

Longreach Energy Investments LLC May 2019 Report

Market and Portfolio Commentary 1.1 Macro Industry Commentary

General Market Commentary

The risk to global growth from escalating tariffs is increasing. All other things being equal, slower growth will reduce oil demand and at least in the near term, reduce oil prices. There are however also tangible geopolitical risks to supply and for now at least, global economic growth has proven resilient. The supply of LNG from the United States to China is also being hit by the tariff dispute. So far this year only two vessels have gone from the United States to China – one in January and one in February – versus 14 during the first four months of 2018, before the start of the trading conflict. To date this has had no impact on gas prices but the longer the trade tensions remain the greater is the potential for medium term market dislocation. The upstream industry in the US, traditionally a strongly Republican community, appears to be seriously concerned by the tariff-related cost increases and China trade disruption. As the next election approaches the views of these voters are likely to become increasingly important to the current US Administration.

Gas Market

The US Energy Information Administration (EIA) expects that Henry Hub natural gas spot prices will average \$2.79.mcf in 2019 and \$2.78 in 2020. These forecasts are consistent with LEI's 2019 and 2020 assumptions.

EIA forecasts that dry natural gas production will average 90.3 billion cubic feet per day (bcf/d) in 2019, up 6.9 bcf/d from 2018, and continue to grow in 2020 to an average of 92.2 bcf/d. The share of US total utility-scale electricity generation from natural gas fired power plants is expected to rise from 35% in 2018 to 37% in 2019 and 38% in 2020.

Oil Market

In its monthly oil market report, the International Energy Agency (IEA) said "considerable uncertainty" about global supplies looms – from Iraq and Venezuela, which are both under US sanctions, to Libya. The impact of contaminated Russian crude flows to Europe is also being monitored, as are attacks on shipping vessels off the coast of the UAE and in recent weeks on two pumping stations in Saudi Arabia.

OPEC, Russia and other allied producers have been cutting output by 1.2m barrels a day since January and these companies will gather in June to decide whether to extend the pact. OPEC's own forecasts this week point to a tighter market if the group of oil-rich nations refrain from ramping up output next month.

Reuters reports that China's demand for crude oil has strengthened. China imported 10.68 mbbl/d in April, barely short of the record for any country, set by the US in 2005 when it imported an average of 10.77 mbbl/d. At the end of 2013, China had only been importing around 6 mbbl/d.

The Dallas Fed published analysis of the effect of rising US shale production on the global margin cost of oil supply. The report, published on 21 May, notes:

Horizontal drilling and hydraulic fracturing have made accessible significant amounts of oil reserves previously considered uneconomic to develop. Production costs for those reserves have declined dramatically over the last 10 years. As a result, larger quantities of oil are economical to produce at much lower prices than have previously been possible.

Recently evolving oil cost curves illustrate this development. An oil cost curve tries to provide information on how much extra supply would be forthcoming at a given price of oil. Usually the price of oil is shown on the left-hand axis. If the curve is upwardly steep, very high oil prices are needed to bring relatively small amounts of new production. A flat curve suggests the opposite.

Over the past 10 years, oil cost curves have moved from being very steep to having a long, flat portion between \$50 and \$60 as the industry has added resources and as cots have declined (Figure 1). In other words, shale production means there is a much larger amount of supply that can be delivered given a much smaller price increase than in the past.

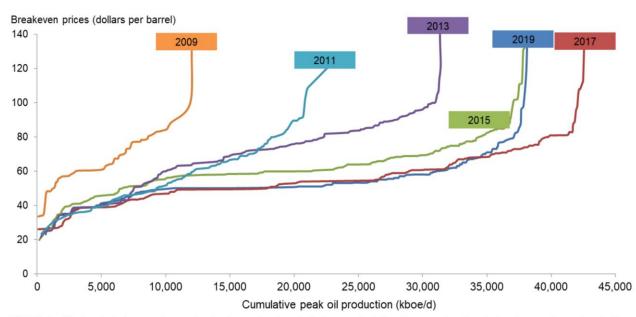


Figure 1: Oil Cost Curve Flattens in Recent Years (source Dallas Fed)

NOTES: Identified projects (pre-sanction, under development and producing) are evaluated each year and assigned a breakeven price and peak oil production. The oil cost curve depicts the cumulative peak oil production of identified projects. Kboe/d is thousand barrels of oil equivalent per day.

SOURCE: Goldman Sachs Global Investment Research.

Federal Reserve Bank of Dallas

The continued growth in US shale production, notes the report:

'does not rule out the possibility of major oil price movements, but it does point to a strong tendency that oil prices will be range bound in the near future.'

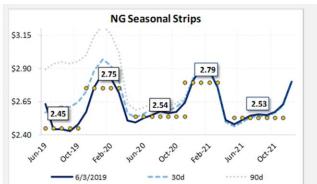
LEI's oil related investments are forecast to deliver strong returns with oil trading in range of \$50 to \$60/bbl.

Gas and Oil Prices 3 June 2019



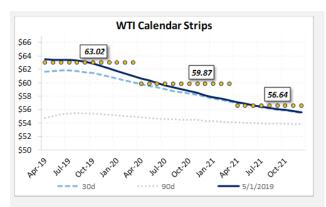
Swap Pricing											
	Bal 19		Cal 20		Cal 21		Cal 22				
\$	54.61	\$	53.26	\$	52.06	\$	51.69				
\$	61.46	\$	59.93	\$	58.95	\$	58.72				
\$	59.99	\$	57.12	\$	54.94	\$	54.57				
\$	0.20	\$	0.60	\$	0.83						
\$	2.52	\$	2.63	\$	2.64	\$	2.65				
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Note: Midland diff changed to TM computation Oct 1. All prices indicative only.



Natural Gas Basis						
Location	~	Spot	Summer '19	٧	/inter '19/'20	Summer '20
Henry Hub Fixed	\$	2.54	\$ 2.47	\$	2.76	\$ 2.54
MichCon	\$	(0.28)	\$ (0.26)	\$	(0.17)	\$ (0.21)
TETCO M3	\$	(0.42)	\$ (0.39)	\$	1.21	\$ (0.38)
Dominion S	\$	(0.44)	\$ (0.49)	\$	(0.36)	\$ (0.49)
TETCO M2	\$	(0.51)	\$ (0.53)	\$	(0.37)	\$ (0.53)
NGPL-Midcon	\$	(1.35)	\$ (0.63)	\$	(0.37)	\$ (0.44)
CIG	\$	(1.49)	\$ (0.58)	\$	(0.47)	\$ (0.69)
Waha	\$	(2.91)	\$ (1.45)	\$	(0.81)	\$ (1.46)
All prices as of close	yestero	lay				

Gas and Oil Prices 1 May 2019



	Bal 19		Cal 20		Cal 21	Cal 22	
NYMEX WTI Crude	\$ 63.02	\$	59.87	\$	56.64	\$	54.73
ICE Brent Crude	\$ 69.93	\$	66.39	\$	63.33	\$	61.53
Louisiana Light Sweet	\$ 68.22	\$	63.63	\$	59.52	\$	57.61
TM Midland Differential	\$ (1.64)	\$	0.33	\$	0.60		
NYMEX Natural Gas	\$ 2.70	\$	2.70	\$	2.66	\$	2.66
Source: Bloomberg LP							



Location	Spot	Summer '19 Vint	ter '19/'20	Summer '20
Henry Hub Fixed	\$ 2.59	\$ 2.63 \$	2.88	\$ 2.59
MichCon	\$ (0.20)	\$ (0.25) \$	(0.17)	\$ (0.20)
TETCO M3	\$ (0.22)	\$ (0.39) \$	1.22	\$ (0.40)
Dominion S	\$ (0.38)	\$ (0.52) \$	(0.40)	\$ (0.51)
TETCO M2	\$ (0.40)	\$ (0.54) \$	(0.40)	\$ (0.55)
NGPL-Midcon	\$ (0.59)	\$ (0.59) \$	(0.38)	\$ (0.44)
CIG	\$ (0.67)	\$ (0.59) \$	(0.48)	\$ (0.59)
Waha	\$ (2.47)	\$ (1.80) \$	(0.78)	\$ (1.17)

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