Longreach Energy Investments LLC

October 2019 Report

1.0 Market and Portfolio Commentary

1.1 Macro Industry Commentary

General Market Commentary

By 1 October Saudi Aramco had fully restored crude supply following drone and cruise missile attacks that knocked 5.7 mmbbl/d of production offline on 14 September. Overall the third quarter saw prices fall as ongoing trade war and fears of a global economic slowdown overshadowed geopolitical risks. By 3 October oil prices had fallen to levels below those of the Friday before the Saudi attacks. On 11 October an Iranian-owned oil tanker was attacked in the Red Sea off Saudi Arabia's west coast. Damage was relatively minor and there has been no claim of responsibility for the incident. Market reaction to this latest attack was both mild and transitory.

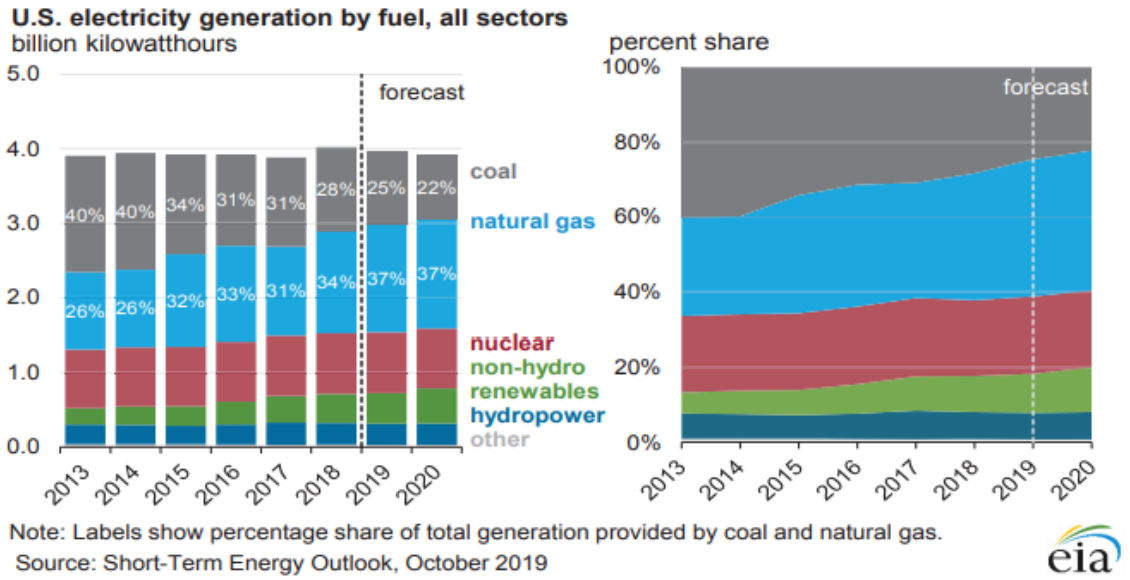
The costs of shipping crude around the world increased sharply through October after the US sanctioned the Chinese shipping company COSCO. US exported oil is particularly susceptible to reduced demand as a result of higher transport costs because transport distances from US export terminals to major markets in Asia are longer than competing crude supply from the Middle East. The international oil market is, however, a dynamic beast and as at time of writing increased transport cost does not appear to have had any impact on WTI prices or export volumes.

The IMF has forecast that the world economy this year will grow at its slowest pace since the financial crisis of 2008-09 and that the trade wars will remain a drag on growth next year. The agency now projects that global GDP will grow by 3% this year, down by 0.2% from its July forecast. The forecast for 2020 was lowered by 0.1% to 3.4%.

The US Energy Information Agency (EIA) October 2019 Short Term Energy Outlook has some interesting data on electricity generation, carbon emissions and energy expenditures as a share of gross domestic product.

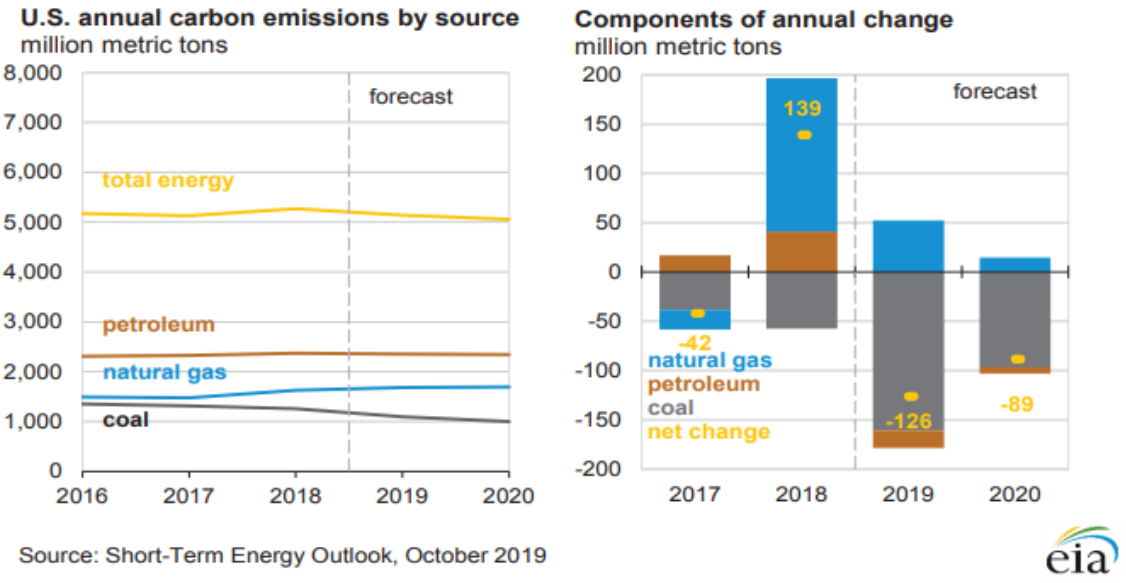
Figure 1 shows strong growth in natural gas a power source for electricity generation, primarily as a substitute for coal.

Figure 1: US Electricity Generation by Fuel (source EIA)



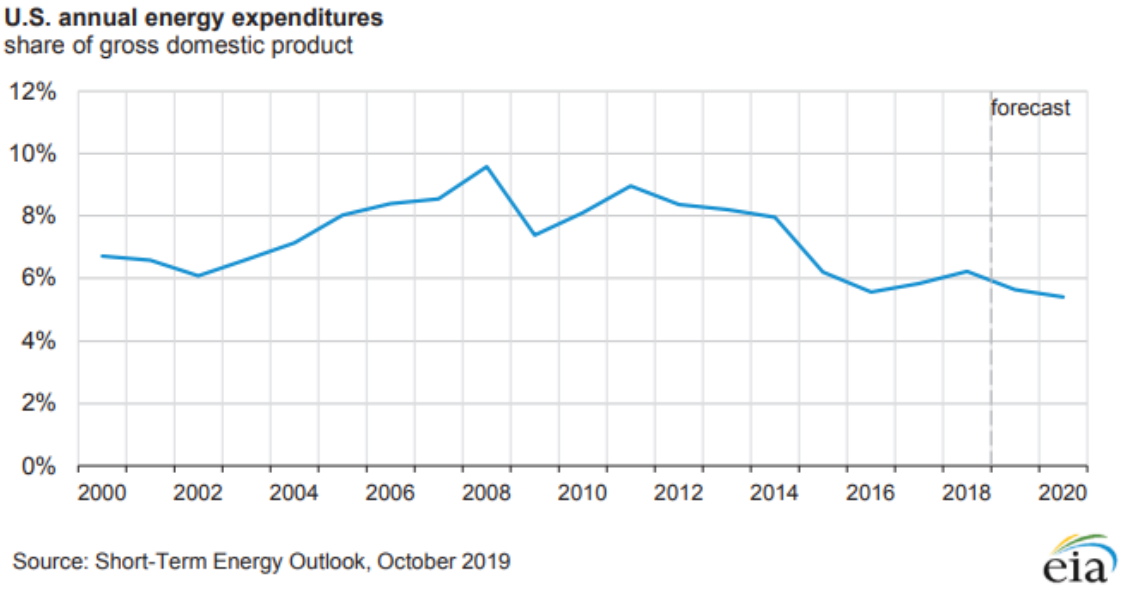
The switch to natural gas has driven recent and projected ongoing declines in US carbon emissions (Figure 2).

Figure 2: US Annual Carbon Emissions (source EIA)



The economic benefit of burgeoning low-cost US energy production is evidenced by the dramatic decline in US annual energy expenditures as share of gross domestic product (Figure 3).

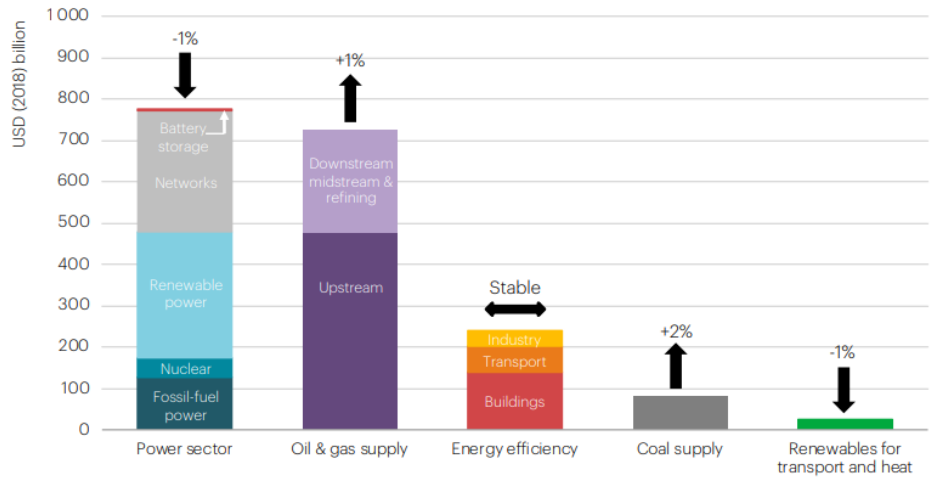
Figure 3: US Primary Energy Consumption (source EIA)



During October the International Energy Agency (IEA) published it 2019 review of World Energy Investment. Key slides and relevant commentary follows.

After three years of decline, global energy investment stabilized in 2018

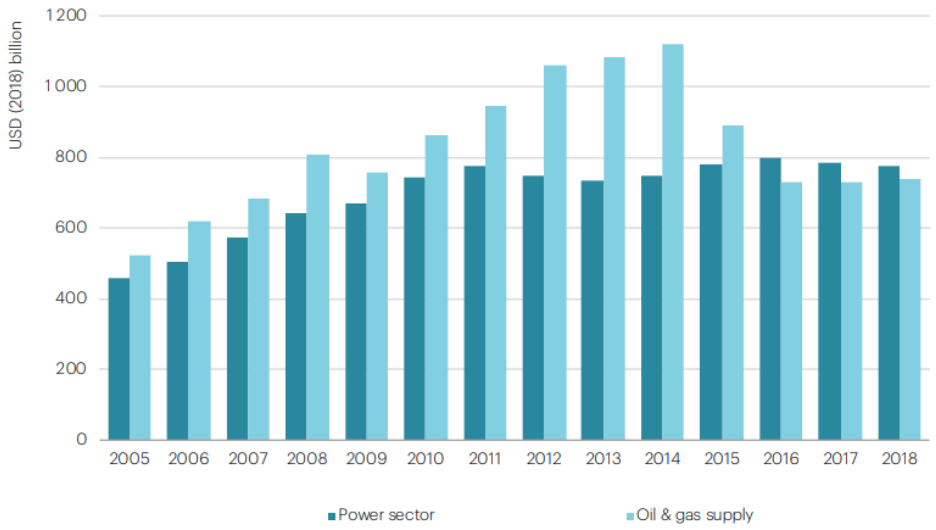
Global energy investment in 2018 and change compared to 2017



Note: Investment is measured as the ongoing capital spending in energy supply capacity and incremental spending on more efficient equipment and goods (in energy efficiency). The scope and methodology for tracking energy investments is found in the Annex of this report as well as at iea.org/media/publications/wei/WEI2019-Methodology-Annex.pdf. Renewables for transport and heat include biofuels for transport and solar thermal heating. Electricity networks include transmission and distribution.

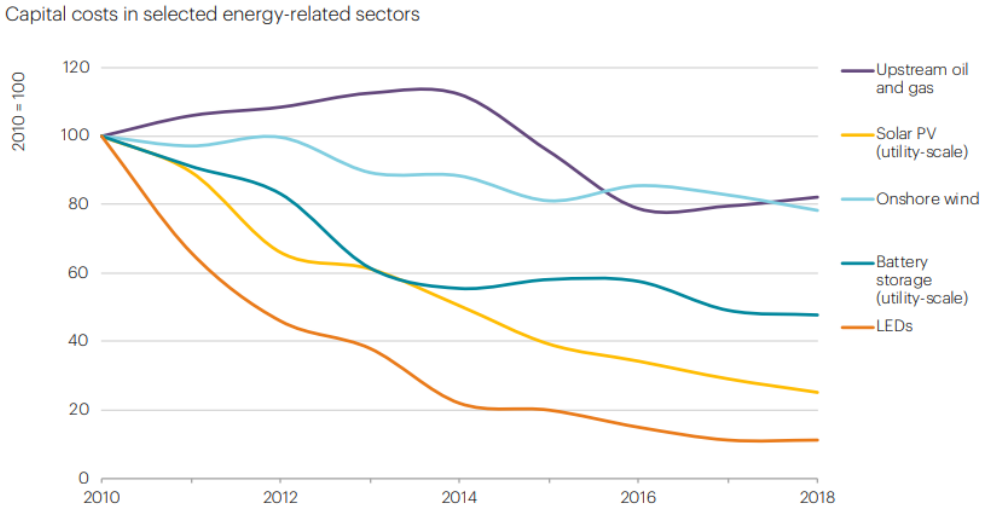
Despite a downtick, power was again the largest sector for investment

Global investment in the power sector compared with oil and gas supply

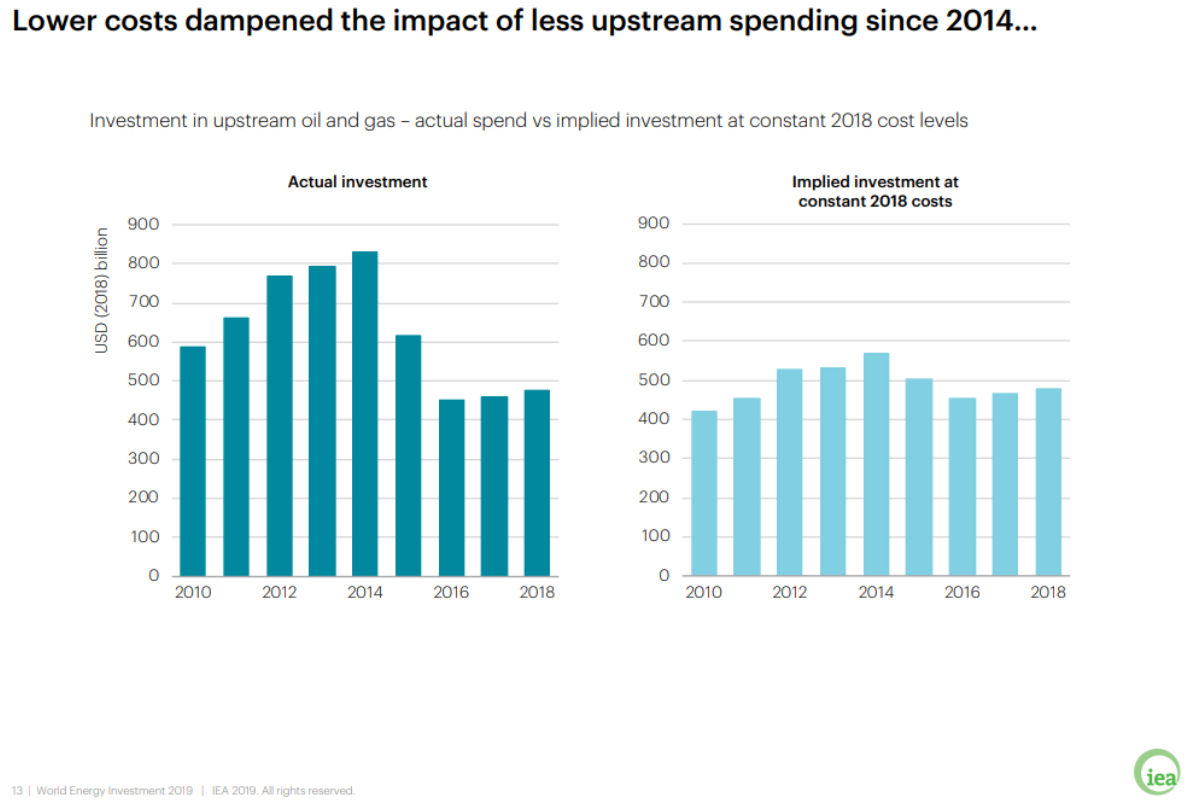


While there has been a material decline in gross investment in oil and gas supply (2018 investment approximately US$350b lower than peak in 2014), the fall in costs has reduced the impact of this lower pending. Applying 2018 costs across historic data reduces the net effective decline to under $100b from 2014 to 2018. This trend is also true of major renewable energy sources.

Changing costs have reshaped the investment landscape in some areas

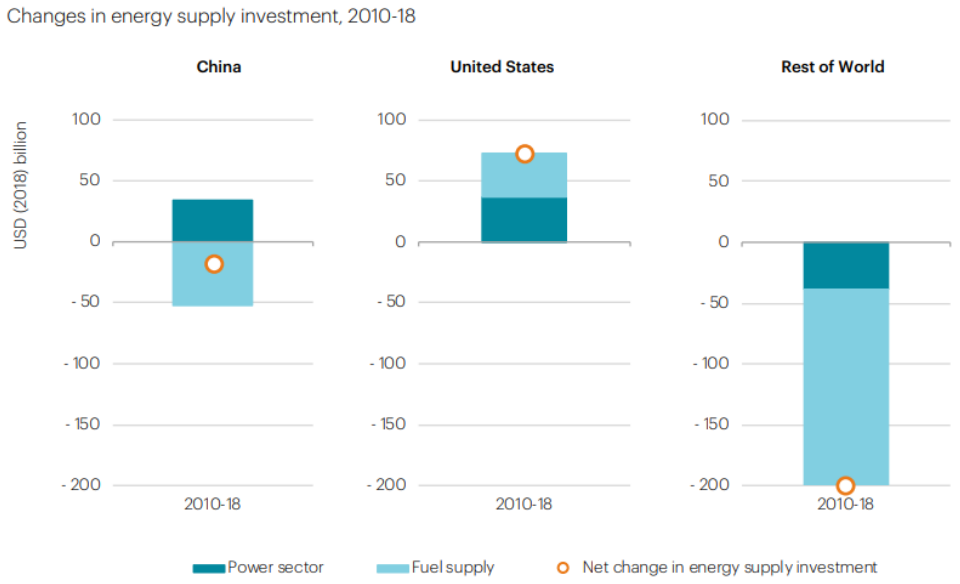


Note: LEDs = light-emitting diodes, PV = photovoltaic. Capital costs reflect global weighted average costs of components or commissioned projects in a given sector.
Source: IEA analysis with calculations for solar PV and wind costs based on IRENA (2019).

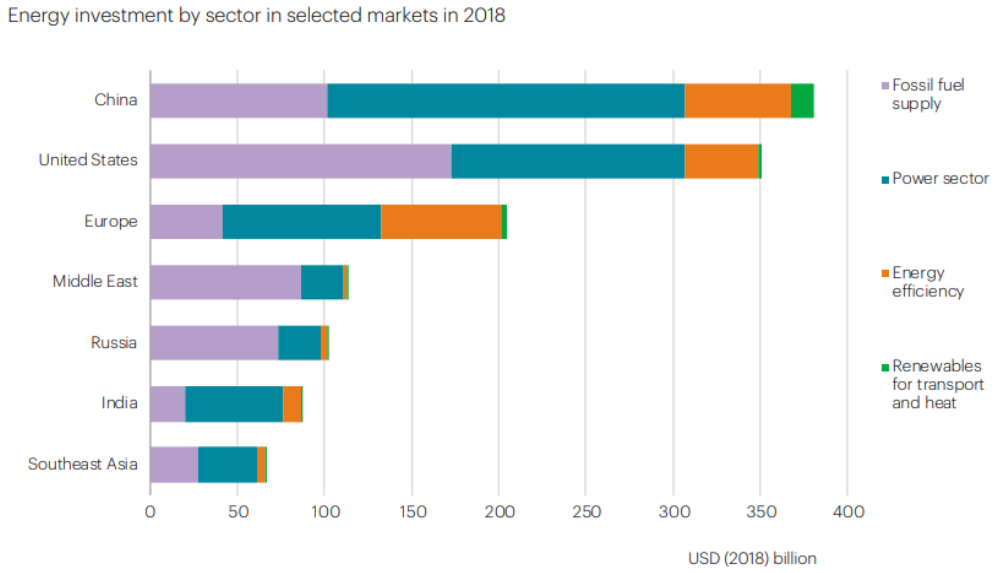


Highlighting the size of opportunity in the US upstream industry, the growth in energy supply investment is entirely driven by the United States. China is the largest global market for total energy investment. These data highlight market dislocation that is likely to result from any prolonged trade war between the US and China.

The United States accounted for most growth in energy supply investment this decade



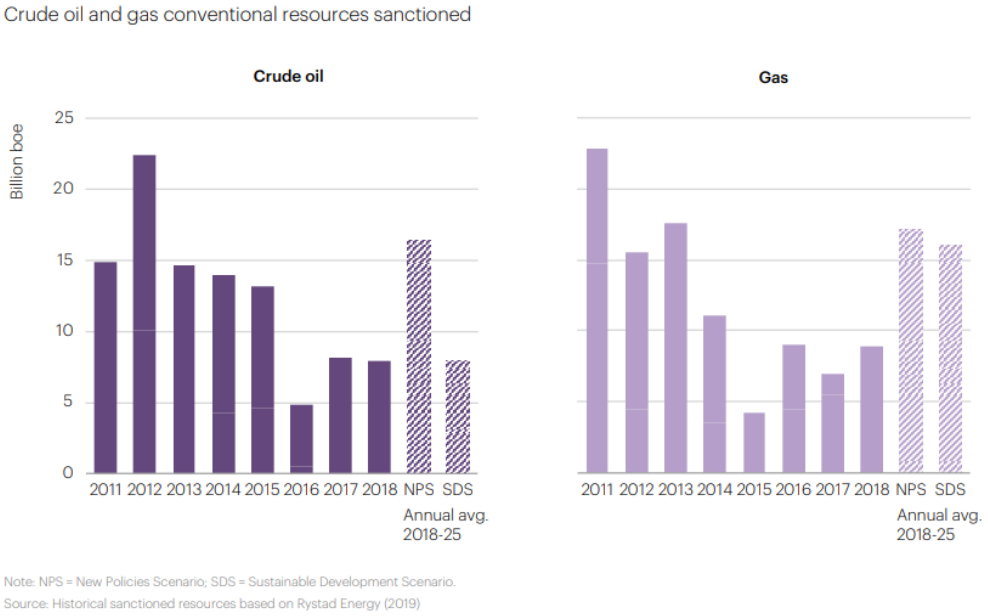
China remained the largest market for total energy investment in 2018



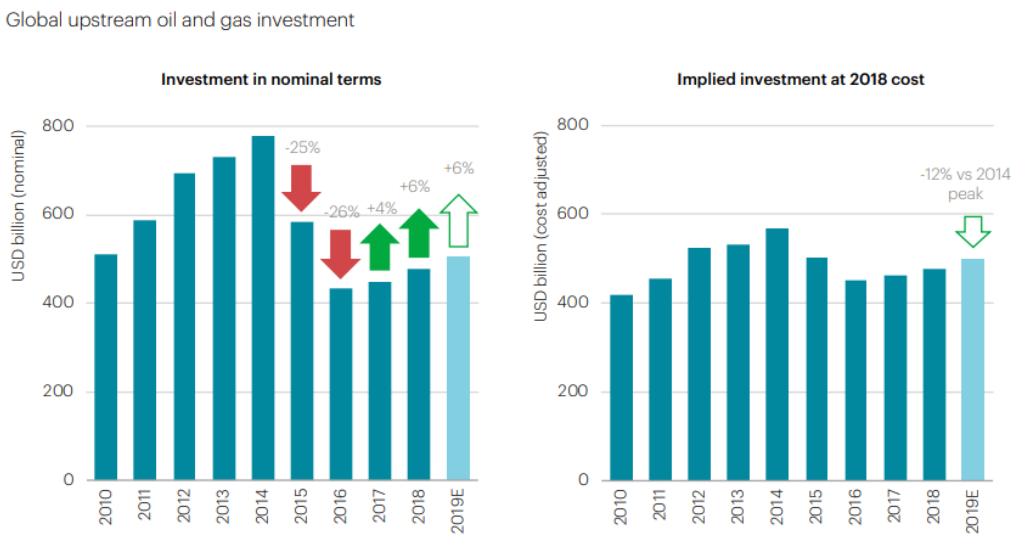
The IEA estimates that global upstream investment in 2019 will be US$505b, a 6% increase in nominal terms (4% real) on the previous year. As noted above, the 35% reduction in nominal spending from 2014 to 2018 turns into a much smaller 12% fall in activity when adjusted for declining upstream costs. Notwithstanding the benefits of lower prices, the IEA data highlight that current spending is insufficient to supply current forecast future market needs.

Over the last ten years the share of the United States in global upstream spending has risen from 17% to 24%. In 2019 this spending is projected to total US$121b.

Continued robust demand growth for oil and gas would require a sharp pick-up in approvals of new conventional upstream projects

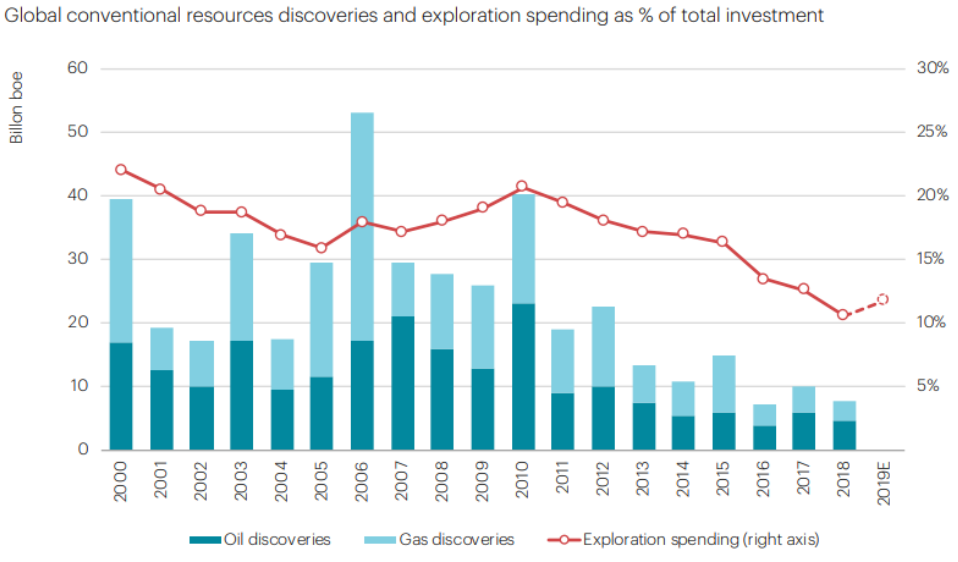


Upstream oil and gas investment is set for another modest rise in 2019



The reduction in upstream investment has been particularly marked in the exploration sector with both spending and discoveries at record lows. These data suggest that over the medium-term supply is likely to tighten relative to demand.

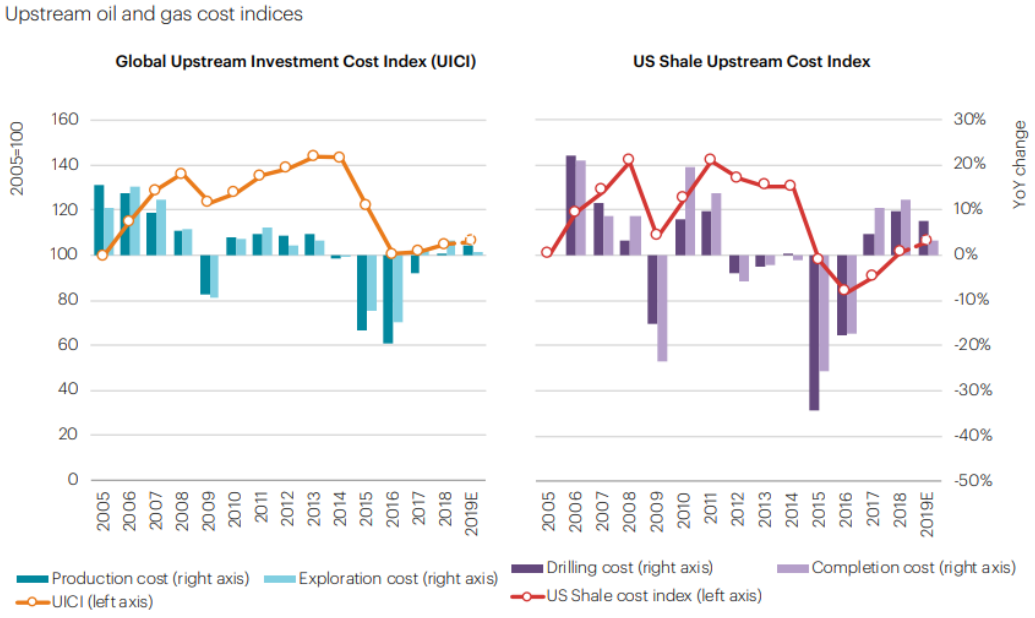
Discoveries are at record lows, but exploration may be turning a corner...



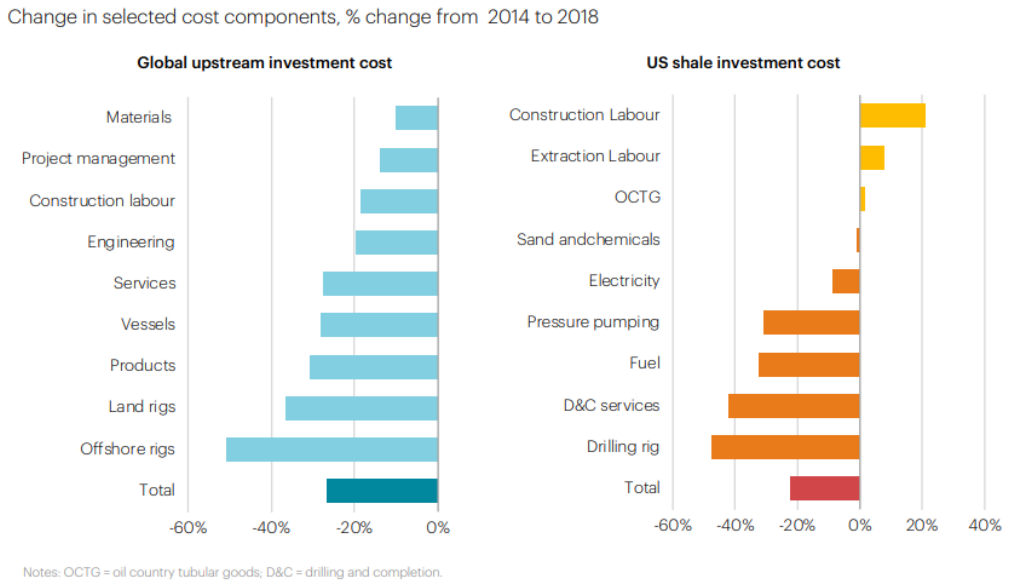
Source: IEA analysis with calculations based on Rystad Energy (2019).

Breakdown of the cost data shows that in the US labour costs are the only category in which costs are increasing. Sustaining this cost discipline will be important for industry profitability in the medium term.

Upstream costs have edged higher, but with few signs of overheating...

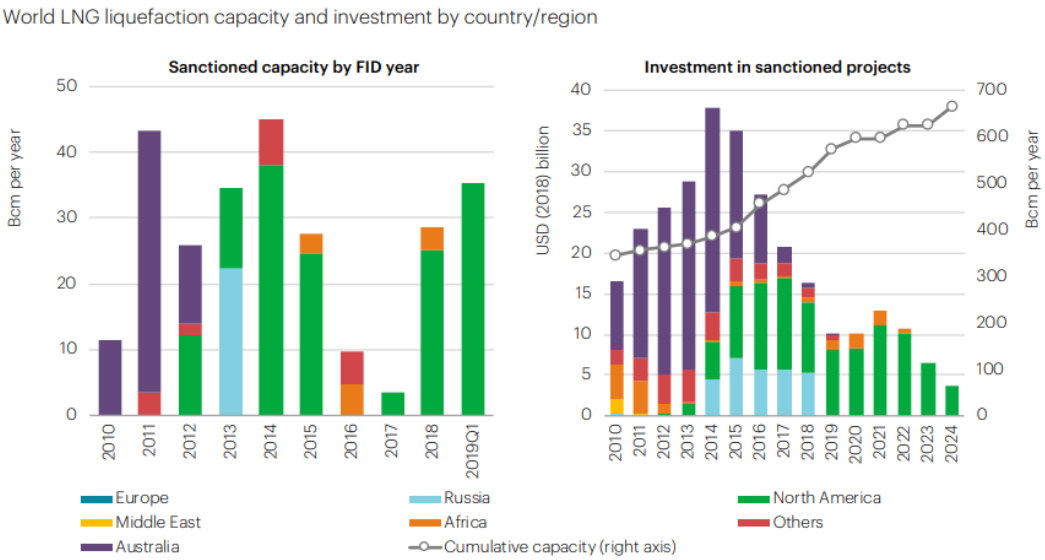


...with overall costs still more than 20% below the peaks reached in 2014

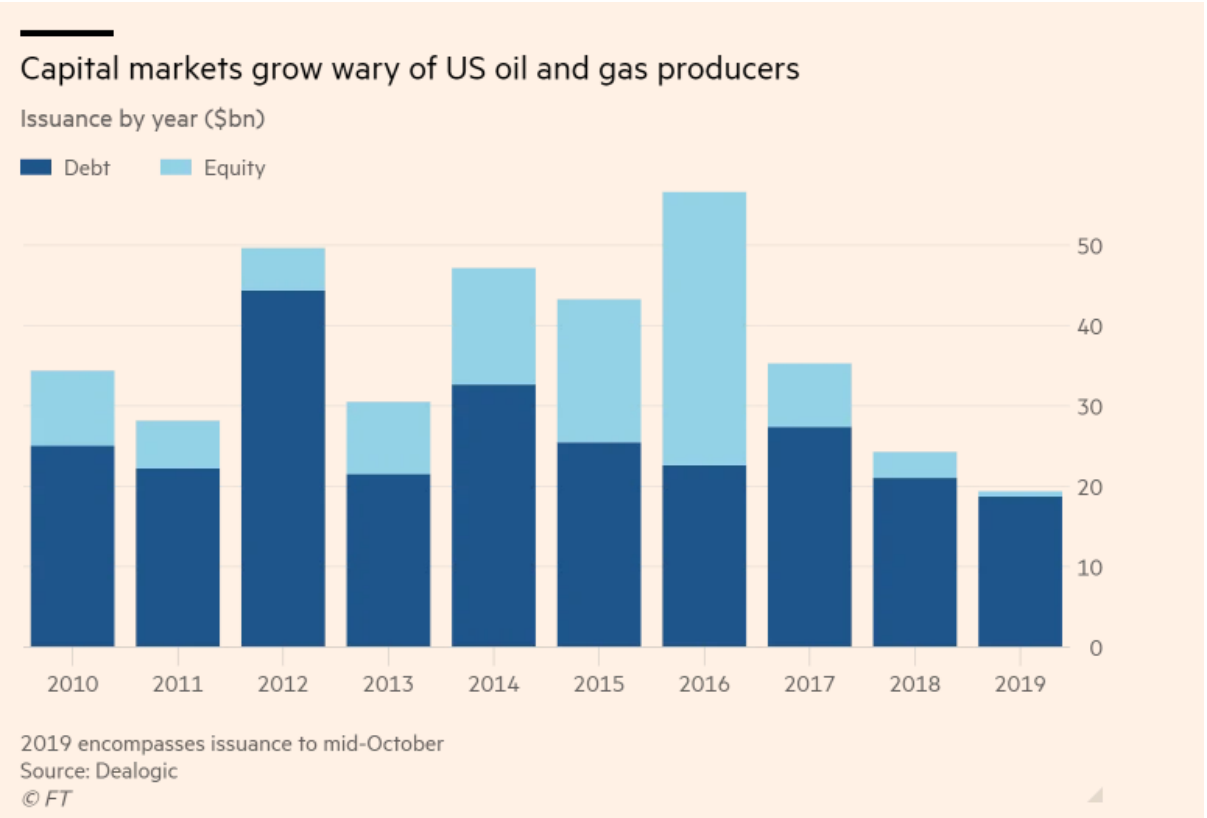


The final data extract shows the trends in LNG investment with current spending dominated by US export facilities.

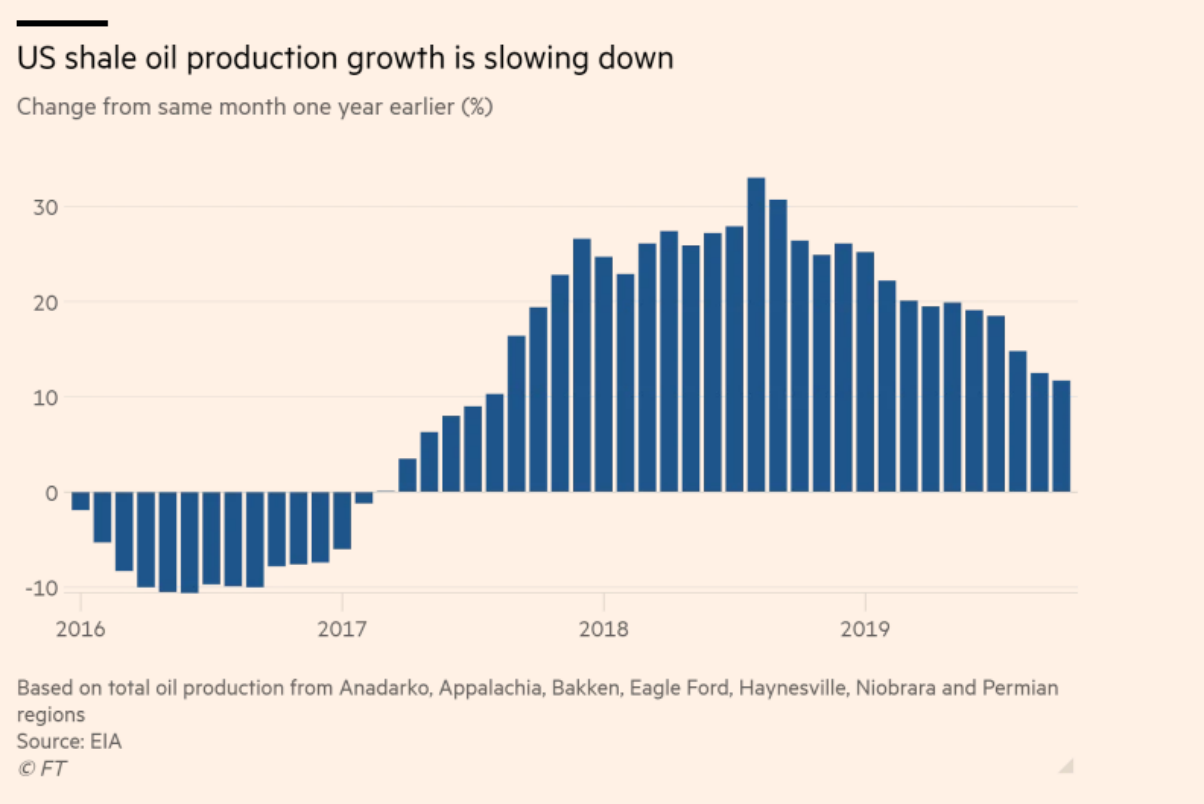
The logjam of new LNG project approvals has been broken...



Data reported by the Financial Times on 24 October shows that, spooked by lower oil and gas prices, both equity and bond investors are now shunning the smaller, independent shale producers that have driven US production growth. The decline in available capital has two significant benefits for the Longreach Energy Investment programme. Reduced spending means less supply which in turn will support increased prices and lower competition will provide more attractive investment opportunities.



The financial reckoning has been a long time coming. In the aftermath of the 2014-15 oil price crash, US oil and gas producers managed to raise $56.6bn from equity and debt capital markets in 2016, according to Dealogic. This year they have raised just $19.4bn, even though US oil production has grown by more than a third in the past three years.



Continued declines in the US rig count, as collated by Baker Hughes, evidence the reduction in capital supply.

As of 28 October, Baker Hughes reported 696 active oil rigs (down 14 from 4 October) and 133 active gas rigs (down 11 from 4 October). The Permian Basin now has 417 rigs running, down 72 Year-on-Year. Despite the fall in rigs production is still climbing. On Sunday 27 October the US produced 95.25bcf, the highest single day production ever.

As noted last month, while it will take time, lower rig counts will ultimately lead to lower production.

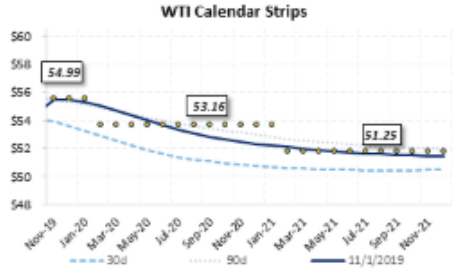
Gas Market

Gas prices were weak through the first few weeks of October due to mild weather. Late October saw strong price gains (11% increase from 27 to 29 October) on colder weather. Inter alia, Houston was forecast to have its coldest Halloween since 1925. LNG feed-gas demand also continued to grow, October saw average LNG demand over the month reach a record 6.7bcf/d while 26 October delivered a single-day demand record of 7.5bcf.

Oil Market

Oil prices were slightly up month-on-month.

Gas and Oil Prices 1 November 2019



Swap Pricing

	Bal 19	Cal 20	Cal 21	Cal 22
NYMEX WTI Crude	$ 54.99	$ 53.16	$ 51.25	$ 50.82
ICE Brent Crude	$ 59.92	$ 57.53	$ 56.32	$ 56.30
Louisiana Light Sweet	$ 58.12	$ 56.07	$ 54.02	$ 53.37
TM Midland Differential	$ 0.76	$ 0.83	$ 0.95	
NYMEX Natural Gas	$ 2.61	$ 2.48	$ 2.47	$ 2.51

Source: Bloomberg LP

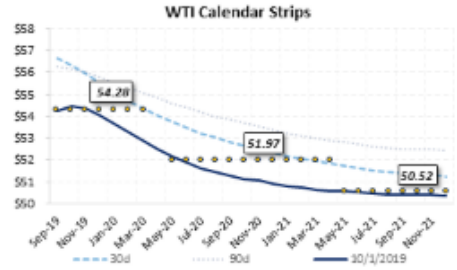
Note: Midland diff changed to TM computation Oct 1. All prices indicative only.

Natural Gas Basis

Location	Spot	Winter '19/'20	Summer '20	Winter '20/'21
Henry Hub Fixed	$2.73	$2.66	$2.38	$2.65
CIG	$ (0.24)	$ (0.43)	$ (0.67)	$ (0.45)
MichCon	$ (0.28)	$ (0.16)	$ (0.20)	$ (0.12)
TETCO M3	$ (0.85)	$ 2.39	$ (0.33)	$ 1.43
TETCO M2	$ (0.98)	$ (0.38)	$ (0.53)	$ (0.42)
Dominion S	$ (0.98)	$ (0.37)	$ (0.48)	$ (0.38)
Waha	$ (0.99)	$ (1.30)	$ (1.67)	$ (1.32)
NGPL-Midcon	$ (1.08)	$ (0.75)	$ (0.44)	$ (0.53)

All prices as of close yesterday

Gas and Oil Prices 1 October 2019



Swap Pricing

	Bal 19	Cal 20	Cal 21	Cal 22
NYMEX WTI Crude	$ 54.28	$ 51.97	$ 50.52	$ 50.48
ICE Brent Crude	$ 59.06	$ 57.13	$ 56.12	$ 56.24
Louisiana Light Sweet	$ 57.38	$ 54.79	$ 53.15	$ 53.28
TM Midland Differential	$ 0.57	$ 0.65	$ 0.70	
NYMEX Natural Gas	$ 2.41	$ 2.41	$ 2.44	$ 2.49

Source: Bloomberg LP

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

Natural Gas Basis

Location	Spot	Summer '19	Winter '19/'20	Summer '20
Henry Hub Fixed	$2.37	$ 2.43	$ 2.51	$ 2.32
MichCon	$ (0.58)	$ (0.49)	$ (0.15)	$ (0.23)
TETCO M3	$ (0.72)	$ (0.97)	$ 1.64	$ (0.37)
Dominion S	$ (0.76)	$ (1.07)	$ (0.40)	$ (0.49)
TETCO M2	$ (0.77)	$ (1.10)	$ (0.41)	$ (0.54)
CIG	$ (0.85)	$ (0.74)	$ (0.46)	$ (0.68)
NGPL-Midcon	$ (0.90)	$ (0.75)	$ (0.44)	$ (0.51)
Waha	$ (1.18)	$ (0.83)	$ (0.99)	$ (1.48)

All prices as of close yesterday