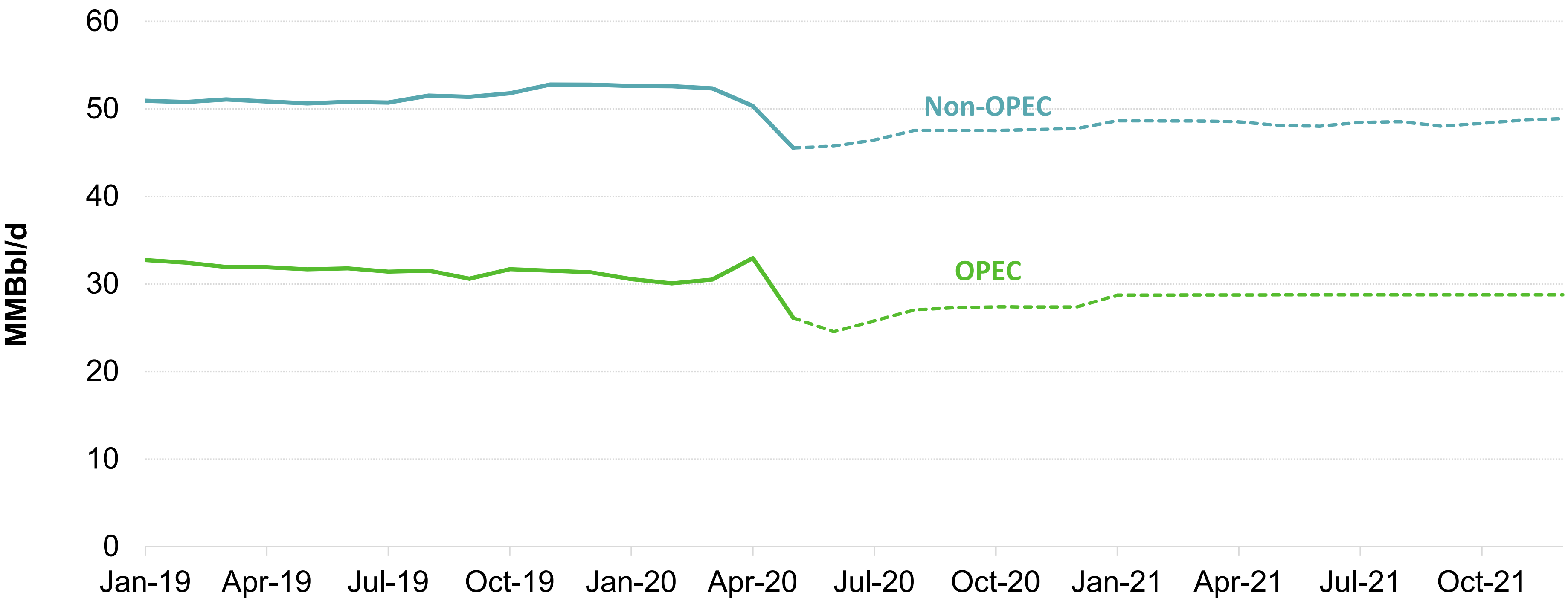
Source: OPEC, IEA

Global Crude and Condensate Production

OPEC & Non-OPEC Crude & Condensate Production



Notes: Assumes full OPEC compliance after September 2020 and a resumption in Libyan production (reaching 1.1 MMBbl/d by January 2021).

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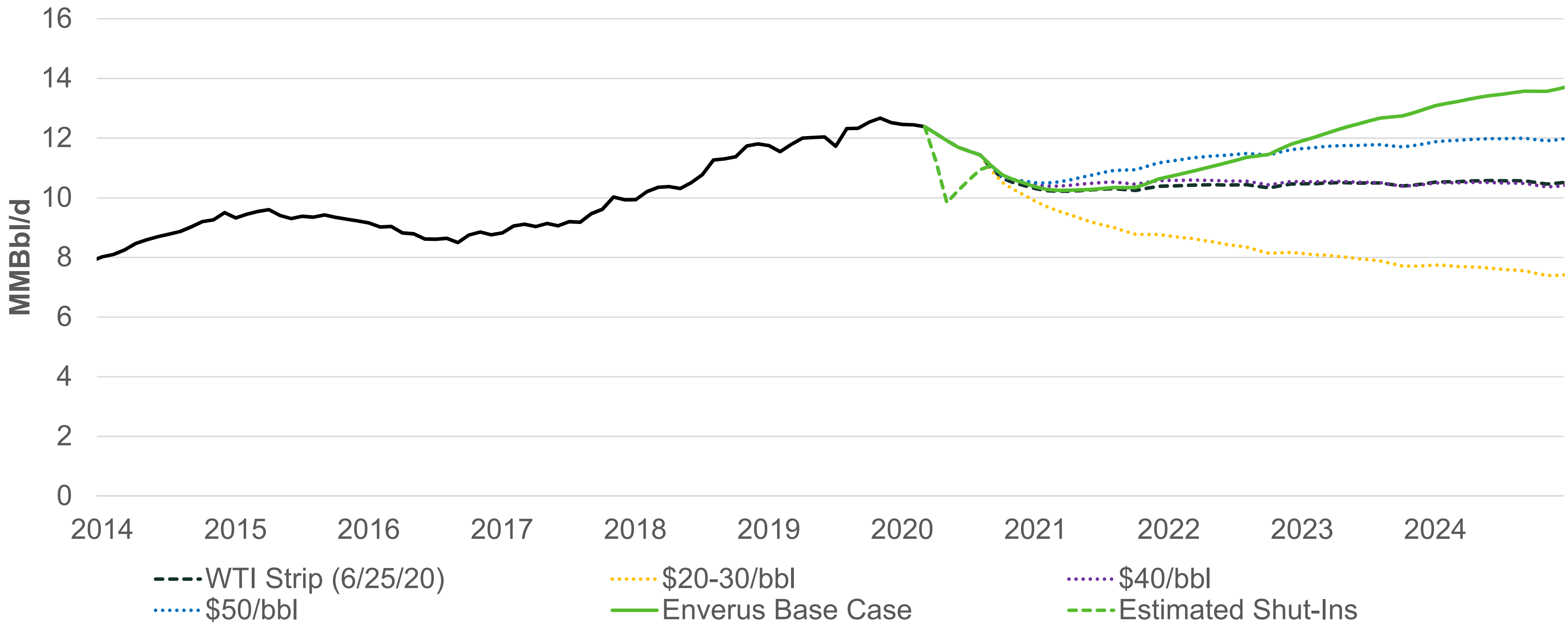
Sources: Enverus ProdCast, IEA, OPEC

US Crude and Condensate Production

US Crude & Condensate Production Under Different Price Scenarios



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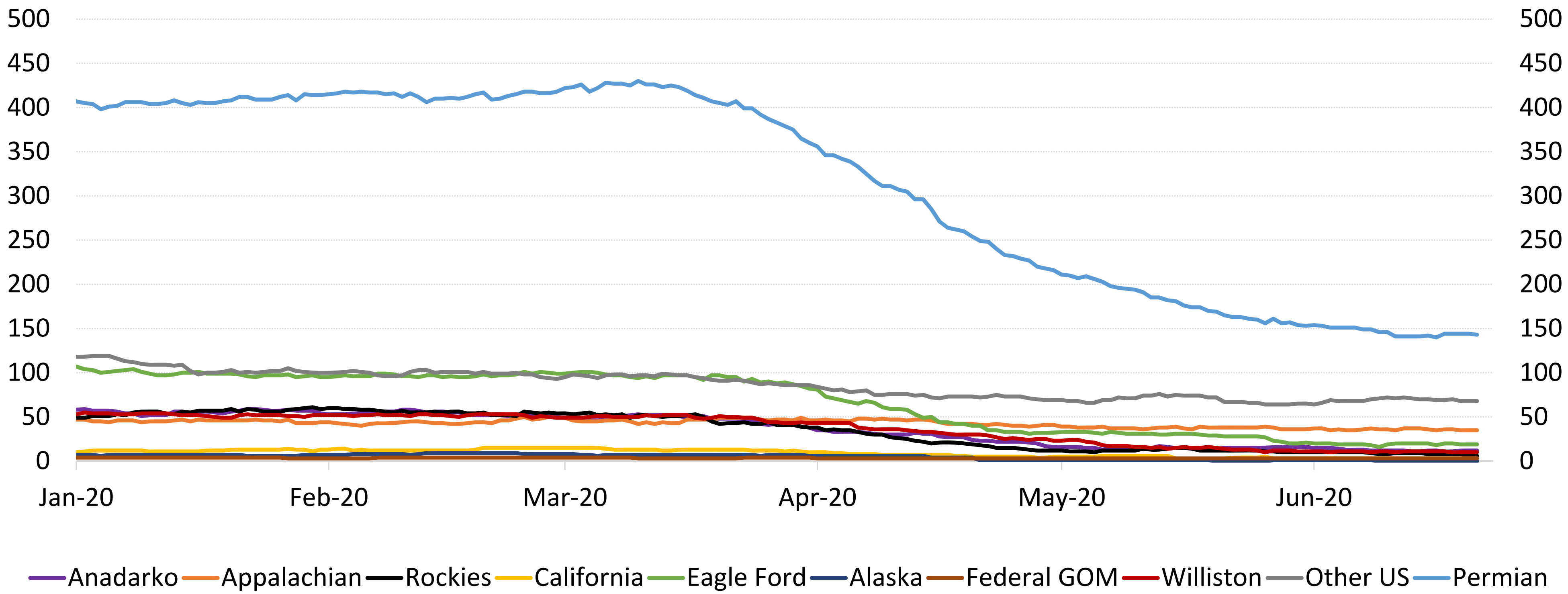
Source: Enverus ProdCast

US Rig Count

Daily Rig Count by Major Supply Area



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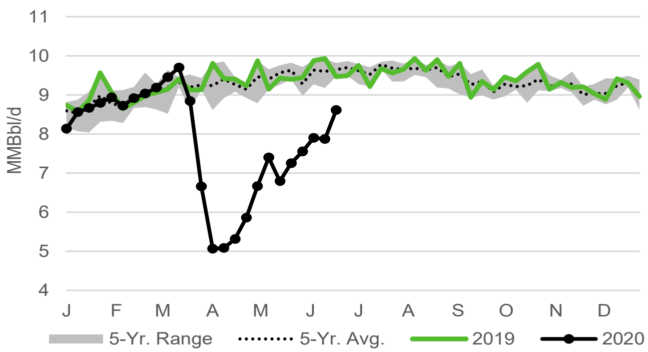
Source: Enverus Rig Analytics

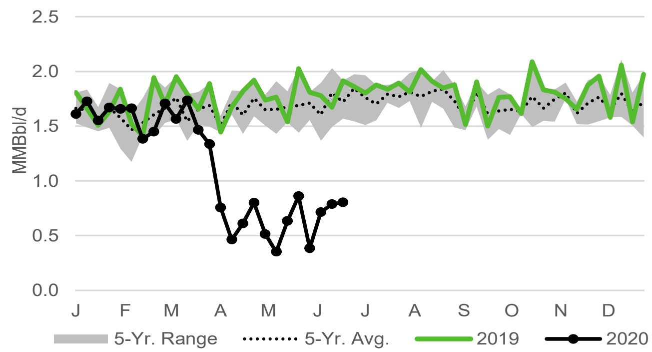
US Liquids Demand

Weekly gasoline demand data show a strong rebound from April's lows, but volumes remain well below normal seasonal levels. Meanwhile, distillate demand faces headwinds from a weak economy, and jet demand has plateaued.

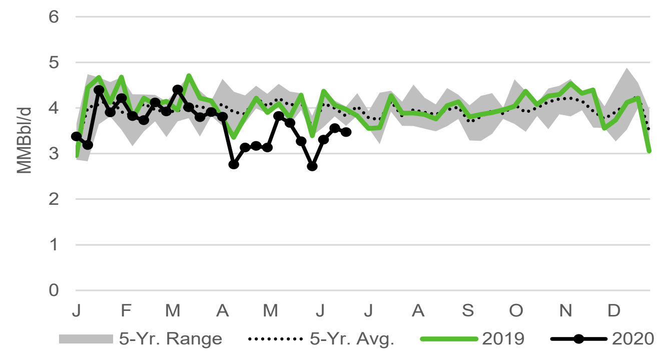
Finished Gasoline



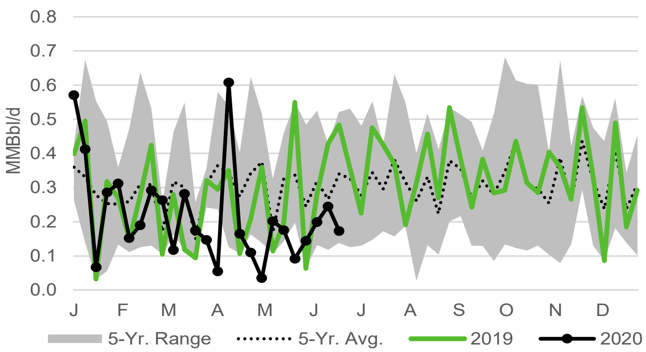
Jet Fuel



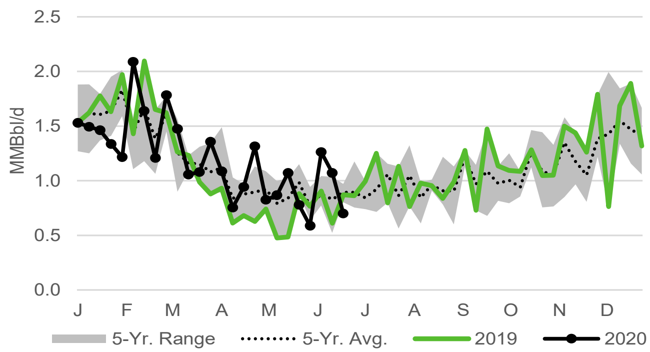
Distillate Fuel Oil



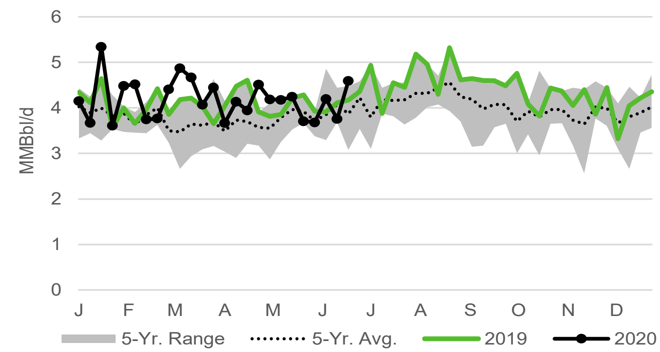
Residual Fuel Oil



Propane/Propylene



Other Oils



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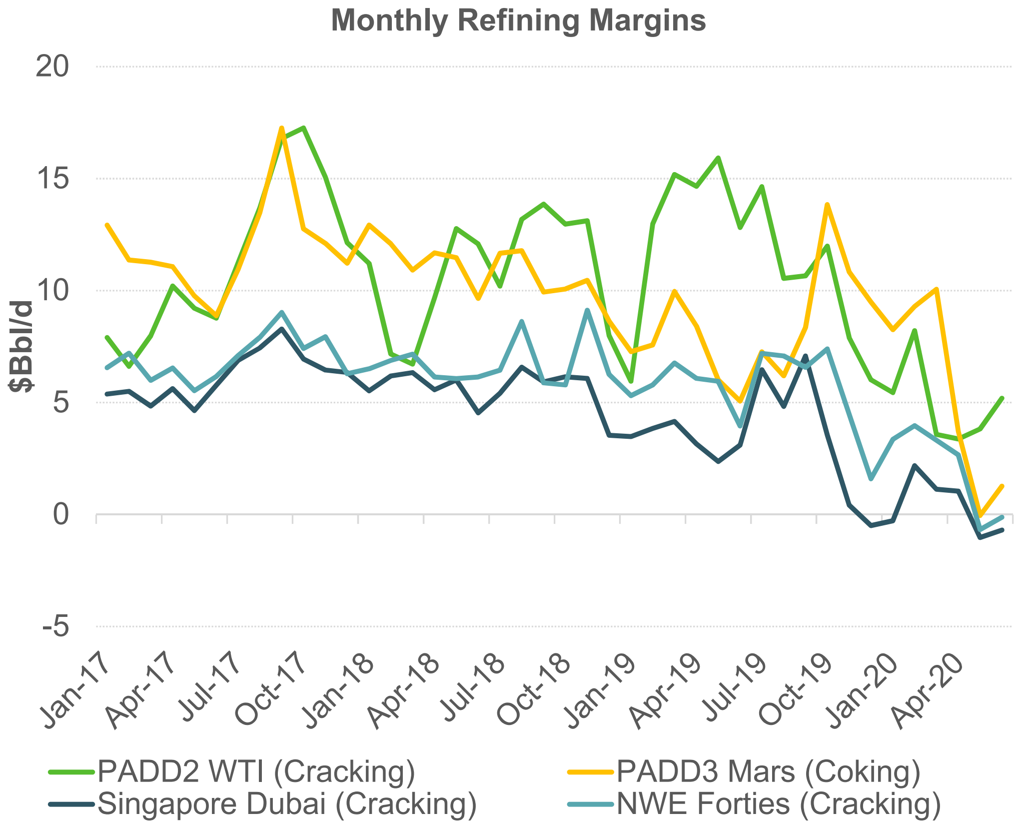
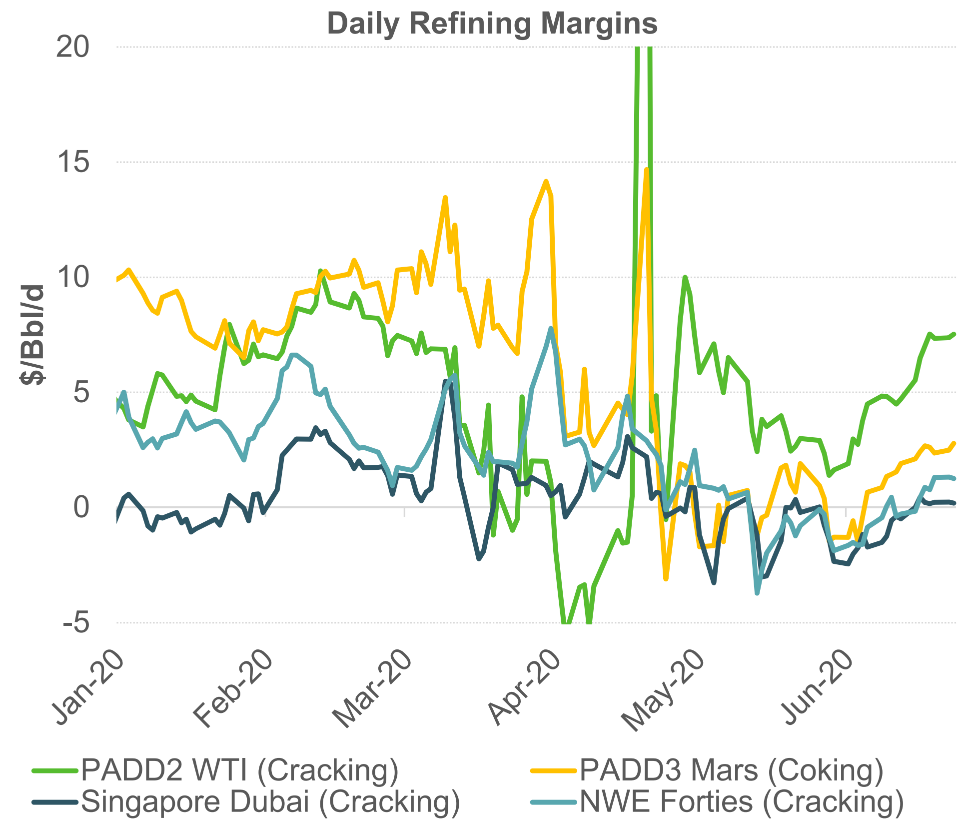
Source: EIA

Refining Margins

Although refiners in PADD 2 have seen their margins strengthen in May-June, margins in major coastal markets remain tight. This may limit upside potential for crude prices in the immediate future.





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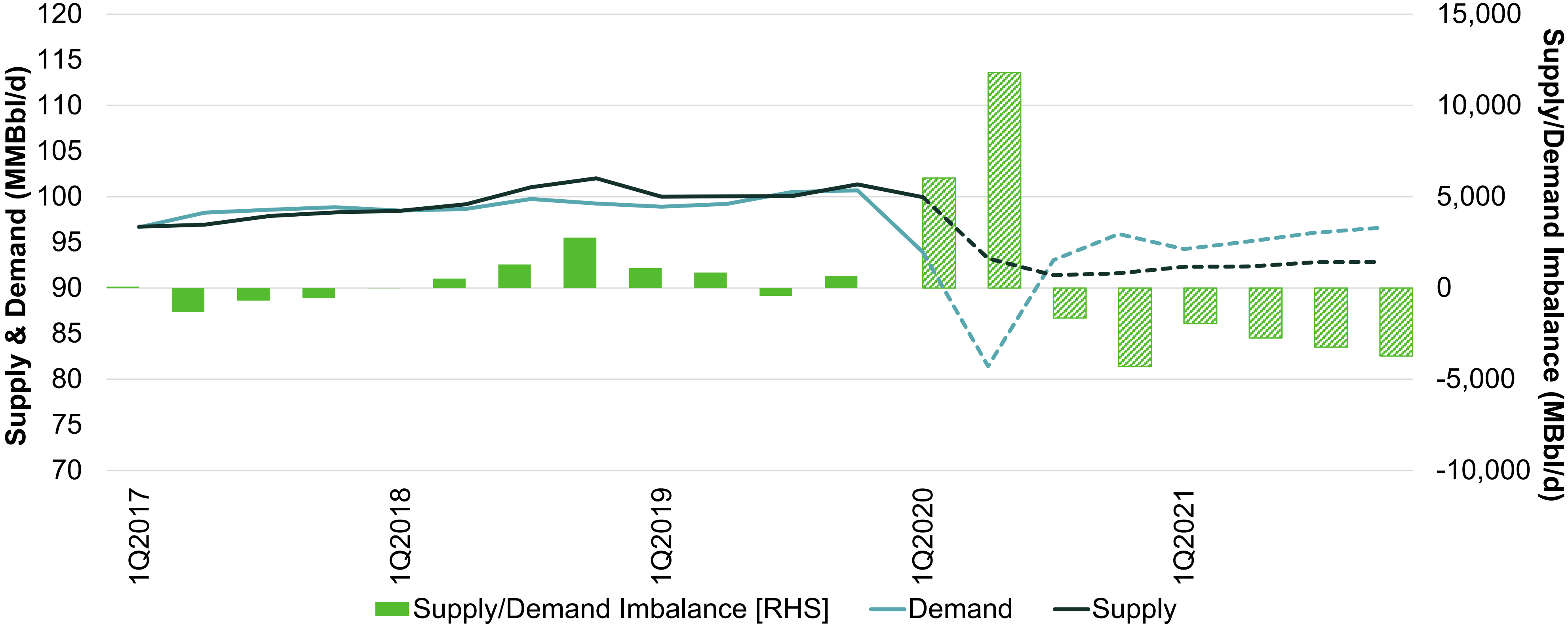
Source: Bloomberg

Global Supply and Demand Outlook

Global Petroleum Supply, Demand, and Implied Inventory Movements



Notes: Volumes shown include crude oil, condensates, oil sands, natural gas liquids, biofuels, and volumetric gains from refining.

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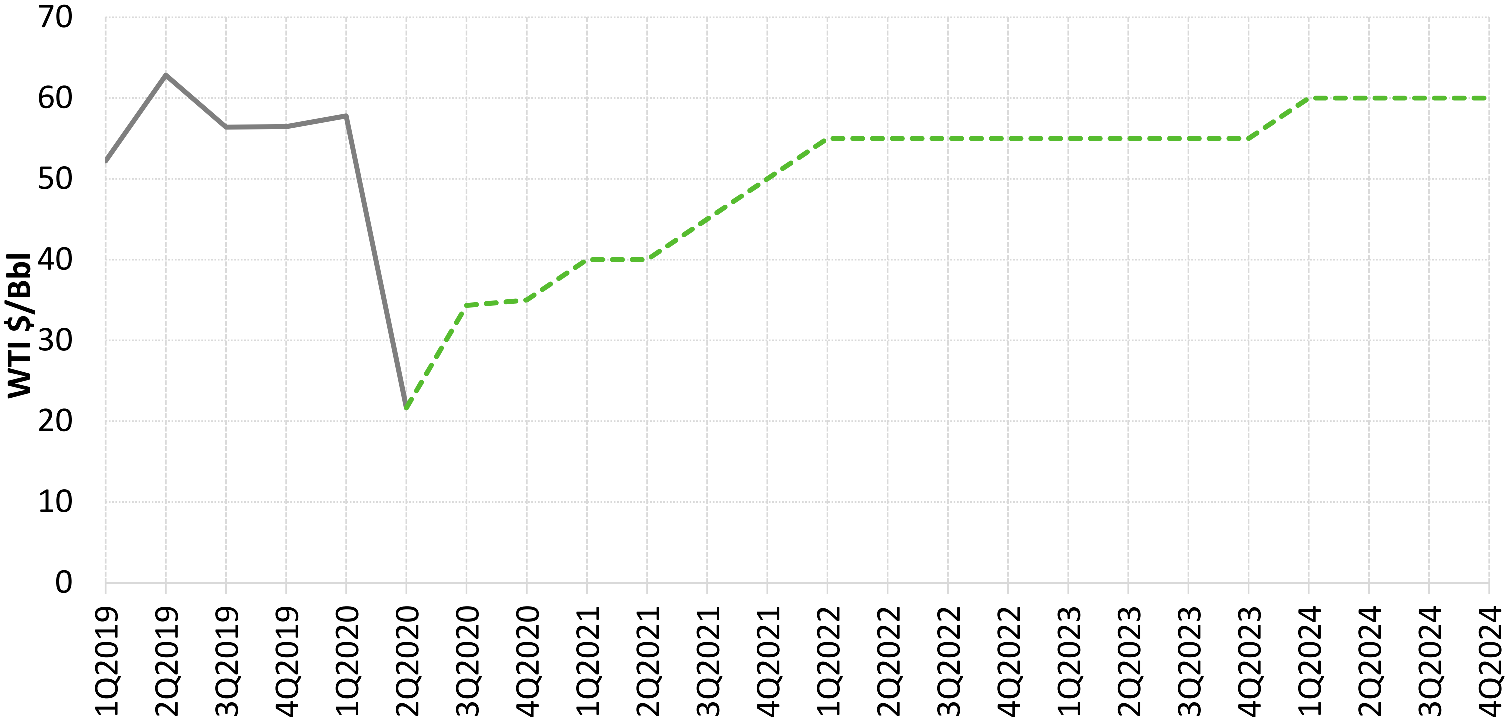
Source: Enverus ProdCast, RS Intelligence, IEA, OPEC

WTI Price Forecast: Enverus Base Case

OPEC+ production cuts and widespread shut-ins across the United States have been instrumental in preventing a much deeper and prolonged downturn in oil prices. In view of this, we have made significant upward revisions to the near-term portion of our WTI price forecast.



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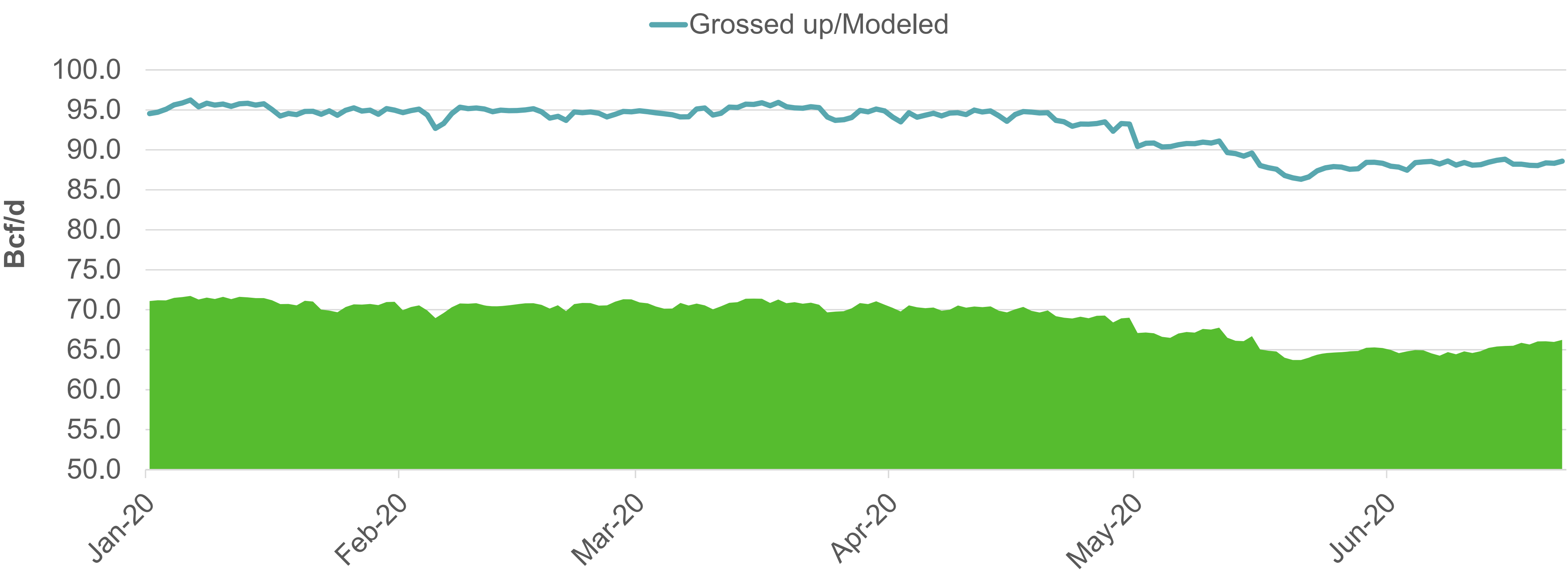
Source: Enverus ProdCast

Natural Gas

Dry Gas Production Losses Slow Significantly in June

2020 Daily US Dry Gas Production: Sample vs. Modeled



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Source: Enverus OptiFlo Gas

Production Gains Are Being Reported in Some Key Plays

Dry Gas Production in Bcf/d

Basin/Play	Sample Size[1]	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	June vs May (Bcf/d)	June vs Jan (Bcf/d)
Appalachia (OH,PA,WV)	100%	33.15	32.85	32.85	32.56	31.42	31.51	0.09	(1.64)
Permian	45%	6.11	5.99	6.01	5.77	5.30	5.38	0.07	(0.73)
Haynesville	62%	6.86	6.9	7.06	7.13	7.42	7.07	(0.35)	0.21
Anadarko (OK)	49%	3.66	3.52	3.53	3.44	3.09	3.26	0.17	(0.40)
DJ	89%	2.77	2.80	2.80	2.77	2.48	2.48	0.00	(0.29)
PRB	73%	0.67	0.62	0.65	0.56	0.36	0.41	0.05	(0.26)
Other Rockies	100%	5.51	5.38	5.40	5.43	5.20	5.12	(0.08)	(0.39)
FO Gulf	63%	2.95	2.99	3.03	2.91	2.3	2.18	(0.12)	(0.77)
Williston (ND)	94%	1.89	1.98	2.03	1.88	1.33	1.34	0.01	(0.55)
Other	50%	7.44	7.47	7.3	7.31	6.83	6.36	(0.47)	(1.08)
Total US Sample	**74%**	**71.00**	**70.50**	**70.66**	**69.75**	**65.73**	**65.11**	**(0.62)**	**(5.90)**
Grossed up/Modeled	**-**	**95.13**	**94.60**	**94.90**	**94.03**	**88.93**	**88.25**	**(0.68)**	**(6.88)**

[1] *Calculated based on February 2020. Other Rockies include the following basins from ProdCast: Big Horn, GR-O, Paradox, Raton, Uinta. Appalachian = Appalachian, PA North, South and West, Utica and West Virginia.*

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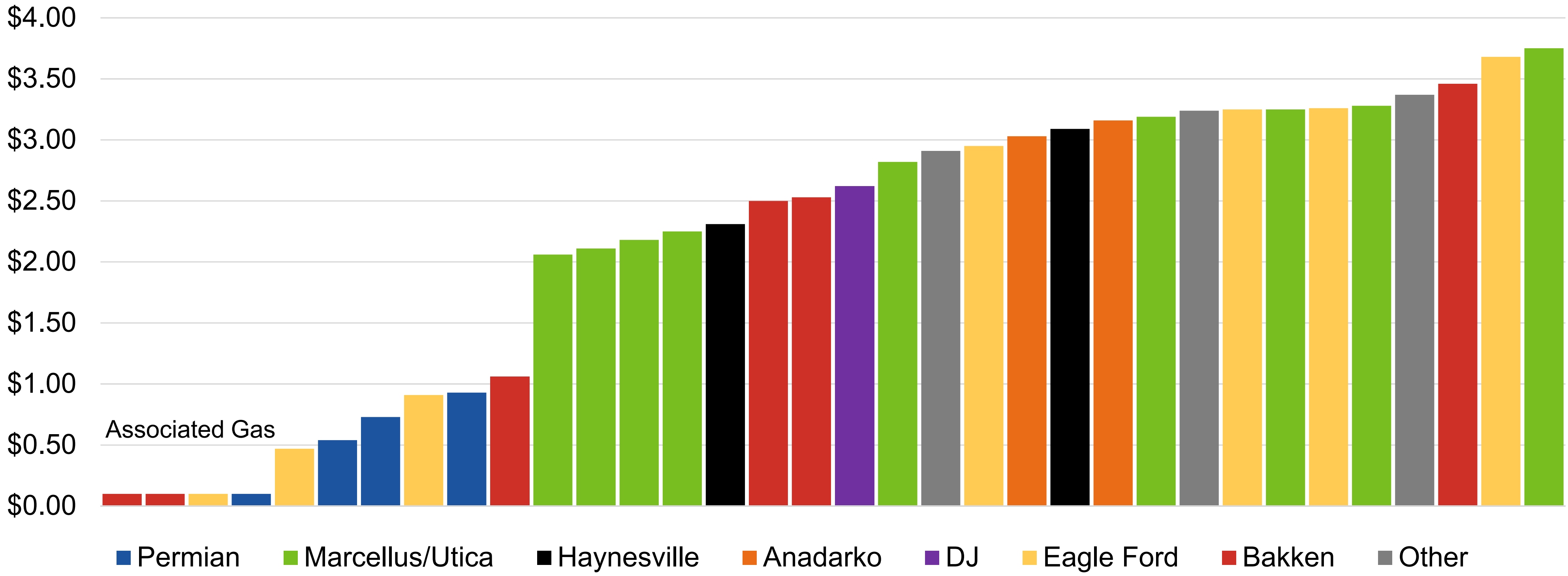
Source: Enverus OptiFlo Gas

Gas Breakevens Under $4.00/MMBtu

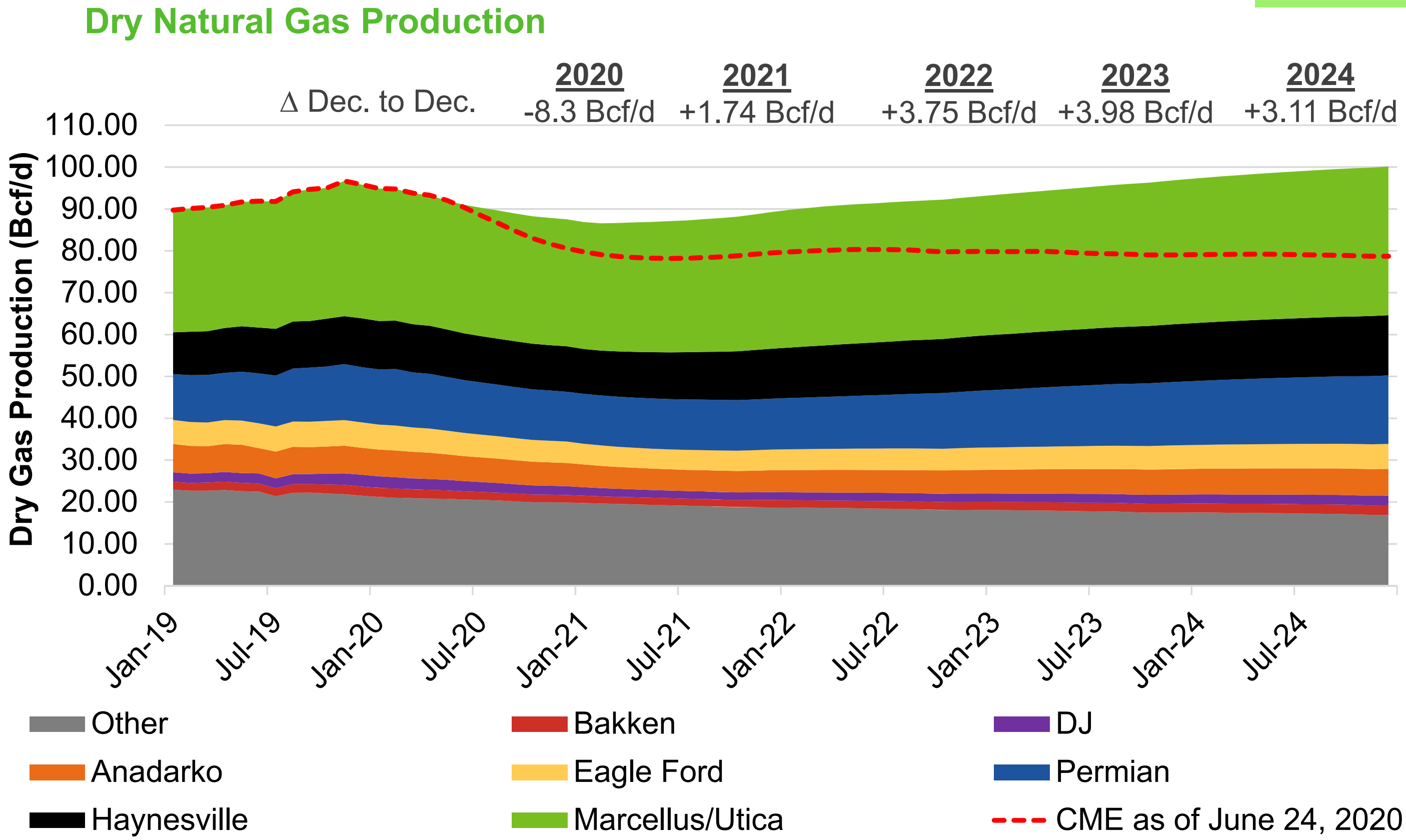
HH Breakeven ($/MMBtu) @ 20% MARR & $40.00/MMBtu



Source: Enverus ProdCast

US Dry Gas Production: 5-Year Outlook

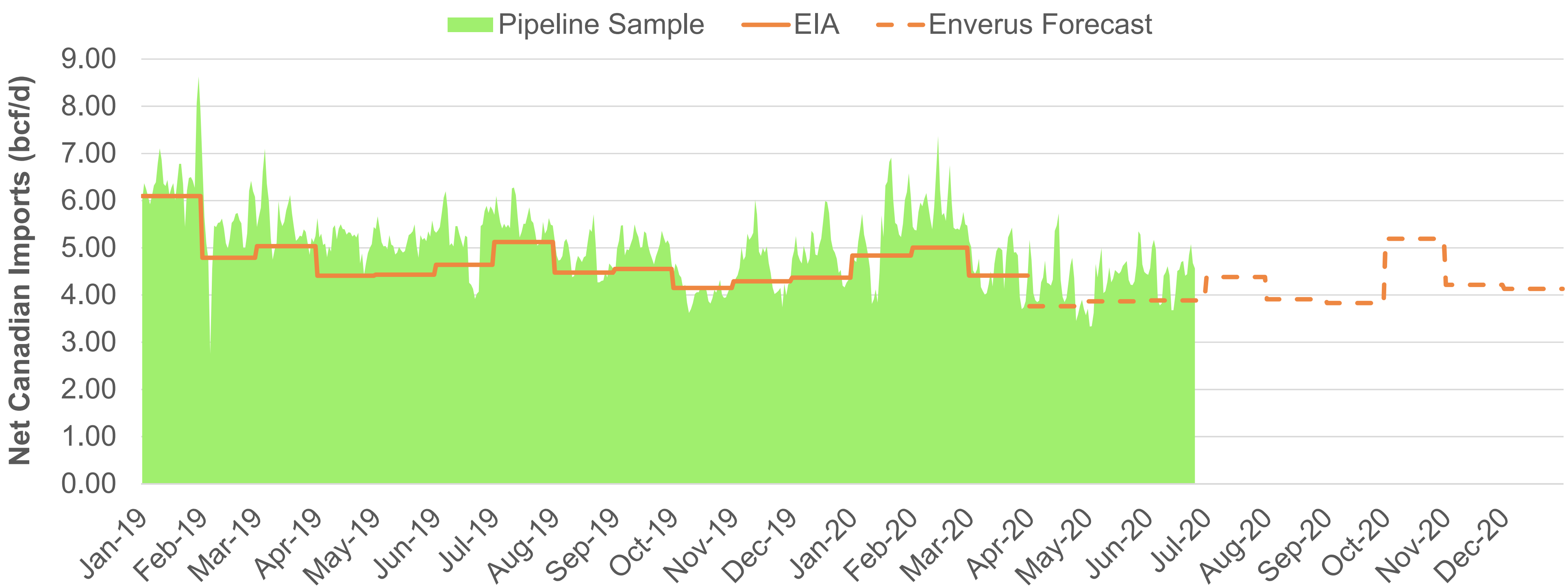
Year	HH ($/MMBtu)	WTI ($/Bbl)
2021	$3.90	$43.75
2022	$3.00	$55.00
2023	$3.00	$55.00
2024+	$3.00	$60.00



Source: Enverus ProdCast

Supply – Canadian Imports

US Net Imports From Canada



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Source: Enverus OptiFlo Gas, EIA

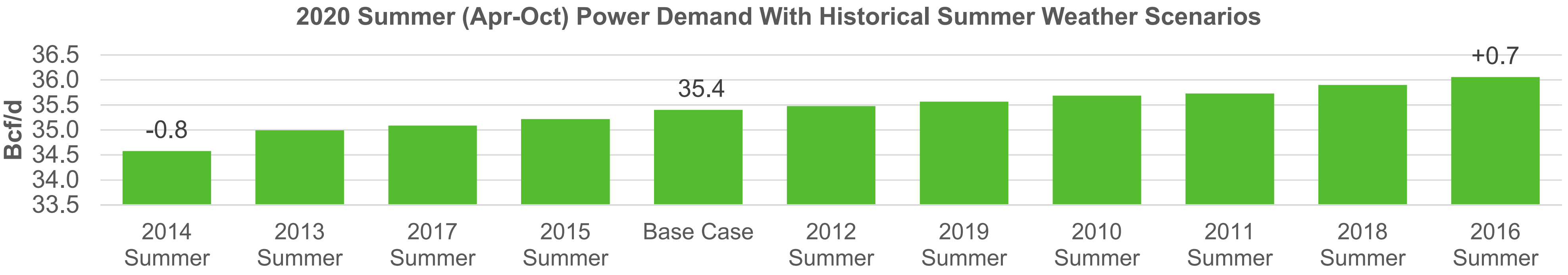
Domestic Natural Gas Demand

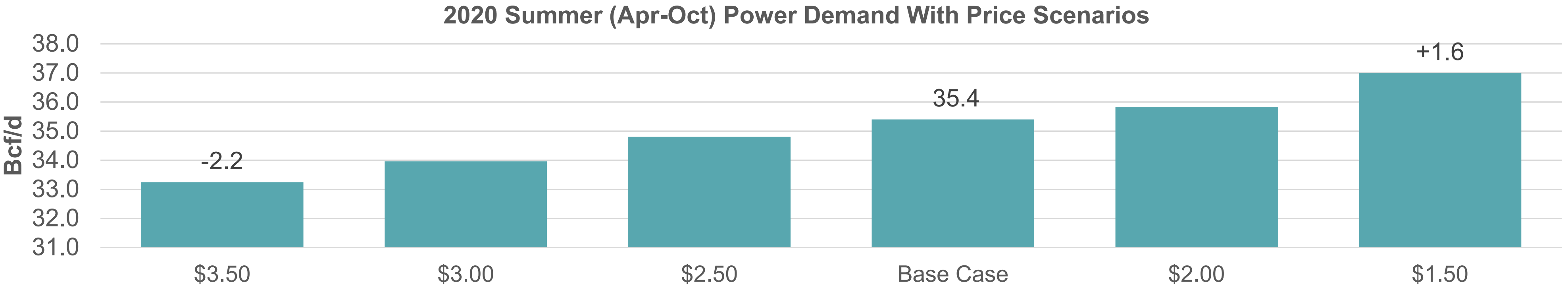
Base Case 5-Year Forecast

ENVERUS

Source: Enverus analysis based on EIA

Gas Demand Summer 2020 Scenarios





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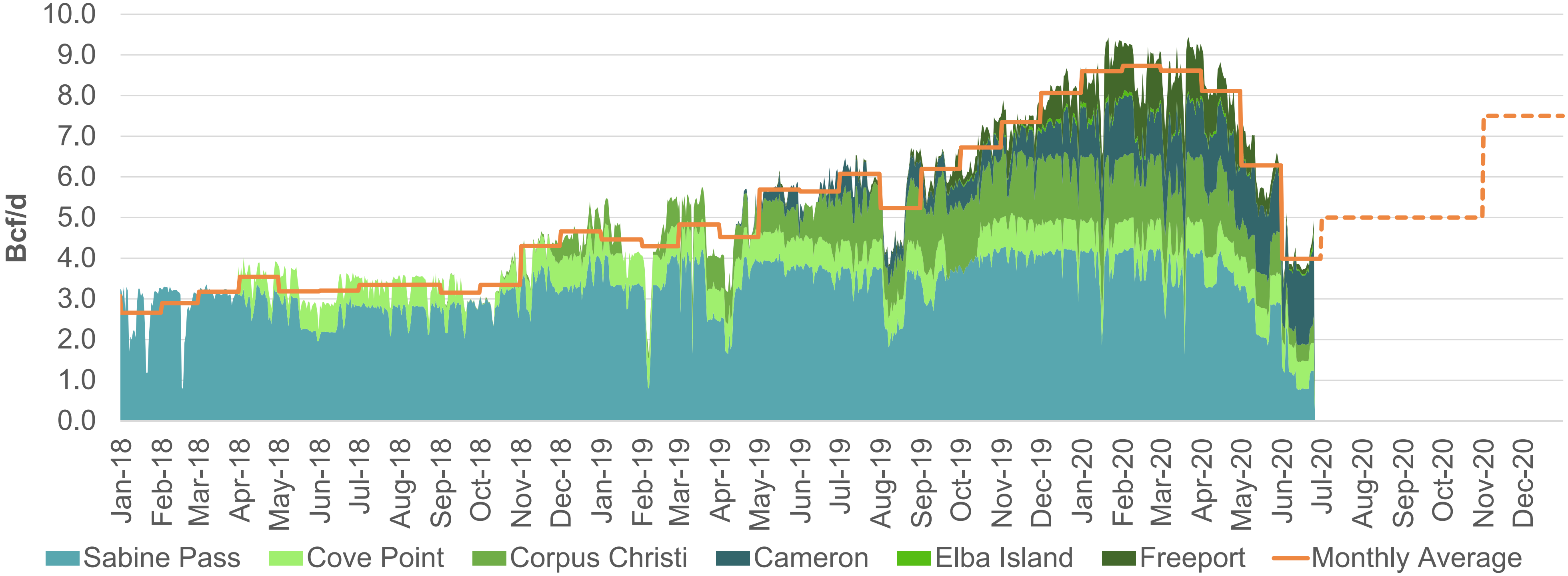
Source: Enverus analysis based on EIA, NOAA

LNG Exports Down to Levels Not Seen Since 2018

LNG Exports



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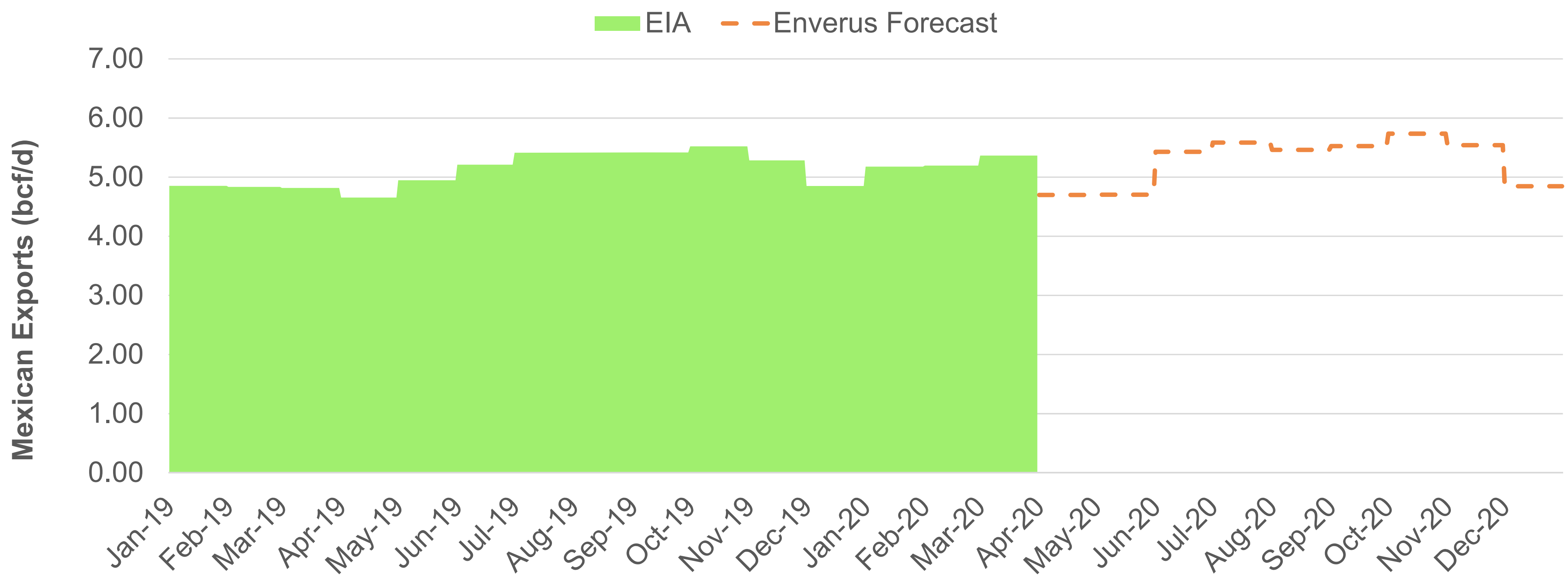
Source: Enverus OptiFlo Gas

Demand – Mexican Exports

US Exports to Mexico



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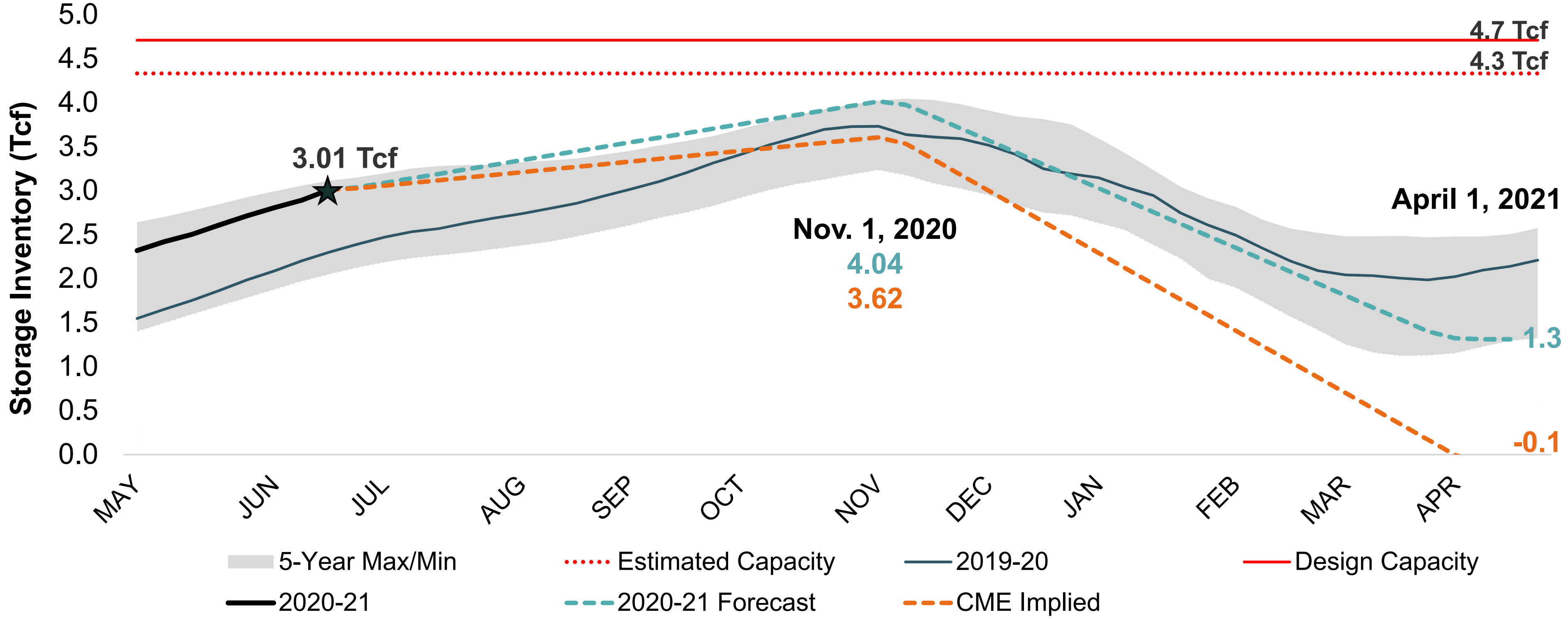
Source: Enverus OptiFlo Gas, EIA

Projected Storage Inventory

End-of-Season Inventory Projections



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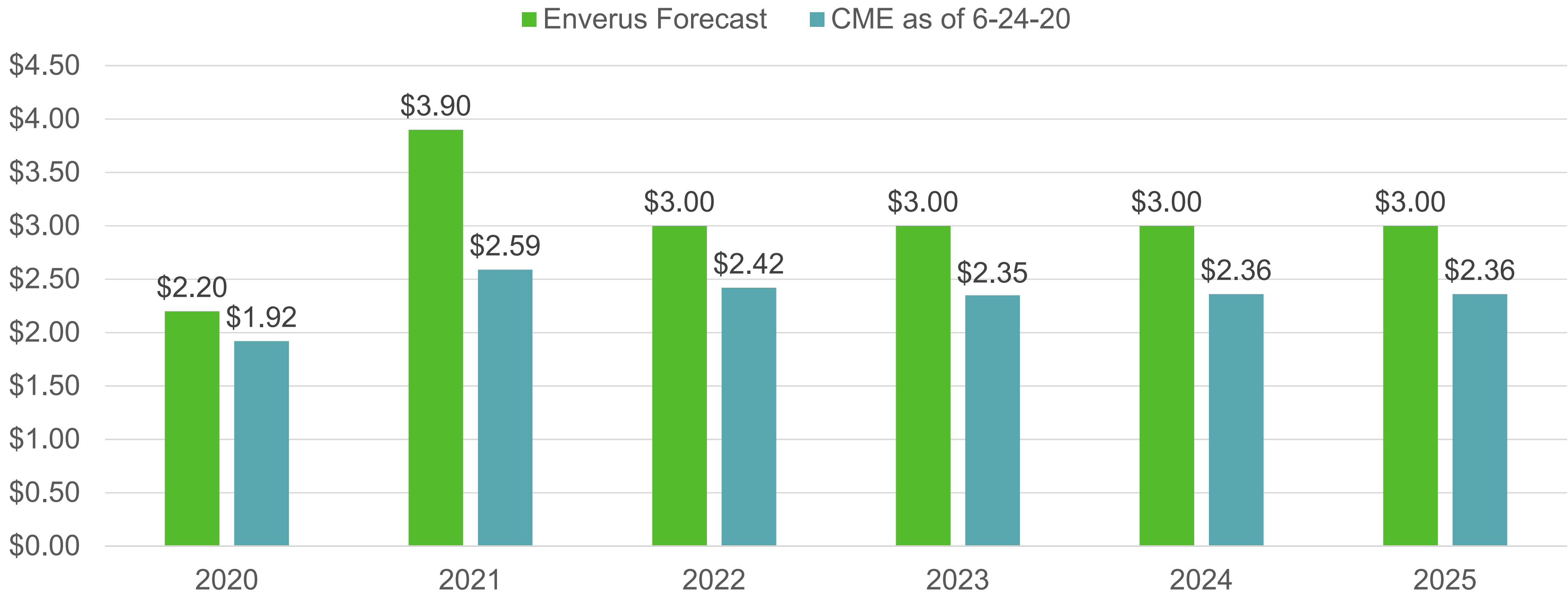
Source: EIA, Enverus analysis

Enverus Natural Gas 5-Year Price Forecast

Henry Hub ($/MMBtu)



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Source: Enverus forecast and CME Forwards

Q1 2020 OPERATOR UPDATE

Q2’20 Earnings Preview

Here is what to look out for in Q2 Earnings

- **Optimism** – Despite the pandemic, there was a surprising amount of optimism on Q1 calls. Capex was cut, costs were lower in both development and production, and hedges provided parachutes. July WTI settled above $40 per barrel, and gas is currently $1.65 per MMBtu , and only about 295 US rigs were active in mid-June. Operators will boast about underspending due to cost savings, provide guidance on return of activity, and convey how they have managed to shuffle their business around to preserve balance sheets.

- **Curtailments** – Actual volumes shut-in will be a wild card until disclosed, with mixed results varying from company to company. Higher rate horizontal wells should be returning to production, while vertical wells or lower-rate horizontal production may still be competing with variable costs – in addition to the cost to turn production back on. There will be emphasis on economics rather than volumes for the sake of volumes. CLR, PE, and EOG are the only operators with hints as of late June. CLR will shift from 70% to 50% curtailed, PE plans to restore the vast majority of 26 MBoe/d cut, and EOG has stated their intentions to not only turn production back on in the third and fourth quarters but also to start completing DUCs.

- **Activity** – Last quarter, many questions asked of management prodded them about breakevens. What prices do we need to see which activity returns? Several companies like Devon or QEP threw out guidance to return in Q4, last quarter. Now that volatility has somewhat subsided, expect more hedges to promote clearer plans of action, but higher risk will likely keep activity lower.

- **Costs** – Drilling and completion costs have been reduced in order to generate interest for operators to bring back activity. Operating expenses will be lower due to the shut-in of higher-cost producing wells and G&A will be lower due to decreased headcounts and renegotiations of contracts. The big question will be how much operators will be able to sustain these low costs going forward.

- **Liquidity** – Borrowing bases have been slashed, and credit card capacity for many operators is limited. Look for plans on potential monetization of assets, halting of buybacks or dividends, or refinances to kick debt maturities down the road and to reduce interest expenses.

- **Hedges** – Will operators favor predictability over the upside price scenario? The former rather than the latter will be preferred by operators if liquidity is running dry.

- **ESG** – Expect continued discussions on sustainability and corporate social responsibility as more energy industry investments are trickling into the low-carbon sector.

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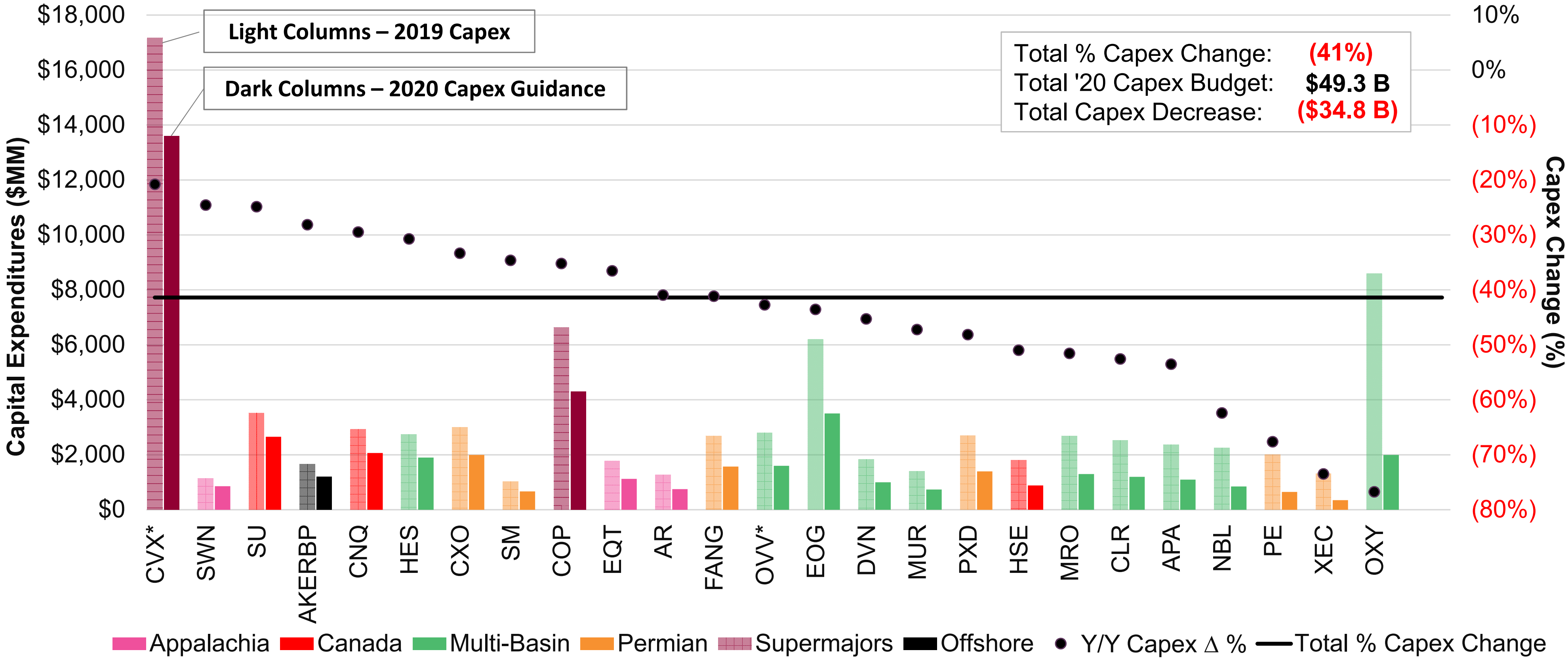
Capex Revisions (Large Independents and Majors)

Large-cap operators make up almost $50B of 2020 capex budgets, which is down $34.8B from 2019.



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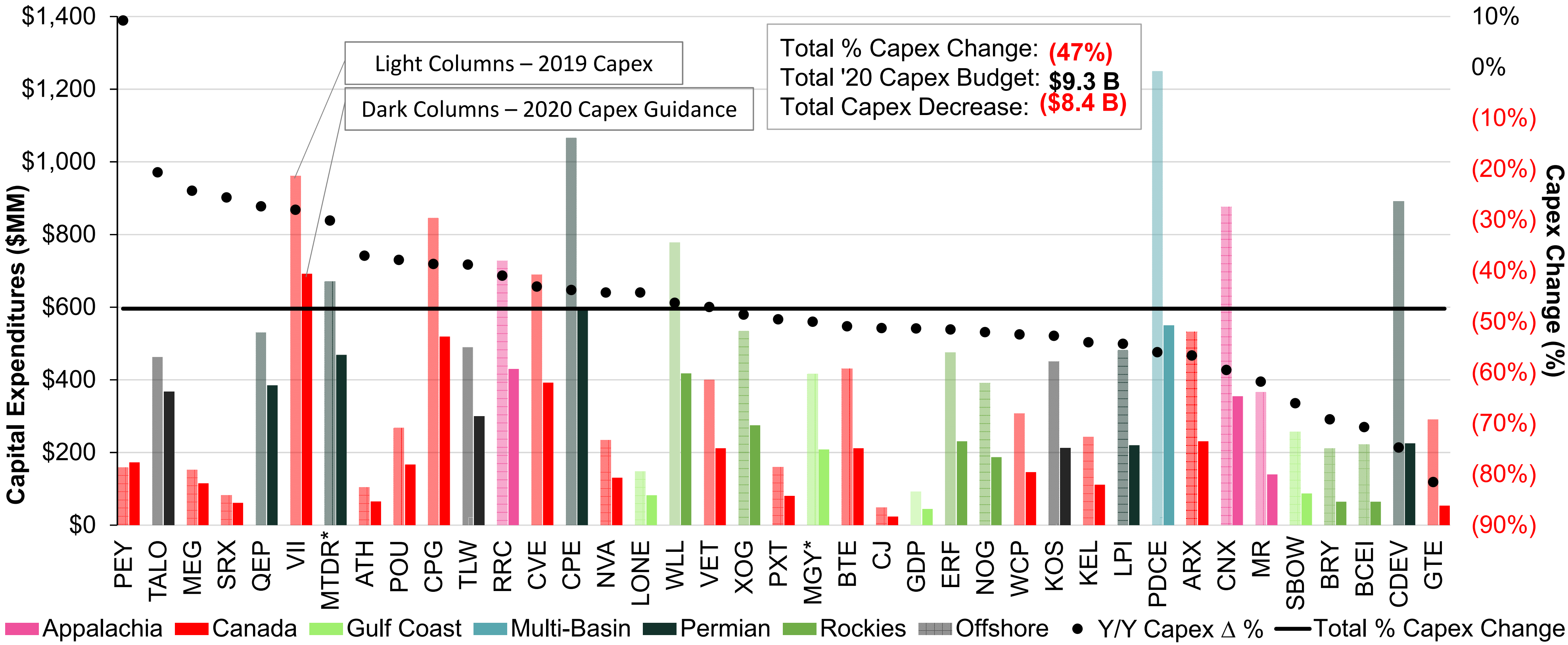
Source: Public Filings, USD and $1.30 USD-CAD.
Denotes calculation from available disclosures.

Capex Revisions (Small- to Mid-Cap Operators)

Small-cap operators averaged a 47% reduction from 2019 capex budgets, which are down $8.4B from 2019



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Source: Public Filings, USD and $1.30 USD-CAD.
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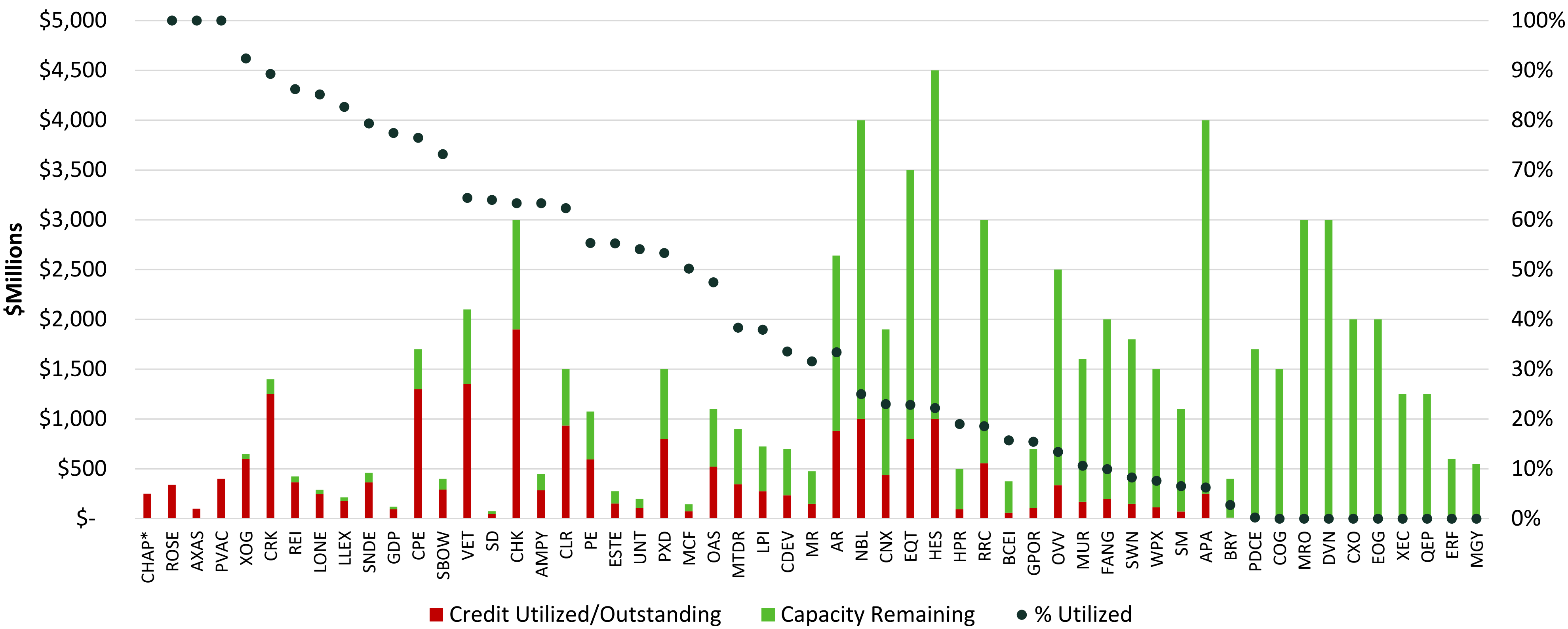
Credit Line Capacity

Of these operators, 42% have borrowed more than half of their credit facility capacity, and less than 10% have not tapped in yet.



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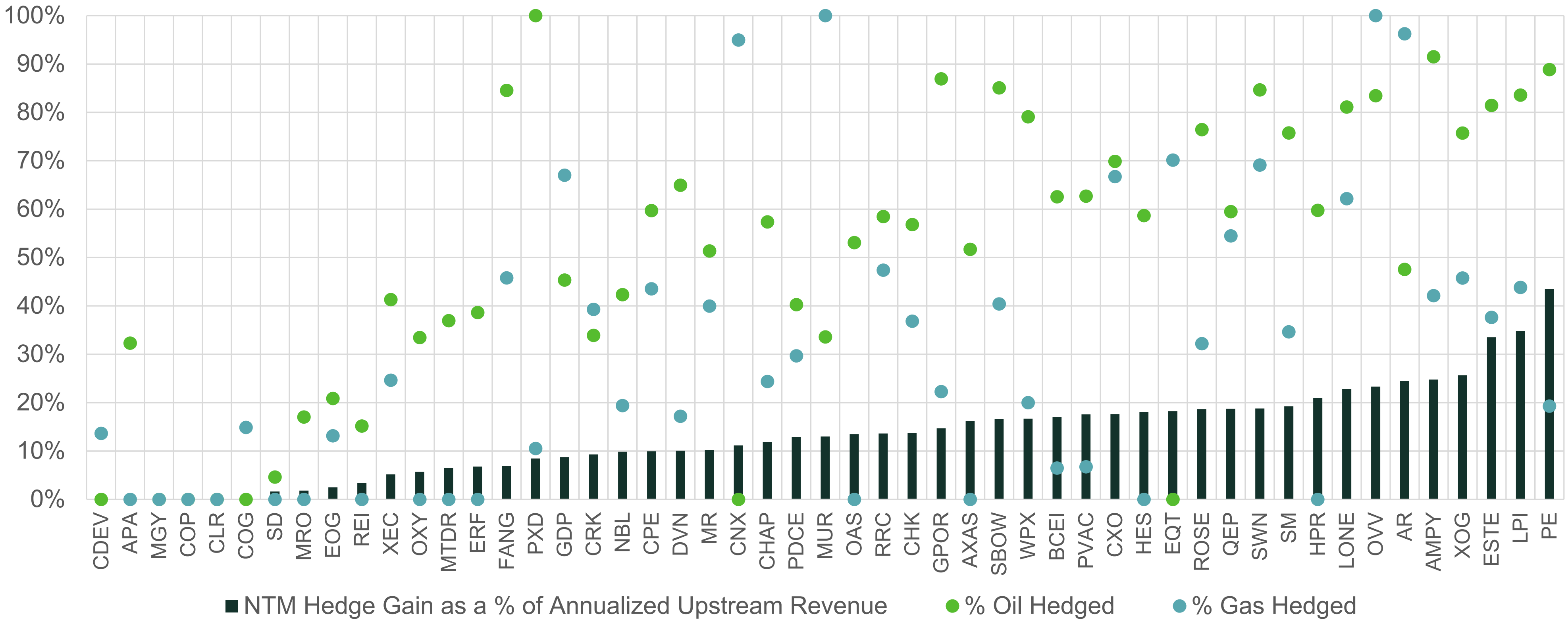
Source: Company Filings, Bloomberg, as of 5/26/2020.
*CHAP had a deficit of $75MM and therefore 143% utilization.

Hedges

Most operators' hedges will provide a net benefit at the current strip, but adding hedges at low prices could disadvantage some



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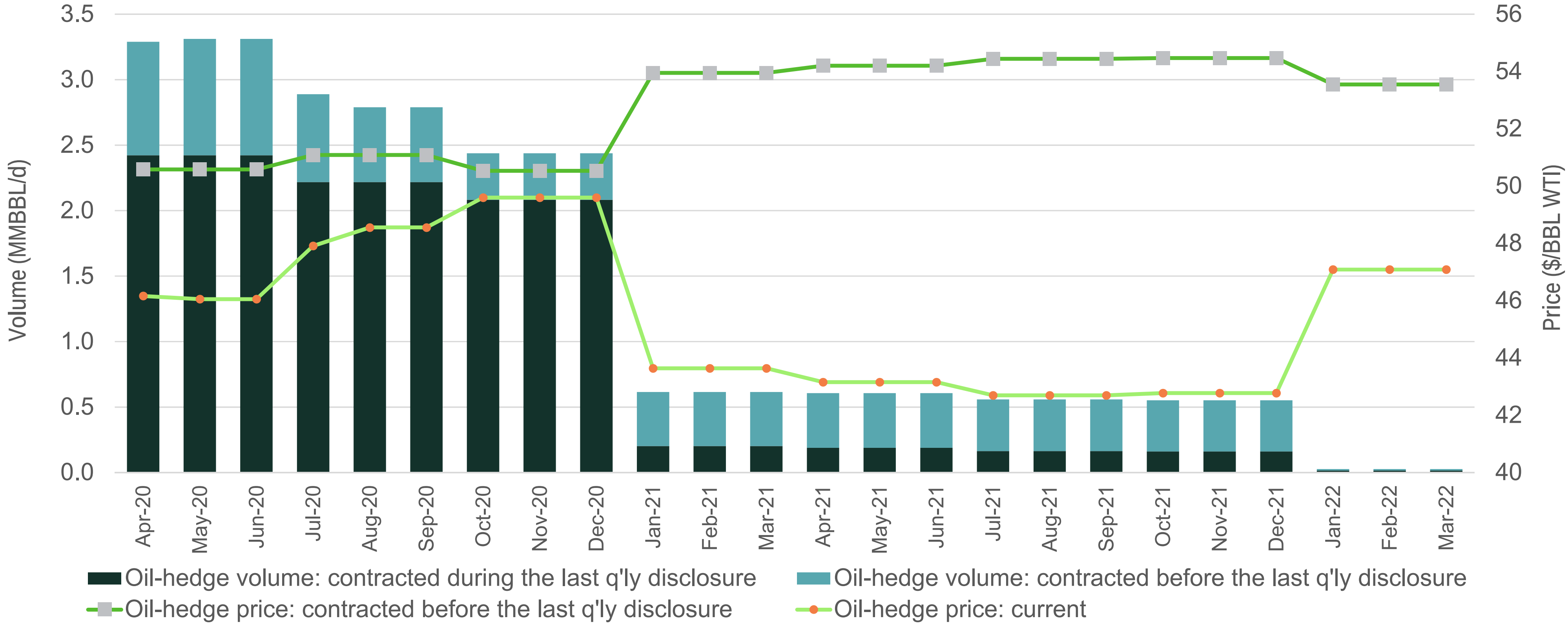
Source: Public Filings. Based on hedges in place as of 3/31/2020 and forward strip in late May. NTM Annualized Upstream Revenue = (Q1'20 realized prices * Q1'20 oil and gas production * 4).

Before and After the Crash: Oil Hedge Volumes and Price

The price crash forced this sample of operators to triple their 2020 hedge positions on an aggregate basis



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Source: Public Filings. Based on hedges in place as of 3/31/2020 and forward strip in late May. Operator list on prior slide.

Key Takeaways

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  - BUT …..The recovery in demand remains tenuous, though, and anemic refining margins and the recent rise in new COVID-19 cases do raise concerns.
  - We nevertheless remain cautiously optimistic that the rebalancing will continue, with much needed inventory draws coming over the second quarter of 2020, extending into 2021.

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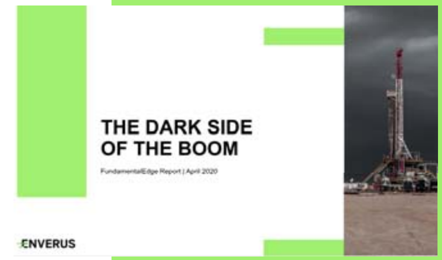
Additional Publications



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