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Global Commodities

An update on the oil market

Global oil market

Investors that receive our monthly reports will know that we have been relatively cautious on the crude complex over the last few months. However, despite our near-term caution we did not expect crude oil prices to fall by this much – and this quickly – in such a short period of time.

In fact, the recent ~25% fall in crude oil and gasoline in recent weeks is the sharpest sell off in over 10 years.

We expect the supply response to lead to a very strong recovery in 2019.

Our cautious stance stemmed from a) building gasoline inventories, b) increasing broader market volatility, c) October/November being a high period of refinery maintenance and d) the lack of pipe capacity putting pressure on North American crude hubs.

As far as we can tell, the recent sell-off in crude has occurred due to:

1. Concerns over excess oil supply in 2019 (which we think are over-blown for 2019).
2. Concerns over oil demand collapsing in 2019. We think demand will soften in 2019, but will still grow at healthy rates.
3. A concern that North America will flood the oil market in 2019 with too much supply – regional hub pricing discounts have significantly reduced this risk in our opinion.
4. A broader cross-asset sell-off, as growth concerns continue to build. Matched at the same time with a significant unwind in NYMEX net non-commercial length – this is the largest and quickest unwind of non-commercial positions ever and the market is much cleaner now without this positioning overhang.

In summary:

- We do not expect demand to collapse in 2019.
- We think the IEA and OPEC estimates for demand are now too low for 2019. China and India oil demand could surprise on the upside.
- We do not expect North America to flood the market with oil in 2019.
- Crude oil inventories are not excessive – we expect them to rise over the next few months and then draw in Q2 and Q3 next year.
- Total oil and product inventories are normal for this time of the year.
- Record low oil pricing at hubs in North America (Hardisty, Clearbrook and Midland) should lead to reduced volumes.
- Iran volumes will still fall to 3.2 million barrels per day (mb/day) in 2019. Even with the waivers being applied (which enable some nations to keep importing Iranian oil without conflicting with US sanctions).

2019 global oil demand

Despite what many investors think, oil demand is relatively resilient, even in the event of an economic slowdown. To put into context our forecast for 2019 oil demand, it is important to note that oil demand in 2018 grew at roughly 1.45Mb/day. We are

conservatively forecasting demand growth of closer to 1.25Mb/day in 2019. This growth comes almost entirely from non-OECD demand, with OECD demand expected to be roughly flat in 2019.

OPEC and the IEA (after the fall in oil prices) have started to downgrade demand assumptions for 2019, driven by concern for generally weaker global GDP growth. However, we have not yet seen demand weakness coming through in the reported numbers, with recent data showing record high Chinese refinery demand and a recovery in Indian oil demand to record high imports.

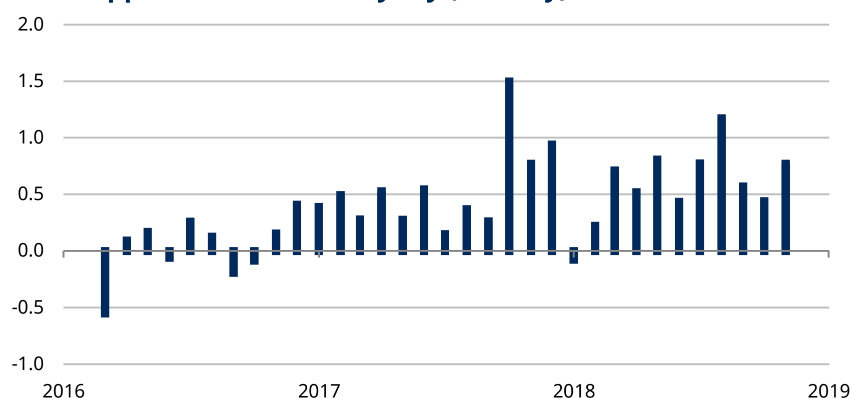
We do expect the EM currency weakness to weigh on oil demand a bit, but this negative impact will be more muted now that oil prices are at lower levels.

We also think that OPEC and IEA are underestimating demand growth from China. Our view differs from theirs because we believe Chinese oil demand growth will be driven mainly by vehicle usage trends, as opposed to industrial activity or economic growth. Personal mobility (both in terms of domestic driving and international travel) continues to increase, and this means the average Chinese person is starting to use more gasoline and kerosene.

NOTE: China's gasoline demand increased 400kbl/day y-o-y in October and overall oil demand was up 750kbl/day (see below).

While the IEA and OPEC think that oil demand in China will grow by 300k-350kbl/day in 2019, we still think it will be closer to 500k/day in 2019. That said, we assume 400k/day in our forecast, just to be conservative.

China apparent oil demand y-o-y (mb/day)



Source: Morgan Stanley – December 2018.

Non-OPEC oil supply (ex North American onshore)

Before we discuss North American supply growth, we should highlight the limited pipeline of offshore projects in 2019. Focusing on all the projects there is very little new supply coming onto the market.

Field Name	Country	Size
Buzios 3	Brazil	180
Appomattox (inc. Vicksburg)	US	175
Berbigao/Sururu	Brazil	150
Lula North	Brazil	150
Buzios 4	Brazil	150
Karachaganak Expansion	Kazakhstan	60
Mariner	UK	55
Amoca	Mexico	40
Oda	Norway	35
Buckskin	US	30
Small projects (<20kbl/d)		214
Total capacity (kb/day)		**1239**

Source: Energy Aspects/Schroders – December 2018.

We met with two major oil companies in November 2018. Both management teams continued to emphasise their desire to maintain capital discipline and not to increase their capex ceilings for 2019, while focusing on free cash generation. The recent declines in oil prices have already had a negative impact on their capital spending plans for 2019 and we strongly believe that these recent moves encourage capital discipline to extend well into 2020.

Consequently we believe supply from the offshore will continue to flat line or even decrease, particularly as decline rates start to come through in the major's production numbers. From our recent meeting with the CFO of Royal Dutch Shell we heard that they are now spending around 30% of capex on tie-back projects, this is quite typical of the majors currently. While tie-back projects can extend production plateaus and mask decline rates for a time, it is not an indefinite solution.

It is also worth noting that a large portion of the new projects expected to come online this year are in Brazil (0.65mb/day of the 1.24mb/day total). This year many of the Brazilian projects have experienced delays and it is plausible this will happen again in 2019. Assuming a 4% decline rates on the 2018 average of 36.6mb/day, then this segment needs to offset 1.45mb/day of declines in 2019. These new projects, highlighted in the table, are not enough to offset declines in 2019.

North American onshore supply

North American onshore oil supply growth will be close to 2.2mb/day in 2018, this has resulted in journalists and some "expert" oil analysts to be forecasting a similar amount of North American supply growth in 2019. We completely disagree with these "forecasts", we think it will be closer to 1.2mb/day.

To be clear, oil supply growth from North America is a tale of two halves, given the timings of pipeline start-ups that will help defuse the bottleneck in key basins such as the Permian and the Bakken (the table has a full up to date list of pipeline capacities and timings).

Key US onshore crude pipeline capacity (2018-2019)

Operator	Pipeline	Proposed start (latest update)	Proposed capacity (latest update)
Enterprise	Midland to Sealy	Q1 18	100
Magella	Bridge Tex Expansion	Q2 18	80
Enterprise	Midland to Sealy	Q2 18	100
Sunoco	Permian Express 3	Q4 18	50
Plains	Sunrise Expansion	Q4 18	220
Magellan	Bridge Tex Expansion	Q1 19	40
TexStar	EPIC NGL Conversion	Q2 19	440
Sunoco	Permian Express 3	Q2 19	120
Plains	Cactus II	Q3 19	670
TexStar	Epic	Q4 19	550
P66/Enbridge	Gray Oak	Q4 19	700
Enterprise	NGL Conversion	Q3 20	250
ETP	Permian to Nederland	2020	600
Exxon	Midland to Beaumont	2021	1000

Source: TPH; Schroders – December 2018.

Note: the red box in the table highlights the most important capacity starting up. It is important to note that the Q2 pipe start-ups are expected at the end of the quarter, likewise with the Q3 pipelines. This limits the production growth in H1 (we are assuming 0.6mb/day of growth between Q4 2018 and Q2 2019 and we are then assuming growth of a further 1.1mb/day between Q2 2019 and Q4 2019…this could prove optimistic.

The reason we think that this could prove optimistic is because of in-basin pricing. At the end of the month, Western Canada Select (Hardisty) was trading $22/bl after trading as low as $13/bl during the month. These low prices have forced the Alberta government into drastic action…and for the first time in history (due to low prices) they have mandated forced production cuts of 325kb/day (9% of total output), effective from 1 January 2019.

The cuts will also be in place for at least 3-6 months and will be reviewed when;

1. Western Canadian crude storage levels have declined to more normal levels (that's a decline of 16m barrels);
2. On a go-forward basis, Est Canadian Select (WCS) supply and demand appear to sit in relative balance - production matches the three core demand factors (domestic refining through pipeline export capacity and crude by rail loadings).

With this announcement, our 1.2mb/day of North America supply growth doesn't look so ridiculous. If anything our North American supply forecast could prove too optimistic.

The US exploration and production companies are currently planning their capital budgets and setting their oil price assumptions for 2019. We believe production expectations will start to come down as the US E&Ps release their guidance in February/March at a lower crude deck, and, in all likelihood, with a reiterated desire to live within operational cash flows.

This capital discipline will be exacerbated by the low level of hedging for 2019 among the smaller E&Ps, which means their cash flow from operations is less assured. Given commodity risk and given the Bakken (Clearbrook) and Permian (Midland) hubs are currently pricing oil at $40.20/bl and $48/bl respectively, we expect drilling programs to be scaled back in order to protect the balance sheet.

OPEC supply

Despite the recently reported increase of production to 33.3mb/day (which assumes Saudi production at a record 11mb/day and assumes Iran only reducing production by 0.4mb/day since the implementation of sanctions), OPEC will likely average 32.6mb/day of production in 2018.

For what it is worth, we think the current Iran volumes are being overstated. Over the next few months, we expect the OPEC reports to show a further fall in Iranian production of at least 300k/day as its key customers move purchasing in line with the new waivers.

Theoretical reduction in Iran exports with new waivers (kb/day)

Export market	Major importers of Iranian crude (kb/day)	Sanction waivers (kb/day)	Decline in Iranian imports after waivers (kb/day)
South Korea	300	200	-100
Japan	160	TBC	-160
India	560	300	-260
China	658	360	-298
Taiwan	16	TBC	-16
Total	**1924**	**920**	**-1004**

Source: Bloomberg – December 2018.

With this assumption, in order to keep things simple, we have assumed that OPEC production is flat year-on-year in 2019 at 32.6mb/day.

Given we are forecasting an inventory build in Q1 2019, we fully expect OPEC to announce a coordinated cut in production at their meeting on the 6 December. We cannot be sure of this, but if they cut production by 1mb/day (to a formal target of 32Mb/day), we think this will result in the market over tightening in 2019.

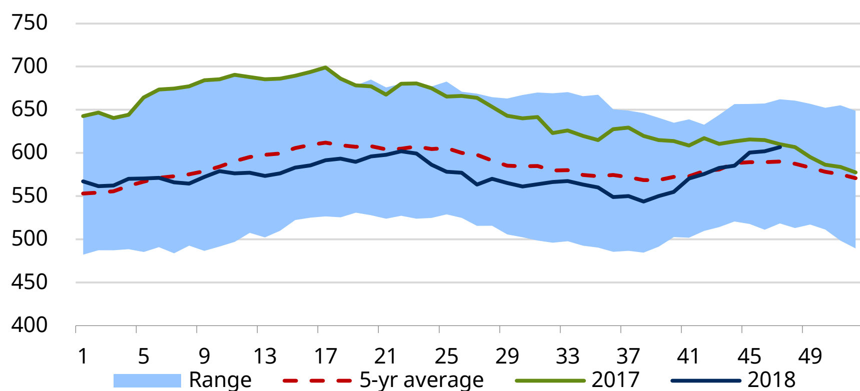
Even with our assumption of OPEC producing 32.6mb/day in 2019, we forecast the market will draw down inventories in Q2 and Q3 2019 (by around 0.5mb/day), barring a demand collapse, we think this destocking is unavoidable.

Inventories

It never ceases to amaze us how quickly, the "expert oil analysts" – so bullish on oil prices at $85/bl - become so bearish on oil prices at $55/bl. Some of these analysts are now saying "this is just like 2015" and "we have too much oil". We disagree, and believe investors have to put the current inventory levels into context.

Firstly, if we look at oil inventories then yes, we are building oil inventories here. We have oil inventories slightly above normal and we fully expect this to continue into Q1 2019, to the point where we do not expect to see an excess build-up of 200 million barrels above normal (which is what we had in 2015) from current levels.

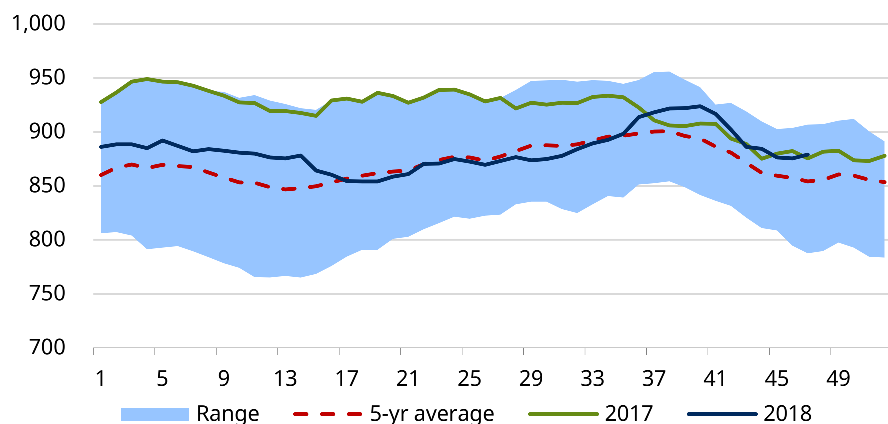
Global crude oil inventories (mbls)



Source: Morgan Stanley – December 2018.

Secondly, if we look at product inventories, Q4 is typically a soft period for crude demand due to refineries undergoing their annual maintenance programmes. This results in crude demand being seasonally low, but it also means that refined product inventories go through a draw-down period.

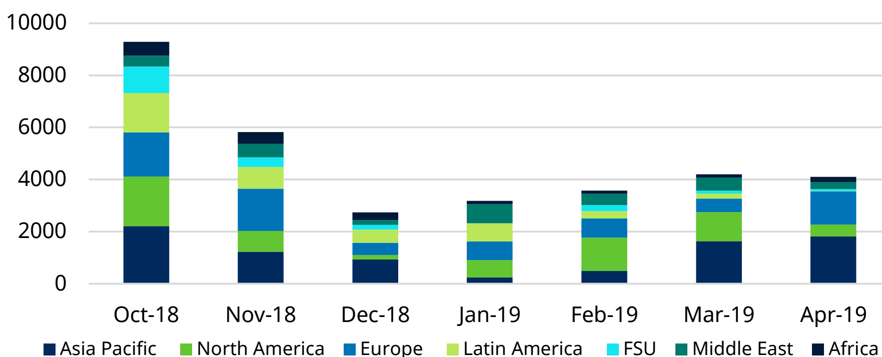
Global refined product inventories (mbls)



Source: Morgan Stanley – December 2018.

In October alone, around 9.3Mb/day of refineries were off line and in November around 5.8Mb/day of refineries were offline. This means that global oil demand dropped to around 9% below average in October and around 6% below average in November.

Global CDU (refinery) outages (mb/day)



Source: Energy Aspects – December 2018.

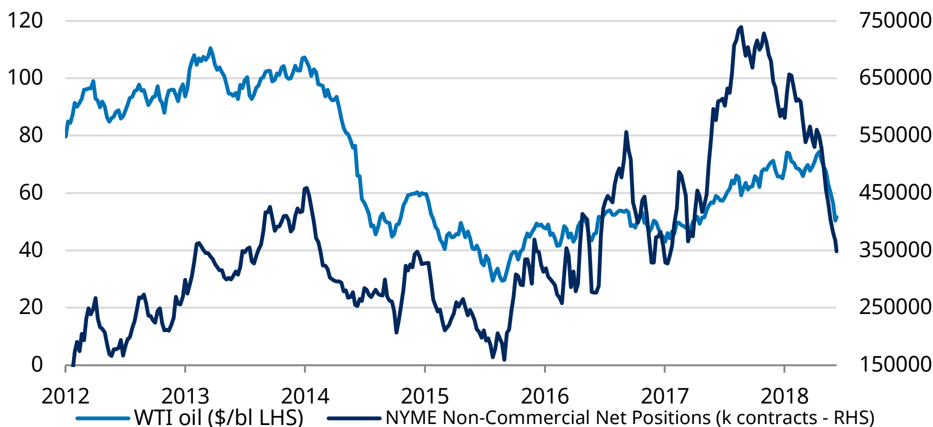
This has had a direct impact on product inventories, and as we look forward to the next few months - as refineries come out of this heavy maintenance period in line with normal seasonality – we would expect refineries to increase their crude oil inputs.

Speculative positioning

We would not normally write about speculative positions, but given the paper market is almost 20x the size of the physical market, the influence on prices cannot be ignored.

The recent unwind in CFTC NYME net non-commercial positions has been the fastest and largest unwind in this market since records began. As a result, we think this unwind has led to WTI oil prices becoming oversold vs fundamentals. From here, we see the speculative positioning as "very clean". At 348k of net contract length, this is not the lowest net position over the last four years, but close to it. From here, we therefore feel the market is cleaner and poses less of a head-wind for strengthening fundamentals.

WTI crude vs NYME net non-commercial positions



Source: Bloomberg – December 2018.

Conclusion and outlook for oil in 2019

Putting all these assumptions together, it is hard for us to be bearish on crude at current prices and we believe that current weakness in regional crude prices (to as low as $13/bl in Canada), will force further capital cuts, production cuts and ultimately lead to crude oil inventories declining in Q2 and Q3 OF 2019.

2019 oil market supply and demand forecasts

	Q1-18A	Q2-18A	Q3-18A	Q4-18F	Q1-19F	Q2-19F	Q3-19F	Q4-19F	2018	2019	YoY change 2018	YoY change 2019
Demand	**98.30**	**98.90**	**100.50**	**99.80**	**99.50**	**100.90**	**101.20**	**100.90**	**99.38**	**100.63**	**1.43**	**1.25**
OECD Demand	47.70	46.90	47.90	47.40	47.40	47.40	47.60	47.50	47.48	47.48	0.40	0.00
Non-OECD Demand	50.60	52.00	52.60	52.40	52.10	53.50	53.60	53.40	51.90	53.15	1.03	1.25
Non-OPEC Supply	**58.80**	**59.70**	**61.10**	**60.10**	**60.10**	**60.90**	**61.40**	**61.90**	**59.93**	**61.08**	**2.13**	**1.15**
Non-OPEC excluding North America	36.20	36.70	37.00	36.60	36.40	36.80	36.70	36.70	36.63	36.65	-0.05	0.02
North America	22.60	23.00	24.10	23.50	23.70	24.10	24.70	25.20	23.30	24.43	2.18	1.13
OPEC NGL's/condensates	7.10	7.20	6.40	7.00	7.00	7.00	6.80	6.80	6.93	6.90	-0.05	-0.03
Call on OPEC crude	32.40	32.00	33.00	32.70	32.40	33.00	33.00	32.20	32.53	32.65	-0.63	0.13
Actual OPEC	32.50	32.20	32.60	33.00	32.70	32.50	32.50	32.50	32.58	32.55	0.08	-0.03
Stockbuild	0.10	0.20	-0.40	0.30	0.30	-0.50	-0.50	0.30	0.05	-0.10	0.70	-0.15

Source: Energy Aspects and Schroders Estimates – December 2018.

Our quarterly forecasts for 2019 are illustrated in the table above. We would stress that we are assuming:

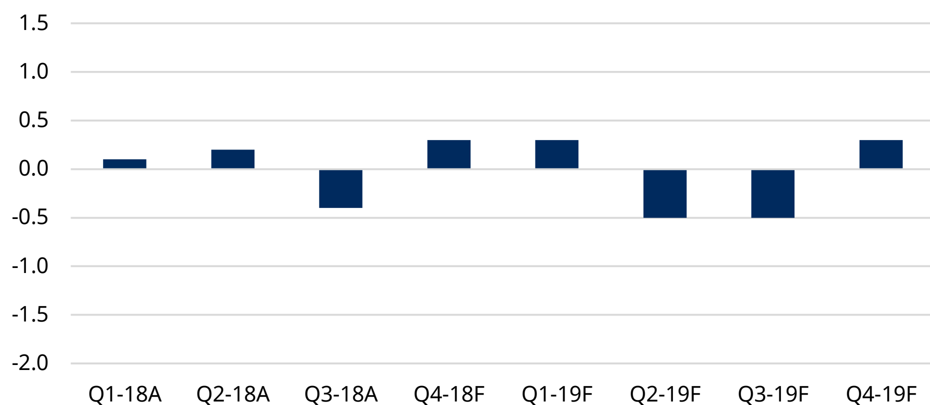
a) Demand of just 1.25Mb/day. At this point in time this looks conservative.

b) That non-OPEC oil production (ex-North America) is flat year-on-year for 2019. If Russia join OPEC and cut production, this could prove to be too high.

c) North American production growth or 1.1Mb/day. With current regional pricing of less than $20/bl in Canada and less than $45/bl in the key shale basins coupled with the Alberta governments' decision to shut in production, we think this estimate has downside risk.

d) OPEC production is expected to moderate back to 32.5Mb/day from Q2 2019 onwards. This assumes no further outages from more unstable producers (such as Mexico and Venezuela).

Quarterly changes in global oil inventories (mb/day)



Source: Energy Aspects and Schroders Estimates – December 2018.

Our oil price outlook and the risks

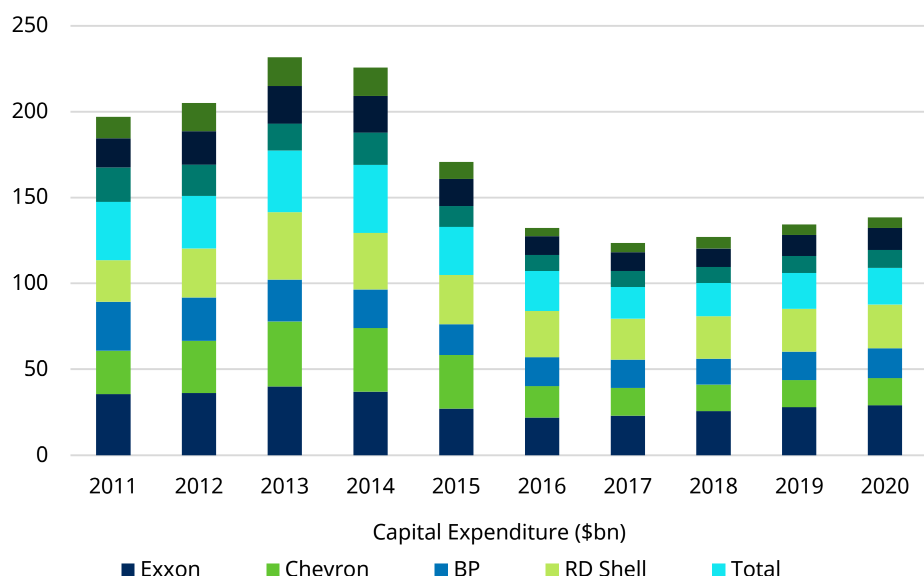
We are forecasting that oil prices recover over the next 6-9 months as the full extent of the destocking is felt mid-year. Based on our estimates, we still see incentive pricing for oil at around $75/bl for Brent and we still do not expect to see a pick-up in offshore sanctions until these prices are sustained.

Focusing on the big international oil companies (IOC) as a good proxy for non-OPEC investment trends, we would stress that IOC capital expenditure is down 40% from their 2011 to 2014 peak run rate. We accept that oilfield service cost deflation has had an impact, but activity levels have been cut back considerably.

On our estimates, current investment rates in their upstream divisions is only enough to replace 65-70% of production. We think Brent oil prices of at least $75/bl would provide enough cash flow to increase their return on invested capital back above 10% (after tax) and would result in investment rates increasing by around 20-25%.

Until we see this pick up in investment rates, we think the risks to supply are to the downside for 2020 and beyond.

Major IOC capital expenditure ($bln)



Source: Company data and Schroders estimates.

Mark Lacey – December 2018.

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