LONGREACH ENERGY

Monthly Report

January 2021

Longreach Energy Holdings LLC

FIRM INFORMATION

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1. Market and Macro Industry Commentary

General Market Commentary

Joe Biden was sworn in as US President on 20 January. On his first day Biden issued several Executive Orders affecting the energy industry, these included both new measures and review of measures implemented by his predecessor. A selection of these is presented in Figure 1.

Figure 1: Select Executive Orders and Actions on Day 1 (Source: Whitehouse.gov via BoA)

Table 5: Select executive orders issues on day 1

President Biden's Day 1 actions
1. Rejoined the 2015 Paris Climate Agreement
2. Revoked Trump-era Keystone XL pipeline permit
3. Issued a moratorium on all Federal Government activities relating to ANWR
4. Reinstated Obama-era exclusions for Arctic waters and the Bering Sea
5. Established group to determine social cost of carbon, NOx, and methane

Source: whitehouse.gov

Table 6: Select Trump-era orders and regulations to be reviewed

Review of Trump-era orders and regulations
1. Oil and Natural Gas Sector: Emission Standards
2. Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule
3. Energy Conservation Program for Appliance Standards
4. National Emission Standards for Hazardous Air Pollutants

Source: whitehouse.gov

The Executive Order that received the most publicity was a 60 day pause in the issuance of any oil and gas leases on Federal Lands, though the restoration of Obama era environmental standards and introduction of some new environmental standards will probably be the more important actions over the medium term. Notably, by making construction of new inter-state transport pipelines more difficult (illustrated by cancellation of the Keystone XL pipeline which was to add oil transport capacity between Alberta, North Dakota and the Gulf Coast), oil and gas development in basins with current transport limitations will be restricted, principally the Bakken formation in North Dakota and the Appalachian Utica and Marcellus formations.

With respect to the federal leasing pause, on 21 January the FT noted:

Despite the fanfare, what emerged yesterday was neither a ban on new drilling nor on new permits. Instead, the President mandated a "pause" on new oil and gas leasing on federal lands "to the extent possible" and a "rigorous review" of how leasing and permitting is carried out going forward.

"I would say it's a best-case scenario for the oil and gas industry under a Biden administration," said Parker Fawcett, an analyst at S&P Global Platts. "Leases are already plentiful – it's the permitting that matters."

The public lands over which the federal government has the greatest scope to flex its muscles account for just 22 per cent of US oil production, with most of that coming from offshore wells in the Gulf of Mexico. (Though those states whose output relies more heavily on federal lands such as New Mexico, Wyoming and North Dakota will also be hit.)

But most of the leases for high-potential drilling lands have already been hoovered up in recent years, meaning demand for new ones – especially onshore – is low.

Data from HIS Markit shows that oil and gas producers were awarded 60 per cent more permits to drill on federal lands than they were in 2019, a figure all the more striking considering last year's historic price rout.

More from the FT:

Producers "have been preparing for actions of this type, because it was very well telegraphed," said Raoul LeBlanc, a vice-president at HIS Markit. "It is frankly not much of a hinderance to ongoing activity."

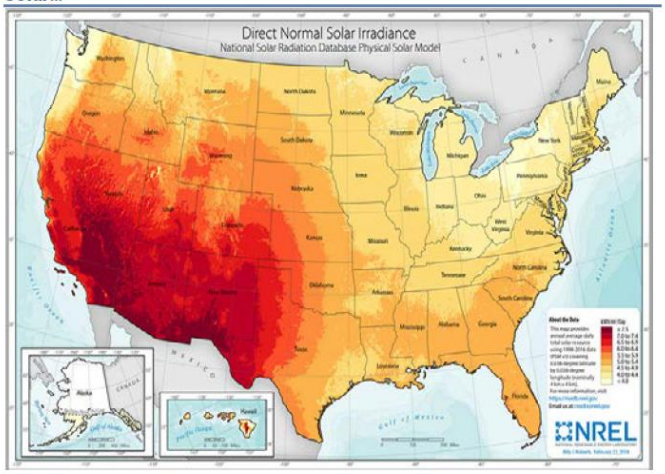
Even if the temporary ban becomes permanent, which would almost certainly ignite industry legal challenges, any threat to future drilling and production could be blunted by producers shifting capital spending from their federal leases to nearby private and state lands.

This last point highlights the attraction of LEI's private properties in Texas and Oklahoma. LEI will benefit from any ensuring restriction on oil and gas development of federal lands. Such restriction will decrease supply and therefore increase the value and attraction of LEI's privately owned properties in Oklahoma and Texas.

While inter-state oil and gas pipelines will be much harder to permit, the Biden administration will have a challenge to construct long-haul electricity transmission lines necessary to connect renewable energy from the Southwest (solar) and Mid-continent (wind) to energy consumers across the US (see Figure 2). Prior attempts to build these power lines have been met by NIMBY resistance and lack of support from utilities. Local resistance to transmission line projects is unlikely to dissipate because of the new administration.

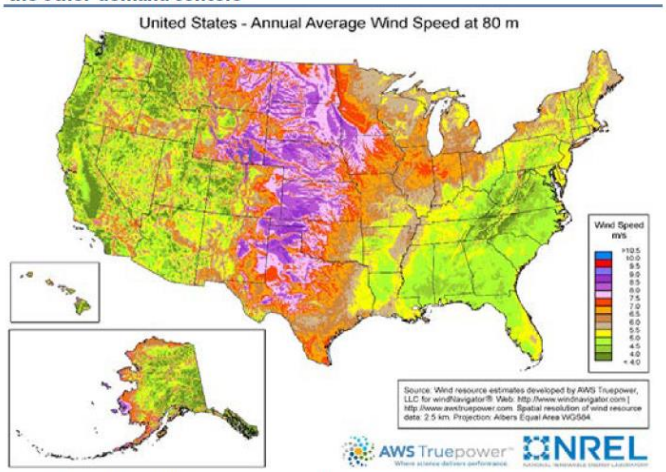
Figure 2: Solar and Wind Generation in the US (Source: BoA)

Exhibit 1: Long-haul electricity transmission lines are needed to bring solar...



Source: National Renewable Energy Laboratory, U.S. Department of Energy

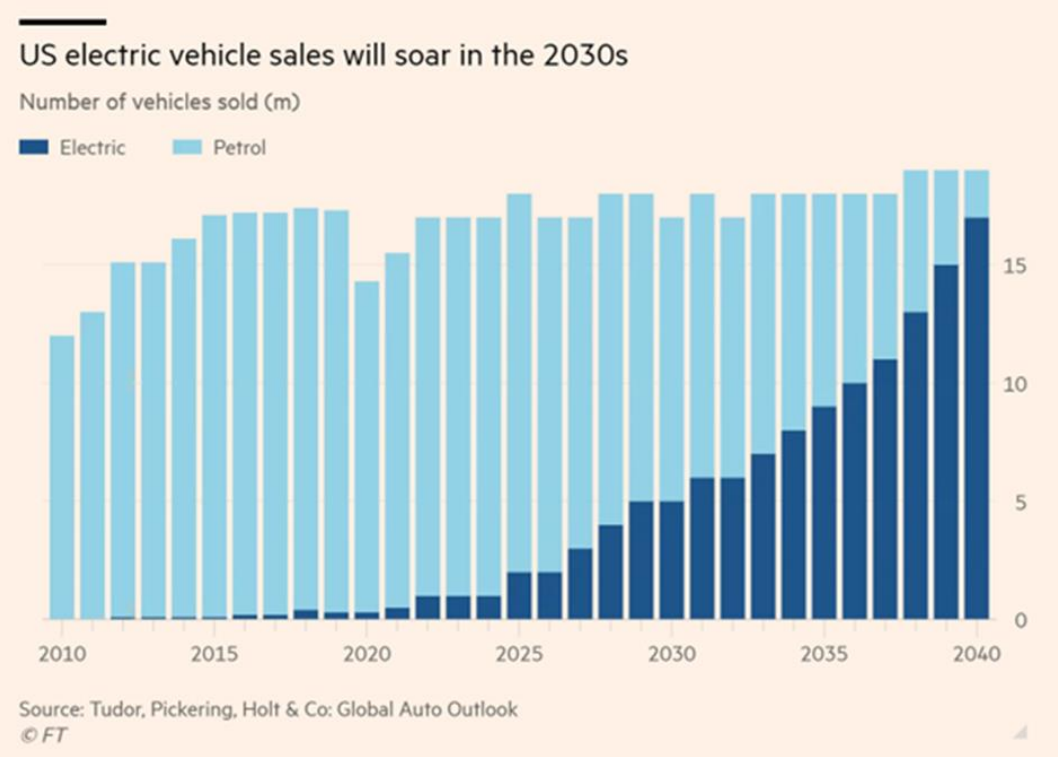
Exhibit 2: ...and wind energy from the Southwest and Mid-Continent to the other demand centers



Source: National Renewable Energy Laboratory, U.S. Department of Energy (public domain)

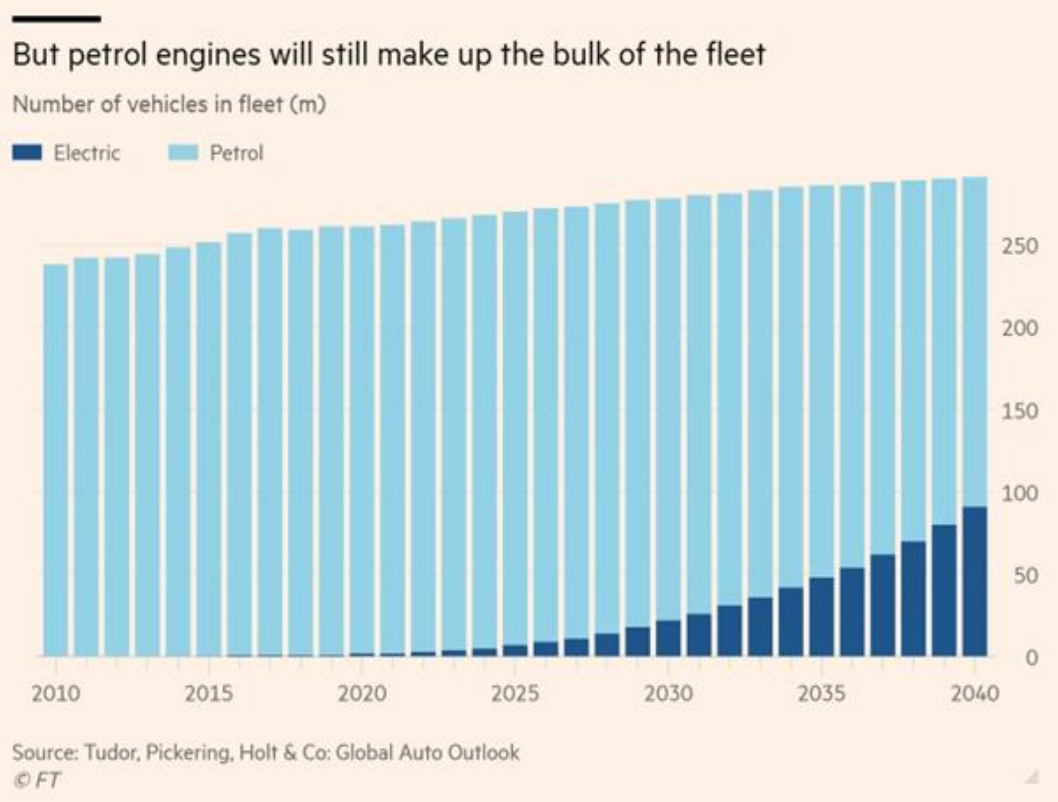
The Biden administration has also introduced measures to increase the use of Electric Vehicles (EVs). US EV sales are projected to soar in the 2030s (Figure 3).

Figure 3: US EV Sales to 2040 (Source: FT)



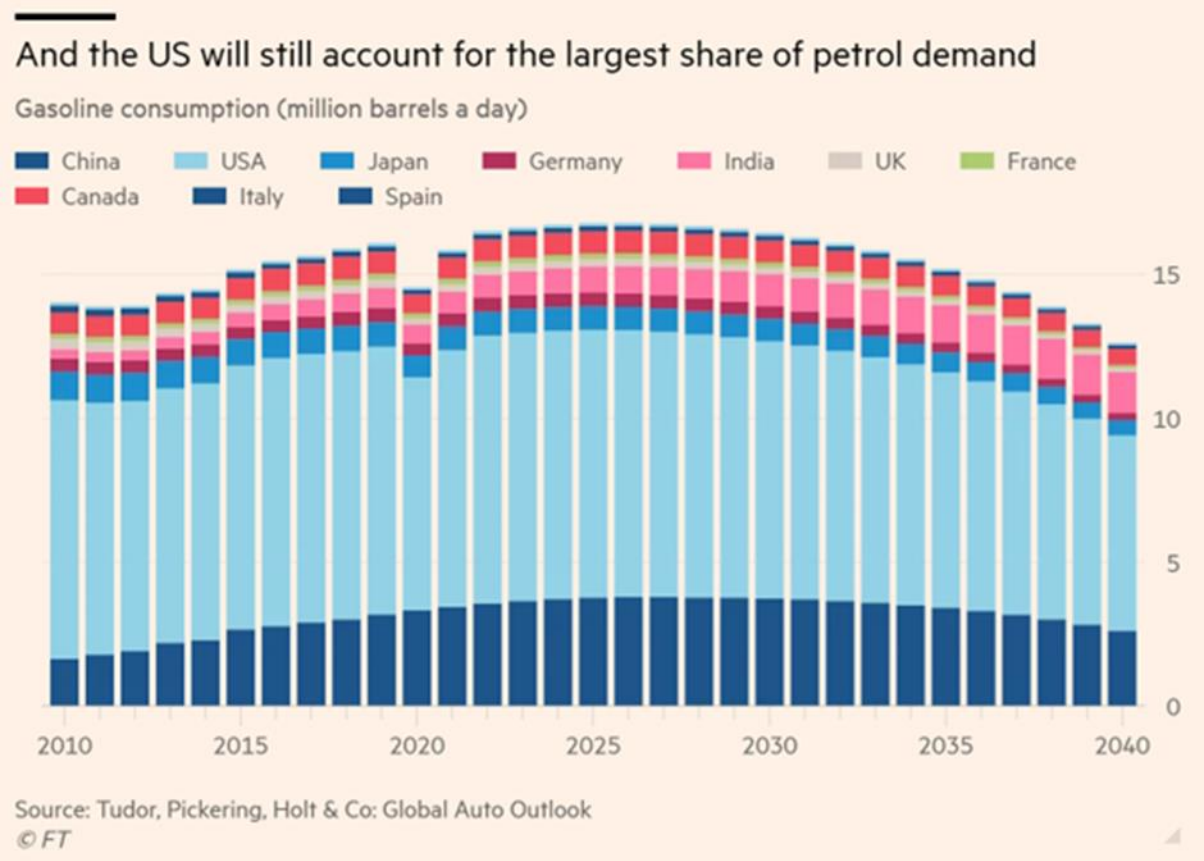
But notwithstanding the increase in sales by 2040 petrol engines will still make up the bulk of the US vehicle fleet (Figure 4).

Figure 4: Number of Vehicles in US (Source: FT)



And the US will still account for the largest share of petrol demand (Figure 5).

Figure 5: Global Gasoline Consumption (Source: FT)



Vaccine optimism and expectations of a $1.9 trillion stimulus package continue to drive markets. Gas and oil markets both strengthened in January, a trend that has accelerated in early February (see gas and oil market discussions below), however European lockdowns are a specific threat to fuel demand recovery.

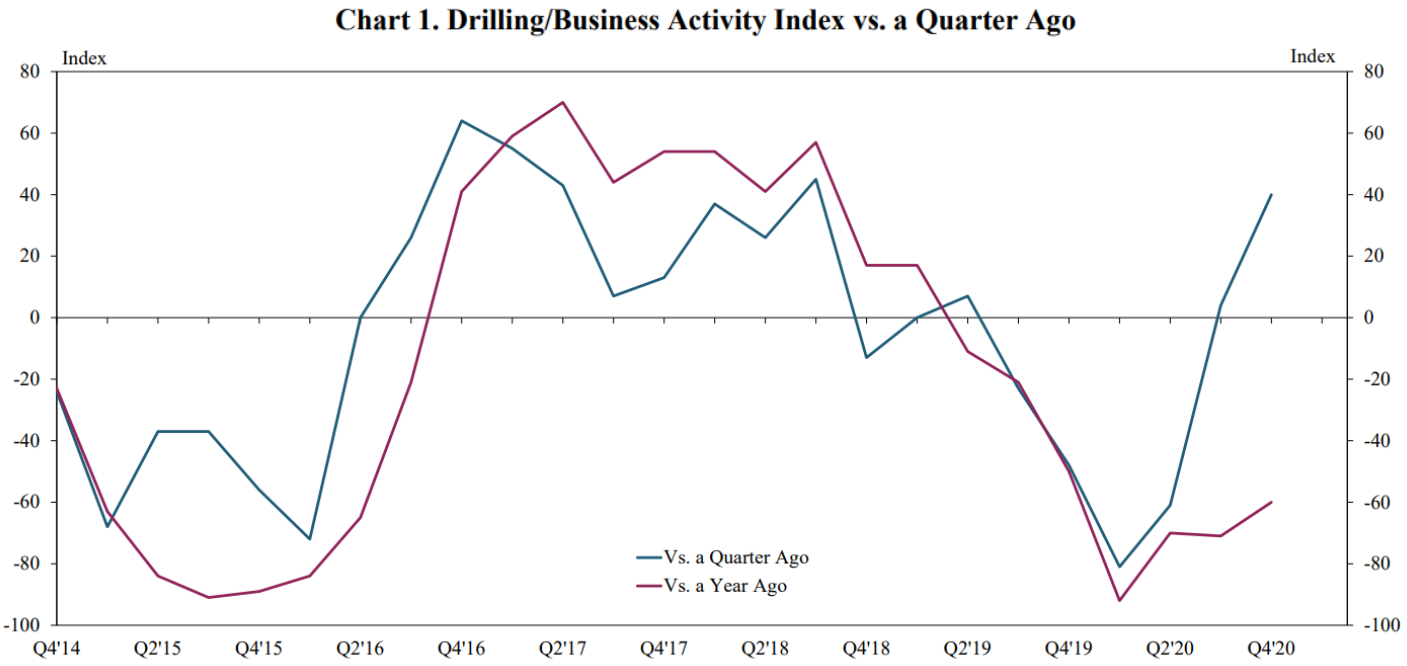
During January most of Europe was under the strictest restrictions according to the Oxford stringency index, which assesses indicators such as school and workplace closures and travel bands. The UK's lockdown imposed in the first week of January is expected to last six weeks. Additionally, Germany and Italy were locked down for most of the month. The lockdowns extended beyond Europe, with Shjiazhuang, the capital of China's Hebei province, having banned all residents from leaving the city.

The IMF has upgraded its 2021 global economic outlook. The IMF projects the global economy will grow by 5.5% this year, a 0.3% increase from its previous outlook three months ago. China and the US will emerge from the pandemic related decline in a better position than other countries, the IMF projections show. The economies of both countries in 2022 will only be around 1.5% smaller that pre-pandemic forecasts, in contrast with countries in the Middle East, Central Asia region and Latin America that are projected to remain 6-7% below pre-pandemic levels.

The US Energy Information Administration (EIA), whose US macroeconomic assumptions are based on forecasts by HIS Markit, forecasts that after falling by 3.5% in 2020, US real gross domestic product (GDP) will increase by 4.2% in 2021 and 3.8% in 2022. Rising GDP contributes to EIA's forecast of rising total energy use in the US during 2021 and 2022. After falling by 7.8% in 2020, EIA forecasts that total US energy consumption will rise by 2.6% in 2021 and by 2.5% in 2022, reaching 97.3 quadrillion British thermal units (quads), 3.0 quads less than 2019.

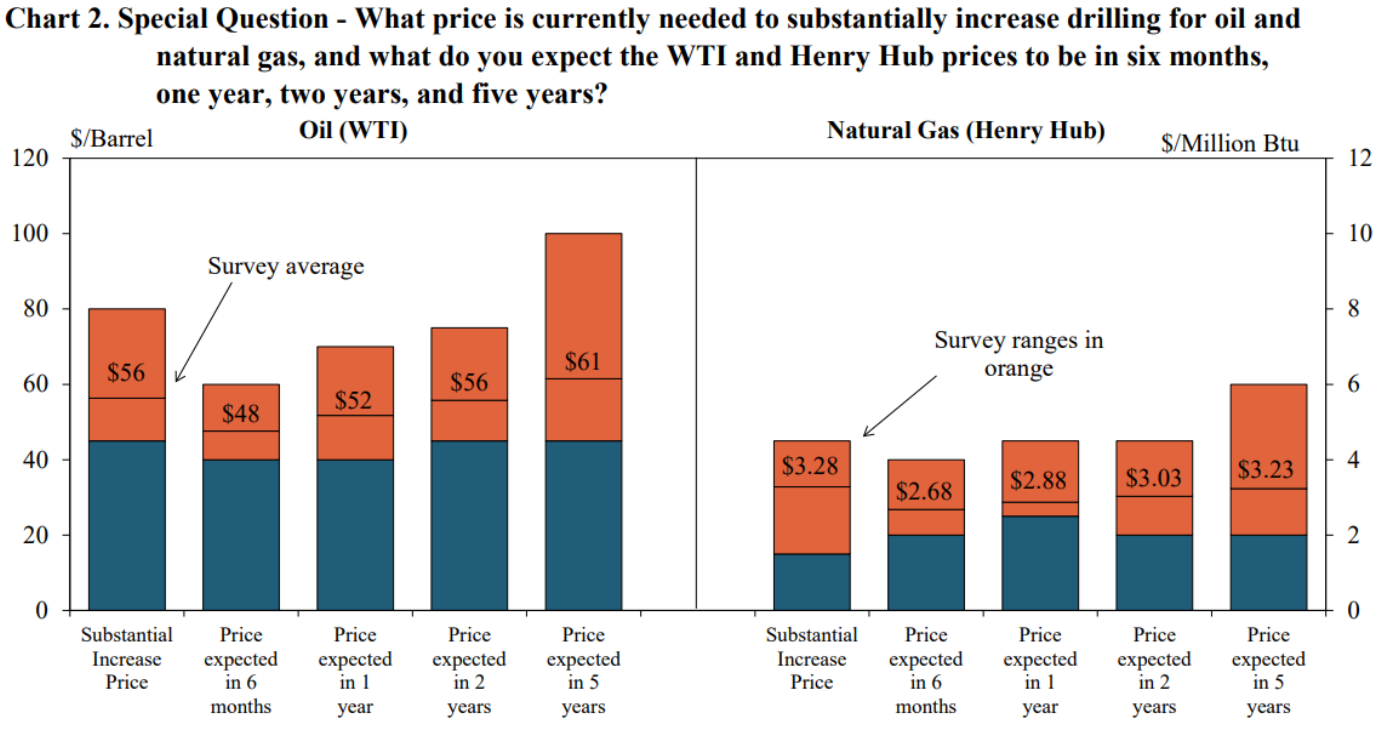
On 8 January, the Kansas City Federal Reserve released its quarterly energy survey. Figure 6 shows strong recovery in drilling business activity in 4Q20 vs 2Q20 while year-on-year activity comparison remains depressed.

Figure 6: Drilling Business Activity Index (Source: Kansas City Fed)



According to the Kansas City Fed's survey, the average prices required for gas and oil companies to substantially increase drilling activity are $56/bbl for oil and $3.38/mcf for gas. These prices are higher than the market expects to see in the next few years although strong early Feb rally in gas and oil has closed the gap (Figure 7). Note that the industry will need to see these levels maintained over sustained period before activity will respond.

Figure 7: Gas and Oil Price Levels (Source: Kansas City Fed)



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The latest Baker Hughes rig count data is below. In the last month US total rigs have increased from 360 to 384, land rigs increasing from 341 to 365. The gains have come from oil rigs, increasing from 275 to 295 and 4 new gas rigs, up from 84 to 88.

Baker Hughes rig count

Baker Hughes

Rotary Rig Count

1/29/21

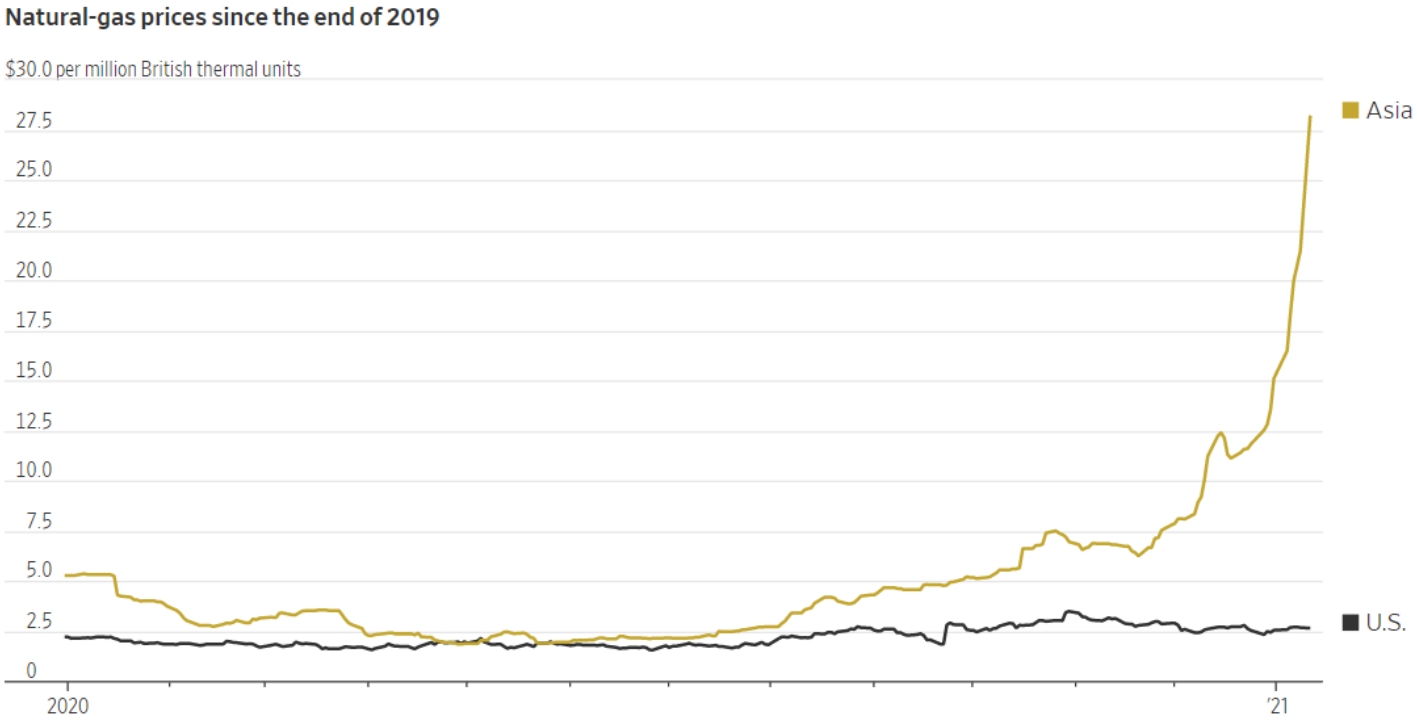
Location	Week	+/-	Week Ago	+/-	Year Ago
Land	365	6	359	-403	768
Inland Waters	3	0	3	2	1
Offshore	16	0	16	-5	21
United States Total	384	6	378	-406	790
Gulf Of Mexico	16	0	16	-5	21
Canada	174	2	172	-73	247
North America	558	8	550	-479	1037
U.S. Breakout Information	**This Week**	**+/-**	**Last Week**	**+/-**	**Year Ago**
Oil	295	6	289	-380	675
Gas	88	0	88	-24	112
Miscellaneous	1	0	1	-2	3
Directional	18	-4	22	-27	45
Horizontal	344	6	338	-367	711
Vertical	22	4	18	-12	34

Gas Market

US gas prices rose during January, the prompt Henry Hub contract ended the month at $2.769/mcf, a $0.26/mcf increase over December close. The drivers were the arrival of colder weather in the US and record LNG export flows.

Maintaining the trend from December, the Asian LNG spot price benchmark, JKM, continued to surge through January. It finally topped out at an all-time high of $32.50/mmbtu in late January. As noted in last month's report, this is up from the all-time low of $1.825/mmbtu reached in April 2020 (Figure 8).

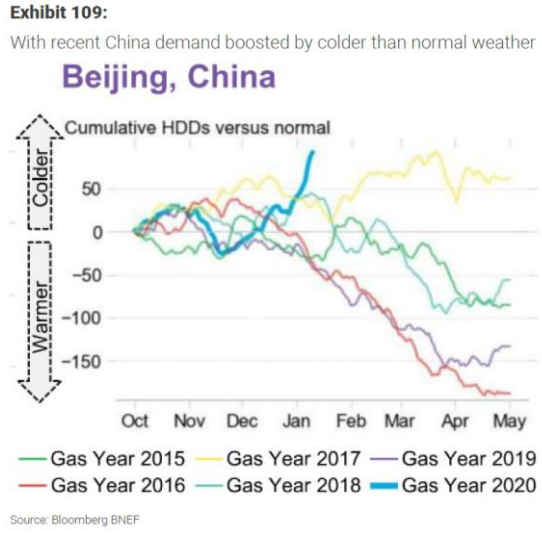
Figure 8: Natural Gas Prices (Source: S&P Global Platts via Wall St Journal)



Note: Asian prices are for liquefied-natural gas delivered into Japan, South Korea, China and Taiwan. U.S. prices are for futures contracts tied to gas at Henry Hub in Louisiana.
Sources: S&P Global Platts (Asia); FactSet (U.S.)

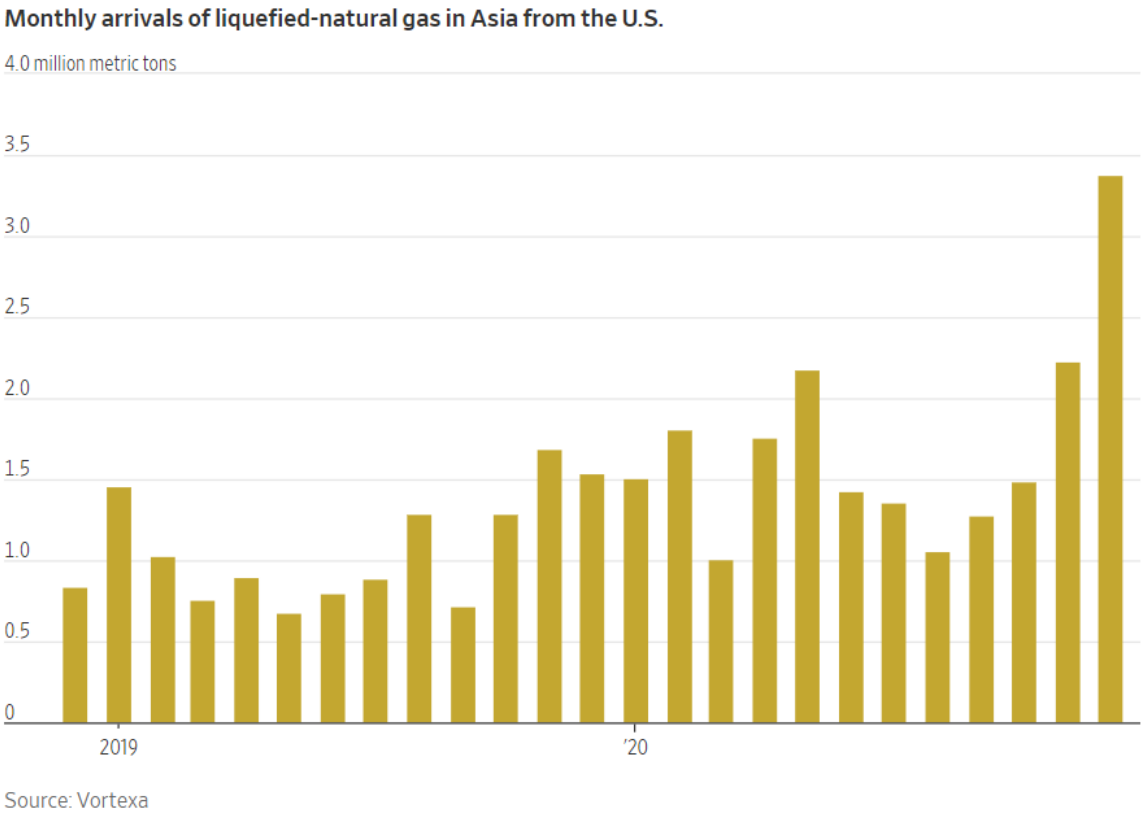
Freezing temperatures in Asia – temperatures reached -3 degrees Fahrenheit in Beijing in the first week of January, a 50-year low – created demand for gas which is burned to generate electricity and warm homes and offices (Figure 9).

Figure 9: Beijing Heating Degree Days (Source: Bloomberg NEF)



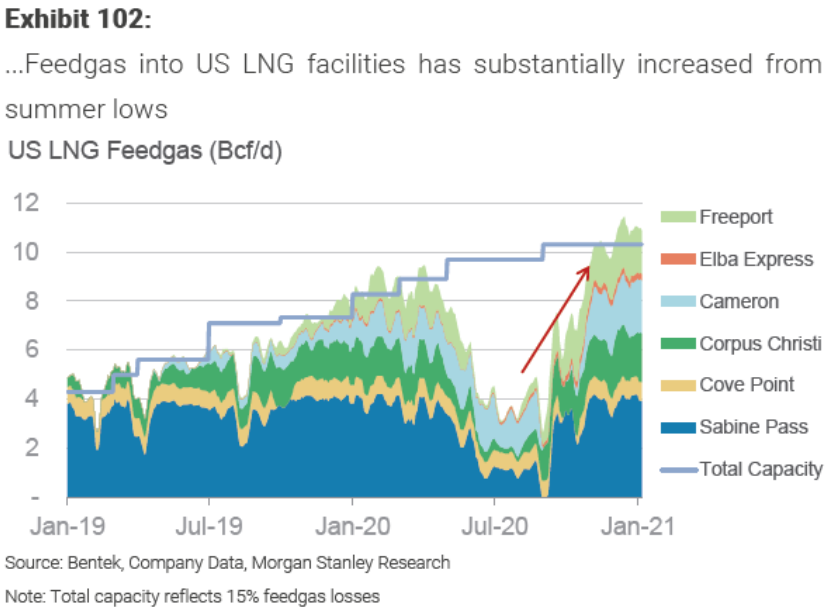
High Asian gas prices attracted record volume of LNG cargoes from the US (Figure 10).

Figure 10: Monthly US LNG Exports to Asia (Source: Vortexa via WSJ)



LNG demand is an increasingly important factor in US gas demand. In its January Short Term Energy Outlook (STEO) the EIA noted that all six US LNG export facilities operated at near full capacity in December, exporting a record 89 cargoes, a 91% utilisation of peak export LNG capacity. The third and final train at Corpus Christi LNG facility in Texas was commissioned 6 months ahead of schedule and sent its first cargo in the middle of December. The EIA estimates that the nominal liquification capacity of LNG in operation in the US is 9.5bcf/d as baseload and 10.8bcf/d at peak (these are averages). On 26 January a new record for LNG daily loadings was set with EIA estimating that 25.4bcf were loaded on seven LNG tankers that departed US LNG terminals that day.

Figure 11: US LNG Feedgas Bcf/d, (Source: Morgan Stanley Research)



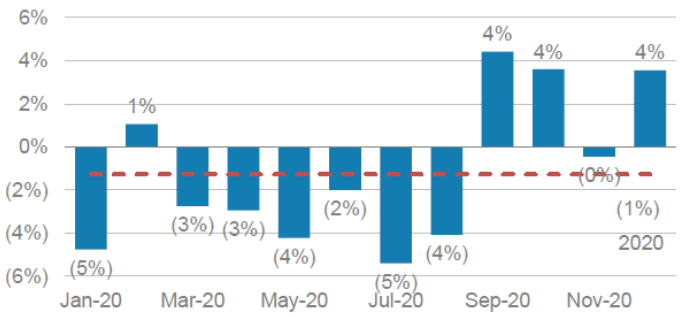
Global LNG imports remained steady through 2020, declining just 1.5% from the prior year despite pandemic induced disruption. Increases in demand from China (~10%) and India (~2%) offset weakness in European demand (Figure 12).

Figure 12: Global LNG Market Demand (Source: Morgan Stanley Research)

Exhibit 104:

Global LNG imports have remained largely steady, declining just 1% in 2020...

Global LNG Imports YoY (%)

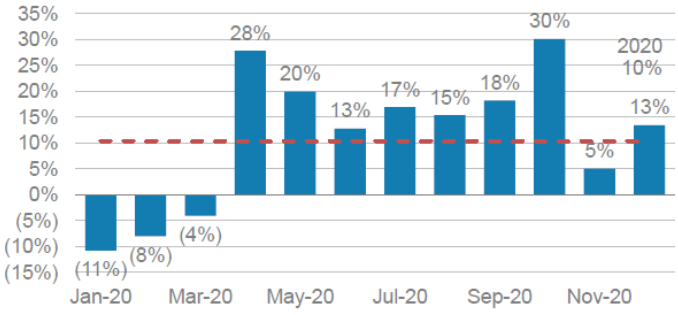


Source: Bloomberg, IHS, Genscape

Exhibit 105:

...Benefiting from a strong ~10% increase in China imports...

China LNG Imports YoY (%)

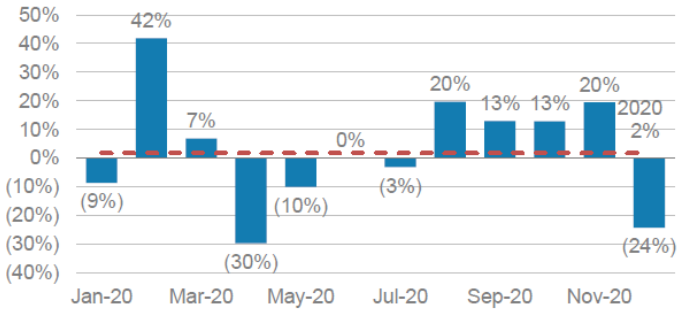


Source: Bloomberg, IHS, Genscape

Exhibit 106:

...and a ~2% increase in India imports...

India LNG Imports YoY (%)

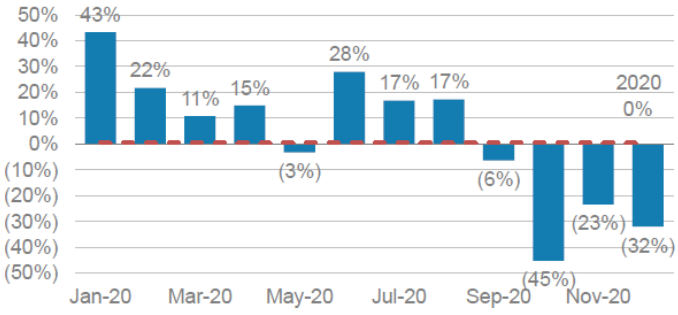


Source: Bloomberg, IHS, Genscape

Exhibit 107:

...Offsetting recent weakness in European demand

Europe LNG Imports YoY (%)



Source: Bloomberg, IHS, Genscape

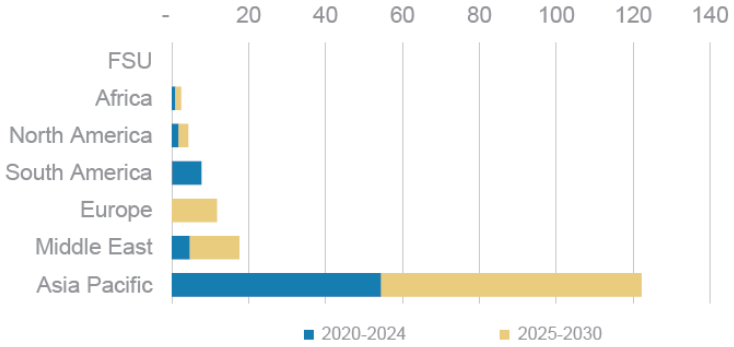
Growth in Asian LNG demand is forecast to continue for the next decade, with import volumes projected to more than double (Figure 13).

Figure 13: Incremental LNG Demand to 2030 (Source: Morgan Stanley Research)

Exhibit 31:

Incremental demand will be driven by Asia, though Europe and the Middle East are also expected to see growth

Incremental Demand by Region (mtpa)



Note: Europe Demand excludes coal-to-gas switching

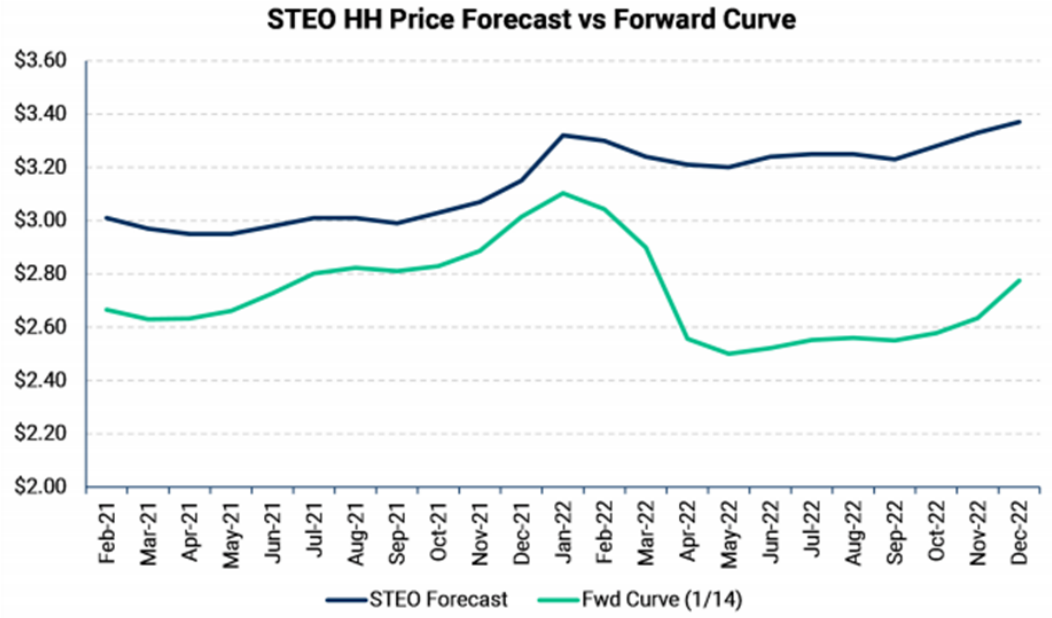
Source: Wood Mackenzie, Morgan Stanley Research Estimates

Looking forward, the EIA STEO forecasts US LNG exports to average 8.5 bcf/d in 2021 and 9.2bcf/d in 2022. Forecast growth in US LNG exports is supported by several factors, including a gradual post-Covid-19 recovery in global LNG demand in established markets, high winter LNG demand in Asia and expansions in global LNG import infrastructure in existing markets, with several new countries expected to become LNG importers in the next two years.

Henry Hub natural gas spot prices averaged $2.03/mmbtu in 2020. EIA expects Henry Hub prices will rise to an annual average of $3.01/mmbtu in 2021 and $3.27/mmbtu in 2022.

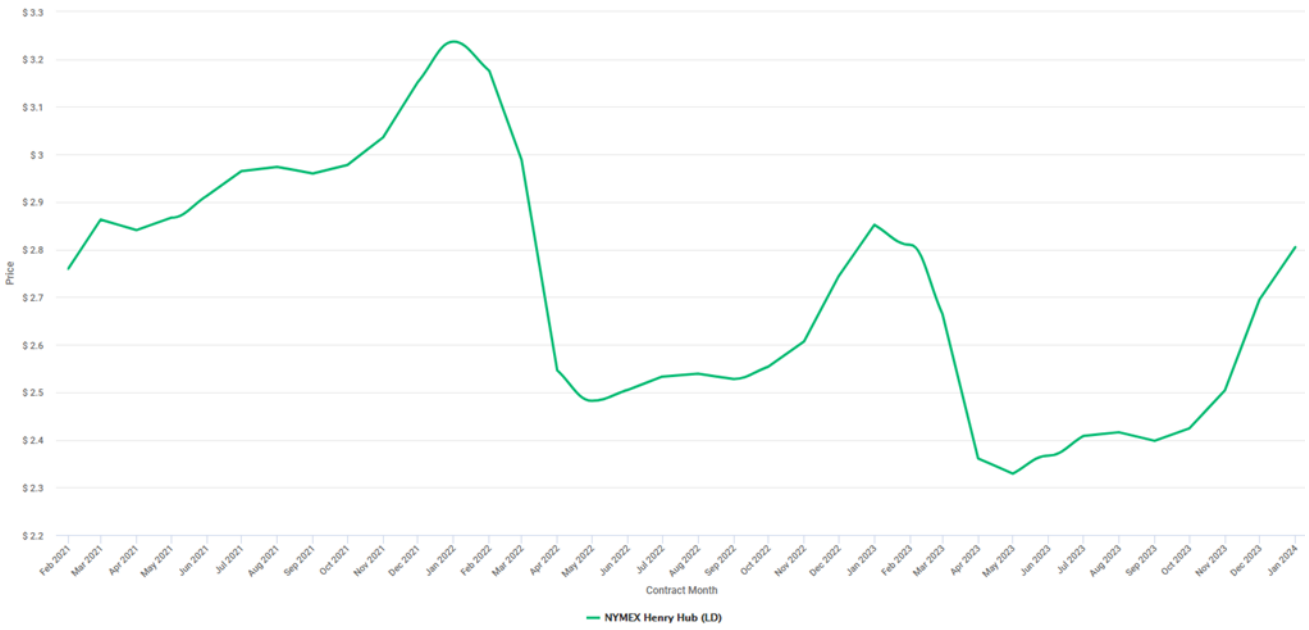
These projections, materially higher than the forward curve as it was in mid-January (Figure 14), highlight the structural tightness in the US gas market that has been somewhat disguised by a relatively warm start to winter.

Figure 14: STEO HH Price Forecast vs Forward Curve (Source: Aegis)



Cold weather in late January, continuing into early Feb, together with recognition that higher prices are needed to balance supply and demand, have driven prices higher (Figure 15). Note the contango through 2021, it is very rare that summer prices be higher than winter.

Figure 15: : HH Forward Curve at 5 Feb (Source: Aegis)



EIA estimates that US natural gas consumption averaged 83.1 bcf/d in 2020, down 2.5% from 2019. EIA expects that natural gas consumption will decline by 2.8% in 2021 and 2.1% in 2022. The decline in natural gas consumption is the result of less gas used in the power sector, with higher prices causing generators to switch some capacity back to coal generation. Gas use in other sectors is forecast to increase (Figures 16 and 17).

Figure 16: EIA US Natural Gas Consumption (Source: EIA)

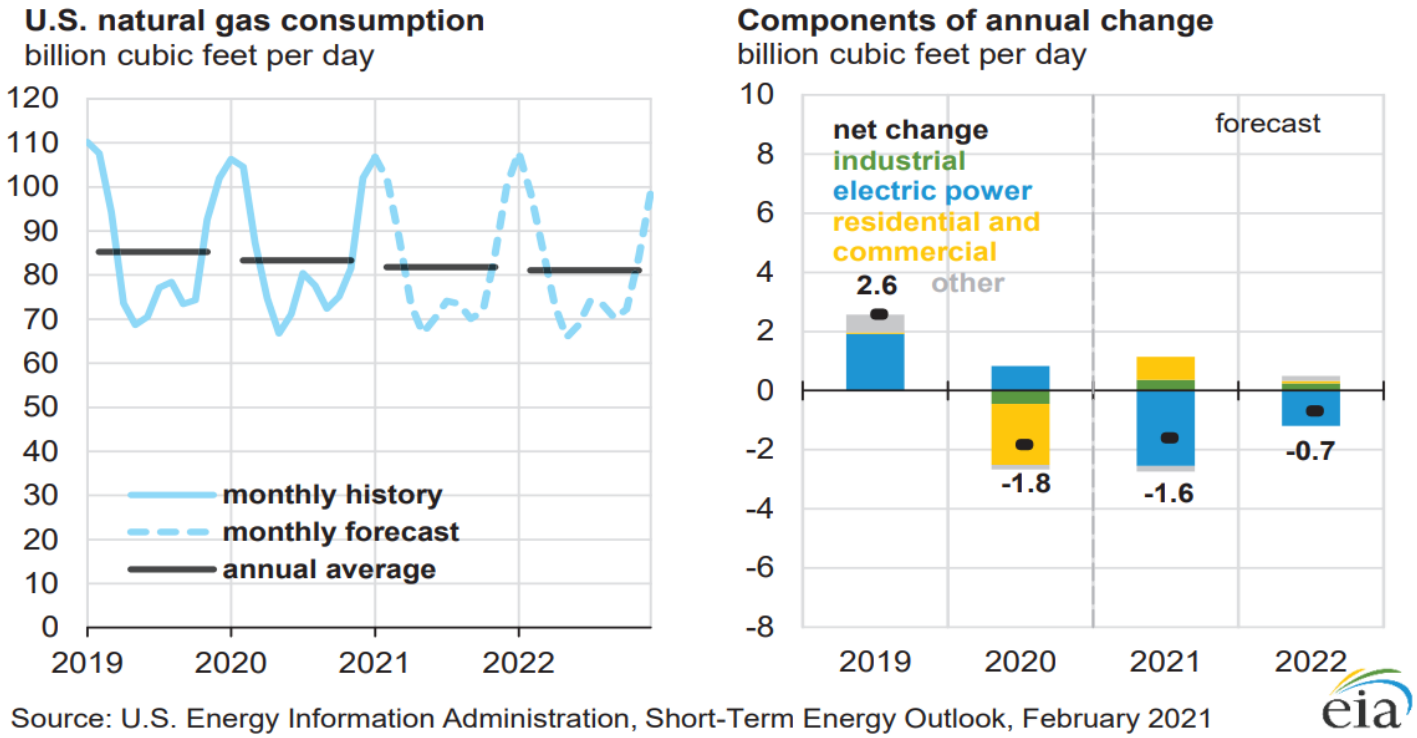
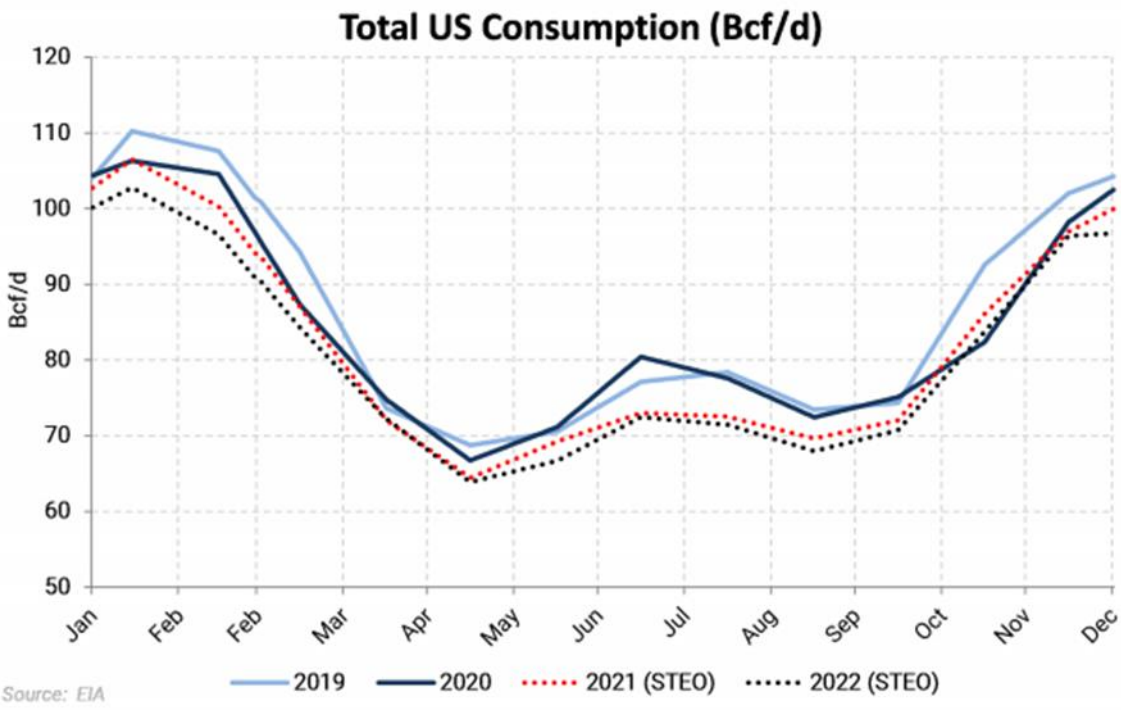


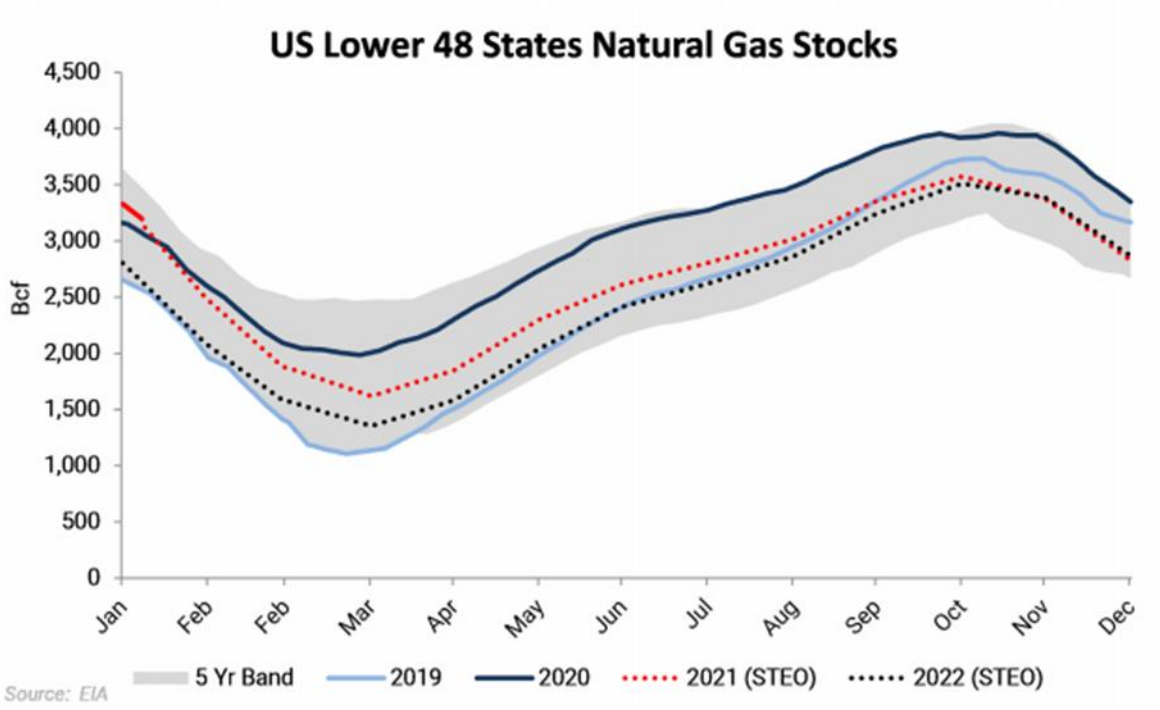
Figure 17 presents the same data in year-on-year format to allow readier comparison.

Figure 17: EIA US Natural Gas Consumption Year-on-Year (Source: EIA)



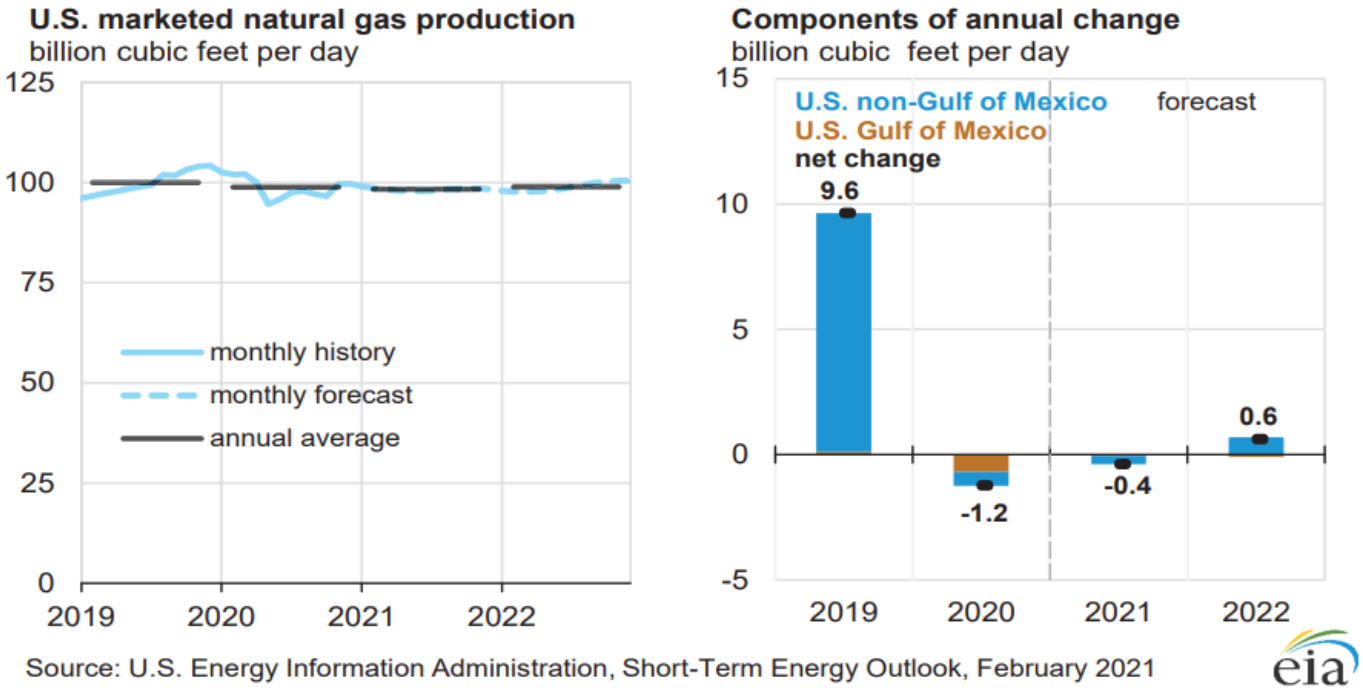
The price induced gas-to-coal demand destruction is the likely path for natural gas markets to balance in 2021. EIA forecasts that declines in US natural gas production this winter, relative to last winter, will more than offset declines in natural gas consumption, which will contribute to inventory withdrawals outpacing the five-year average during the remainder of the winter, which ends in March. Forecast natural gas inventories end March at 1.6tcf, 12% lower than the 2016-2020 average (Figure 18).

Figure 18: EIA US Natural Gas Storage (Source: EIA)



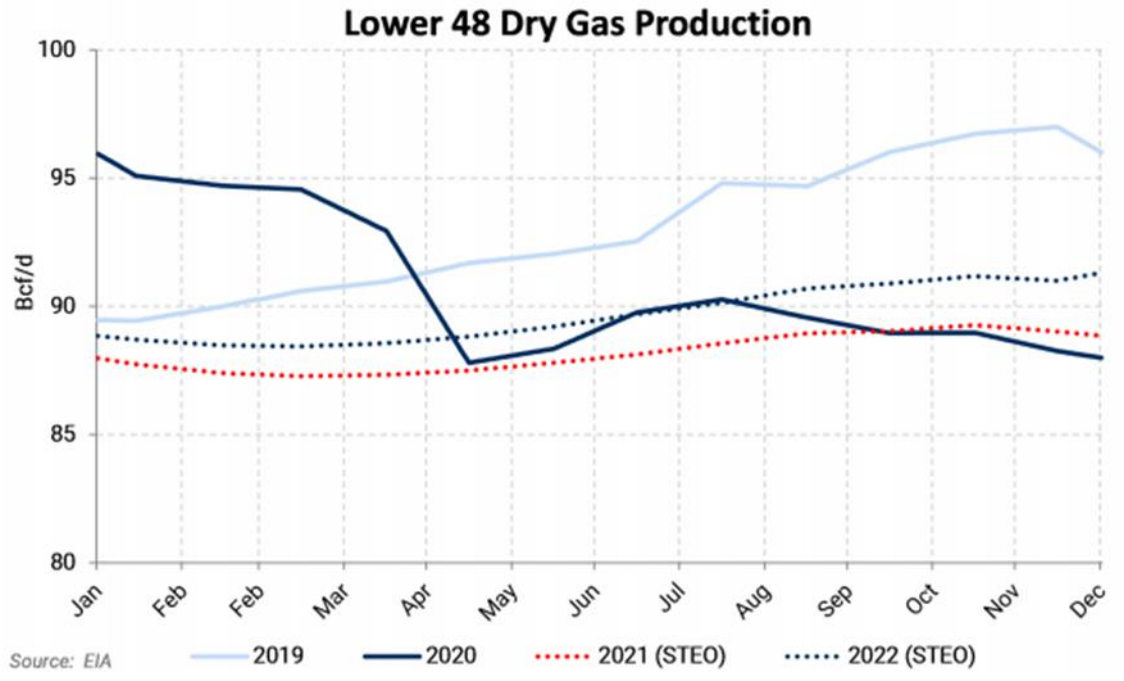
EIA estimates that 2020 dry natural gas production averages 90.8 bcf/d, down 2.5% form 2019. EIA expects US dry natural gas production to average 88.2 bcf/d in 2021, down by 2.8% from 2020, then rise to 89.7 bcf/d in 2022 (Figures 19 and 20).

Figure 19: EIA US Natural Gas Consumption Year-on-Year (Source: EIA)



The year-on-year data clearly shows the pandemic-induced fall in production and reset to a lower base rate of production bringing supply and demand into close balance.

Figure 20: US Natural Gas Production Year-on-Year (Source: EIA)



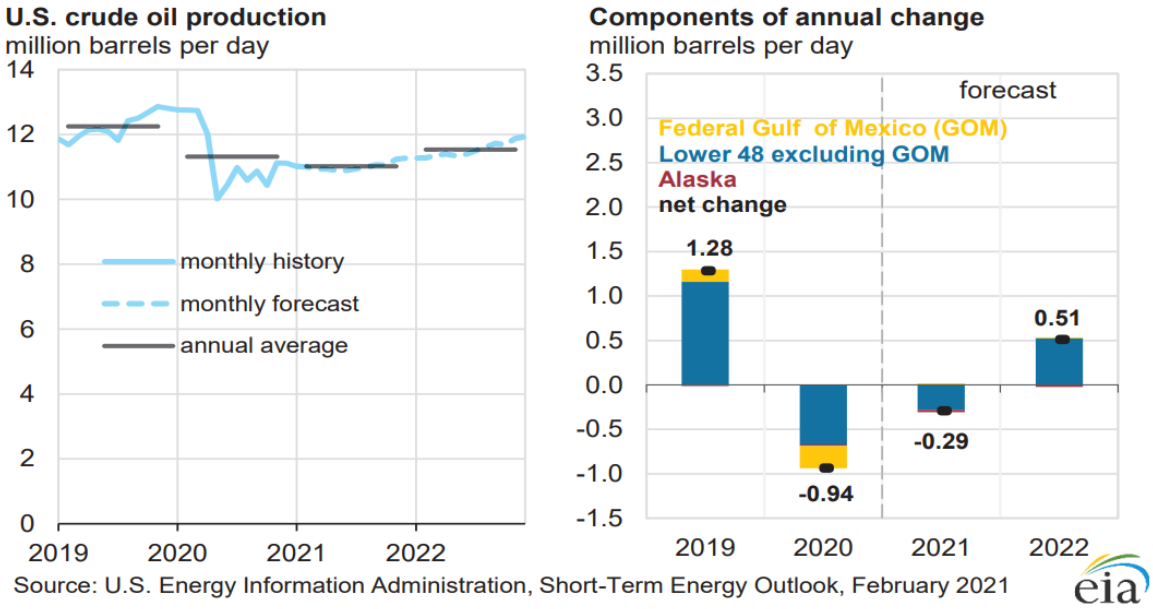
Oil Market

After a strong rally early in the month, as Saudi Arabia announced an incremental cut to their production of 1mmbbl/d oil closed the month a couple of dollars off intra month highs at $52.20/bbl. Negative sentiment at the end of January was driven by increased lockdowns around the world due to a new Covid-19 variant emerging out of South Africa and a rally in the US dollar.

Early February has seen optimism take control of the market, at time of writing (8 Feb) the prompt WTI contract has increased to $57.37/bbl. Factors driving the price increase are improved COVID-19 vaccine distribution and impending $1.9 trillion US stimulus package.

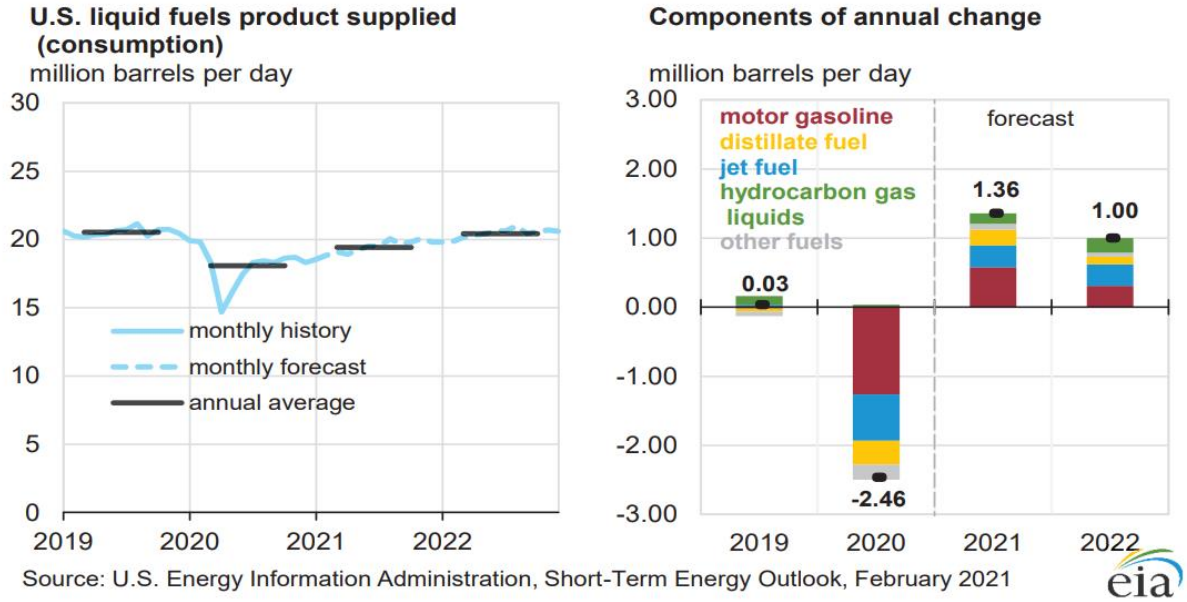
The EIA STEO forecasts that US oil production will be down over the next two years from the record high of 12.25mmbl/d in 2019. 2021 forecast production is 11.1mmbbl/d in 2021 and 11.5mmbbl/d in 2022 (Figure 21).

Figure 21: US Oil Production (Source: EIA)



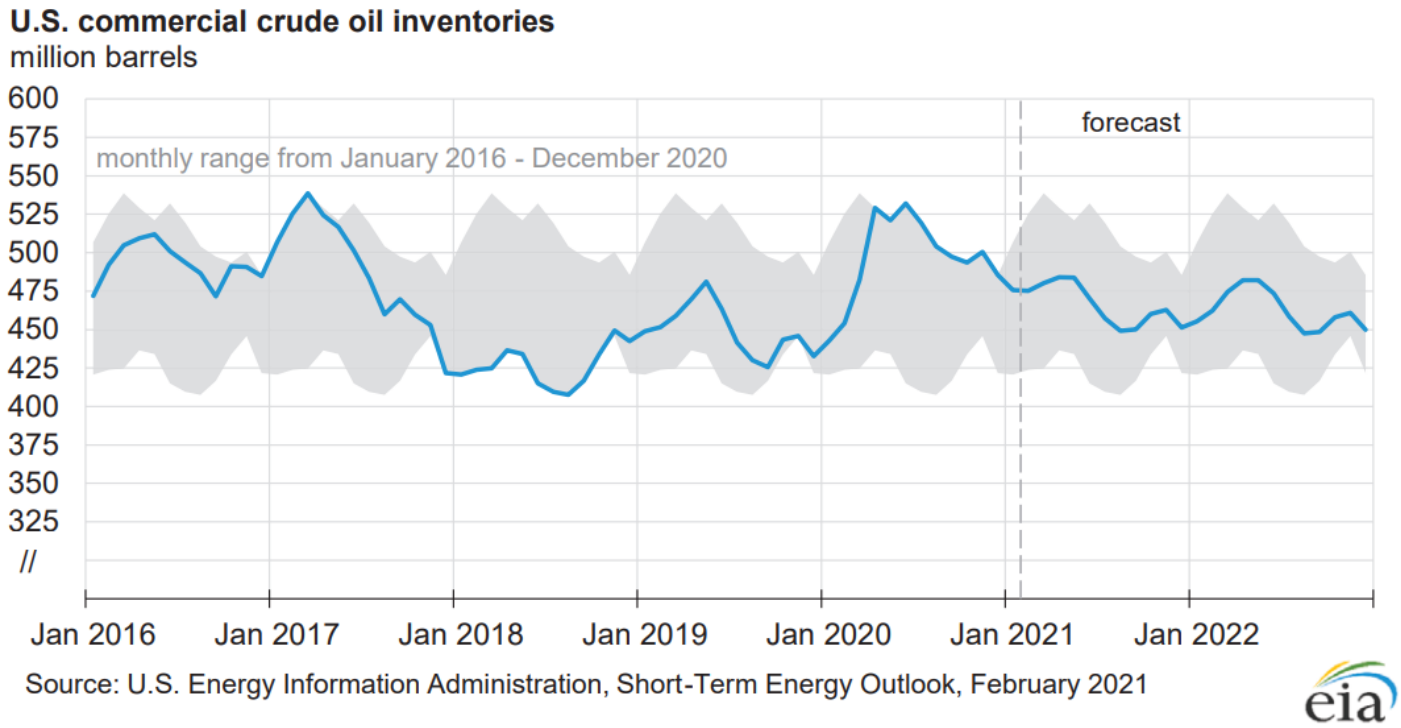
US oil consumption in 2021 is forecast at 19.2mmbbld, increasing again in 2022 to 20.3mmbbld (Figure 22).

Figure 22: US Oil Consumption (Source: EIA)



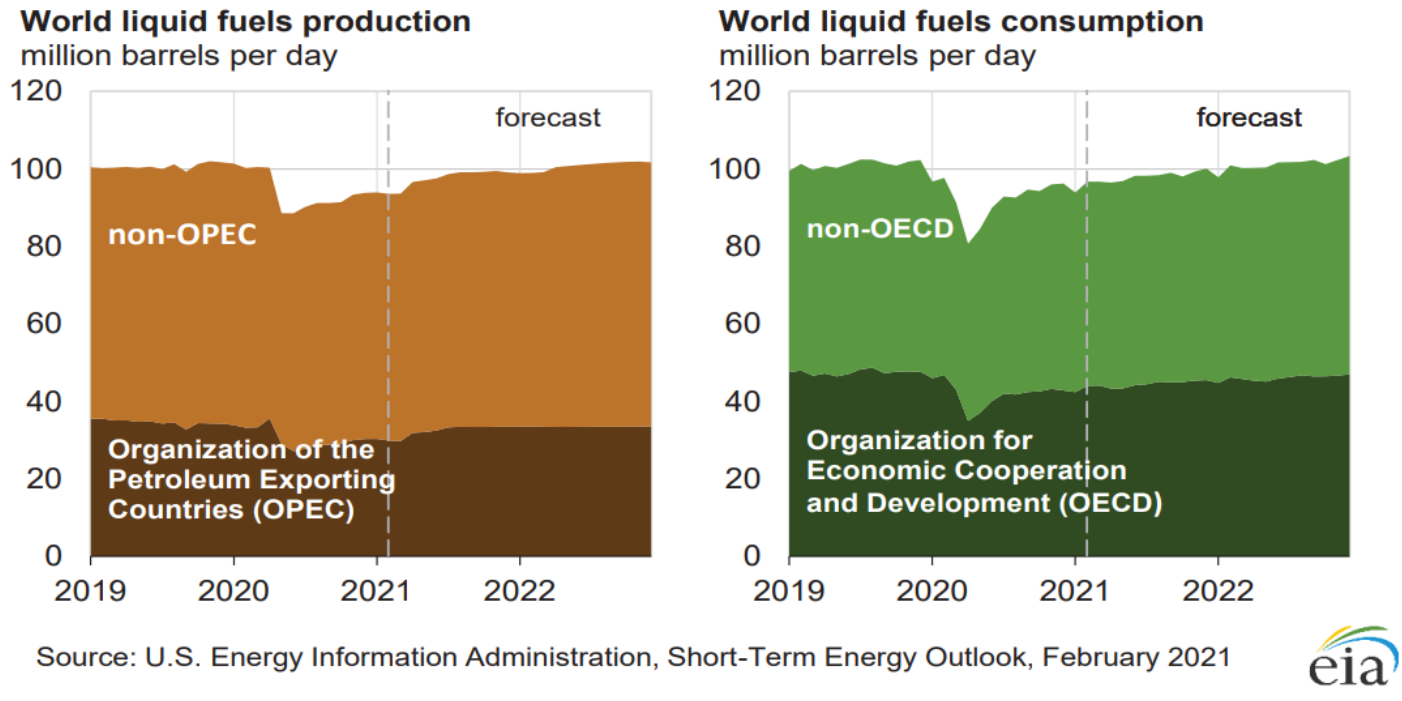
This demand / supply balance will see steady falls in commercial crude inventories (Figure 23).

Figure 23: US Commercial Crude Inventories (Source: EIA)



Worldwide production and consumption are both forecast to increase steadily through to the end of the 2022 STEO forecast period (Figure 24).

Figure 24: US Commercial Crude Inventories (Source: EIA)



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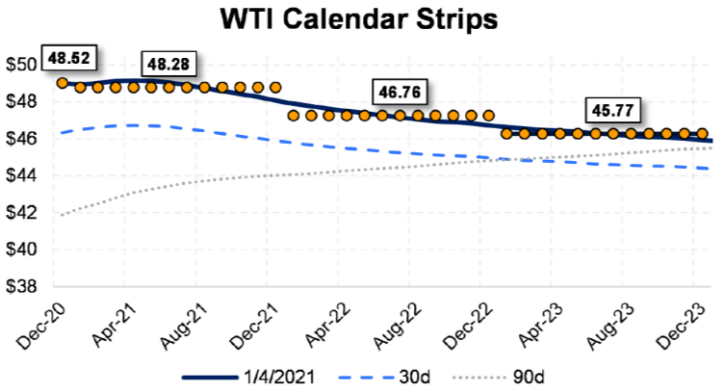
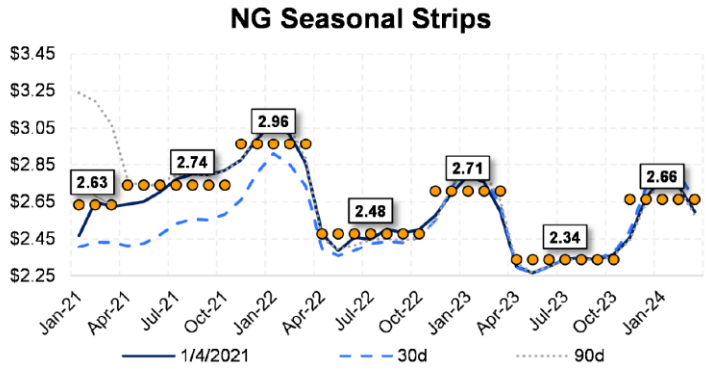
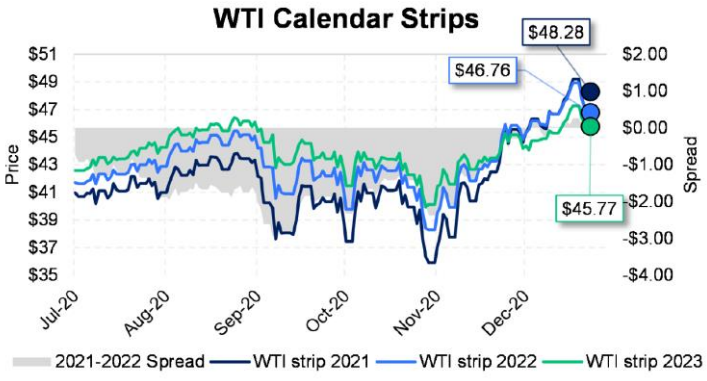
Monthly Report

Gas and Oil Prices 4 January 2021







Swap Pricing

	Cal 21	Cal 22	Cal 23	Cal 24
NYMEX WTI Crude	$ 48.28	$ 46.76	$ 45.77	$ 45.17
ICE Brent Crude	$ 51.44	$ 50.25	$ 49.74	$ 49.49
Light Louisiana Sweet	$ 49.98	$ 48.19	$ 46.98	$ 46.44
TM Midland Differential	$ 0.82	$ 0.63	$ 0.45	
NYMEX Natural Gas	$ 2.88	$ 2.76	$ 2.63	$ 2.50

Source: Bloomberg LP

Indicative only

Natural Gas Basis

Location	Spot	Winter '20/'21	Summer '21	Winter '21/'22	Summer '22
Henry Hub Fixed	2.39	2.63	2.65	2.89	2.43
Opal	$ 0.80	$ 0.25	$ (0.18)	$ 0.23	$ (0.19)
Waha	$ (0.03)	$ (0.20)	$ (0.24)	$ (0.20)	$ (0.37)
Chicago CG	$ (0.09)	$ (0.17)	$ (0.27)	$ (0.24)	$ (0.20)
TETCO M3	$ (0.09)	$ 0.34	$ (0.54)	$ 0.91	$ (0.48)
PEPL	$ (0.11)	$ (0.17)	$ (0.29)	$ (0.22)	$ (0.32)
Dominion S	$ (0.40)	$ (0.53)	$ (0.68)	$ (0.58)	$ (0.63)

All prices as previous trading day close

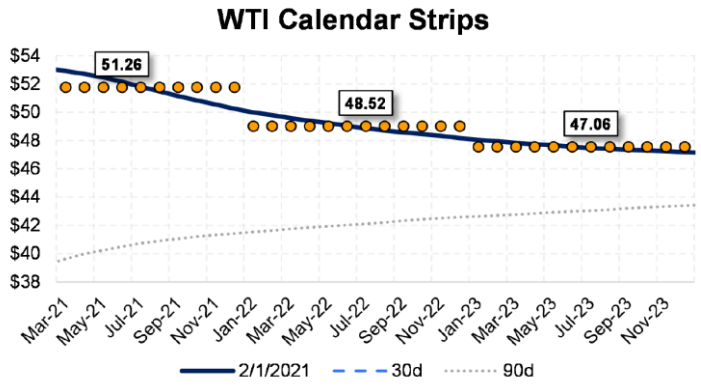
Source: Bloomberg

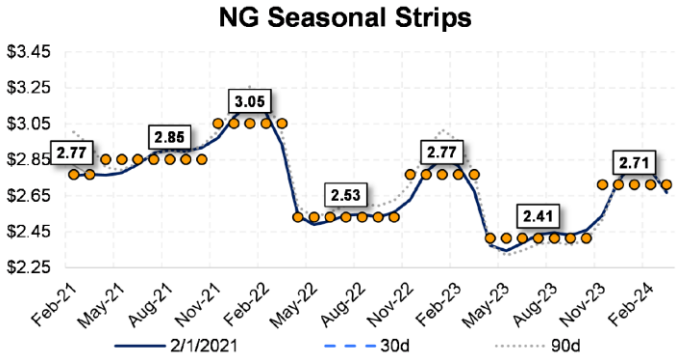
Longreach Energy Holdings LLC

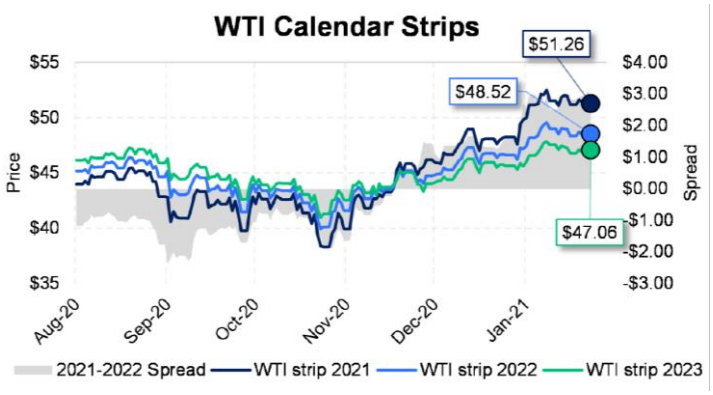
LONGREACH ENERGY

Monthly Report

Gas and Oil Prices 1 February 2021







Swap Pricing

	Cal 21	Cal 22	Cal 23	Cal 24
NYMEX WTI Crude	$ 51.26	$ 48.52	$ 47.06	$ 46.43
ICE Brent Crude	$ 54.15	$ 51.87	$ 50.82	$ 50.36
Light Louisiana Sweet	$ 53.20	$ 50.19	$ 48.54	$ 47.79
TM Midland Differential	$ 0.90	$ 0.70	$ 0.65	
NYMEX Natural Gas	$ 2.88	$ 2.69	$ 2.55	$ 2.54

Source: Bloomberg LP

Indicative only

Natural Gas Basis

Location	Spot	Winter '20/'21	Summer '21	Winter '21/'22	Summer '22
Henry Hub Fixed	2.65	2.77	2.71	2.95	2.49
TETCO M3	$ 0.14	$ (0.14)	$ (0.57)	$ 0.77	$ (0.49)
Opal	$ 0.02	$ (0.10)	$ (0.22)	$ 0.18	$ (0.20)
Chicago CG	$ (0.02)	$ (0.12)	$ (0.24)	$ (0.22)	$ (0.18)
PEPL	$ (0.10)	$ (0.21)	$ (0.28)	$ (0.19)	$ (0.30)
Waha	$ (0.13)	$ (0.23)	$ (0.25)	$ (0.20)	$ (0.37)
Dominion S	$ (0.27)	$ (0.45)	$ (0.71)	$ (0.63)	$ (0.68)

All prices as previous trading day close

Source: Bloomberg