Equity Research

Oil market report

	Sector Comment	Oil	Global	16 January 2019

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OPEC+ in control with help from prices

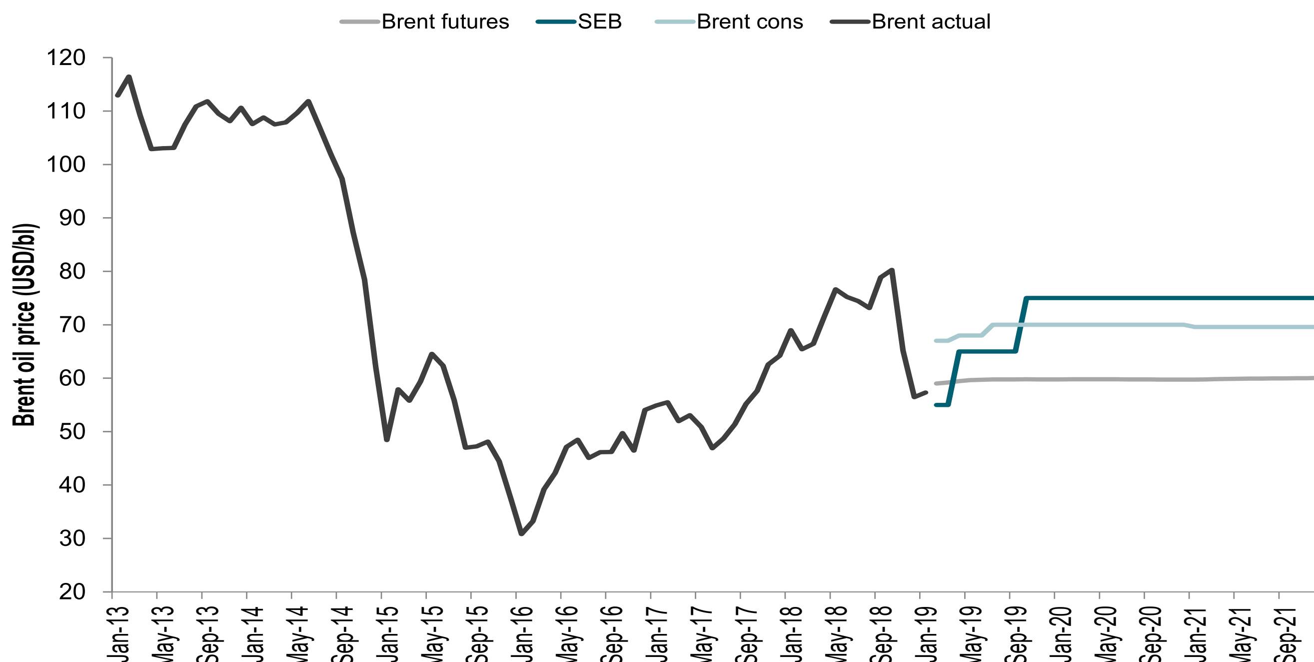
Gloom and doom hang over the oil market as fears about global economic growth and booming US shale oil production have led to a synchronized sell-off in both oil and equities. Production cuts by OPEC+ together with lower prices will in our view be enough to balance the market thus avoiding a strong rise in inventories. After updating our supply/demand model, our new Brent crude forecast is USD 65/bl in 2019 and USD 75/bl in 2020 and 2021.

OPEC+ blasted production in H2 2018, crashed oil prices but is now cutting
We expect OPEC+ to deliver on its pledged cuts of 1.2m bl/d in H1 2019 with further cuts thereafter if needed. Many of the pledged cutters produced close to record high levels in the later part of 2018 making it easy for them to cut a little. Declining call-on-OPEC is wrongly sending an overly bearish signal to the oil market. Rapidly declining production in Iran and Venezuela will require Saudi Arabia (and others) to produce close to record levels over the next two years.

US shale production to grow at a slower pace along with lower oil prices
We expect that the more than 30% decline in oil prices since October 2018 together with tighter access to credit will lead to a significant reduction in the monthly rate of shale oil well completions. This is further supported by recent comments and budgets from shale companies. We expect US production growth to slow from 1.5m bl/d in 2018 to 1.2m bl/d in 2019 and 1m bl/d in 2020.

OECD inventories probably ended 2018 close to where they started
The overall global oil inventory situation is not so different from a year ago. In the US the commercial oil inventories moved up 35.7m bl from a year ago (+2.9%) though they are up 74m bl from their April low last year. The big change is that inventories were in decline last year while this year they have been on a rising trend since mid-2018. The magnitude of the cuts by OPEC+ seems to be designed to stabilize inventories rather than to draw them down. We thus expect inventories to remain fairly stable for the next two years.

Brent oil price and estimates (USD/bl)



Source: SEB, Bloomberg

Balancing at a lower price

We have updated our supply-demand model for oil and the main points are:

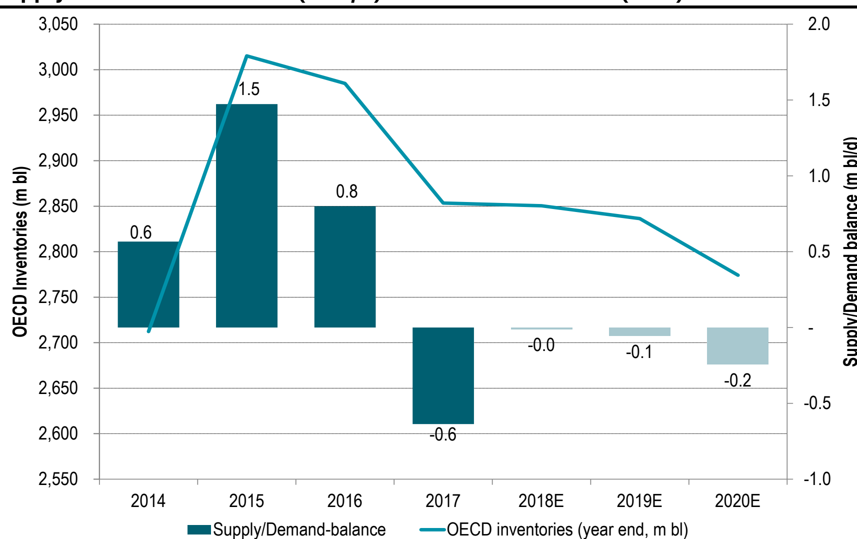
- **Demand: Softer base and slower pace.** We have adjusted our demand growth forecast down from a robust 1.6% per year to a more normal 1.4% per year for the coming two years. This results in demand growth of 1.4m bl/d for 2019 and 2020, down 0.4m bl/d and 0.7m bl/d respectively (also due to 2018 base effects).
- **OPEC+: Middle-way cuts.** Pledged production cuts of 1.2m bl/d by OPEC+ will prevent inventories from rising further but will not drive them significantly lower. Cuts will likely be extended if needed.
- **US Shale**: **Lower prices and softer growth.** A more than 30% decline in crude oil prices since October 2018 together with tighter access to credit and increasing focus on profits and positive cash flow will in our view lead to a decline in the monthly well completion rate and thus softer supply growth (from 1.5m bl/d in 2018 to 1.2m bl/d in 2019 and 1m bl/d in 2020).
- **S/D-balance and spare capacity:** Production cuts by OPEC+ together with lower prices leads us to a balanced market where softer demand is balanced by lower supply and weaker supply growth and with a slight inventory draw in 2020. Call-on-OPEC is falling, but call-on-Saudi is strong and we expect the country to produce close to a record high in the next two years.
- **Risks in many directions. Global growth currently holds centre stage**. Supply risks are still significant: Iran, Venezuela, Libya and Nigeria. New sulphur regulations in 2020 for global shipping is also a bullish uncertainty.

New and old Brent oil price forecast (USD/bl)

Oil price (USD/bl)	2018E	2019E	2020E	2021E
New	**73**	**65**	**75**	**75**
Old	75	85	85	
Change	*-2*	*-20*	*-10*	

Source: SEB

Supply and demand balance (m bl/d) and OECD inventories (m bl)



Source: SEB

Oil market balance

OPEC+ is cutting production thus doing a partial job of balancing the oil market. Lower oil prices are however also significantly helping to balance the market by bolstering demand while also leading to softer production growth from US shale.

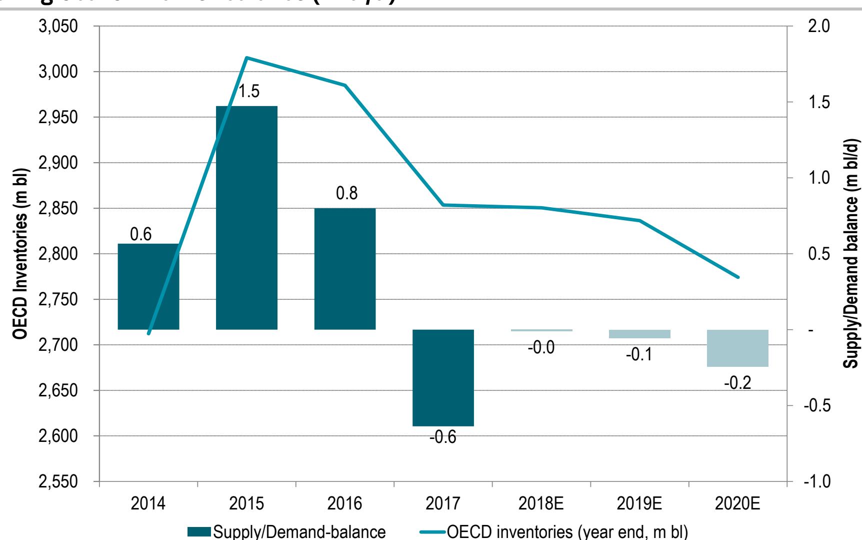
SEB's supply-demand balance in million bl/d

	2013	2014	2015	2016	2017	2018	2019E	2020E
Demand								
OECD	46.1	45.8	46.5	47.0	47.4	47.8	47.9	48.0
US	19.0	19.1	19.5	19.7	20.0	20.5	20.8	21.1
Europe	14.3	14.2	14.5	14.7	15.0	15.1	15.3	15.5
Non-OECD	45.6	47.3	48.7	49.4	50.5	51.4	52.6	53.9
China	10.3	10.8	11.6	12.0	12.6	13.1	13.6	14.0
TOTAL DEMAND	**91.7**	**93.1**	**95.2**	**96.4**	**97.9**	**99.2**	**100.6**	**101.9**
Growth (%)		1.5%	2.2%	1.3%	1.6%	1.3%	1.4%	1.4%
Supply								
OPEC	30.8	30.7	32.1	33.0	32.6	32.3	31.8	31.9
OPEC NGL	6.2	6.4	6.5	6.8	6.9	7.0	7.0	7.1
Non-OPEC cutters	17.1	17.1	17.3	17.5	17.3	17.4	17.4	17.5
Non-OPEC non-cutters ex US	23.0	23.4	23.5	22.8	22.5	22.3	22.2	22.1
US crude	7.5	8.7	9.4	8.9	9.4	10.9	12.1	13.1
US NGL	2.6	3.0	3.3	3.5	3.7	4.4	5.0	5.4
Global biofuels and refinery gains	4.3	4.4	4.5	4.7	4.8	4.9	5.0	5.1
IMO-2020: Stranded high sulphur bunker oil								-0.5
TOTAL SUPPLY	**91.5**	**93.7**	**96.7**	**97.2**	**97.3**	**99.2**	**100.5**	**102.2**
Growth (%)		2.4%	3.2%	0.5%	0.1%	2.0%	1.3%	1.7%
Supply/Demand Balance	**-0.2**	**0.6**	**1.5**	**0.8**	**-0.6**	**-0.0**	**-0.1**	**-0.2**
OECD inventories (year end, mb)	2,571	2,712	3,015	2,985	2,854	2,850	2,836	2,774
Call-on-OPEC (before stock change)	31.0	30.1	30.6	32.2	33.2	32.3	31.8	32.1
Call-on_US crude oil (before stock change)	7.7	8.1	7.9	8.1	10.0	10.9	12.2	13.3

Source: SEB

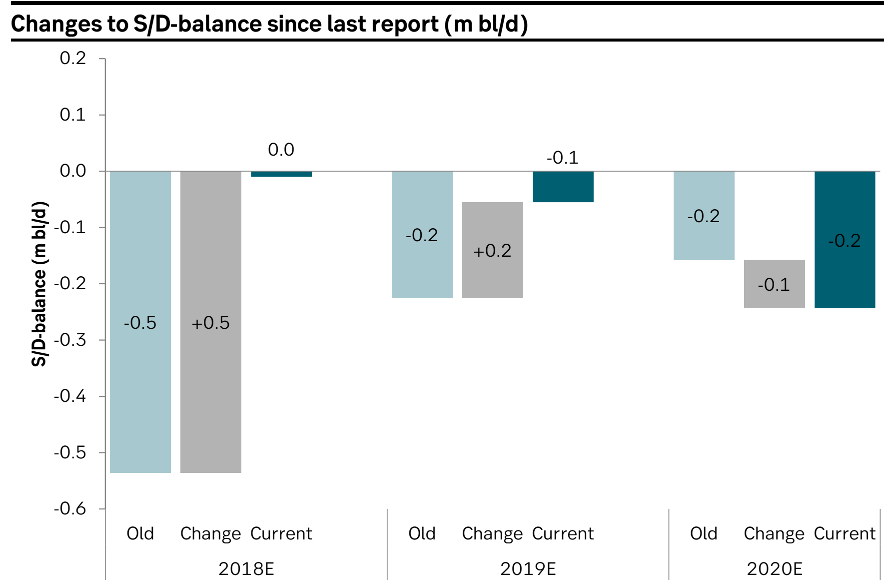
Our projected oil market balance is a result of production cuts by OPEC+ in combination with lower prices leading to softer US production growth and still normal, supportive oil demand growth.

SEB global oil market balance (m bl/d)



Source: SEB, IEA

Changes to S/D-balance since last report (m bl/d)



Source: SEB

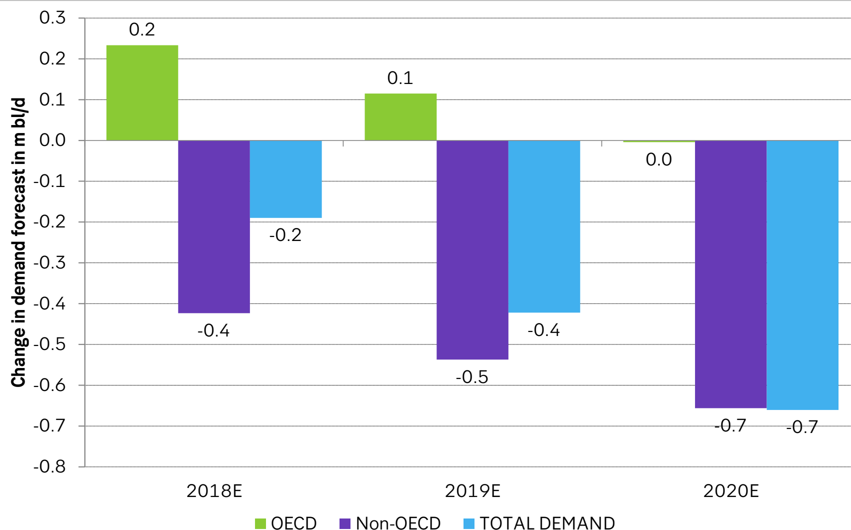
Demand: Lower base and slower pace

- We have revised our oil demand growth forecast from an above normal rate of 1.6% a year down to a more normal 1.4% a year for 2019 and 2020 which is consistent with a normal global economic growth outlook.
- Oil demand growth in 2018 was weaker than expected at about 1.3% a year. This shift lower for 2018 of 0.2m bl/d leads to a comparable shift lower also for 2019 and 2020.

Demand met some headwinds in 2018 as strongly rising oil prices until early October were exacerbated by a stronger US dollar. This was especially accentuated for emerging markets (EM) which saw their currencies decline on average by 11% over the year. This made oil even more expensive for them with oil prices in local currency terms climbing all the way up to their levels in 2011 to 2014 and in some instances back to the peak in 2008 (South Africa). The stronger US dollar was also a general headwind for EMs as it increased the burden of their dollar debts. As a consequence both EM equities and industrial metals trended lower through the year. In the end, after rallying 29% within the year, the oil price joined the two with a loss of 20% on the year which closely resembled the losses for EMs and industrial metals.

As a consequence oil demand came in softer than we had expected at a growth rate of 1.3% (latest IEA assessment) rather than our earlier forecasted rate of 1.6%. This shifted our demand base for 2018 down by 0.2m bl/d (+0.2m bl/d for OECD and -0.4m bl/d for non-OECD) and thus lowered our global oil demand trajectory for 2019 and 2020 comparably (-0.2m bl/d for each year). Due to a generally softer and more uncertain global growth outlook we have also lowered our demand growth assumptions for 2019 and 2020 from above normal strength of 1.6% to a more normal 1.4% per year each year.

Change in SEB demand forecast (m bl)



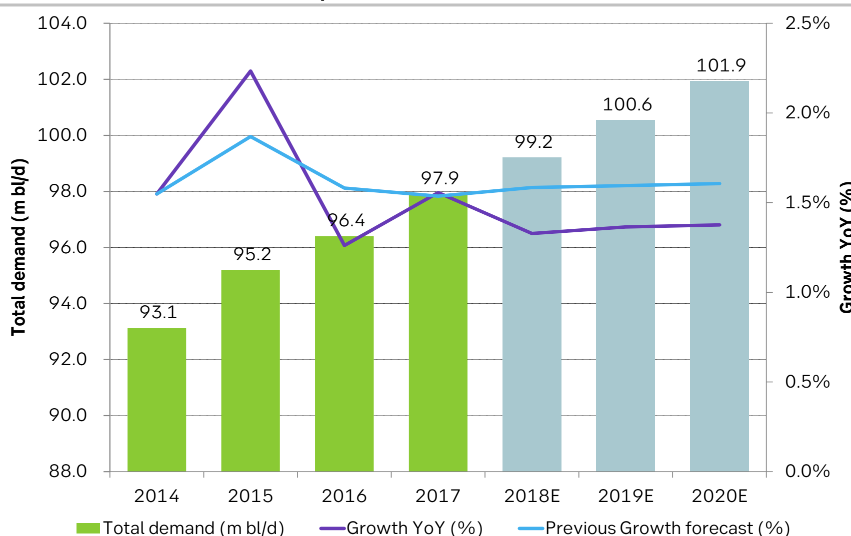
Source: SEB, IEA

In total (including the change in the base of 2018) this lowers our global forecasted demand by 0.4m bl/d for 2019 and by 0.7m bl/d for 2020 which has a material impact on our supply/demand balance for the global oil market, although not devastatingly so.

What is clear though is that softer demand growth and weakening global growth and the stronger US dollar were important contributing factors to the rapid sell-off in oil prices in Q4 2018. It is also a part of our adjustment for our oil price forecast for 2019 and 2020.

Our new demand growth path of 1.4% per year for the next two years is mostly consistent with continued normal global economic growth. It is thus not at all in line with current widespread market concerns that there will be a rapid deterioration in global growth, which we still see as a fairly low probability event.

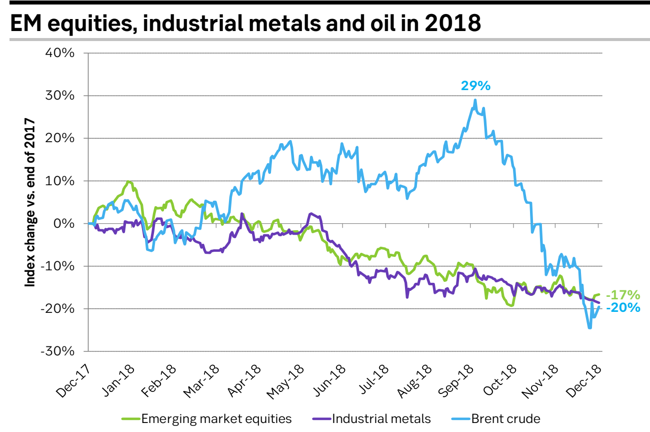
SEB oil demand forecast in m bl/d and in % YoY



Source: SEB, IEA

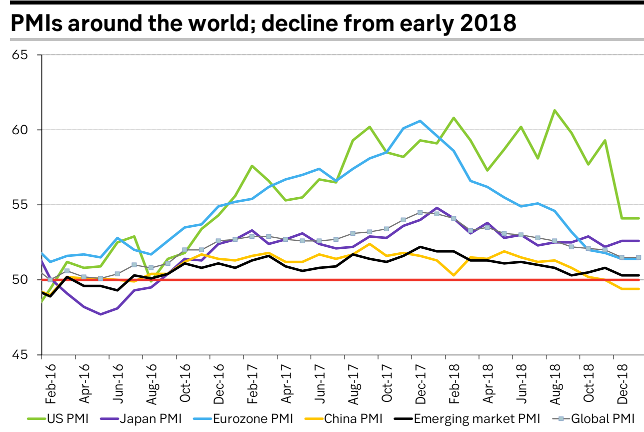
Crude oil prices rallied during the first part of 2018 before in the end joining the close to 20% decline in EM equities and industrial metals in 2018. PMIs were in steady decline in most places around the world, although US PMIs only deteriorated towards the end of 2018 and that was when crude prices collapsed.

EM equities, industrial metals and oil in 2018



Source: SEB, IEA

PMIs around the world; decline from early 2018

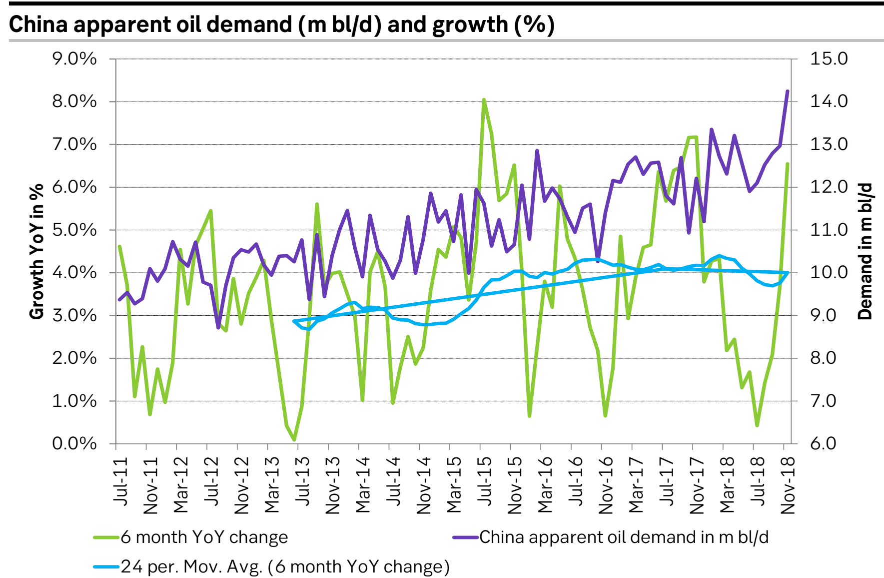


Source: SEB, Bloomberg

We expect global crude oil demand to continue to grow by 1.4% for 2019 and 2020 along with still normal, solid global economic growth.

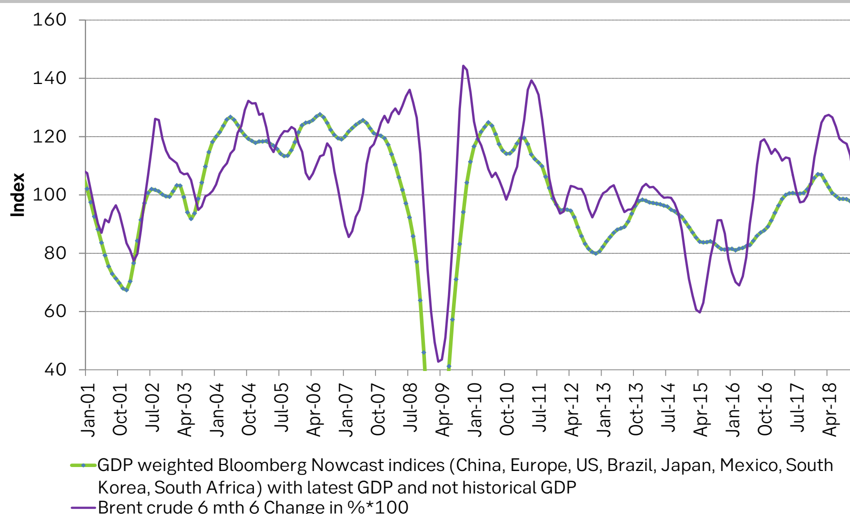
Although Chinese economic growth is cooling and the government is doing all it can to propel the advance of EVs, heavy duty LNG trucking and hydrogen vehicle technology there is very little sign that Chinese oil demand growth is falling off a cliff. Our calculated Chinese apparent oil demand growth for 2018 is 3.9% which is very close to where it has been during 2015, 2016 and 2017. We forecast Chinese oil demand to grow 3.5% a year in both 2019 and 2020. This equates to about 500 k bl/d each year. This is pretty close to the average Chinese oil demand growth (y/y in k bl/d) since 2003. Thus China continues to constitute a very large share of global oil demand growth also in the two years ahead. Chinese crude oil imports in November and December were especially strong but that could have more to do with added imports in response to lower oil prices.

China apparent oil demand (m bl/d) and growth (%)



Source: SEB, IEA

Changes in crude oil prices are tightly related to the pace of global growth



Source: SEB, IEA

US shale oil: lower prices, softer growth

More well completions in H2 2018 but lower well productivity growth

From July to November 2018, 1,278 wells were completed per month, which was 7% higher than we had projected. IP well productivity however came in 4% lower than we expected at only 515 bl/d compared with our projection of 537 bl/d. As a consequence, US crude oil production in H2 2018 was some 3.5% higher than projected. US crude oil production in 2018 was thus 10.9m bl/d, which was 1.7% above our August 2018 projection of 10.7m bl/d.

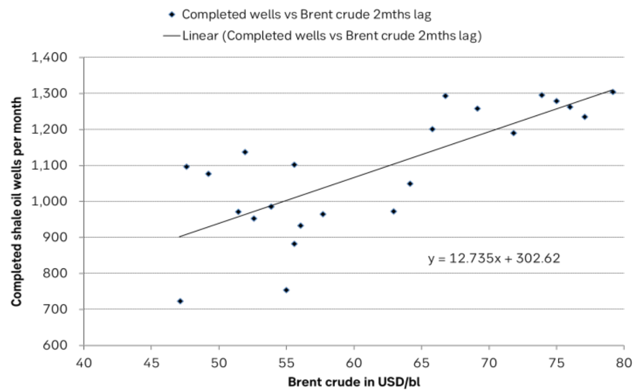
Lower prices and weaker production growth

Oil prices have collapsed since early October last year and we now expect a more subdued price path through the first half of 2019 (in the 50-60s). Drilling and well completions and thus production has historically a strong relationship to oil prices. As a result, we expect slower growth in US shale oil production due to the lower prices. We expect US crude oil production to average 12.1m bl/d in 2019 and 13.1m bl/d in 2020

Tighter credit will likely be a headwind

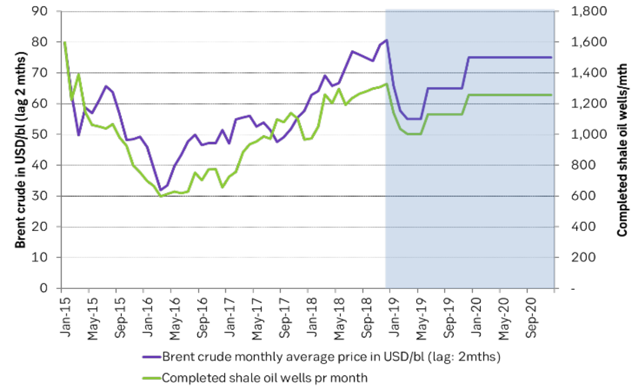
Easy access to cheap credit over the past two to three years has been an important ingredient for the very strong rebound in US shale oil production. The US high yield market was basically closed in the US in December and we expect tighter credit conditions to add some headwinds to US shale oil production growth going forward.

Brent crude & US shale oil well completions 2017, 2018



Source: SEB, Company filings

Brent crude with two months lag vs. well completions

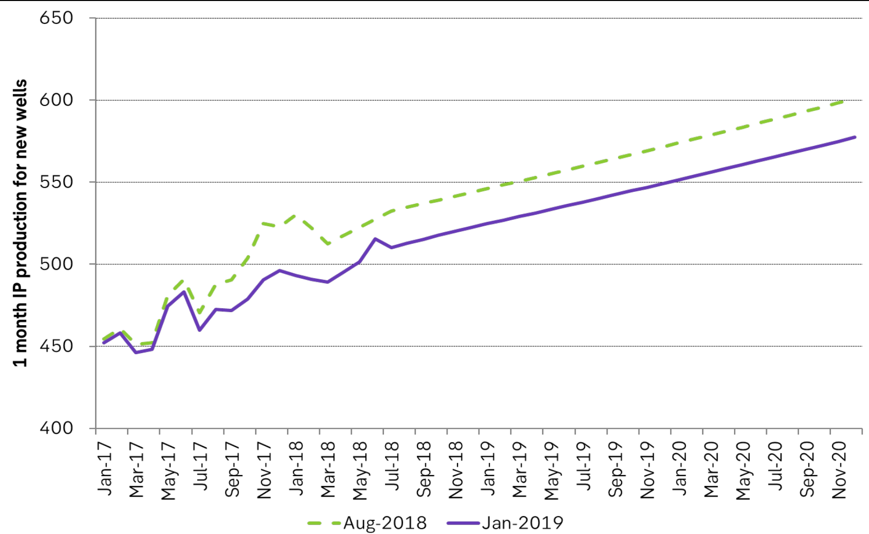


Source: SEB, Company filings

As drilling and completion data has been revised by the US EIA over the past year there has emerged a general picture where we have repeatedly had to lower our IP well productivity numbers.

The following graph shows our revised US shale oil well productivity projection versus our previous projection in August 2018.

US shale oil IP well productivity as calculated and proj. by SEB (bl/day/month1)



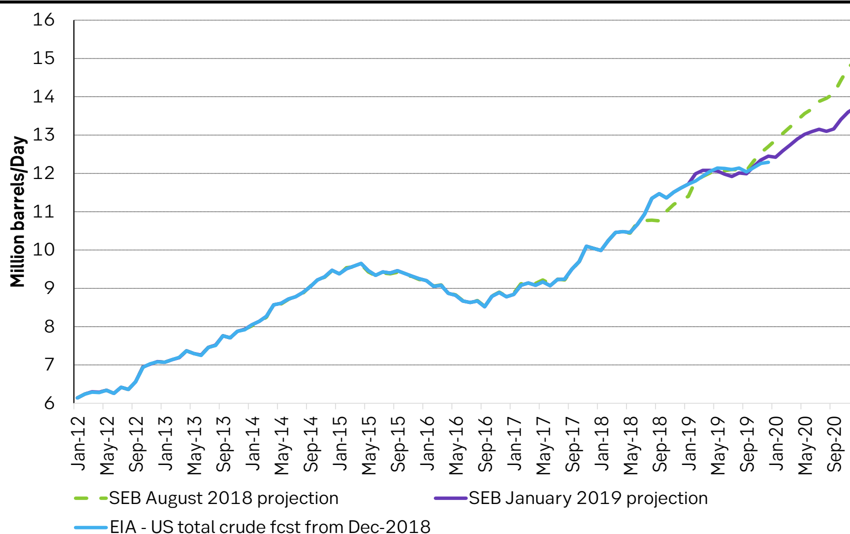
Source: SEB, Bloomberg

US crude production higher and lower

High prices in Q3 2018 and thus a high level of well completions in Q4 2018 drove US production 300k bl/d higher in December 2018 than we had projected in our August report. This base effect helps to lift our forecast for US crude oil production for 2018 by 0.3m bl/d from 11.8m bl/d to 12.1m bl/d.

We expect that the close to 30% drop in oil prices since August, September and October 2018 will lead to a 20% decline in well completions in H1 2019 (1,053 w/mth) versus 1,295 wells/mth in September, October and November. This will lead to a slowdown in production growth but it will not lead to a decline in production.

SEB US crude oil production, old, new and US EIA (m bl/d)

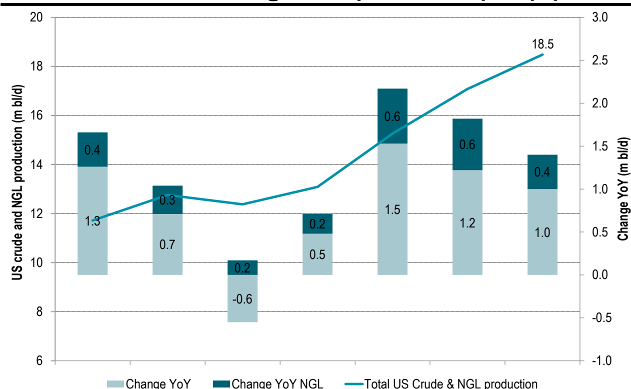


Source: SEB, Bloomberg

The lower price path we now project for both 2019 and 2020 with a price trough in Q1 2019 lowers our projected well completion rate. For 2020 we now project a monthly well completion rate of 1,257 wells/mth versus 1,450 in our August projection. This reduces our 2020 US crude forecast from 13.3m bl/d previously to now 13.1m bl/d.

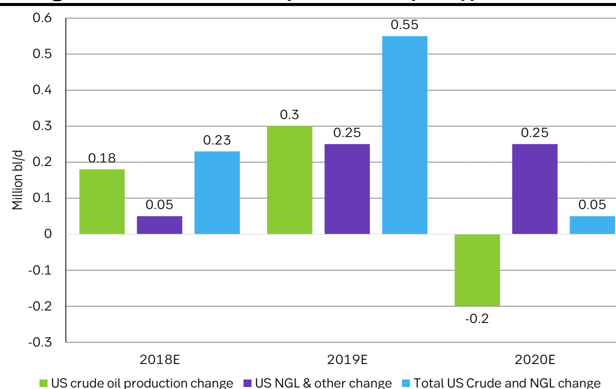
The US EIA has increased its forecast for NGLs by 0.3m bl/d for 2019 since our August report. This of course adds to US liquids supply overall.

Production and YoY change in US production (m bl/d)



Source: SEB, Company filings

Outright US crude and NGL production (m bl/)

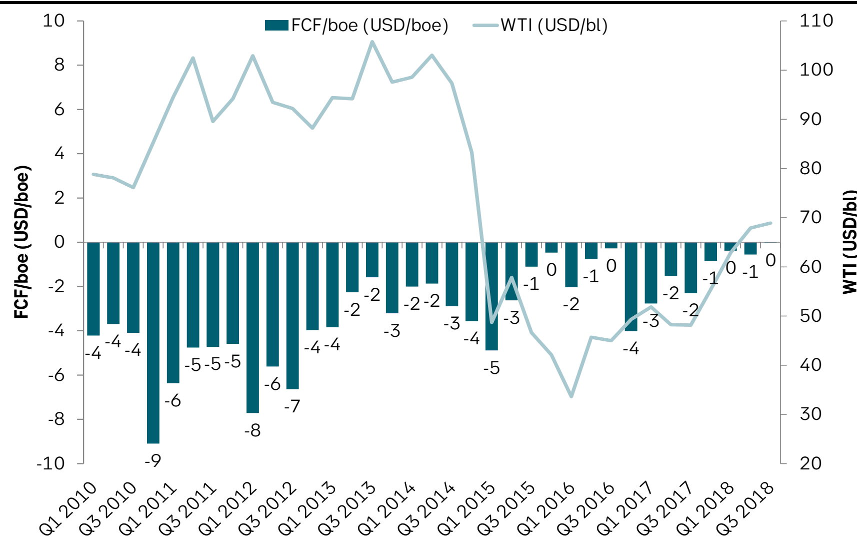


Source: SEB, Company filings

The lack of shale cash flow

After several years of a growth focused strategy and capital overspending, the US shale companies have, with the help of increasing oil prices, narrowed the cash outflow in recent quarters. However, despite increasing oil prices and a strong shift in focus from growth to capital discipline, return and cash flow neutrality, the industry experienced negative free cash flow of USD 4/boe in 2017 and H1 2018 FCF/boe is still negative at USD 0.5/boe. Also in the record quarter of Q3 2018 (with highest oil price since 2014), FCF/boe was negative.

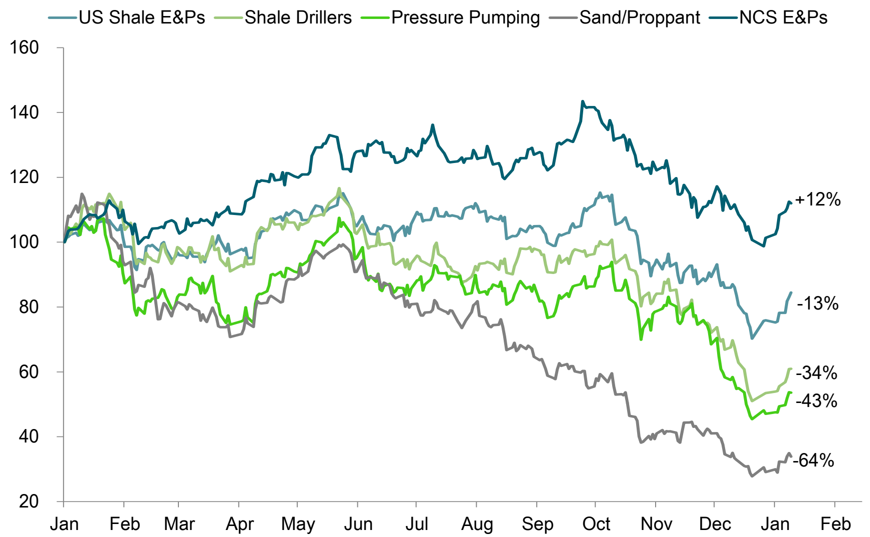
US Shale FCF/boe per quarter (USD/boe) and WTI (USD/bl)



Source: SEB, Bloomberg

Still, the change in focus to more return oriented growth and shareholder friendly policies have so far not paid off in share performance. A basket of "quality" US shale E&Ps are down 13% from 1 January last year (vs NCS E&Ps up 12%), while shale services shares had even worse performance. Equity offerings in the US oil and gas industry have slowed further and actually came to a full stop at the end of last year. The total value of offerings in 2018 was only USD 3.8bn, which is down 63% vs 2017 and 89% vs 2016. Also, bond issues have slowed significantly with the issued amount down 62% in Q4 vs Q3. Parts of this can be attributed to less need for funding as the industry moves closer to cash flow neutrality.

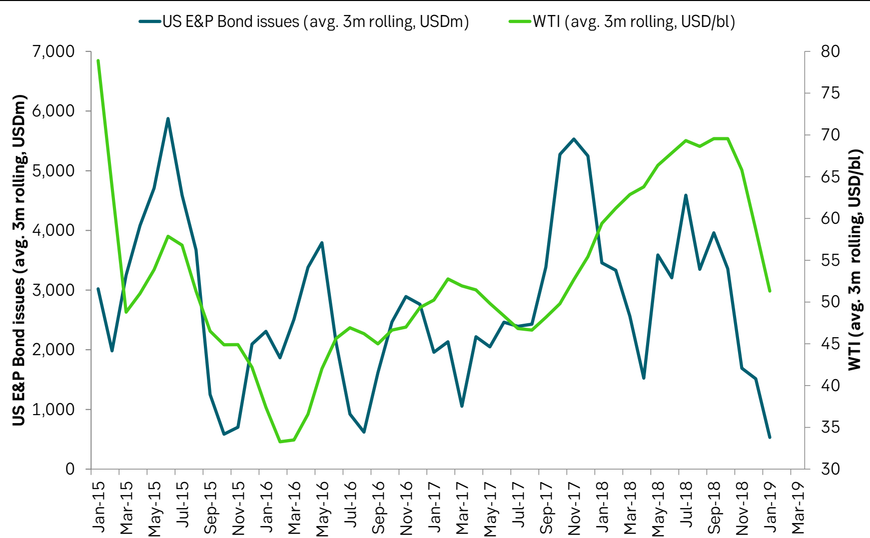
Share performance US shale (by sector*) vs NCS E&P (rebased, Jan 2018)



*selected shares weighted by Market Cap

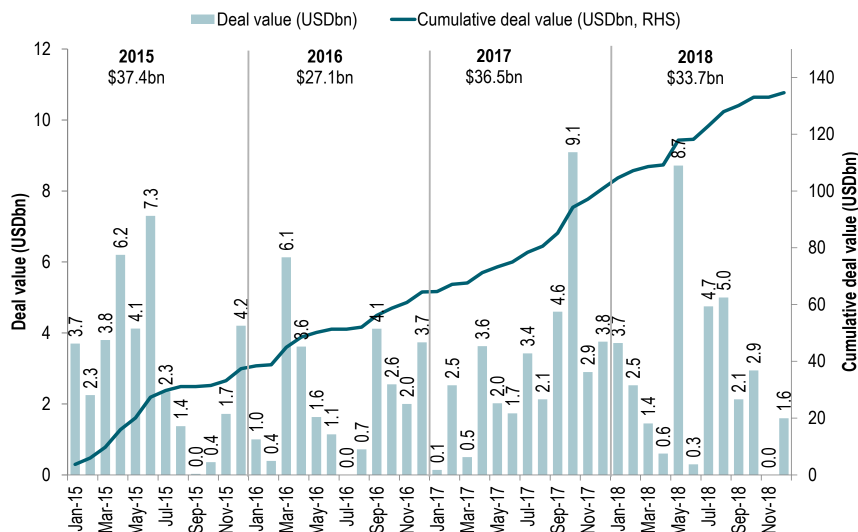
Source: SEB, Bloomberg

US E&P bond Issues and WTI



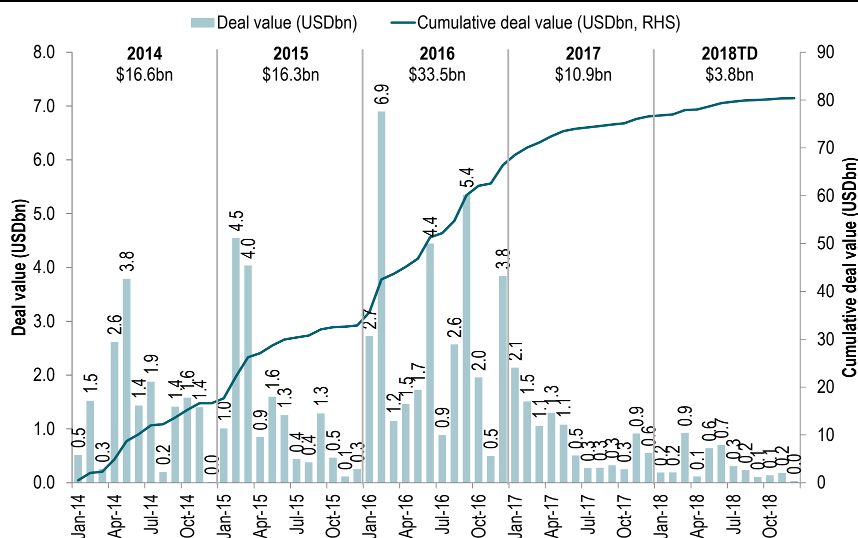
Source: SEB, Bloomberg

US E&P Bond Issues since Jan 2015 (USDbn)



Source: SEB, Bloomberg

US oil & gas equity offerings since January 2014 (USDbn)

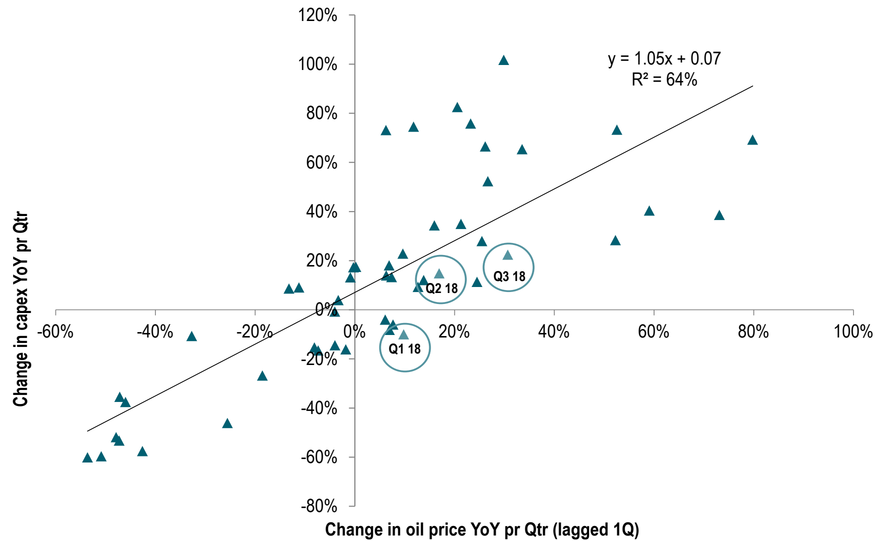


Source: SEB, Bloomberg

Abating shale activity

In line with the return focus, we have over the past quarters observed that capex has grown at a slower pace than the historical correlation with the oil price. However, it is still a tight correlation and we read this as less overspending rather than a significant change in capex efficiency. As such, as a consequence of the oil price drop in Q4 last year in addition to our forecast of a somewhat lower WTI oil price in 2019 vs 2018, we expect US shale capex and activity to come down this year. This is further supported by company announcements with data points of slowing activity. There have been relatively few budget announcements (compared to this time in previous years), but the ones we have point to a capex decline of 8% with the number of rigs being cut 18% and completion crews by 27% (note that only four or five companies have announced budgets).

Capex sensitivity: YoY change in capex and WTI*



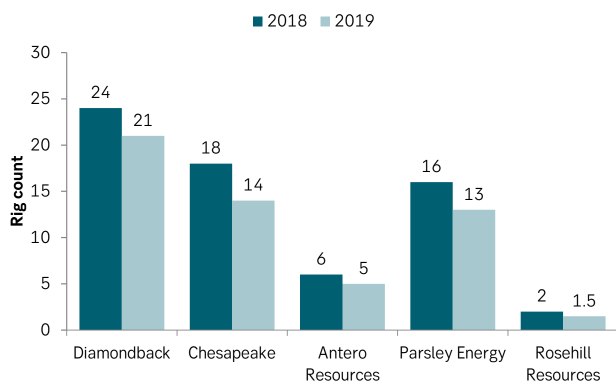
Source: SEB, Bloomberg, *2 quarters rolling

US shale company 2019 activity and capex change

Company	Rigs	Crews	2019 capex	% change YoY
Diamondback	-3 rigs (-13%)	-2 crews (-20%)	2,525	9%
Chesapeake	-4 rigs (-22%)			
Antero Resources	-1 rig (-17%)	-1-2 crews (-15%-30%)	1,263	-16%
Parsley Energy	-3 rigs (-16%)	-1-2 crews (-20%-40%)	1,450	-17%
Rosehill Resources	-0.5 rigs (-25%)		230	-36%
Sum	**-12**	**-5.5**		
Weighted change %	**-18%**	**-27%**		**-8%**

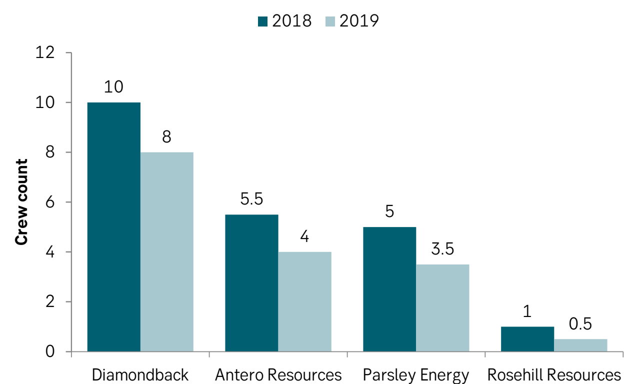
Source: SEB. Company filings

US shale companies' 2018 vs 2019 rig count



Source: SEB, Company filings

US shale companies' 2018 vs 2019 crew count



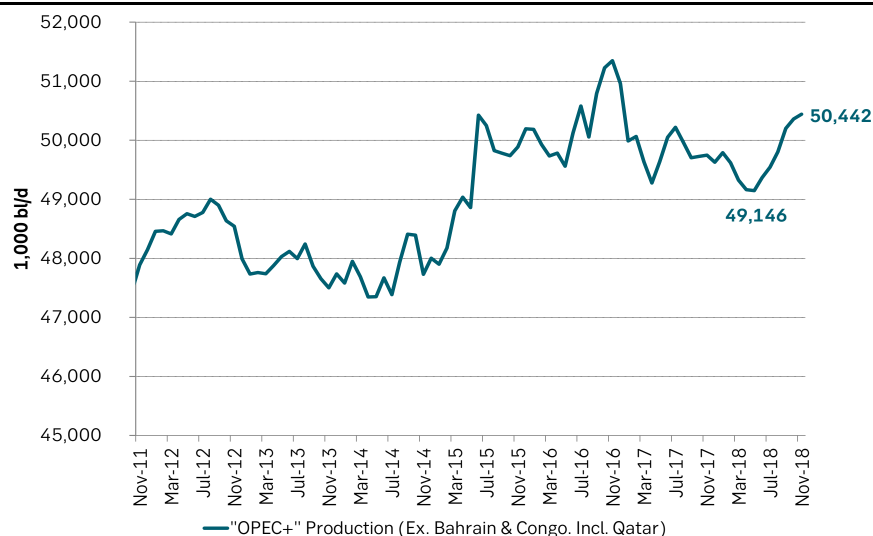
Source: SEB, Company filings

OPEC+ with “middle-way” cuts

OPEC+ boosted production from May to November by 1.3m bl/d in anticipation of “cold turkey”, “no waivers” US sanctions towards Iran kicking in on 4 November. Fearing a spike in oil prices Donald Trump instead turned around and handed significant waivers to most large importers of Iran crude oil. In addition the boost in production by OPEC+ coincided with higher than expected US production growth as well as a rapidly deteriorating global growth sentiment and a steep sell-off in US equities from early October.

It is quite clear that the large boost in OPEC+ production was in important contributor to surplus and some stock building in H2 2018.

OPEC+ boosted production from May to November 2018 (1,000 bl/d)



Source: SEB, Bloomberg

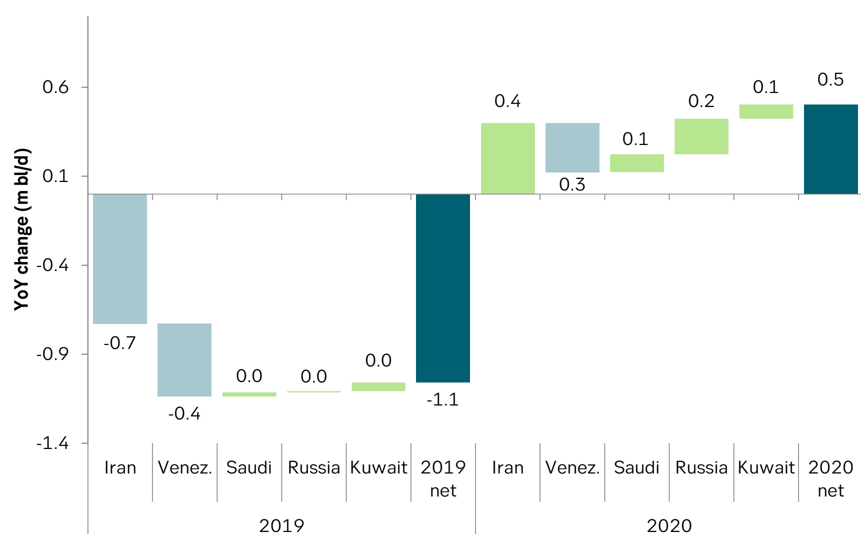
OPEC+ decided in late 2018 to cut production by 1.2m bl/d versus its October 2018 production – first as a target for H1 2019 but clearly also as a starting point for continued production cuts in H2 2019. Saudi Arabia, Russia and many of the other oil producers in OPEC+ were clearly producing at close to record high levels in October and November 2018. Consequently, it was not surprisingly quite straightforward to cut production in H1 2019 even though negotiations and discussions dragged on longer than usual.

The magnitude of the production cut (1.2m bl/d) was not of a shock and awe size. It was clearly a more balanced cut in order to avoid a build-up in global oil inventories and thus a deep contango situation in oil prices where the physical producers would have to sell their oil in the spot market at a significant discount to longer-dated prices. It was clearly not a significant production cut designed to lead to a further steep decline in oil inventories.

The balanced cut which OPEC+ decided on was probably a response to both stronger than expected US crude production as well as a deterioration in global growth and oil demand growth. I.e. OPEC+ did not want to do the whole job themselves of balancing the market but wanted some help from crude oil prices as well in order to bolster demand and mute US production growth.

We strongly believe that OPEC+ will deliver on the pledged cuts. Both due to self-interest but also because it is fairly easy for the involved producers to deliver on the cuts since most of them are cutting from close to all-time higher production.

YoY change in key OPEC+ countries (m bl/d)



Source: SEB

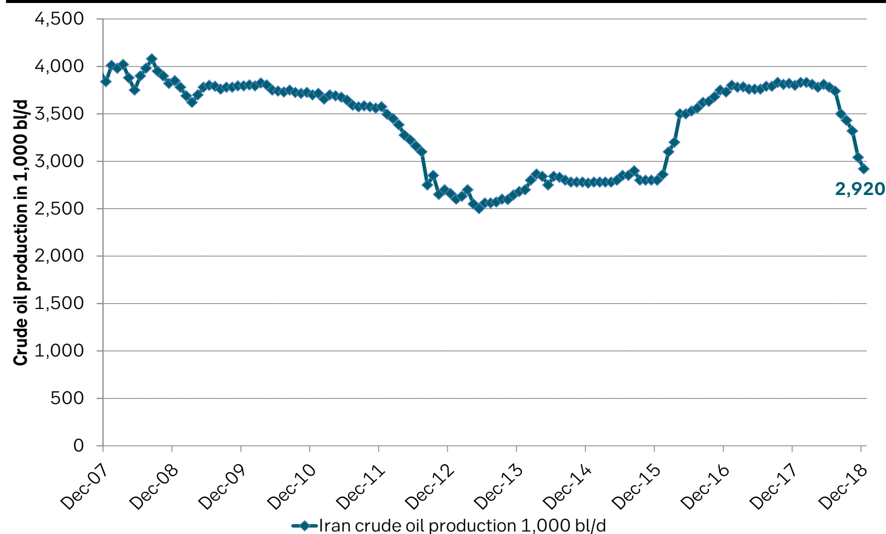
Iran, a wildcard for the coming years

US sanctions towards Iran are of course a significant wildcard for the coming years. It is not all that clear what Donald Trump wants to achieve: 1) A new nuclear deal or 2) A regime shift. Many argue that it is not at all that clear to him what he really wants but that what matters is what Michael Pompeo and John Bolton want. For the latter the goal seems to be more towards a regime shift than a new and better nuclear deal.

If that is the case then we could expect tighter and tighter sanctions and less and less oil exports out of Iran. Worst case would be a collapse of the Iranian economy and a breakup of the country. This might suit the US well as it would help to make room for booming US shale oil production growth, oil independence and increasing oil exports from the US.

Donald Trump however seems bent on trying to avoid a spike in the oil price. In the previous round of Iran sanctions there was a gradually tightening of the screw on sanctions. Importers of Iranian crude were obliged to reduce their imports gradually and increasingly so. A comparable strategy probably also makes sense this time around. It will help to avoid a spike in the oil price while at the same time constantly making more room for growing US crude production.

Iran crude oil production falling steeply(1,000 bl/d)

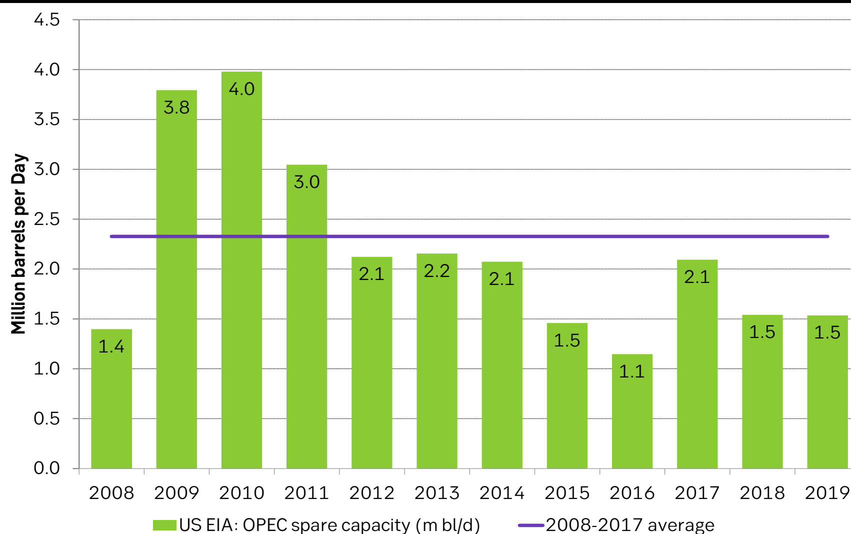


Source: SEB, Bloomberg

Still upside risk due to limited OPEC spare capacity

Spare capacity within OPEC will likely be limited in 2019 due to declining production in Iran and most likely also Venezuela. Saudi Arabia is cutting production in H1 2019 but it is cutting from such a high level that its spare capacity is still quite limited.

Very little OPEC spare capacity in 2019 (m bl/d)



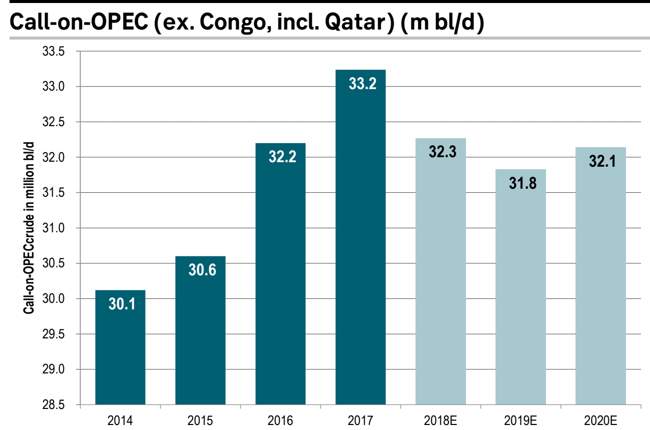
Source: SEB, Bloomberg

Weak call-on-OPEC but strong call-on-Saudi Arabia

The former oil minister in Saudi Arabia, Ali al-Naimi, argued in 2014 that there was no point in cutting production in the face of structural changes as it would only lead to a loss of volume and market share but with no higher oil price in the end. OPEC+ has defied this argumentation by cutting production since the start of 2017. An important reason for the price decline in H2 2018 was the huge boost in production from OPEC+.

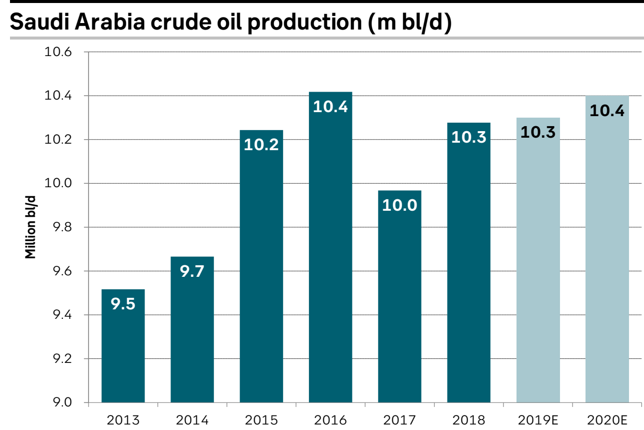
One might argue that projected call-on-OPEC has come down significantly since 2017 when it was standing at 33.2m bl/d due to higher oil prices and the accompanied boom in US shale oil production.

Call-on-OPEC (ex. Congo, incl. Qatar) (m bl/d)



Source: SEB, Bloomberg

Saudi Arabia crude oil production (m bl/d)

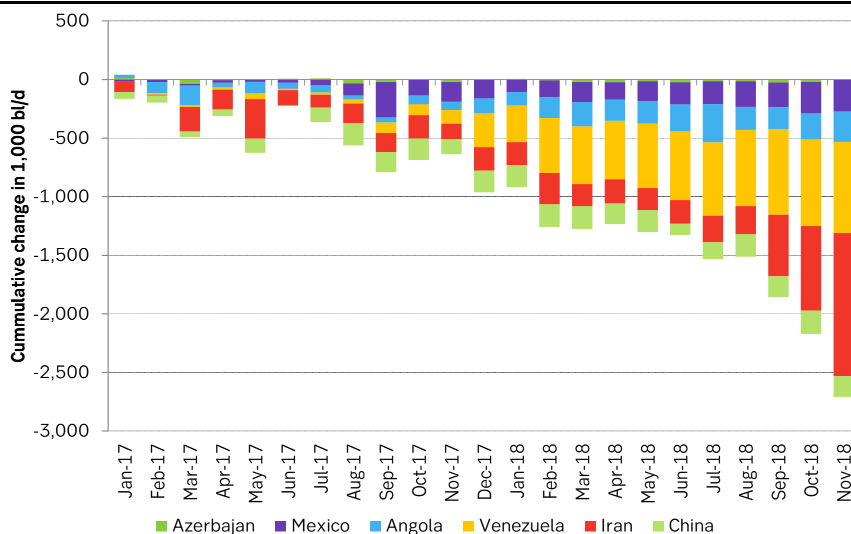


SEB, Bloomberg

The gross call-on-OPEC is however largely misleading as it disguises what is taking place within OPEC. Due to significant declines in supply from Iran and Venezuela the call-on-Saudi is close to record high. In order to avoid a deficit of 0.2m bl/d on the global oil market balance Saudi Arabia actually has to produce a record 10.6m bl/d through 2020. The soft call-on-OPEC in the range of 31.5m bl/d to 32.0m bl/d for the next two years thus paints a picture of a situation where OPEC is losing market share due to its production cuts and that as a result we are getting an increasingly loose oil market with lots of OPEC spare capacity. It is true that OPEC as a whole is losing market share. But those who can produce will produce close their historical records.

Saudi Arabia (amongst others) will thus likely produce close to record high levels of oil in the coming two years in spite of booming US shale oil production and weakening global oil demand. This is because more than 2.5m bl/d of supply has been lost from key producers since the start of 2017 with much of it within OPEC. Of course, if these volumes were to return, then the oil market would have a problem. Then a lower call-on-OPEC would be a problem.

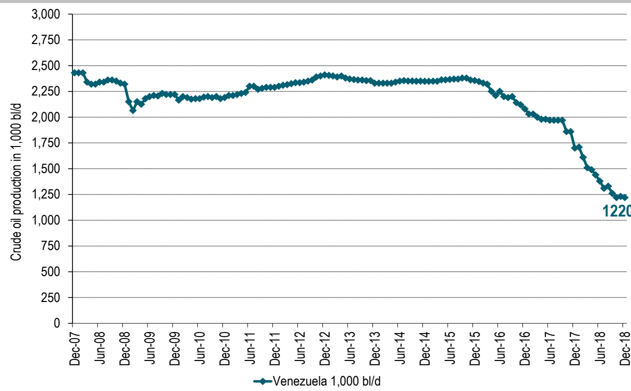
Lost production since January 2017. Mostly from Iran and Venezuela (k bl/d)



Source: SEB

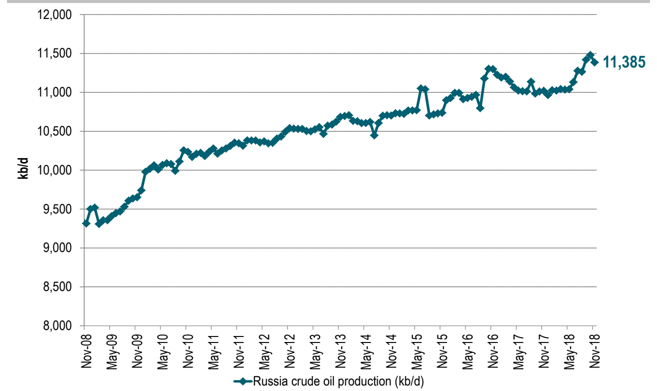
Thus production declines in one place give room for increases in other places.

Venezuela crude oil production (1,000 bl/d)



Source: SEB, Bloomberg

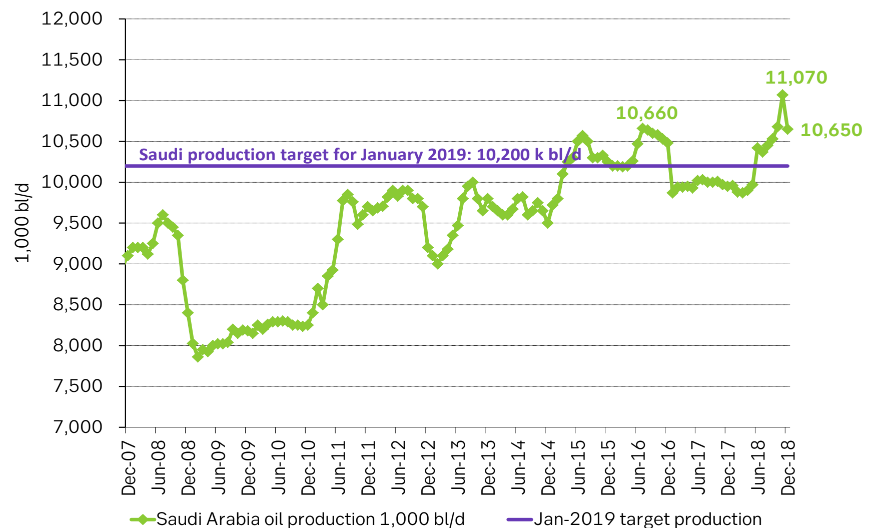
Russia crude oil production (1,000 bl/d)



Source: SEB, Bloomberg

Saudi Arabia is cutting because it is very easy to cut from a very high level.

Saudi Arabia crude oil production and 2019 target (1,000 bl/d)

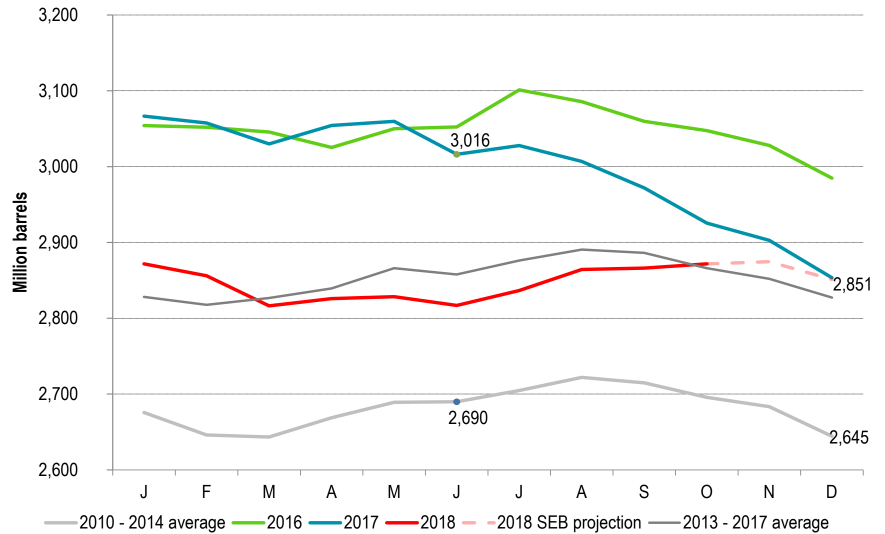


Source: SEB

Balanced market means flat inventories

The OECD inventories probably ended 2018 close to where ending stocks stood in 2017. The main difference in the situation was that one year ago inventories were in strong decline while they this year have been rising counter seasonally throughout H2 2018. The change in direction from a declining path to a rising path occurred around mid-year when OPEC+ boosted production from May onwards. Booming US crude oil production and deteriorating global growth sentiment added to the negative development.

OECD Commercial inventories in million barrels



Source: SEB, IEA

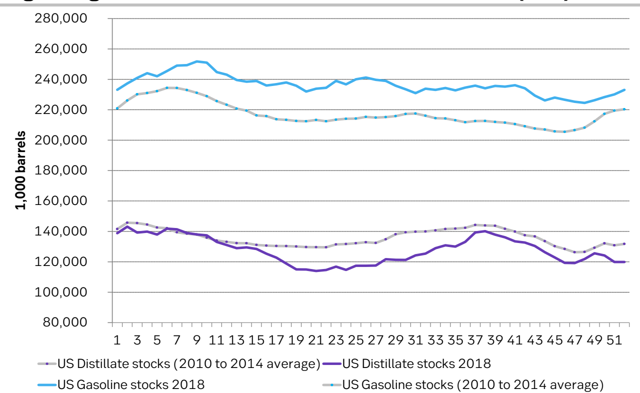
Cuts by OPEC+ seem to us to be calibrated towards preventing inventories from rising further rather than to draw them strictly lower. As such we expect close to sideways, seasonal normal developments in inventories though with a slight decline in 2020. Total US commercial crude and product stocks are only up 35m barrels since same time last year but they are up 74m barrels since the low in April 2018. The big difference from last year is the direction: a declining path one year ago and a rising path today. But we do expect an end to rising stocks due to production cuts by OPEC+.

A very important development is the skewed situation where US gasoline stocks are high while distillate stocks are low. This stems partially from strong demand for diesel and softer demand for gasoline. It is probably also a consequence of the strong production rise in ultralight US shale oil since it contains comparatively less diesel and more gasoline.

Total US commercial crude and product inventories

Source: SEB, IEA

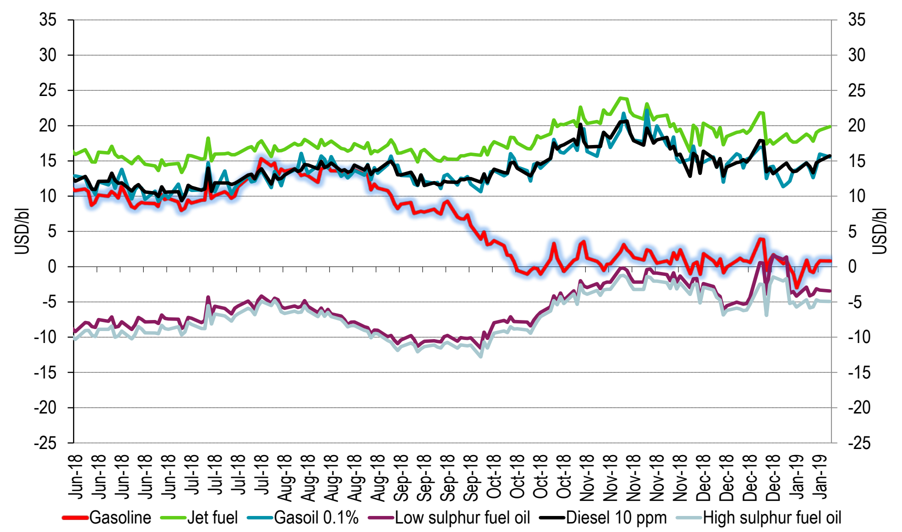
High US gasoline stocks and low distillate stocks (k bl)



Source: SEB, IEA

The skewed inventory situation for gasoline versus distillates has led to a crash in the refinery margin for processing crude oil to gasoline in Europe. The main margins for refineries are gasoline and diesel. When one of these crashes to zero it is of significant importance. Brent crude declines started right then.

ARA Refinery margins for different products (USD/bl)



Source: SEB, IEA

Target prices and risks

Target price definition and associated risks

Our target price is the analyst's assessment of what total return an investor should expect over the coming six to 12 months. The target is based on fundamental equity research and other factors at the analyst's discretion. Please refer to published reports on the individual companies for a detailed description of the target price methodology.

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Hold	35.6	8	6.7
Sell	8	3.2	2.3

Buy	Attractive risk/reward - at least 10% upside to target price.
Hold	Fairly valued – the security / instrument is trading close to target price.
Sell	Unattractive risk/reward - security / instrument is trading above target price.
Unrated	Company not covered, or we are not allowed to have a recommendation for compliance reasons

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