GELBER & ASSOCIATES

Natural Gas Price Forecast & Industry Review

2020 Hedge Season

May 15, 2020

Introduction and Disclaimer

Gelber & Associates (G&A) is pleased to provide its 2020 Natural Gas Price Forecast. This Forecast predicts the NYMEX front month natural gas contract for delivery at Henry Hub through March 2022 and provides guidance for the 2020-21 and 2021-22 winter seasons.

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Executive Summary

Looking Back at the November 2019 Forecast

The world of May 2020 appears very different than that of late-2019. Nonetheless, in our most recent Forecast Revisitation in November 2019, G&A correctly identified many trends that are still playing out in the current natural gas market. Below are listed the key conclusions we predicted would shape the gas market in 2020:

- Production growth would stall in 2020 as producers shift their focus to reduced spending and maintaining current levels.
- Demand growth, primarily from LNG exports,continued to grow and will begin to catch up to supply in the second half of 2020.
- However, the market hasstayed heavily oversupplied on a weather-adjusted basis, and it will take most of 2020 to resolve this imbalance.
- Robust supply will minimize storage fears this winter and inventories could approach 4 Tcf in the 2020 injection season.
- A weak supply/demand balance and plentiful storage will translate to low prices in much of 2020. The primary range for prices is expected between $2.25-$2.75, with the potential to test 2016 lows below $2.00/MMBtu. Prices will be prepared for a sustainable recovery in the back half of 2020.

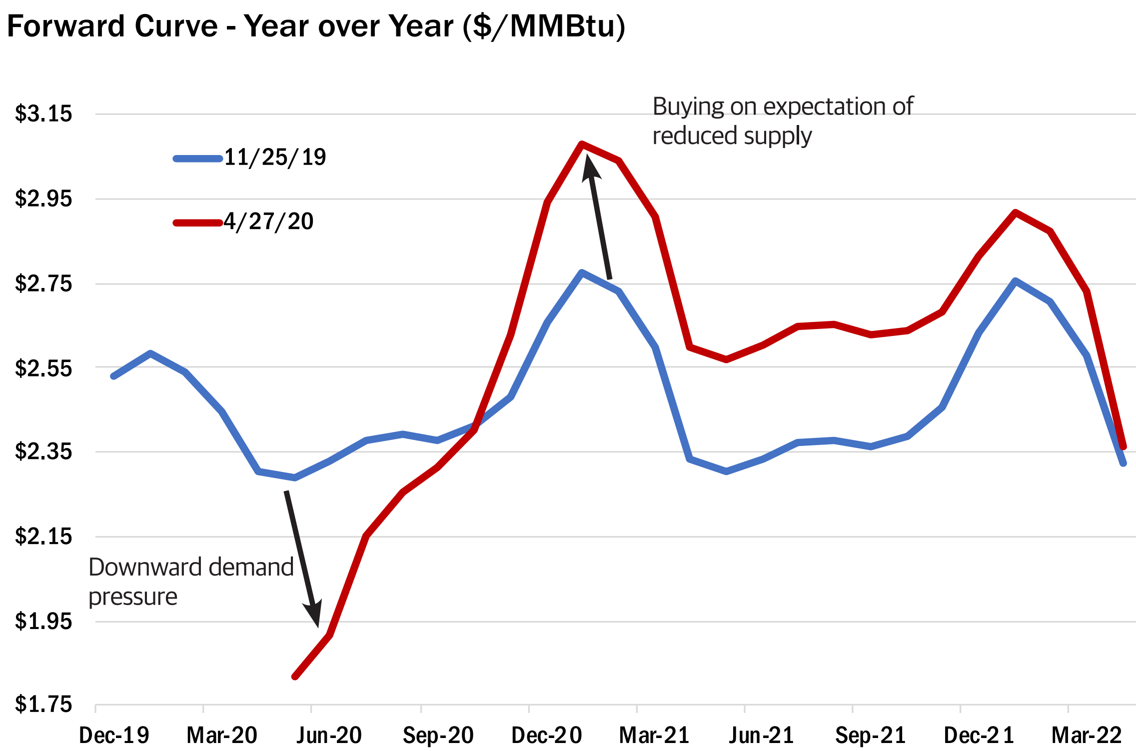
What has changed?

As G&A expected, production growth is set to stall in 2020 while demand growth continues. The onset of the COVID-19 pandemic has significantly shifted dynamics in the natural gas market. A deep and rapid cut to demand has taken place in the short-term and led to even more price weakness than could have been predicted. However, similar weakness in oil and global fuel demand has had the secondary effect of setting in motion a more extreme supply reduction (via associated gas) than anticipated.

Years of growth in the natural gas market have come to a head at the beginning of the new decade. In early 2020, the market was feeling the effects of this growth. Natural gas production growth had outstripped demand for several years,and left abundant gas in storage in an oversupplied market. Meanwhile, demand was rushing to catch up with new sectors of growth coming from LNG, power generation, and elsewhere. Some of these dynamics will extend into the post-COVID world. However, duel shocks to supply and demand have exacerbated and hastened other trends that were occurring prior to the pandemic. For example, this spring, short-term demand losses crashed gas prices to lows not seen since 1995. Meanwhile, collapsing oil prices and reduced drilling threatens to significantly shrink the amount of associated natural gas available on the supply side in coming years. In many ways, the story currently playing out in natural gas pricing is a tale of two distinct market shocks.

In this Forecast, G&A will reflect on recent changes that have affected natural gas prices and what can be expected for the next two years. An exogenous event beyond all control is perhaps the best time to reflect on past risk management strategies and take steps to prepare for whatever else could come.

A Market Divided: Short Versus Long-Term Dynamics

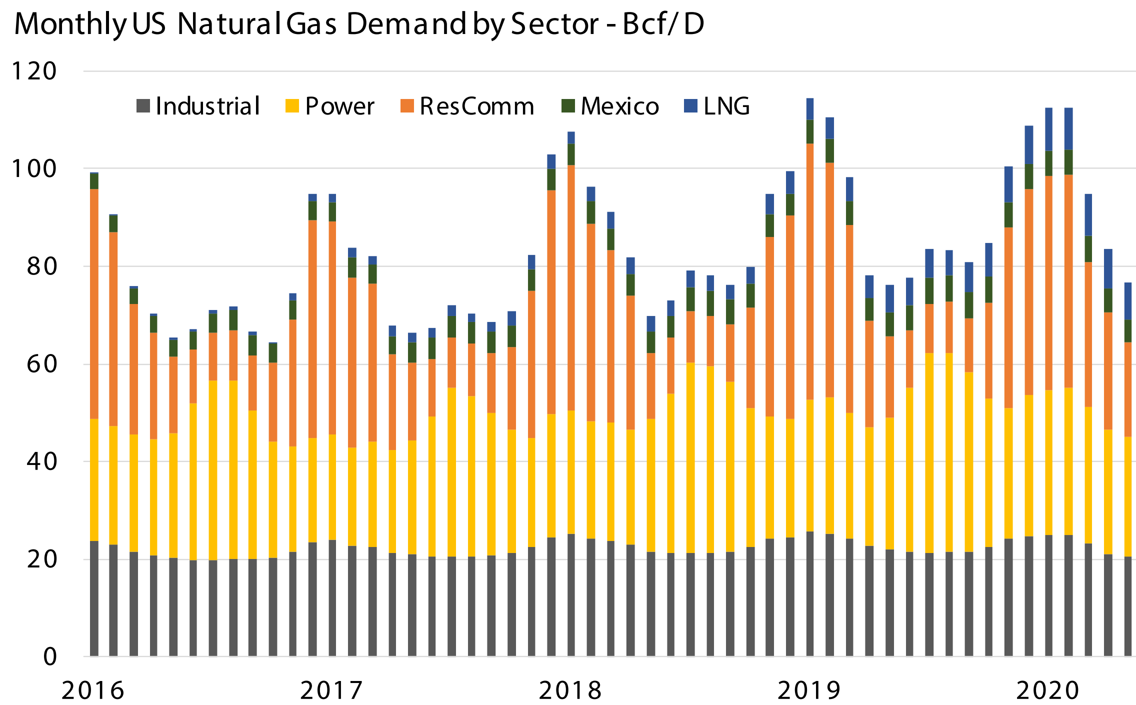


Natural gas prices have undergone two separate shocks early in 2020 that will impact forward prices for the next two to three years. A mild winter and demand destruction related to COVID-19 containment measures have collapsed prices at the front of the curve much lower than anticipated. Meanwhile, a simultaneous collapse in oil demand and prices has implications for associated natural gas production. Expectations for a notable supply contraction by late 2020 and into 2021 are putting upward pressure on the forward curve and exaggerating market contango for the next one to two years.

Demand

Short-Term Correction

US natural gas demand has been on a path of growth for many years after the shale revolution renewed the supply of low-cost natural gas all across the country. Gas is no longer only the traditional fuel to heat homes and businesses through residential and commercial use. Growth in natural gas since that market's last downcycle in 2016 has come through a variety of sectors. Industrial natural gas demand has been a slow but steady workhorse over the past five years, growing on par with the US economy as a whole. Natural gas-fired power generation in the US continues to grow and has displaced coal as the countries dominant fuel source. Meanwhile, the export market has been the most exciting and fastest growing outlet for cheap US natural gas. Pipeline exports to Mexico continue to expand as our southern neighbor builds out gas-fired power and industrial capacity. Most importantly, liquefied natural gas (LNG) export capacity, a subset of the industrial sector, has grown to nearly 10 Bcf/D early in 2020. Despite continued expansion in natural gas demand, a widening mismatch with available supply has developed since late 2018. In early 2020, this mismatch brought the market to a breaking point.



In the short-term, impacts of COVID-19 have fallen firmly on the demand side of the equation. Demand destruction early this year has turned back additional gas into an already-oversupplied market and helped prices find new lows. Early hopes were for a quick return of demand when shutdowns ended, but this is no longer realistic in the gas market in 2020:

- Industrial demand has lost between 1.5-2 Bcf/D from initial shutdowns. A slowdown in global economic activity will continue to hound industrial demand versus previous expectations this summer.
- LNG export capacity growth is reaching its final stages. However, utilization my be weak throughout the summer due to a glut of global supply.
- Mexican export demand growth will similarly suffer from a slowdown in economic activity from reduced usage for industrial and power sectors.
- Power generation is crimped in the short-term by closures of business and manufacturers. Although some will return when stay-at-home orders are lifted, it will continue to feel a drag this summer. One bright spot: natural gas continues to take a larger and larger share of generation due to recent low prices.

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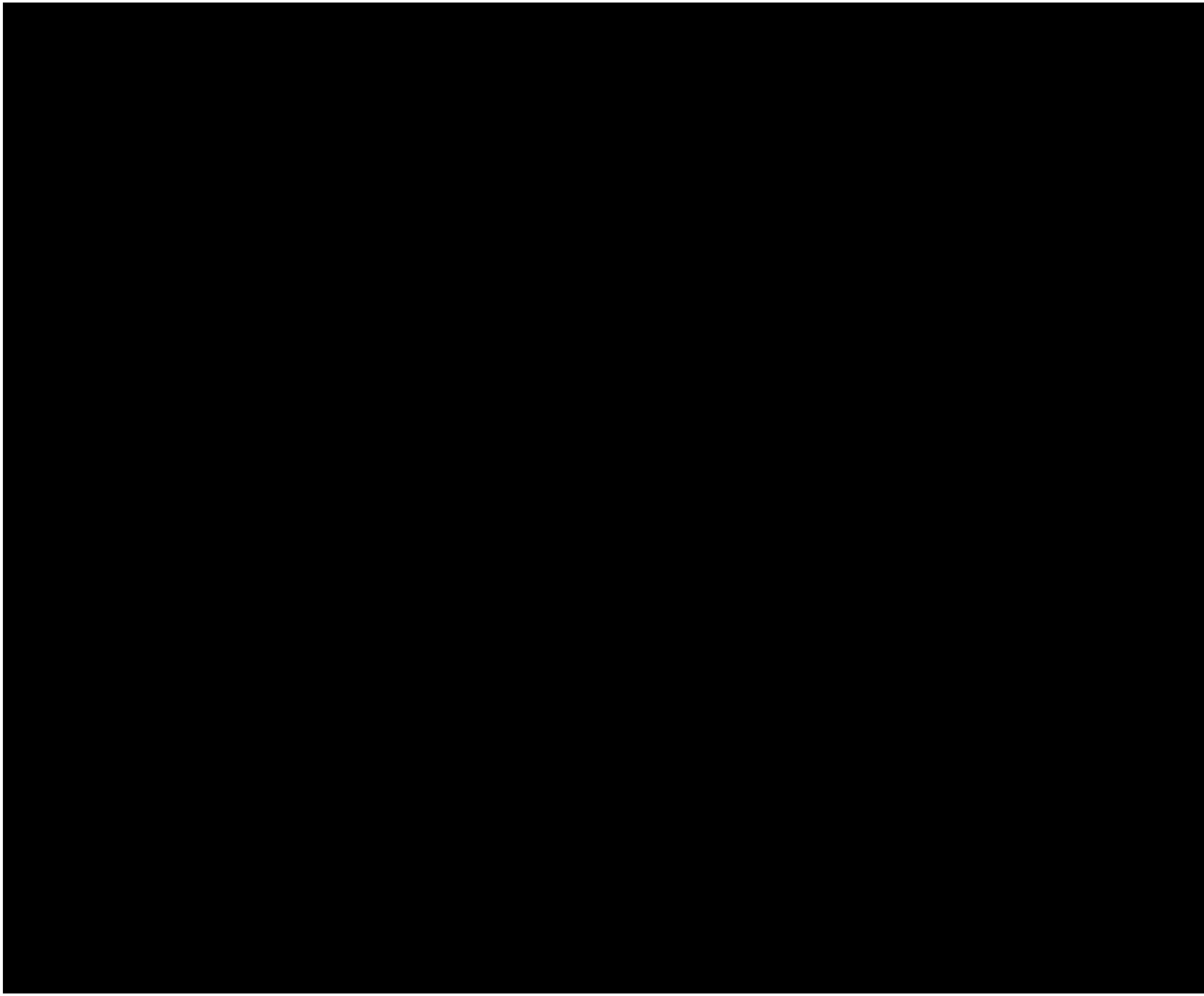

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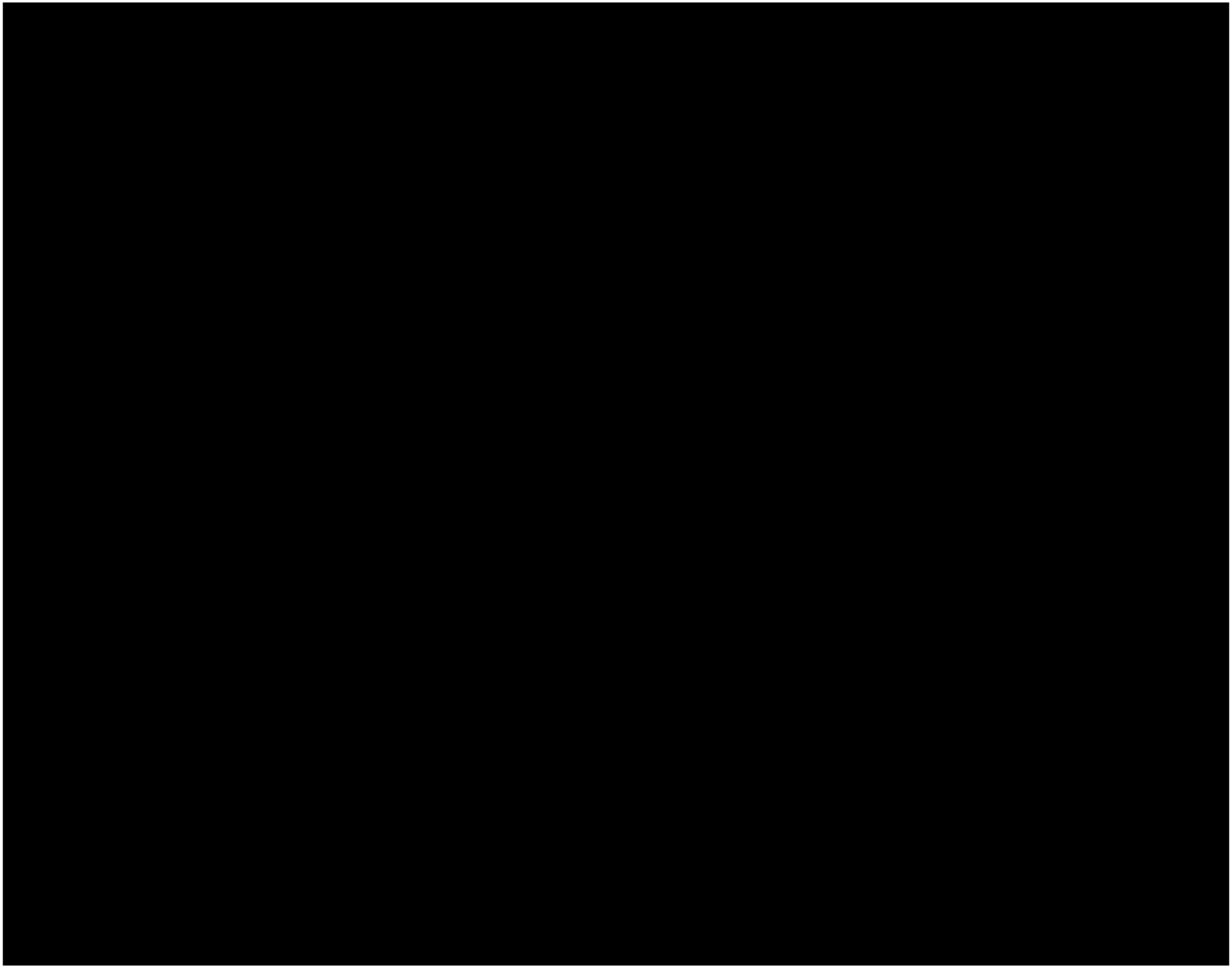


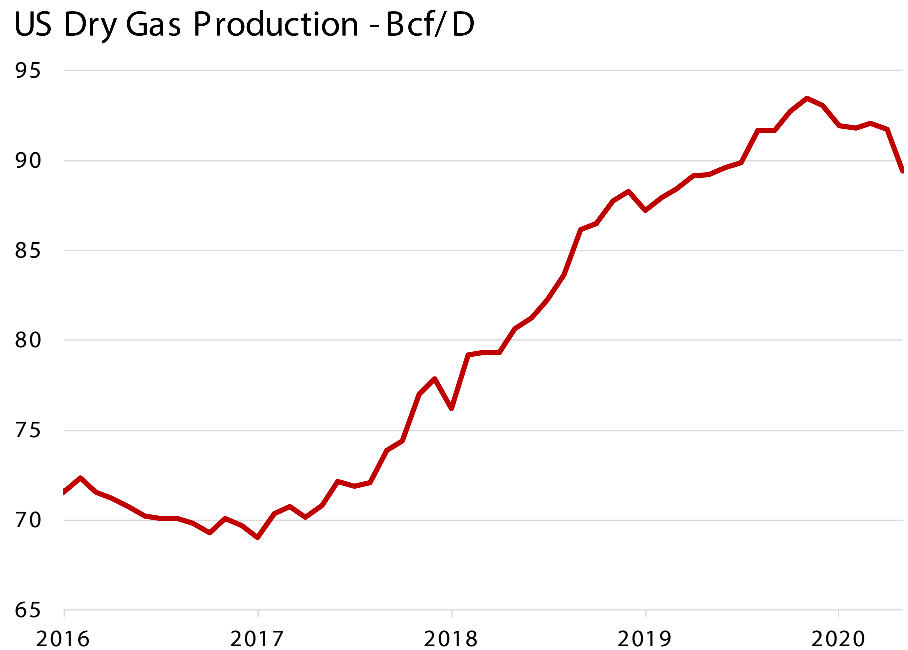
Supply

Long-Term Contraction

Short-term demand impacts have triggered a longer-term supply correction in natural gas and other commodity markets. The oil price collapse to historic lows this spring will take a surprisingly bullish form for the natural gas market by substantially reducing associated gas.

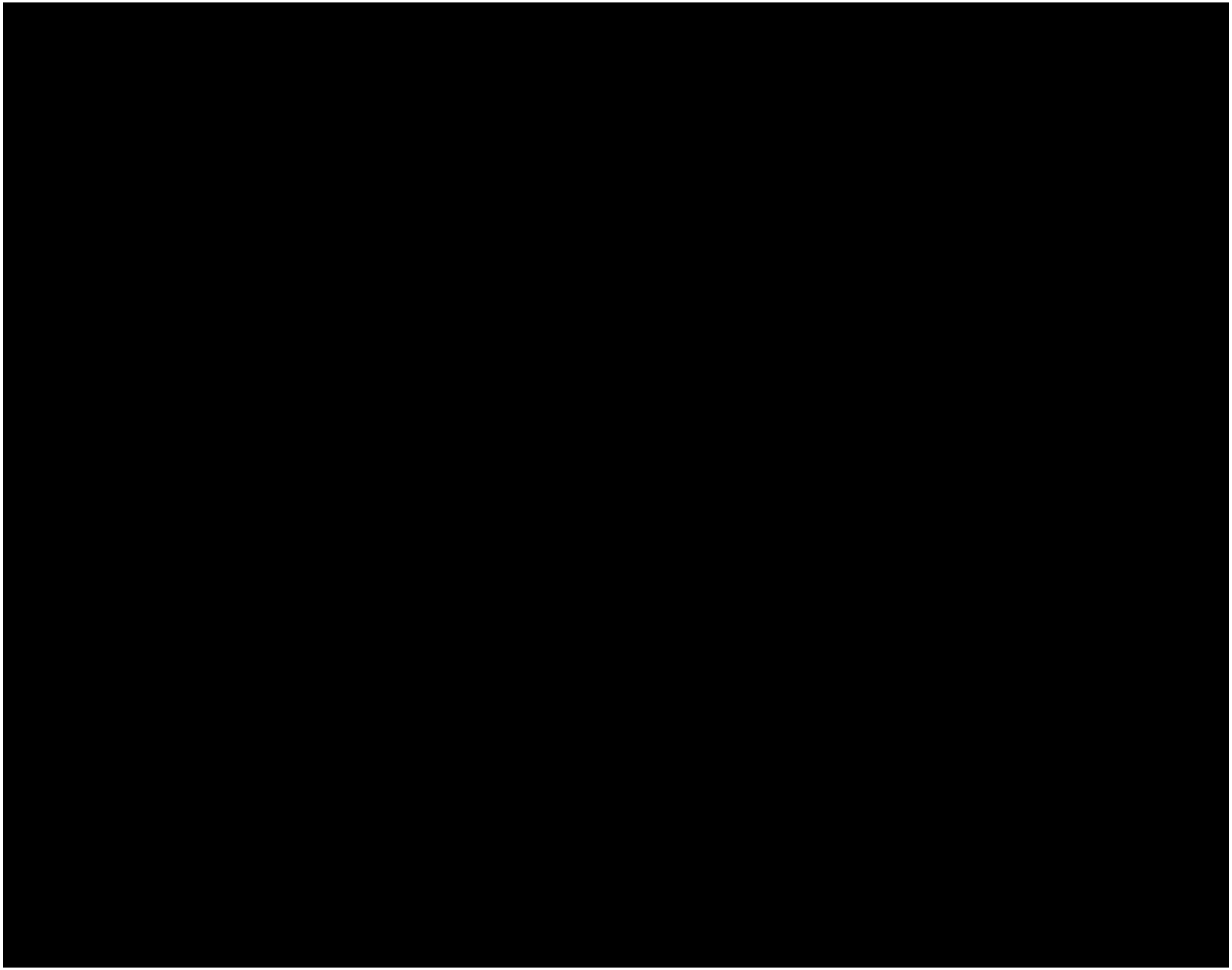
- Changes in natural gas production have been anticipated by G&A since the 2019 forecast. Decreases in natural gas production will be focused in wet shale basins.
- Oil-focused producers have announced shut-ins of about 2 million bpd in May and June which will lead to immediate and drastic reductions in associated gas supply.
- Meanwhile, dry natural gas producers have signaled maintenance level spending- will no longer chase growth.
- Production declines won't bottom out until early 2021.
- The coming supply contraction will take longer than demand losses to materialize, but will be of a larger magnitude and drawn out over a longer period.

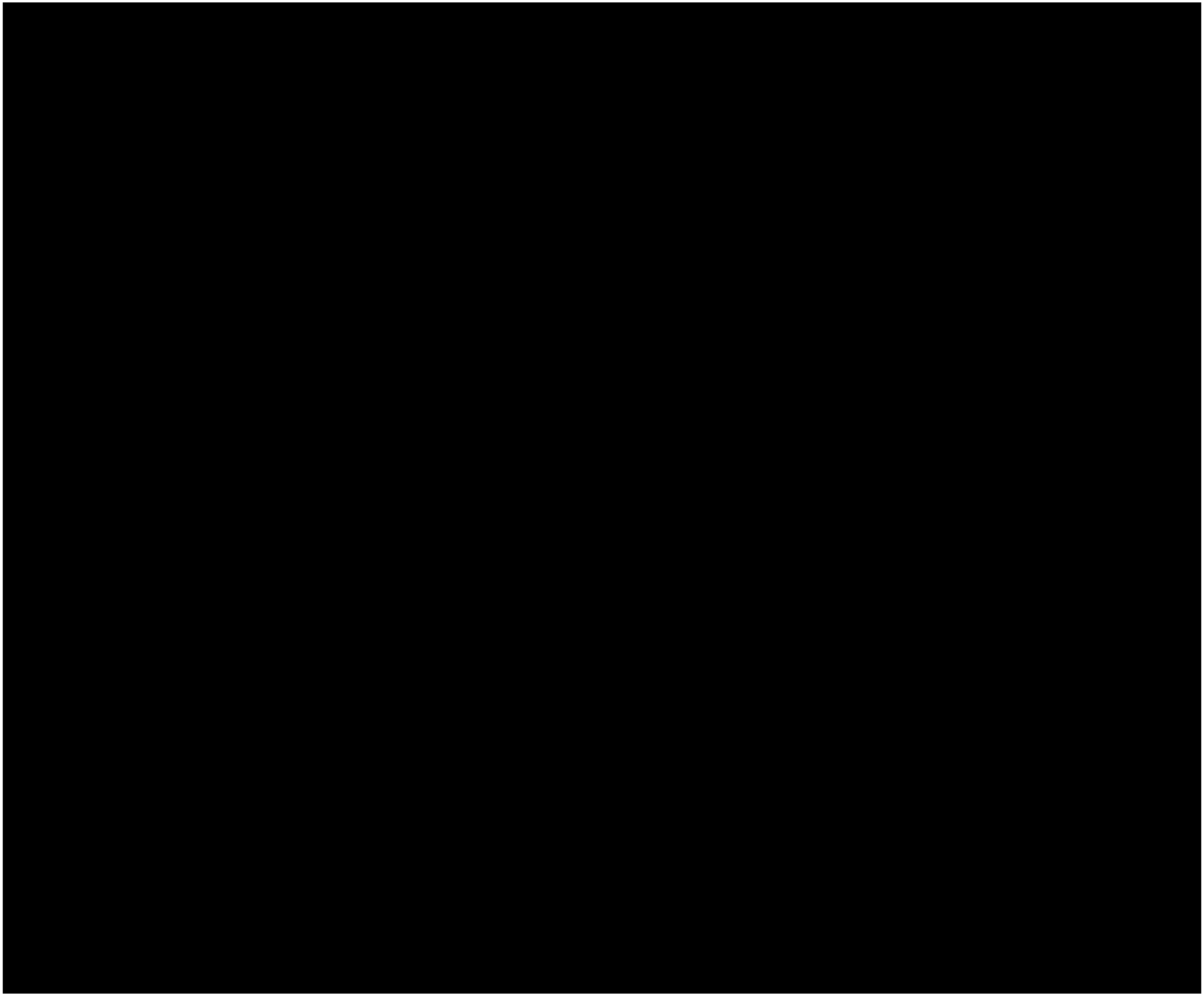
Crude oil price has an overweight impact on natural gas price in the 2020-2021 forecast in comparison to recent years. This is true because of seemingly unstoppable growth of associated gas from the Permian Basin. With a growing portion of gas supply coming from oil-focused regions, associated gas now has an out-sized impact on the supply picture as a whole.



Natural gas production has not been much of a money maker since prices slipped appreciably below $2.75/MMBtu Henry Hub. The real money has been made on crude oil at $50-$60 per barrel in recent years. Natural gas was an ancillary bi-product which was a nice incremental supplement to cash flow. Now, if oil prices don't rebound to $50 or more, natural gas prices will need to get high enough to inspire rigs to operate in the dry basins such as the Marcellus and the Haynesville. The Permian Basin, the Eagle Ford, and the Bakken will stay stagnant if crude oil stays under $50. Currently, crude oil price for WTI at Cushing is $24 per barrel. Outlook based on inventory, production, and demand suggests the oil markets won't get tidied up until spring of 2021.

The market has become used to oil and natural gas running off their own independent market dynamics. Except for the wellhead, crude oil and natural gas do not share any demand dynamics. Since 2016, the growing supply of associated gas has been in related to a supportive crude oil price. In 2020-2021, natural gas price is again dependent on what the market clearing price is for crude oil. If crude oil does not achieve launch velocity, natural gas prices will rise to incentivize adequate supply for the massive natural gas market.





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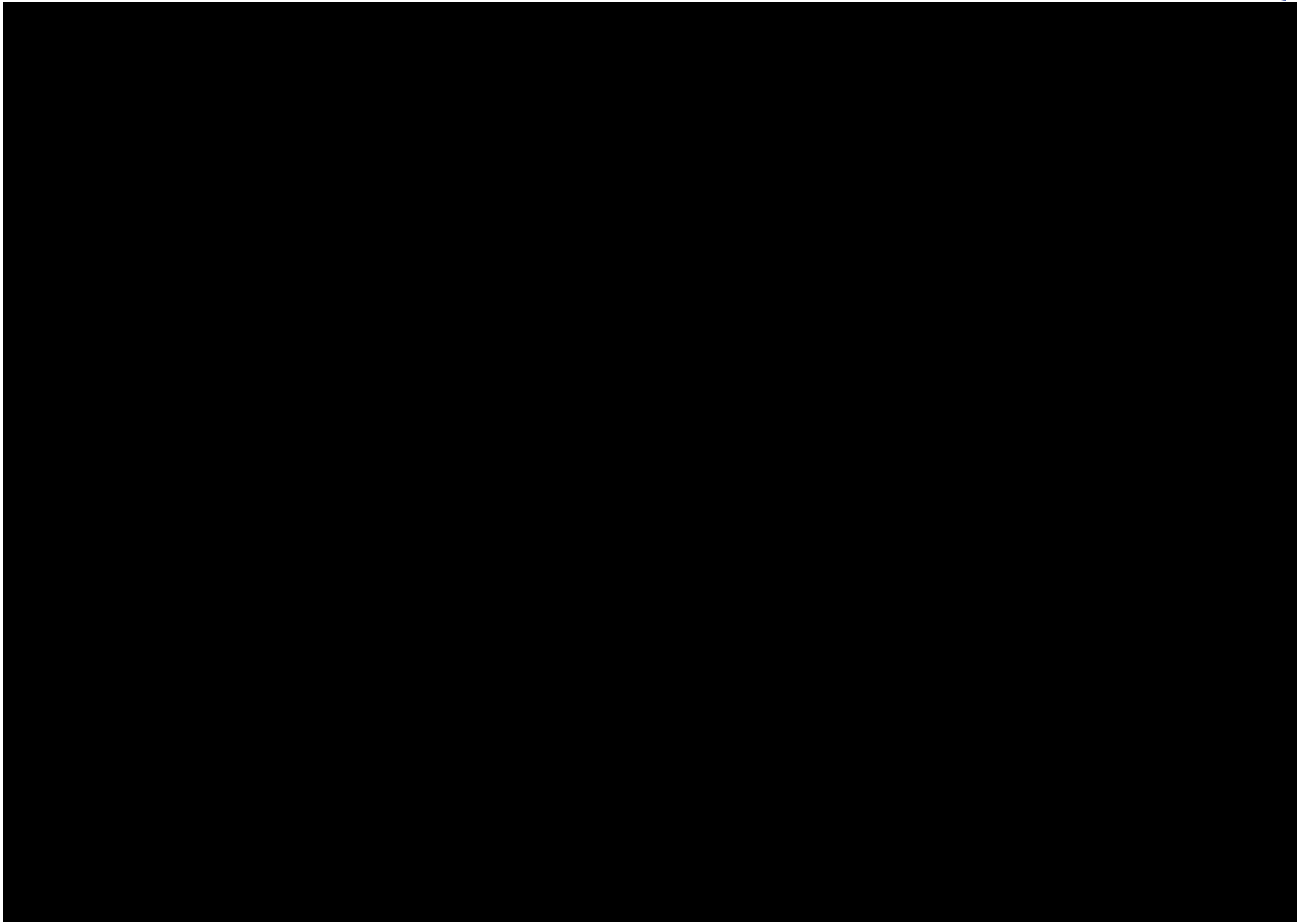

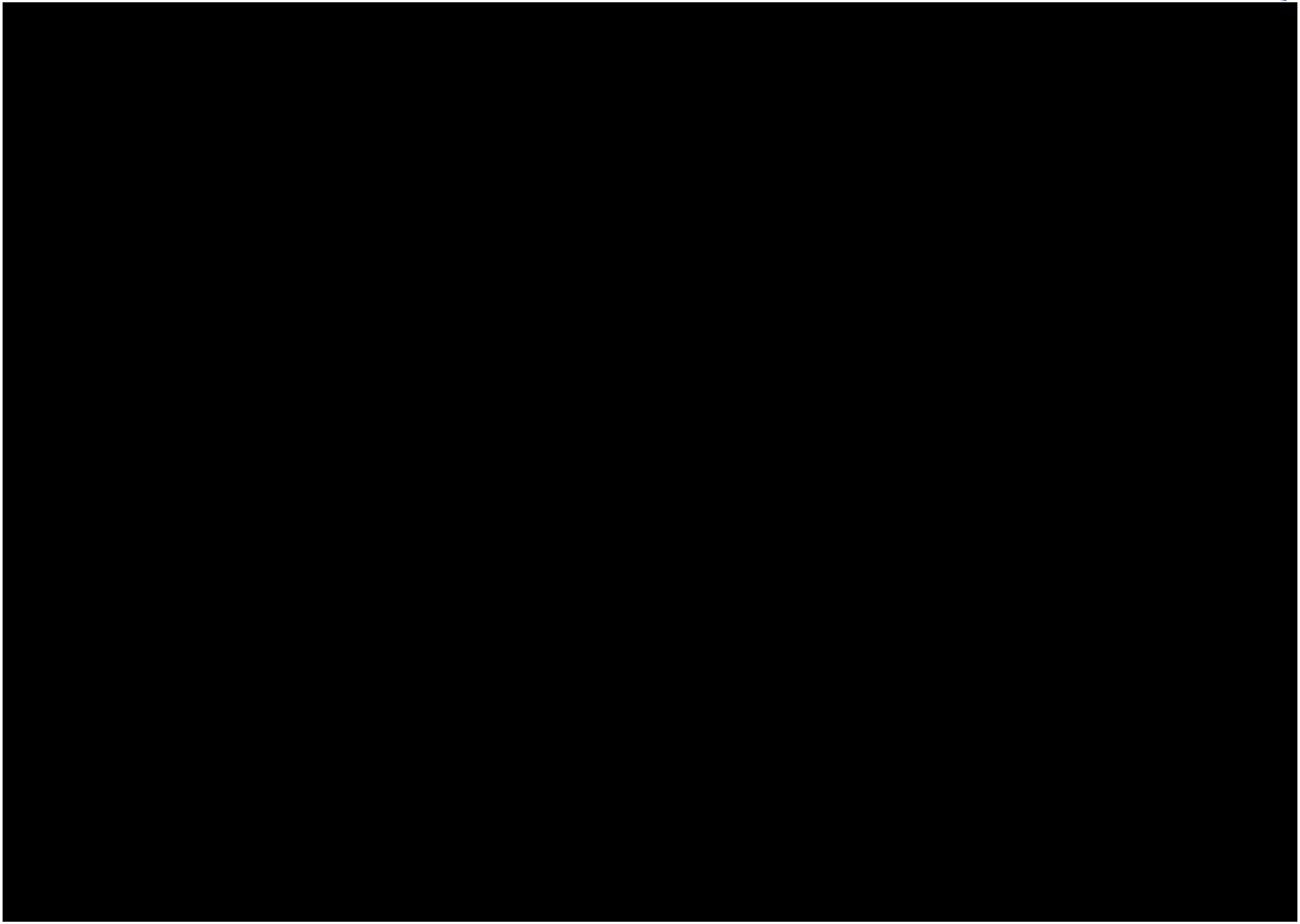

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Further Discussion

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