LONGREACH ENERGY

Monthly Report

October 2020

Longreach Energy Holdings LLC

FIRM INFORMATION

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Market and Macro Industry Commentary

General Market Commentary

Joe Biden will be the next US President. Democrats have retained their majority in the House of Representatives, while the majority in the Senate will be determined by run-off elections for the two Senate seats in the state of Georgia on 5 January 2021. Democrats will need to win both seats to win control of the chamber, this is possible although unlikely. Markets have, thus far, reacted positively to the news of a Biden Administration constrained by a Republican controlled Senate.

The new Administration does not take office until the end of January and we can expect little Federal Government action on any issues of substance for the balance of the current term. Biden has announced that his initial focus is to address the health and economic consequences of the pandemic although hard to see how any tangible action on either can be affected until at least February. The stimulus package, when it ultimately comes, is reported by the FT as likely being in the $1.5 to $2.2 trillion range. The lower value likely with a Republican controlled Senate, the higher if Democrats win both Georgia run-off seats.

At time of writing Trump has refused to concede and claims that large-scale electoral fraud has occurred to rob him of victory. There is a risk that this will inspire his supporters to violence although there is no sign of this to date. Perhaps the greatest concern is that obstruction will deliver a messy transition and delay the ability of the new Administration to assume functional control of government.

For the energy industry we expect that the new Administration will tighten and rigorously enforce Federal environmental standards, with restrictions on methane emissions, gas flaring and making more difficult the building of new inter-state pipelines. There will be fewer new leases and permits granted for drilling on Federal lands. The overall impact for the industry is likely to be some cost increase and some decline to production from Federal Lands (note there are none of these in the Longreach Energy portfolio). Decrease in supply and increase in operating costs can be expected to deliver further support for both gas and oil prices and therefore be positive for the Longreach portfolio.

Covid-19 cases in Europe and the US continue to escalate. Governments in Europe have begun reimposing lockdowns and travel restrictions to mitigate the spread of the virus. The US has seen similar growth in reported new cases although hospitalisation rates have not, to date, increased to levels seen during the first wave. The spread of the virus and likely impact on transportation and general economic activity has been a driver for continued weakness in oil prices. Demand for gas is driven primarily by residential heating/cooling and generation of electricity. Accordingly, the impact on gas prices has been much less pronounced than for oil. Reduced gas supply and a cold autumn have driven a strong increase in gas prices over recent weeks. These factors are discussed in Gas and Oil Markets sections.

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The latest Baker Hughes rig count data is below. In the last month US total rigs have increased from 266 to 300, land rigs increasing from 251 to 286. The gains have come from oil rigs, increasing from 189 to 226, while gas rigs have fallen from 74 to 71. These changes are a little counter intuitive given that gas prices have been much stronger than oil prices in recent weeks, however illustrate that relevant production costs have come down sufficiently to support some oil drilling with prices in the $40/bbl range, while gas producers need to see sustained prices over $3/mcf to encourage drilling.

Baker Hughes Rigs Count

Baker Hughes rig count

Baker Hughes

Rotary Rig Count

11/6/20

Location	Week	+/-	Week Ago	+/-	Year Ago
Land	286	4	282	-507	793
Inland Waters	2	1	1	1	1
Offshore	12	-1	13	-11	23
United States Total	300	4	296	-517	817
Gulf Of Mexico	12	-1	13	-10	22
Canada	86	0	86	-54	140
North America	386	4	382	-571	957
U.S. Breakout Information	**This Week**	**+/-**	**Last Week**	**+/-**	**Year Ago**
Oil	226	5	221	-458	684
Gas	71	-1	72	-59	130
Miscellaneous	3	0	3	0	3
Directional	19	-3	22	-37	56
Horizontal	259	5	254	-451	710
Vertical	22	2	20	-29	51

Gas Market

Natural gas prices enjoyed a strong rally in October. Figure 1 shows the spot contract (solid blue line) and summer and winter price strips for the next 2 years. Summer 2022 prices have remained flat but everything else has risen appreciably since August. Gas futures are relatively lightly traded in future dates and the subdued movement in Summer 2022 is likely driven by small volumes and lack of focus, as much as active view of market conditions.

Figure 1: Natural Gas Seasonal Strips Prices (Source: Aegis)

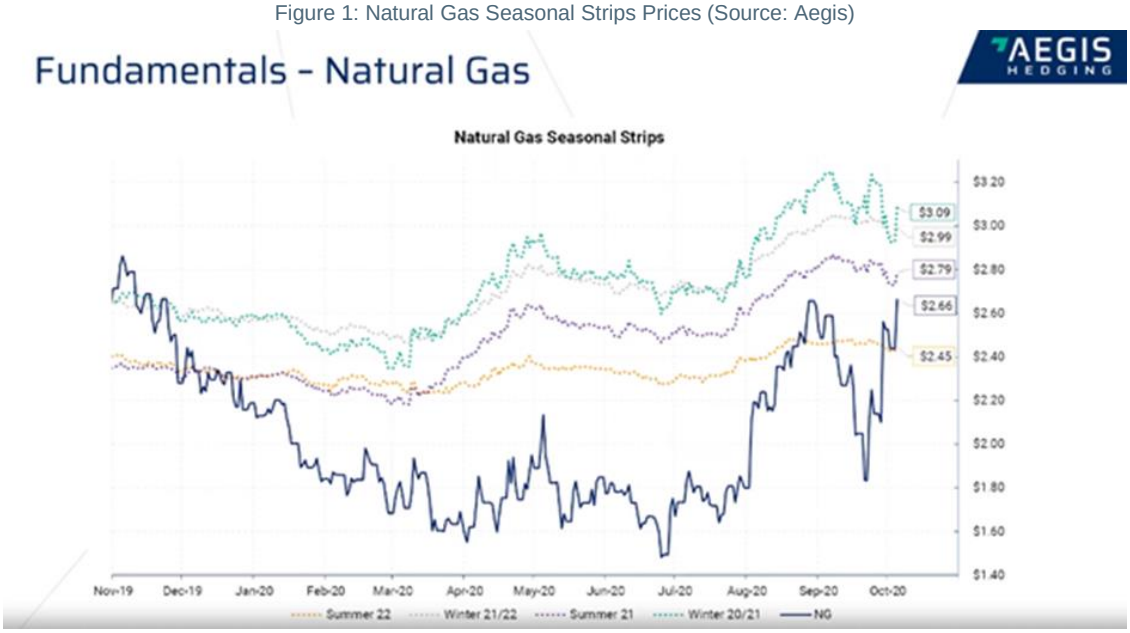
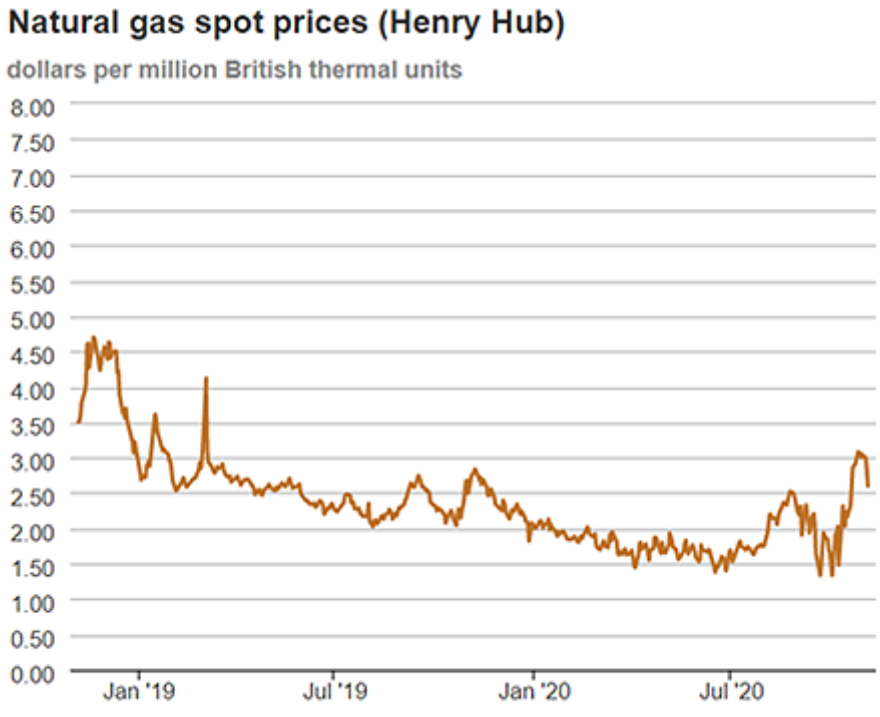


Figure 1 data runs to mid-October. Late October saw a further spike in the spot contract to over $3/mmbtu, partially driven by calendar roll to December (Figure 2).

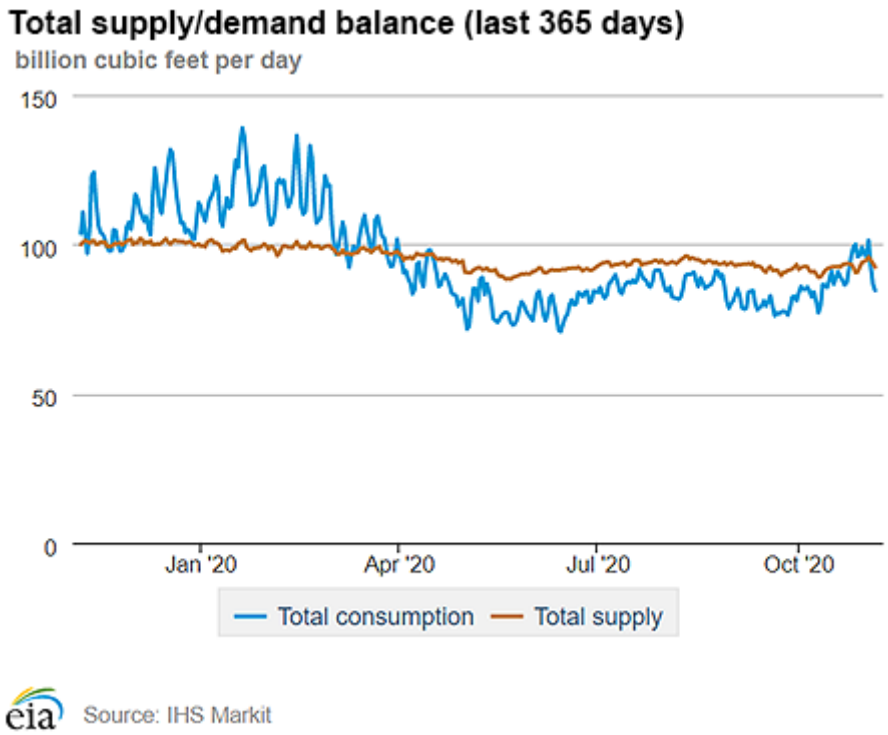
Figure 2: Natural Gas Spot Prices (Source: EIA)



eia Source: Natural Gas Intelligence

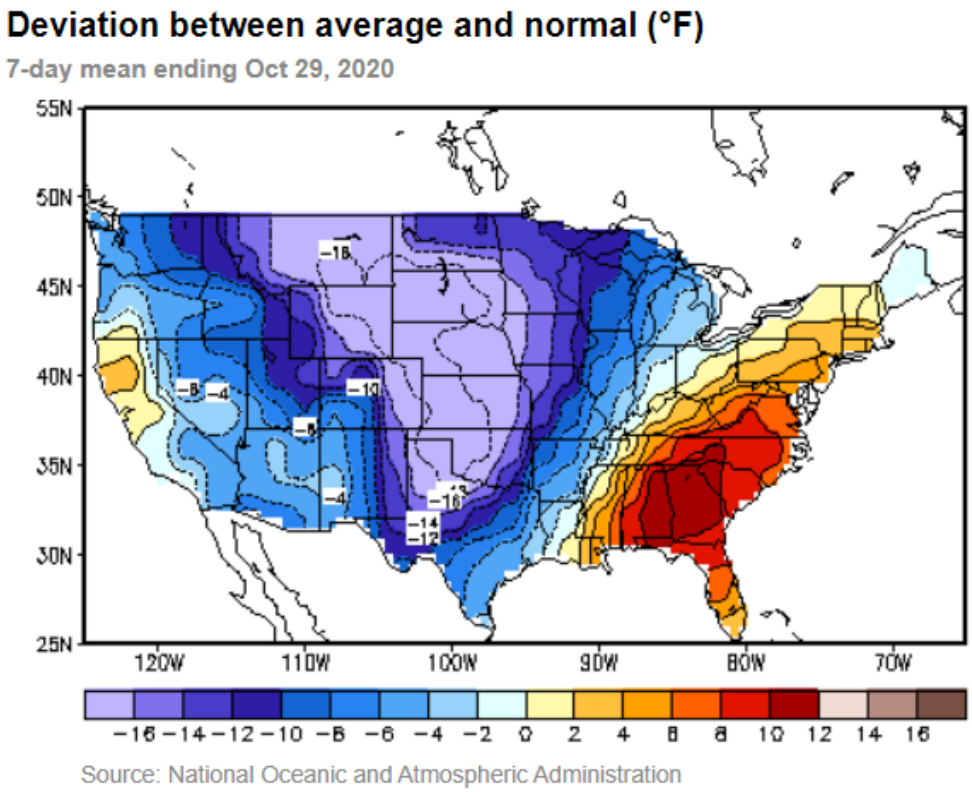
The natural gas injection season has now passed with heating requirements now pushing demand above supply (Figure 3).

Figure 3: US Gas Supply/Demand Balance (Source: EIA)



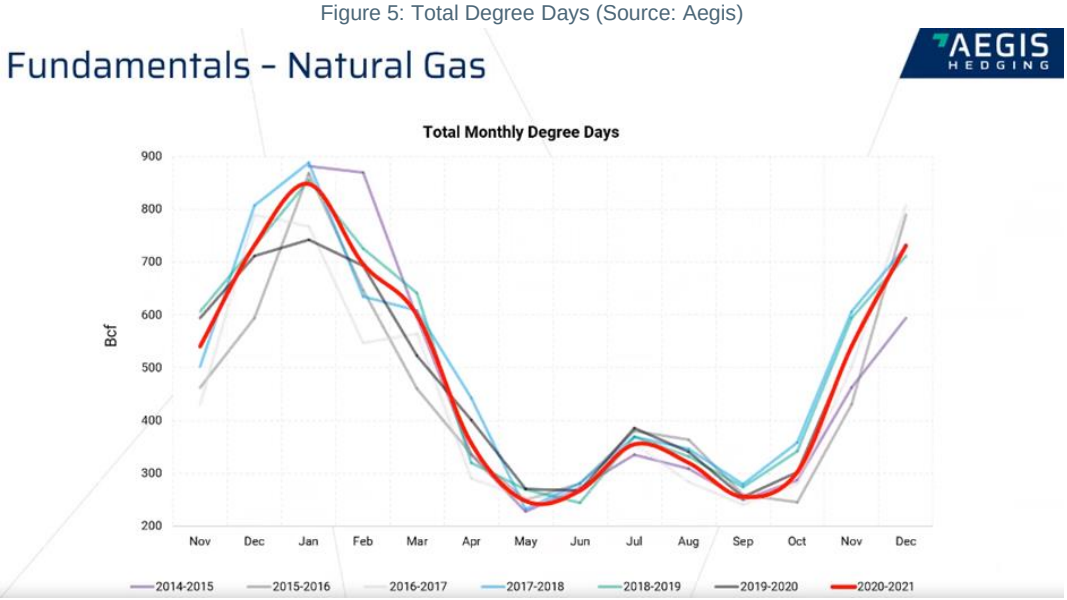
The cold early autumn across much of the US can be observed in temperature data provided in Figure 4.

Figure 4: Deviation Between Average and Normal US Temps (Source: EIA)



Temperature is the single greatest factor in determining natural gas demand over the US winter months. Last winter was very warm by historic standards and the resulting loss of demand sent natural gas prices tumbling. The last six winters have all been warmer than the 100-year average. Aegis has forecast modelled supply and demand using an estimate of monthly degree days (a measure of demand for heating or cooling, the higher the number of degree days the higher gas demand) based on an average of the last 6 years (Figure 5). The red line is the 20/21 forecast. Note longer term averages all deliver higher degree day forecasts and as sensitivity Aegis has also calculated degree days if the 20/21 winter delivers a 25-year average winter.

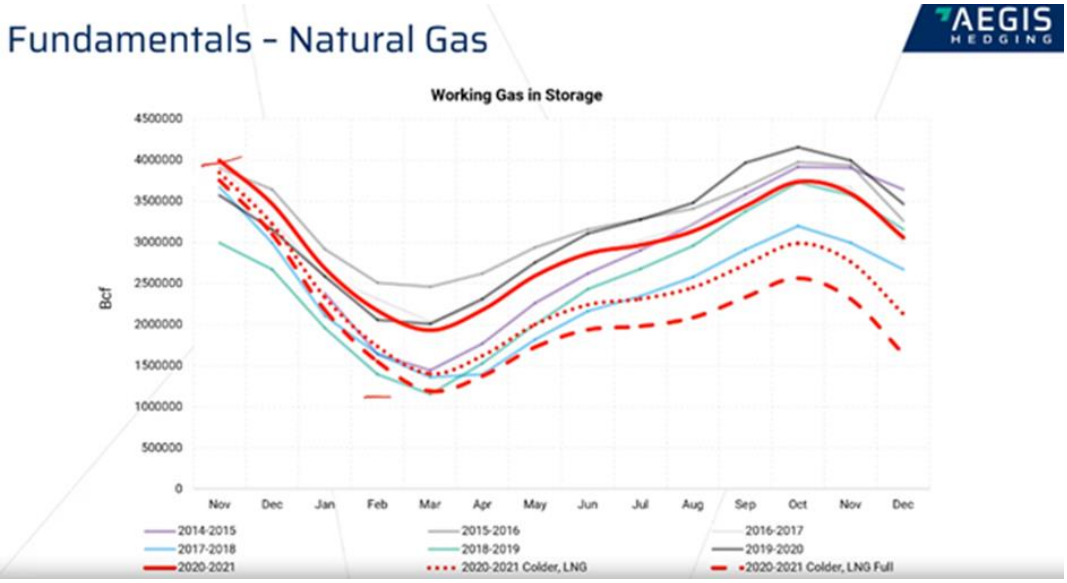
Figure 5: Total Degree Days (Source: Aegis)



In addition to weather Aegis has considered two LNG scenarios, a base forecast assumes LNG exports of 7.5bcf/d over the next 12 months. This was the average export volume during the month of October and reflects LNG export facilities working at about 70% of current 10+bcf/d capacity. As was discussed in the September report, the LNG arbitrage between gas bought at Henry Hub and sold into Asian and European markets is now wide open and LNG volumes are increasing. In the last week of October export volumes averaged approximately 9.5bcf/d. As sensitivity Aegis has also calculated storage with low case of 3.5bcf/d LNG and high case 9.5bcf/d LNG demand.

The forecast in Figure 6 assumes a six-year average winter and 3.5bcf/d LNG demand. The dotted line is projected storage with 25-year average winter in 20/21 and 7.5bcf/d of LNG demand. The dashed red line is 25-year average winter and maximum 9.5bcf/d LNG exports.

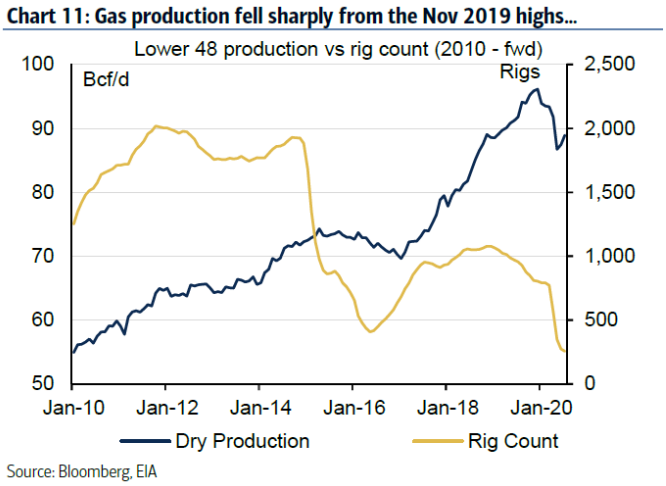
Figure 6: Total Degree Days (Source: Aegis)

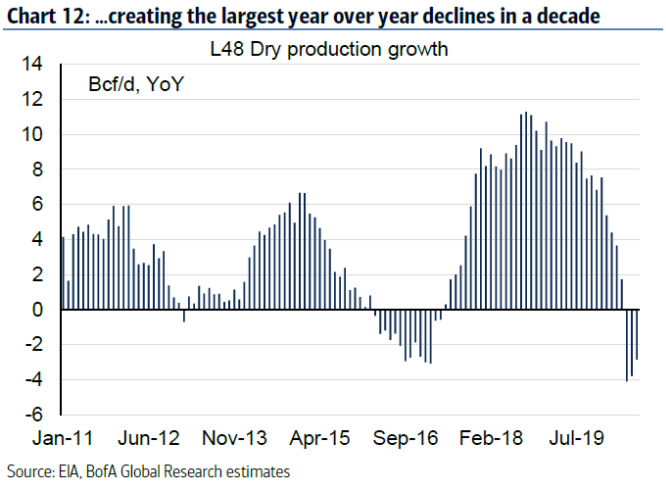


The likely result is for storage to come in within these extremes, however all forecasts are supportive for gas prices with the balance of risk being very much on there being insufficient, rather than too much, supply.

Bank of America has a similar view. As documented in the last few months' reports gas production has fallen sharply from highs in Nov 2019. This has created the largest year-on-year declines in a decade (Figure 7).

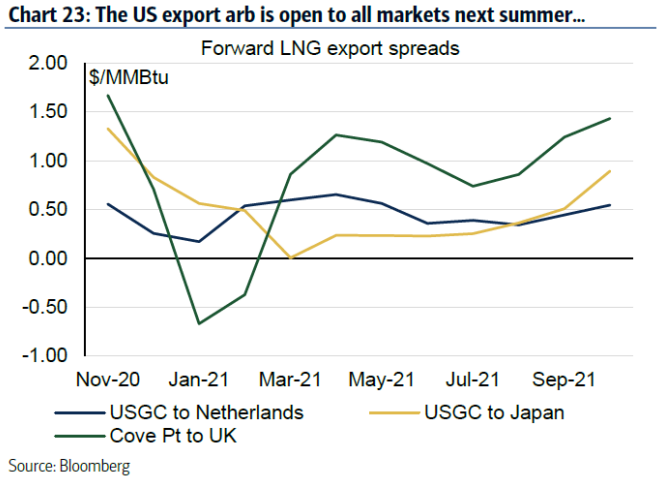
Figure 7: US Natural Gas Production (Source: Bloomberg, EIA via BofA)

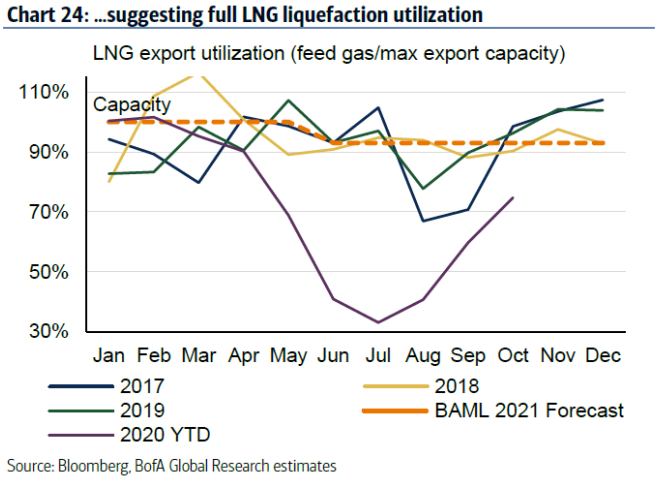




Profitable LNG export spreads suggest that US LNG export facilities will be working at maximum capacity (Figure 8).

Figure 8: LNG Pricing and Utilisation (Source: BofA)

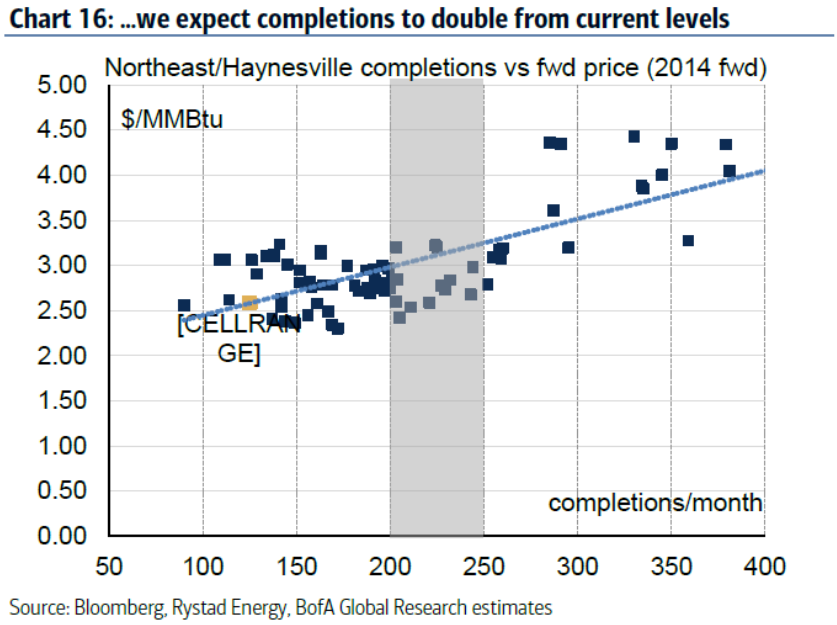




With low oil prices constraining production of gas associated with oil, BofA projects that activity in dry gas basins (principally Haynesville and Marcellus/Utica) will need to double from current levels to balance the market. Current completion activity in these basins is approximately 100 completions per month.

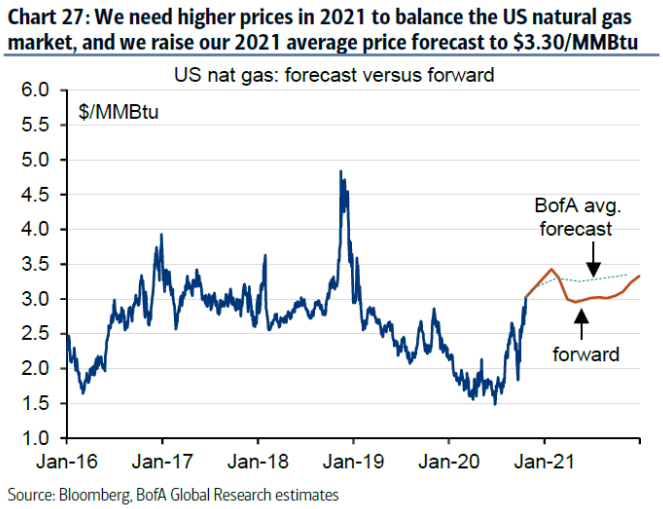
BofA calculates that 200 to 250 completions per month are required to deliver sufficient supply to balance the market. Historically this suggests a forward curve price average near $3.25/mmbtu (Figure 9).

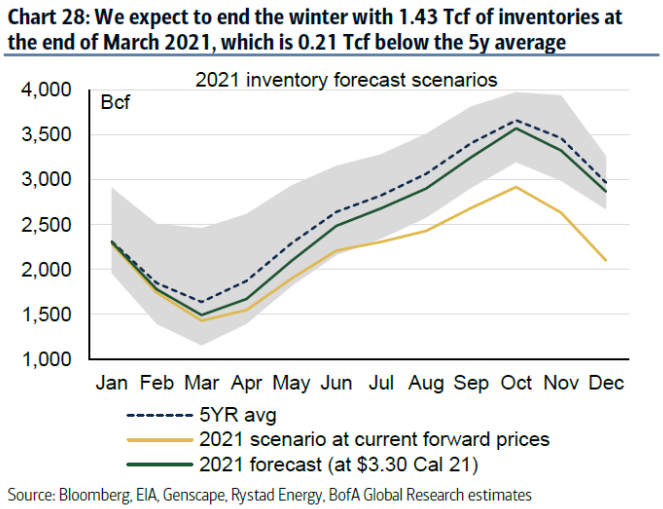
Figure 9: Northeast/Haynesville Completions vs Fwd Price (Source: various, via BofA)



Considering all these factors, BofA has increased its 2021 average price forecast to $3.30/mmbtu and expects that inventories in March 2021 will be 0.21tcf below the 5-year average (Figure 10).

Figure 10: BofA Price and Storage Forecasts (Source: BofA)

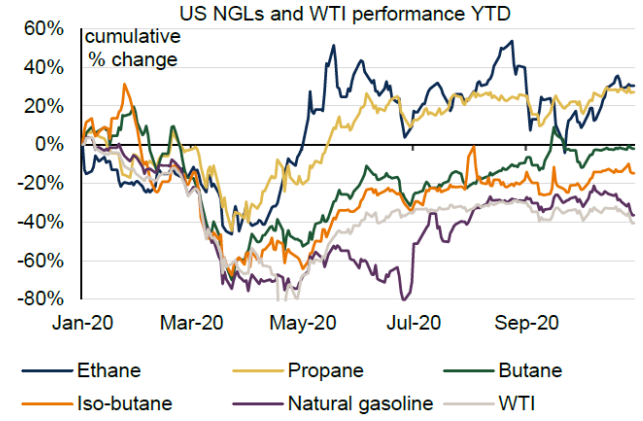




Natural Gas Liquids (NGLs) are an important revenue component of our gas production. Ethane is the most important NGL with the others being propane, butane, iso-butane and natural gasoline. NGLs have performed very well during the pandemic, especially ethane and propane which are trading roughly 30% higher than the start of the year (Figure 11, Chart 1). Butane, iso-butane and natural gasoline prices have not responded quite as well, yet they have still outperformed crude oil. This relative performance has lifted the US NGL basket from less than 30% of WTI at the beginning of the year to over 45% of WTI more recently, which is the highest seasonal level since 2017 (Figure 11, Chart 2).

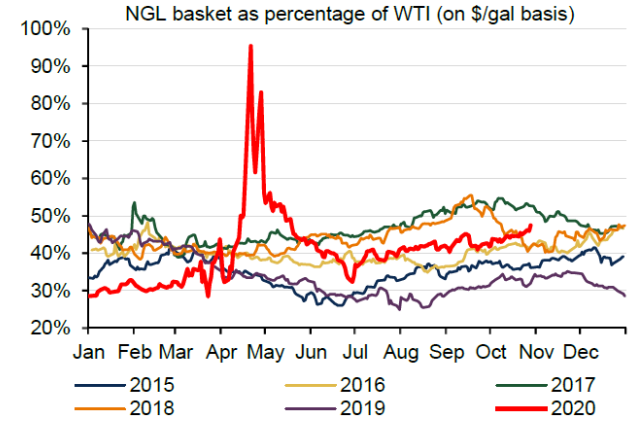
Figure 11: US NGL Prices (Source: Bloomberg via BofA)

Chart 1: NGLs have performed well this year, with ethane and propane prices actually trading higher since January



Source: Bloomberg

Chart 2: The NGL basket has strengthened this year versus WTI and is now trading at the highest seasonal level since 2017

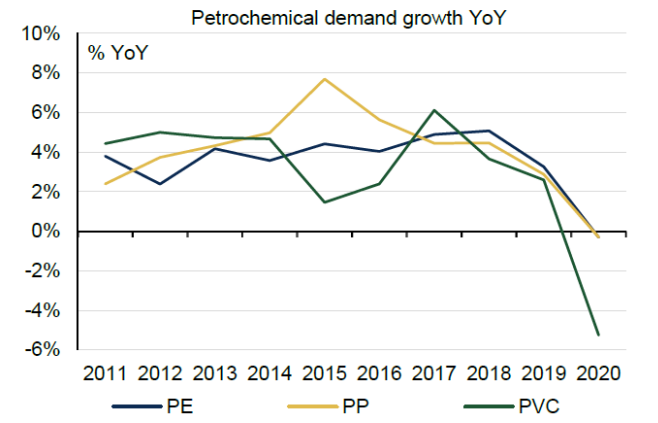


Source: Bloomberg

The petrochemical sector, the market into which NGL's are delivered, is experiencing a weak year from a historical perspective, but in the context of the broader economic slowdown, demand looks strong. Demand for polyethylene (PE) and some other plastics are flat versus 2019, resisting declines as demand for plastic packaging, PPE and hygiene products has soared (Figure 12, Chart 3). This has helped push high-density and low-density PE (HDPE and LDPE) higher since the start of the year (Figure 12, Chart 4), pulling up ethylene prices.

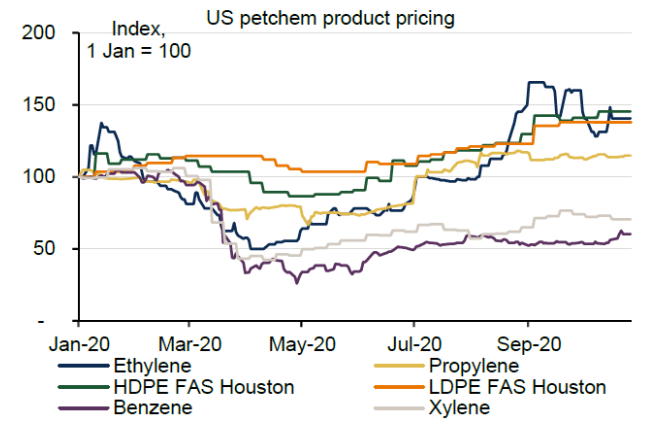
Figure 12: Petrochemical Demand and NGL Prices (Source: HIS, Bloomberg, via BofA)

Chart 3: Covid has spurred demand for packaging, PPE, and hygiene products, which has supported PE and PP demand



Source: IHS

Chart 4: HDPE and LDPE prices are trading roughly 40% higher than the start of the year



Source: Bloomberg

Oil Market

Oil fell slightly over October with the prompt WTI contract closing the month at $35.79/bbl. Production increases from Russia and Libya and enduring concerns over the demand impact of Covid-19 induced lockdowns and travel restrictions were the drivers of market sentiment.

We believe that oil prices will remain depressed until at least mid-2021 but once the pandemic eases to allow demand recovery, the production decline from reduced drilling will require higher prices for supply and demand to balance. Figure 13 shows wells drilled and production over the last decade.

Figure 13: Horizontal Wells and Crude Oil Production (Source: EIA, via CrossFirst Bank)

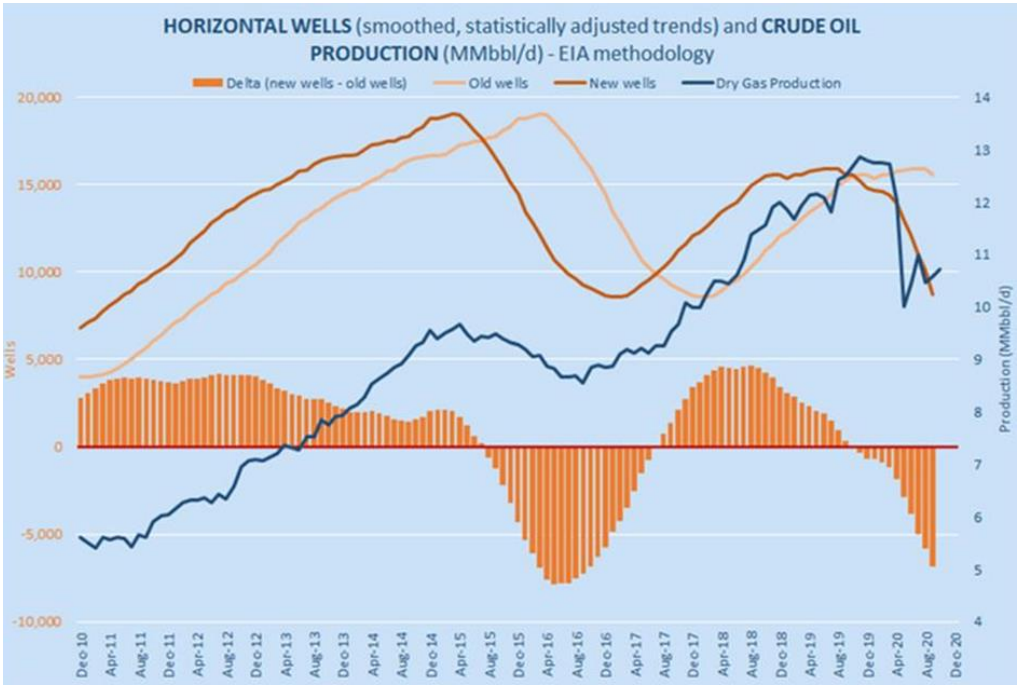


Figure 14 shows US weekly crude oil market supply and demand from 1 January 2018 to 1 October 2020. Note production in April fell sharply because of market induced shut-in of production. It will take rig activity well above current levels to return to aggregate production growth.

Figure 14: US Weekly Crude Supply and Demand (Source: CrossFirst Bank)

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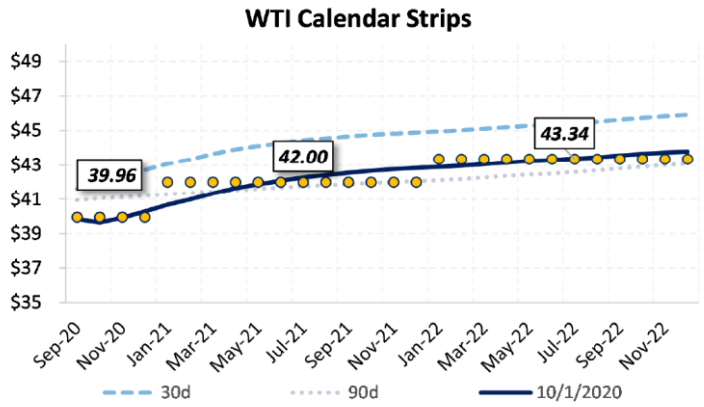
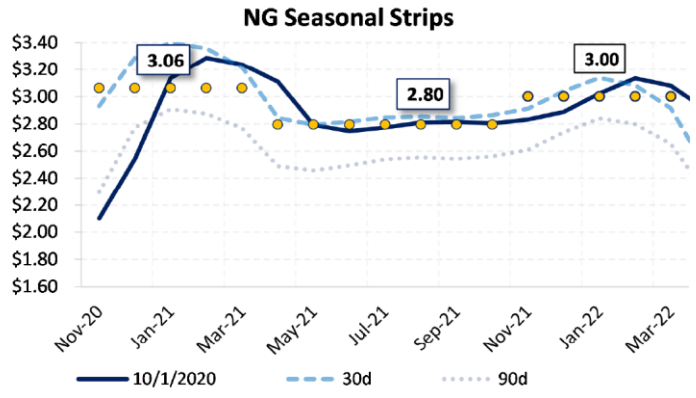
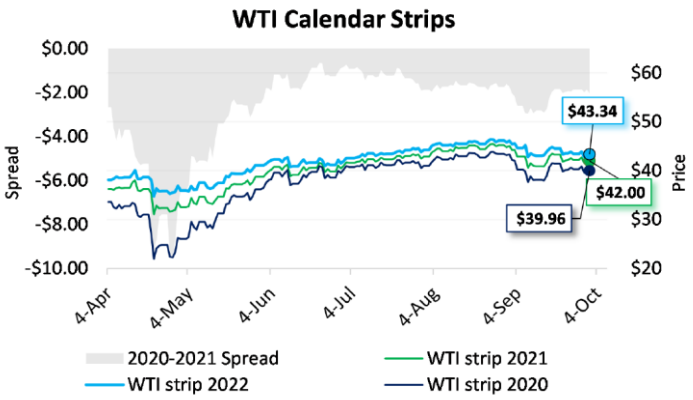
Monthly Report

Gas and Oil Prices 1 October 2020







Swap Pricing

	Bal 20	Cal 21	Cal 22	Cal 23
NYMEX WTI Crude	$ 39.96	$ 42.00	$ 43.34	$ 44.13
ICE Brent Crude	$ 42.14	$ 44.37	$ 46.50	$ 48.02
Light Louisiana Sweet	$ 41.15	$ 43.24	$ 44.77	$ 45.50
TM Midland Differential	$ 0.08	$ 0.21	$ 0.45	
NYMEX Natural Gas	$ 2.84	$ 2.93	$ 2.62	$ 2.48

Source: Bloomberg LP

Note: Midland diff changed to TM computation Oct 1. All prices indicative only.

Natural Gas Basis

Location	Spot	Winter '20/'21	Summer '21	Winter '21/'22
Henry Hub Fixed	$1.63	3.05	$2.80	$3.00
NWRox	$ 0.80	$ 0.22	$ (0.23)	$ 0.06
MichCon	$ (0.19)	$ (0.18)	$ (0.21)	$ (0.11)
NGPL-Midcon	$ (0.25)	$ (0.29)	$ (0.31)	$ (0.29)
TETCO M2	$ (0.51)	$ (0.48)	$ (0.62)	$ (0.43)
TETCO M3	$ (0.64)	$ 1.03	$ (0.45)	$ 0.94
Dominion S	$ (0.65)	$ (0.49)	$ (0.61)	$ (0.44)
Waha	$ (0.90)	$ (0.54)	$ (0.32)	$ (0.25)

All prices as of close yesterday

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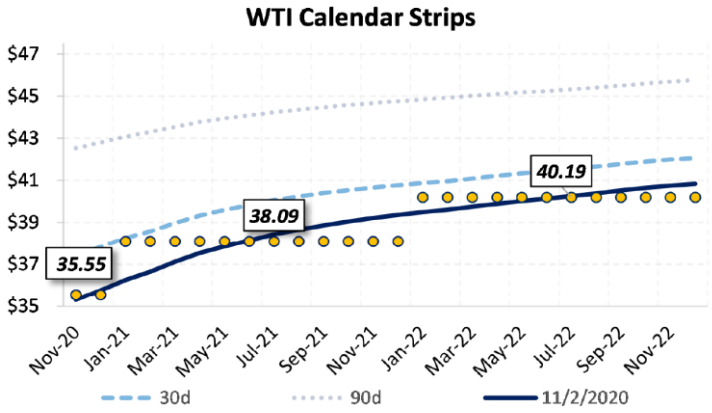
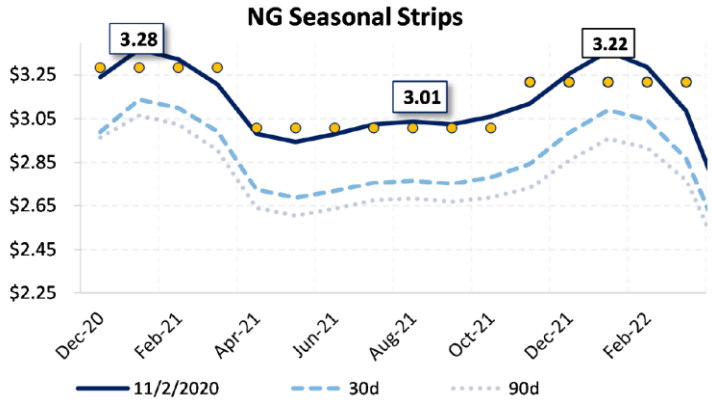
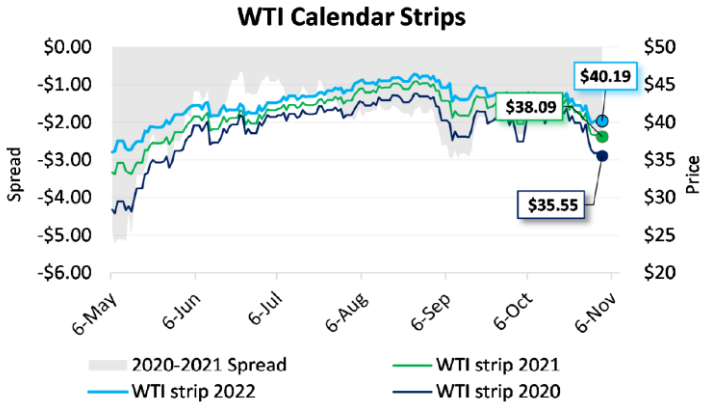
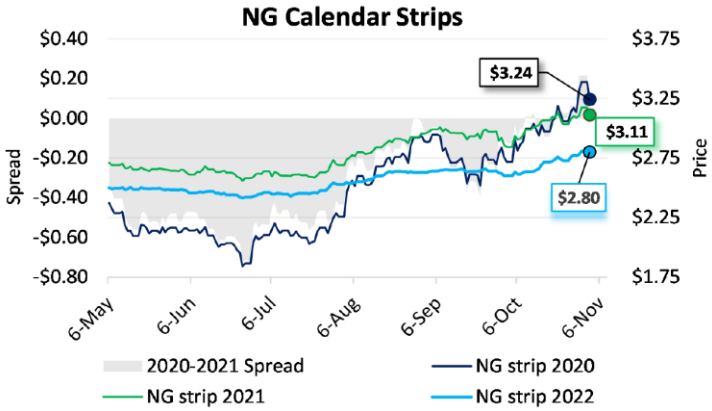
Monthly Report

Gas and Oil Prices 2 November 2020









Swap Pricing

	Bal 20	Cal 21	Cal 22	Cal 23
NYMEX WTI Crude	$ 35.55	$ 38.09	$ 40.19	$ 41.43
ICE Brent Crude	$ 37.75	$ 40.35	$ 43.03	$ 44.91
Light Louisiana Sweet	$ 36.71	$ 39.39	$ 41.45	$ 42.65
TM Midland Differential	$ 0.12	$ 0.25	$ 0.38	
NYMEX Natural Gas	$ 3.24	$ 3.11	$ 2.80	$ 2.60

Source: Bloomberg LP

Note: Midland diff changed to TM computation Oct 1. All prices indicative only.

Natural Gas Basis

Location	Spot	Winter '20/'21	Summer '21	Winter '21/'22
Henry Hub Fixed	$3.03	3.38	$3.03	$3.23
MichCon	$ (0.07)	$ (0.23)	$ (0.22)	$ (0.16)
NWRox	$ (0.08)	$ 0.39	$ (0.17)	$ 0.18
NGPL-Midcon	$ (0.13)	$ (0.14)	$ (0.22)	$ (0.19)
Waha	$ (0.53)	$ (0.24)	$ (0.24)	$ (0.22)
TETCO M3	$ (0.61)	$ 1.07	$ (0.50)	$ 0.86
Dominion S	$ (1.79)	$ (0.71)	$ (0.67)	$ (0.51)
TETCO M2	$ (2.38)	$ (0.69)	$ (0.68)	$ (0.49)

All prices as of close yesterday