"Nød lærer naken kvinne å spinne"

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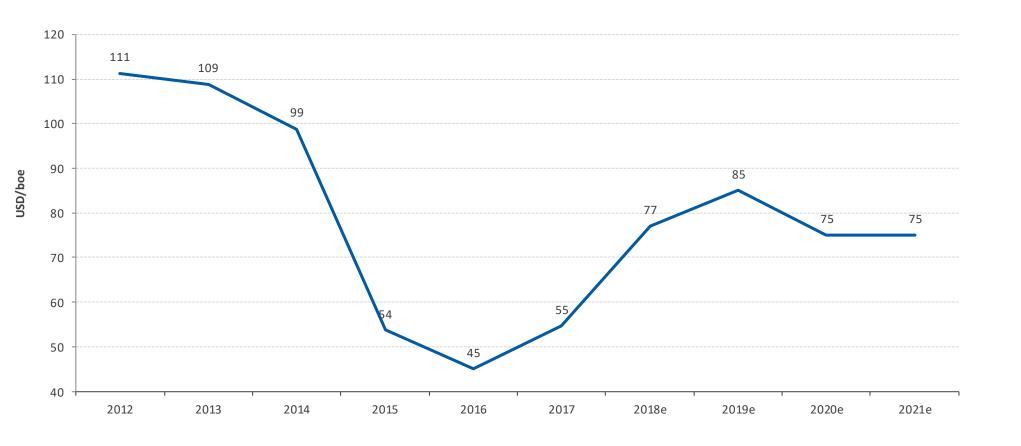
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Our base case oil price estimates

USD/boe





Key factors impacting market next few months

Upside risk factors:

- 1. US' Iran sanctions
- 2. Generally increased geopolitical risk, in particular Iran /Israel conflict
- 3. Storage levels below 5 year average, increasing concerns of a tight market
- 4. Oil demand has been (and still is) surprisingly strong

Downside risk factors:

- 1. Saudi ramp up few other OPEC countries have the ability (however, history does not give any clear guidance for direction of price when Saudi increases production)
- 2. US shale is probably above to grow and report positive FCF at current oil prices



1) US' Iran sanctions

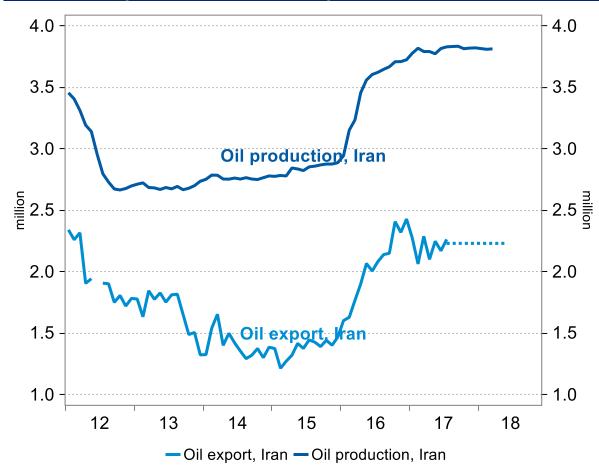
Potential impacts on oil market of US' sanctions on Iran:

- Short term:
 - » Fear of undersupply, increased oil price related to geopolitical risk
- Medium term:
 - » Actual supply will be reduced (likely a 90-day and 180-day wind down period before sanctions really start)
- Long term:
 - » Iranian ability to growth oil production will be questioned due to underinvestment and lack of access to western technology



1) US' Iran sanctions, cont.

Iran: Oil production and export*



- Around 70% of Iran's oil export goes to Asia
 - 0.7 mb/to to China
 - 0.25 mb/d to SouthKorea
- 0.15-0.50 kboe/day of export lost by end 2018?

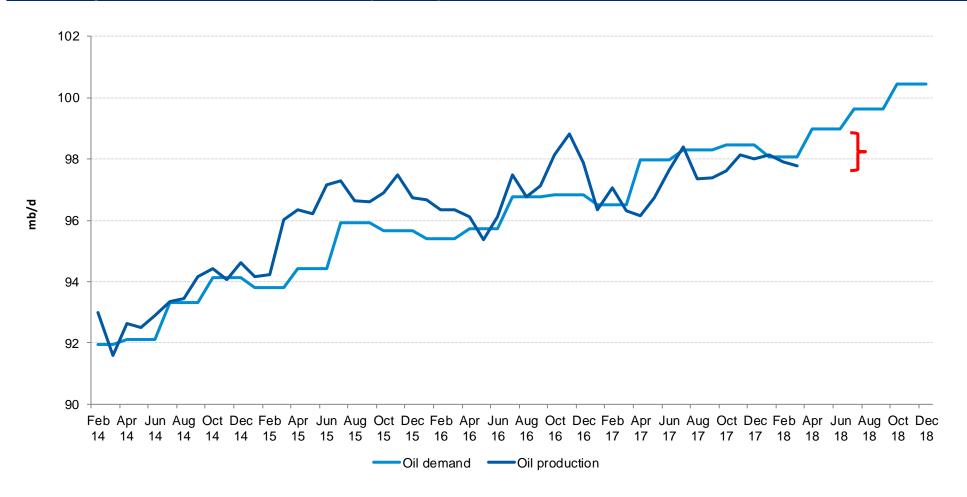
SB1 Markets/Macrobond

^{*} No good data for YTD 2018 export. However, there is reason to believe that export has bee stable past months

1) US' Iran sanctions, cont.: 0.15-0.50 kboe/day of export lost by end '18?

That does not match increasing demand

Total production and demand (mb/d)

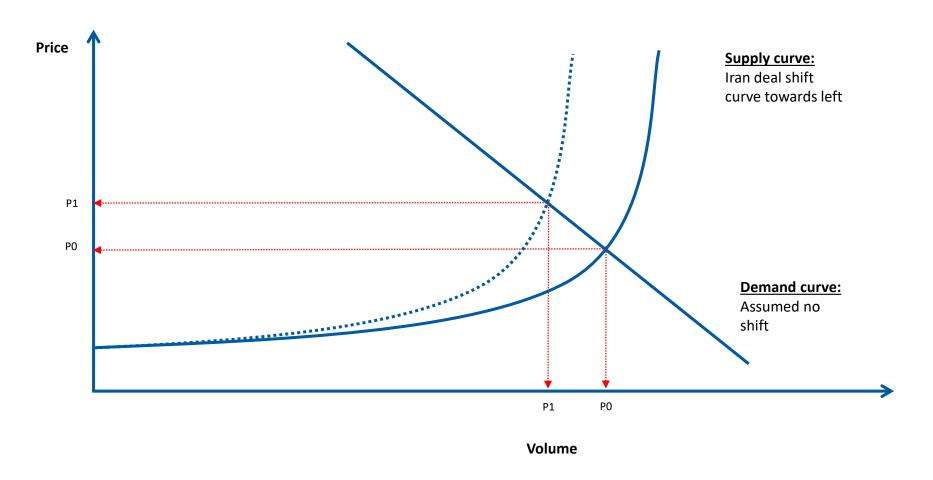




Remember: Oil market supply curve is flat and then steep

I.e., small supply changes have potentially major price implications

Oil demand / supply illustration





2) Generally increased geopolitical risk

In particular the Iran /Israel conflict

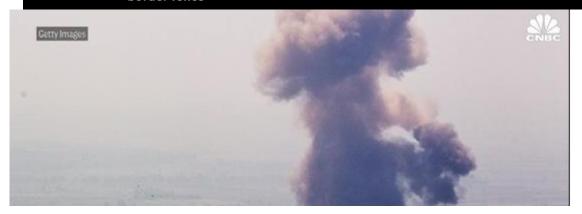
Israel Iran CONFLICT: Iranian missiles pound Israeli positions in Golan Heights

SHOCKING footage has emerged of Iranian military forces pounding Israeli targets in the Golan Heights which prompted a furious response from Israel.

Israel-Iran crisis: Iranian cleric warns Israel against 'doing anything foolish' as France calls US sanctions 'unacceptable'

• LIVE BLOG

Military confrontation comes as Hamas' leader warns of mass breach of Israeli border fence





Iran vs. Israel: Is a Major War Ahead?

The recent escalation of fighting is more likely to result in a stalemate than a cataclysm.

Israel's strikes in Syria ratchet up tensions with Iran

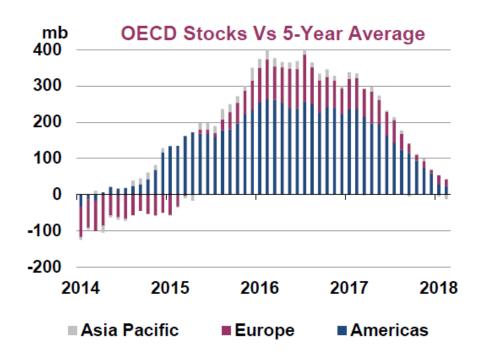
9:27 AM ET Fri, 11 May 2018

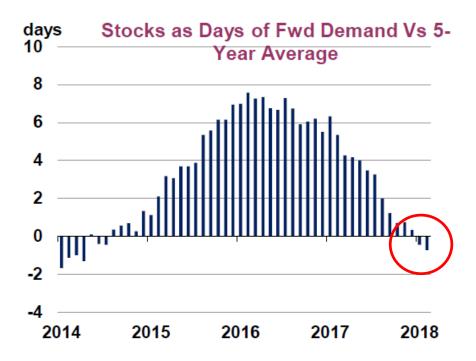
The Israeli Defense Forces (IDF) claimed it struck nearly all of Iran's military infrastructure in Syria, dramatically ramping up hostilities between the two longtime adversaries that until now were largely fought out by proxies.



3) Storage levels below 5 year average

(if you compare relative to demand and not absolute storage level)

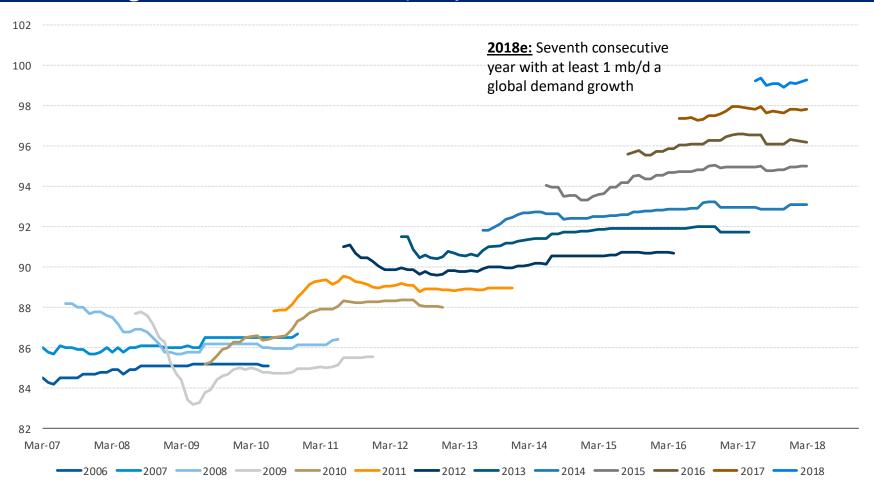






4) Oil demand has been (and still is) strong

Trend for global demand estimates, mb/d

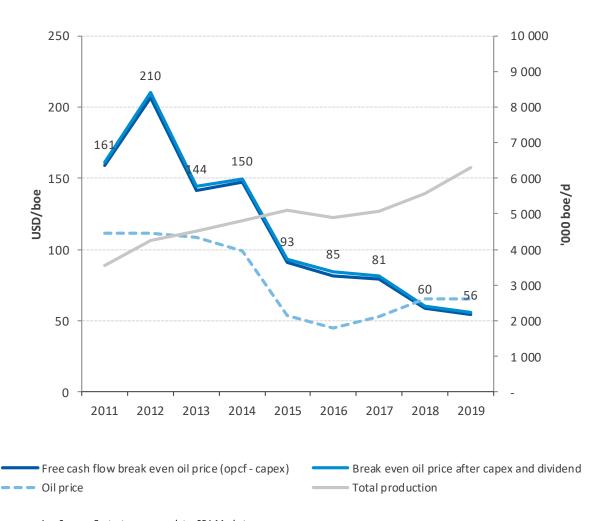




Risk 1: Strong growth for US shale

US shale able to grow production with positive FCF at current oil prices

Shale companies' oil price break even (revenue per boe)

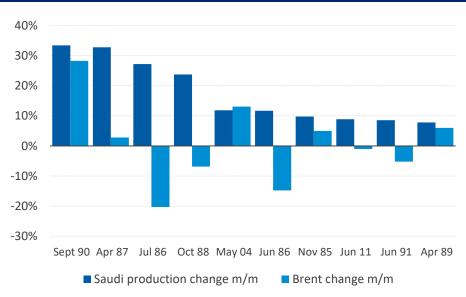




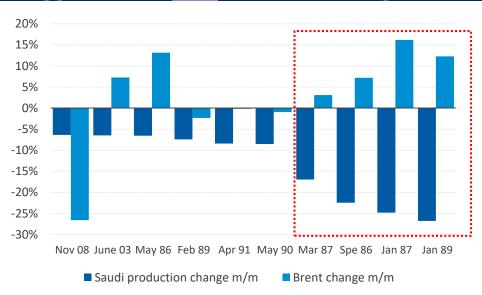
Risk 2: Reduced OPEC compliance and Saudi ramp up

However, history does not give any clear guidance for direction of price when Saudi increases production





Biggest Saudi cuts vs. Brent change



- It looks like Saudi's production cuts have been positive for oil prices, as the Kingdom's four largest cuts relative to production have resulted in positive Brent changes m/m.
- For production increases (such as the Libya examples), it looks like they do not have the same price effects. I.e., if we knew that Saudi's next supply response was a cut, it is reasonable to believe that the oil price will increase (very obvious).



Reduced storage expected for 2018-19e

														SB1e	
OECD	d	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018e	2019
DECD 49.5 49.3 47.6 45.6 46.1 46.5 46.0 46.1 47.2 48.6 Non-OECD 36.0 37.8 38.9 39.9 42.1 42.4 42.8 42.8 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.6 48.	hal ail damand														
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FSU	pe (OECD)	5.3	5.0	4.8	4.6	4.2	3.9	3.5	3.3	3.3	3.5	3.5	3.5	3.5	
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Europe (Non-OECD)	a	3.7	3.7	3.8	3.9	4.1	4.1	4.2	4.2	4.2	4.3	4.0	3.9	3.8	
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Middle East 17 17 17 17 17 17 17 17 17 16 15 14 13 12 Africa 2.5 2.6 2.6 2.6 2.5 2.5 2.3 2.4 2.4 2.3 Proc. gains & biofuels 2.8 3.1 3.5 3.6 3.9 4.0 4.1 4.2 4.4 4.5 Other (OPEC NGL) 4.3 4.3 4.5 4.9 5.3 5.8 6.2 6.4 6.4 6.6 Total non-OPEC supply 54.7 55.1 55.1 56.5 58.0 58.5 59.6 61.1 63.0 65.0 66.0 Growth mb/d 0.42 0.06 135 148 0.53 15 147 186 2.00 -4 OPEC supply 5.4 2.0 0.06 135 148 0.53 15 147 186 2.00 -4 OPEC supply 5.2 2.8 <td< td=""><td>pe (Non-OECD)</td><td>0.2</td><td>0.2</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.1</td><td>0.1</td><td></td></td<>	pe (Non-OECD)	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	
Middle East 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 18 28 3.1 4 2.5 2.5 2.5 2.3 2.4 2.4 2.5 2.5 3.0 4.0 4.1 4.4 4.5 4.6 6.6 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 <t< td=""><td>America</td><td>3.6</td><td>3.6</td><td>3.7</td><td>3.9</td><td>4.1</td><td>4.2</td><td>4.2</td><td>4.2</td><td>4.4</td><td>4.5</td><td>4.5</td><td>4.5</td><td>4.7</td><td></td></t<>	America	3.6	3.6	3.7	3.9	4.1	4.2	4.2	4.2	4.4	4.5	4.5	4.5	4.7	
Africa 2.5 2.6 2.6 2.6 2.5 2.5 2.3 2.4 2.4 2.4 2.3 Proc. gains & biofuels 2.8 3.1 3.5 3.6 3.9 4.0 4.1 4.2 4.4 4.5 Proc. gains & biofuels 4.3 4.3 4.5 4.9 5.3 5.8 6.2 6.4 6.4 6.6 Total non-OPEC supply 54.7 55.1 55.1 56.5 58.0 58.5 59.6 61.1 63.0 65.0 6 Growth mb/d 0.042 0.06 135 148 0.53 15 147 186 2.00 4.00 4.00 1.00 1.00 1.00 1.00 1.00 1		1.7	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.3		1.3	1.2	1.2	
Proc. gains & biofuels 2.8 3.1 3.5 3.6 3.9 4.0 4.1 4.2 4.4 4.5 Cher (OPEC NGL) 4.3 4.3 4.5 4.9 5.3 5.8 5.8 6.2 6.4 6.4 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6 6.6												2.0	1.7	1.8	
Other (OPEC NGL) 4.3 4.3 4.5 4.9 5.3 5.8 6.2 6.4 6.4 6.6 Total non-OPEC supply 54.7 55.1 55.1 56.5 58.0 58.5 59.6 61.1 63.0 65.0 6 Growth mb/d 0.8% 0.7% 2.4% 2.6% 0.9% 2.0% 2.5% 3.0% 32% -0 Growth mb/d 0.42 0.06 135 148 0.53 15 147 186 2.00 -0 OPEC supply Saudi Arabia 9.2 8.8 9.2 8.2 8.4 9.3 9.9 9.5 9.5 10.1 11 12q 143 143 143 143 143 143 143 143 143 143 143 143 143 143 143 143 143 143 143 143 143 143 143 143 143 143 143 143 143 143 <												4.6	4.7	4.8	
Total non-OPEC supply												6.8	6.9	7.0	
Growth % Growth mb/d 0.8% 0.7% 2.4% 2.6% 0.9% 2.0% 2.5% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.2% 3.0% 3.0% 3.3% 3.0% 3.0% 3.0% 3.0% 3.0	` ,											64.4	65.0	66.4	6
OPEC supply Saudi Arabia 9.2 8.8 9.2 8.2 8.4 9.3 9.9 9.5 9.5 10.1 Iraq 1.9 2.1 2.4 2.4 2.4 2.7 3.0 3.1 3.3 4.0 Iran 3.9 4.0 3.9 3.7 3.7 3.6 3.0 2.7 2.8 2.9 UAE 2.6 2.5 2.6 2.3 2.3 2.5 2.7 2.7 2.8 2.9 Venezuela 2.5 2.4 2.6 2.3 2.3 2.5 2.7 2.7 2.8 2.9 Venezuela 2.7 2.7 2.8 2.7 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5		04.1										-0.9%	1.0%	2.2%	2.0
Saudi Arabia 9.2 8.8 9.2 8.2 8.4 9.3 9.9 9.5 9.5 10.1 Iraq 19 2.1 2.4 2.4 2.4 2.7 3.0 3.1 3.3 4.0 Iran 3.9 4.0 3.9 3.7 3.7 3.6 3.0 2.7 2.8 2.9 UAE 2.6 2.5 2.6 2.3 2.3 2.5 2.7 2.7 2.8 2.9 Kuwait 2.5 2.4 2.6 2.3 2.3 2.5 2.8 2.7 2.6 2.7 Venezuela 2.7 2.7 2.8 2.7 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5												-0.59	0.64	1.40	1.
Saudi Arabia 9.2 8.8 9.2 8.2 8.4 9.3 9.9 9.5 9.5 10.1 Iraq 19 2.1 2.4 2.4 2.4 2.7 3.0 3.1 3.3 4.0 Iran 3.9 4.0 3.9 3.7 3.7 3.6 3.0 2.7 2.8 2.9 Kuwait 2.5 2.4 2.6 2.3 2.3 2.5 2.7 2.7 2.8 2.9 Venezuela 2.7 2.7 2.8 2.7 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5	- O														
Iraq 19 2.1 2.4 2.4 2.4 2.7 3.0 3.1 3.3 4.0 1 1 1 1 1 1 1 1 1											40.4	40.4	40.0	40.4	
Iran 3.9 4.0 3.9 3.7 3.7 3.6 3.0 2.7 2.8 2.9 UAE 2.6 2.5 2.6 2.3 2.3 2.5 2.7 2.7 2.8 2.9 Kuwait 2.5 2.4 2.6 2.3 2.3 2.5 2.8 2.7 2.6 2.7 Venezuela 2.7 2.7 2.8 2.7 2.5 2.5 2.5 2.5 2.5 Cher OPEC 8.0 8.1 8.2 7.6 7.9 6.9 7.6 7.5 6.8 6.4 Total OPEC 30.9 30.7 31.6 29.1 29.5 30.0 31.4 30.6 30.3 31.4 3.6 Growth % -0.7% 3.7% -7.8% 12% 16% 4.7% -2.4% -1.0% 3.5% 3.6 Growth mb/d -0.21 0.95 -2.48 0.35 0.46 141 -0.76 -0.31 107 Global supply 85.6 85.8 86.8 85.6 87.4 88.4 91.0 91.7 93.2 96.3 9.6 Growth mb/d 0.20 101 -1.4 182 0.99 2.56 0.70 155 3.07 0.8 Implied stock change (supply - demand) 0.0 -1.3 0.2 0.1 -0.8 -0.4 0.8 -0.2 0.4 1.4 Call on OPEC 30.9 32.0 31.4 29.1 30.3 30.4 30.6 30.8 29.9 30.0 Key assumtpions GDP 5.2% 5.3% 2.7% -0.4% 5.2% 4.1% 3.4% 3.3% 3.4% 3.3% 3.4% 3.1%	ii Arabia											10.4	10.0	10.1	
UAE 2.6 2.5 2.6 2.3 2.3 2.5 2.7 2.7 2.8 2.9 Kuwait 2.5 2.4 2.6 2.3 2.3 2.5 2.8 2.7 2.6 2.7 Venezuela 2.7 2.7 2.8 2.7 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5												4.4	4.5	4.7	
Kuwait 2.5 2.4 2.6 2.3 2.3 2.5 2.8 2.7 2.6 2.7 Venezuela 2.7 2.7 2.8 2.7 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.5 2.4 Other OPEC 8.0 8.1 8.2 7.6 7.9 6.9 7.6 7.5 6.8 6.4 Growth % -0.7% 3.7% -7.8% 12% 16% 4.7% -2.4% -10% 3.5% 3 3 3.14 3.0 3.0 3.14 3.0 3.0 3.14 3.0 3 3.14 3.0 3 3.14 3.0 3 3.14 3.0 3 3.14 3 3.0 3 3.14												3.6	3.8	3.9	
Venezuela 2.7 2.7 2.8 2.7 2.5 2.5 2.5 2.5 2.5 2.4 Other OPEC 8.0 8.1 8.2 7.6 7.9 6.9 7.6 7.5 6.8 6.4 Total OPEC 30.9 30.7 31.6 29.1 29.5 30.0 31.4 30.6 30.3 31.4 3 Growth % -0.7% 3.7% -7.8% 12% 16% 4.7% -2.4% -10% 3.5% 3 Growth mb/d -0.21 0.95 -2.48 0.35 0.46 141 -0.76 -0.31 107 Global supply 85.6 85.8 86.8 85.6 87.4 88.4 91.0 91.7 93.2 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3												3.0	2.9	2.9	
Other OPEC 8.0 8.1 8.2 7.6 7.9 6.9 7.6 7.5 6.8 6.4 Total OPEC 30.9 30.7 31.6 29.1 29.5 30.0 31.4 30.6 30.3 31.4 3 Growth % -0.7% 3.7% -7.8% 12% 16% 4.7% -2.4% -10% 3.5% 3 Growth mb/d 85.6 85.8 86.8 85.6 87.4 88.4 91.0 91.7 93.2 96.3 9 Growth % 0.2% 12% -1.3% 2.7% 17% 2.9% 0.8% 17% 3.3% 0.0 Growth % 0.2% 12% -1.3% 2.7% 17% 2.9% 0.8% 17% 3.3% 0.0 Growth mb/d 0.20 101 -1.4 182 0.99 2.56 0.70 155 3.07 0 Implied stock change (supply - demand) 0.0 -1.3 0.2 0.1 -0.												2.8	2.7	2.8	
Total OPEC Growth % Growth mb/d 85.6 85.8 86.8 85.6 87.4 88.4 91.0 91.7 93.2 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3												2.2	2.0	1.6	
Growth % -0.7% 3.7% -7.8% 12% 16% 4.7% -2.4% -10% 3.5% 3 Growth mb/d -0.21 0.95 -2.48 0.35 0.46 141 -0.76 -0.31 107 Global supply 85.6 85.8 86.8 85.6 87.4 88.4 91.0 91.7 93.2 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 <td></td> <td>6.2</td> <td>6.5</td> <td>6.7</td> <td></td>												6.2	6.5	6.7	
Growth mb/d -0.21 0.95 -2.48 0.35 0.46 141 -0.76 -0.31 107 Global supply 85.6 85.8 86.8 85.6 87.4 88.4 91.0 91.7 93.2 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 96.3 </td <td></td> <td>30.9</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>32.6</td> <td>32.3</td> <td>32.7</td> <td>32</td>		30.9										32.6	32.3	32.7	32
Global supply 85.6 85.8 86.8 85.6 87.4 88.4 91.0 91.7 93.2 96.3 9 96.3 9 9 96.3 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9												3.9%	-0.8%	1.0%	0.8
Growth % 0.2% 12% -1.3% 2.1% 11% 2.9% 0.8% 17% 3.3% 0.0 Growth mb/d 0.20 101 -1.4 182 0.99 2.56 0.70 155 3.07 0.0 Implied stock change (supply - demand) 0.0 -1.3 0.2 0.1 -0.8 -0.4 0.8 -0.2 0.4 1.4 Call on OPEC 30.9 32.0 314 29.1 30.3 30.4 30.6 30.8 29.9 30.0 Key assumtpions. GDP 5.2% 5.3% 2.7% -0.4% 5.2% 4.1% 3.4% 3.3% 3.4% 3.1%	vth mb/d		-0.21	0.95	-2.48	0.35	0.46	1.41	-0.76	-0.31	107	1.23	-0.27	0.33	0
Growth % 0.2% 12% -1.3% 2.1% 11% 2.9% 0.8% 17% 3.3% 0.0% Growth mb/d 0.20 101 -1.4 182 0.99 2.56 0.70 155 3.07 0.00 Implied stock change (supply - demand) 0.0 -1.3 0.2 0.1 -0.8 -0.4 0.8 -0.2 0.4 1.4 Call on OPEC 30.9 32.0 31.4 29.1 30.3 30.4 30.6 30.8 29.9 30.0 Key assumtpions GDP 5.2% 5.3% 2.7% -0.4% 5.2% 4.1% 3.4% 3.3% 3.4% 3.1%	bal supply	85.6	85.8	86.8	85.6	87.4	88.4	91.0	91.7	93.2	96.3	97.0	97.3	99.1	10
Growth mb/d 0.20 101 -1.4 182 0.99 2.56 0.70 155 3.07 0.00 Implied stock change (supply - demand) 0.0 -1.3 0.2 0.1 -0.8 -0.4 0.8 -0.2 0.4 1.4 Call on OPEC 30.9 32.0 314 29.1 30.3 30.4 30.6 30.8 29.9 30.0 Key assumtpions. GDP 5.2% 5.3% 2.7% -0.4% 5.2% 4.1% 3.4% 3.3% 3.4% 3.1%			0.2%	12%	-13%	2.1%	1.1%	2.9%	0.8%	17%	3.3%	0.7%	0.4%	1.8%	1.
Call on OPEC 30.9 32.0 314 29.1 30.3 30.4 30.6 30.8 29.9 30.0 Key assumtpions GDP 5.2% 5.3% 2.7% -0.4% 5.2% 4.1% 3.4% 3.3% 3.4% 3.1%	vth mb/d		0.20	1.01	- 1.14	1.82	0.99	2.56	0.70	1.55	3.07	0.65	0.37	1.73	1.
Key assumtpions. 5.2% 5.3% 2.7% -0.4% 5.2% 4.1% 3.4% 3.3% 3.4% 3.1%	lied stock change (supply - demand)	0.0	-1.3	0.2	0.1	-0.8	-0.4	0.8	-0.2	0.4	1.4	0.8	-0.5	-0.3	-
Key assumtpions. 5.2% 5.3% 2.7% -0.4% 5.2% 4.1% 3.4% 3.3% 3.4% 3.1%	on OPEC	30.9	32.0	31.4	29.1	30.3	30.4	30.6	30.8	29.9	30.0	31.8	32.8	33.0	(
GDP 5.2% 5.3% 2.7% -0.4% 5.2% 4.1% 3.4% 3.3% 3.4% 3.1%															
		E 20/	E 20/	2 70/	-0.49/	F 20/	/ 10/	2 40/	2 20/	2 40/	2 40/	3.0%	3.2%	3.2%	3
Effection (1997) 1997 1997 1997 1997 1997 1997 1997															
Effeciency gain 4.1% 3.6% 3.4% 0.8% 2.0% 3.4% 1.9% 1.4% 2.3% 1.3% B rent oil price 65 72 97 62 79 111 111 109 99 54	, ,											1.2% 45	1.6% 55	1.6% 65	

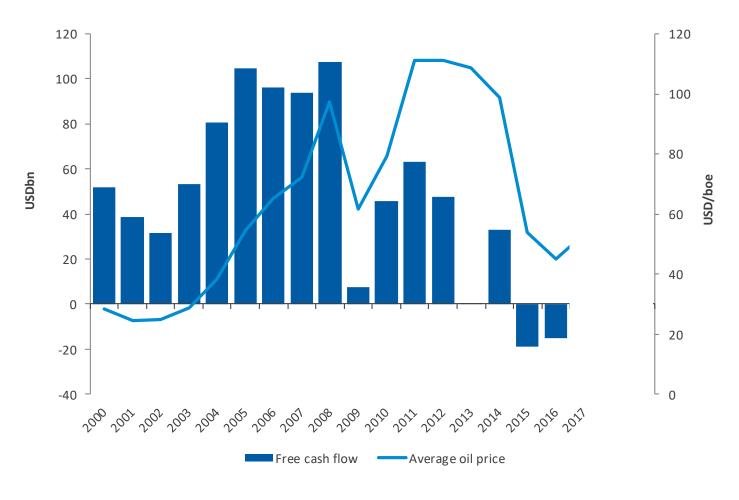
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- Oil market highlights
- 2 The industry's cash flow and ability to change
- 3 Summary



Majors: Free cash flow from USD 100bn.... to NEGATIVE!

Free cash flow E&P majors*

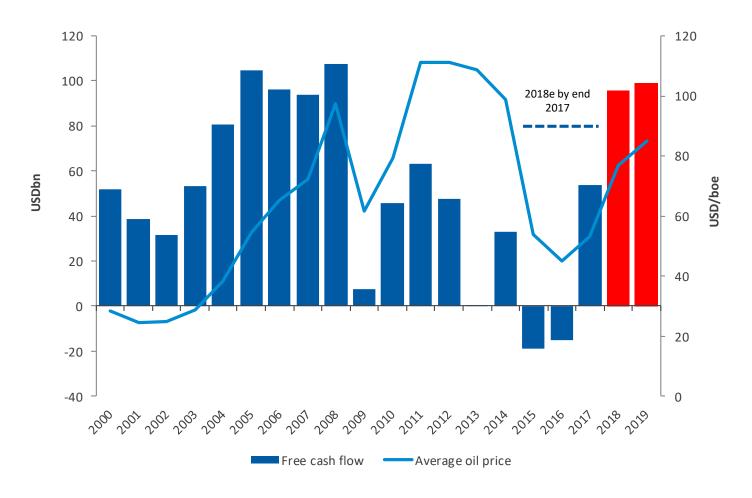




Something has changed, close to all time high cash flow in 2018

And 2018e free cash flow expectations have been lifted

Free cash flow E&P majors*



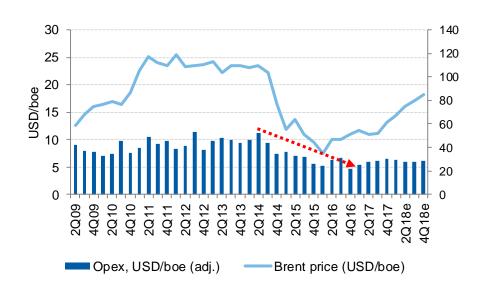


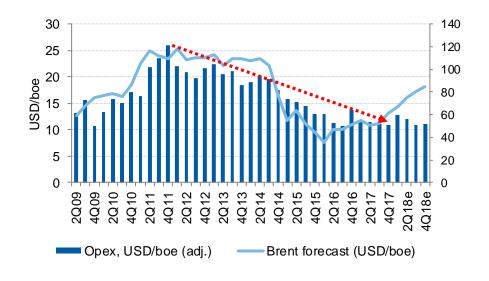
Equinor: Unit costs have declined. A LOT!

Remember: Opex is more sticky than capex for most E&P companies

Equinor's opex/boe, Norway

Equinor's opex/boe International





Equinor Norway:

Unit costs down ~40% from peak

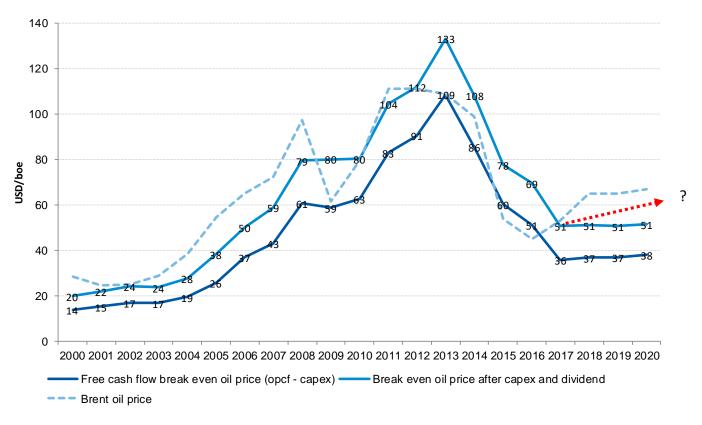
Equinor International:

Unit costs down ~50% from peak (however, likely some effect from economics of scale)



Reduced opex and capex = lowest cash flow break even since 2006

Break even oil price for oil majors*



How we estimate break even oil prices (simplified):

- · Collect annual data for operational cash flow, capex, dividend and production (i.e., four key numbers per year per company included in sample)
- Calculate average opcf per boe and opcf per boe as a percentage of annual oil price
- Calculate required oil price change to force free cash flow (opcf capex) to zero. Compare the required oil price for zero FCF to the actual oil price



^{*} Equinor, Eni, BP, Total, Shell, Repsol, Chevron, Exxon, ConocoPhillips. Source: Factset

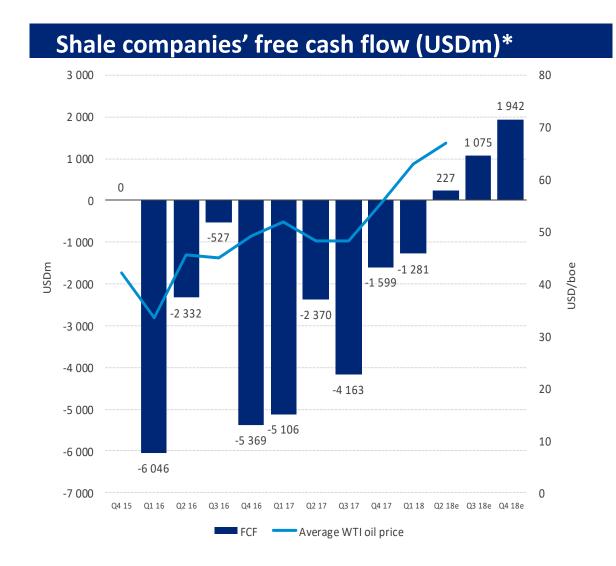
How about shale cash flow?

It is actually not too bad



US shale cash flow is improving

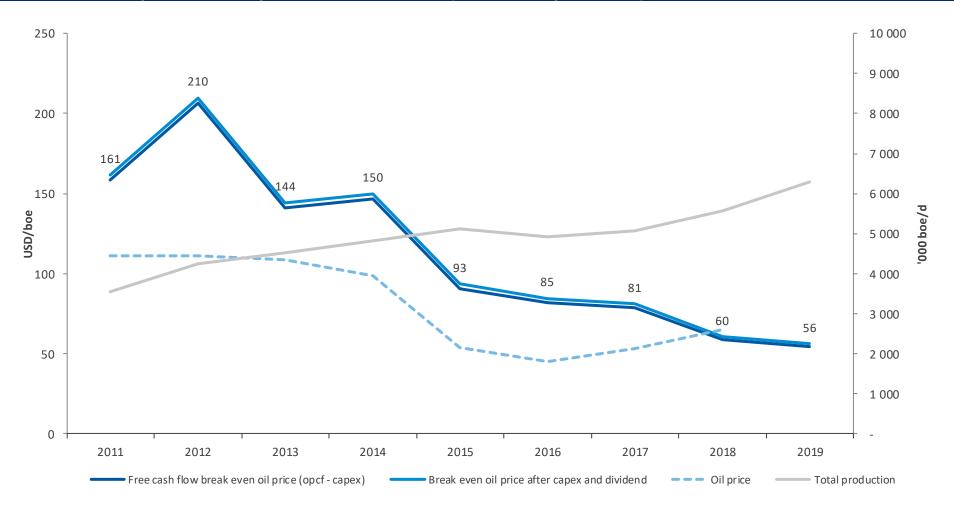
- Over the past few quarters US shale companies' cash flow improved dramatically.
- The improvement was driven by by both higher oil price (=higher operational cash flow) and lower capex compared to previous quarters.
- Consensus now expect the shale industry to report positive free cash flow for Q2 18.





'18e cash flow break even around USD 60/boe (if you believe consensus)

Shale companies' oil price break even (revenue per boe)





Improved cash flow = Increased spending



Big oil companies tell us:

- "We do not expect to see any cost inflation in the near term"
- "We expect to keep capex at the current level and grow"

Our view: If the are right, the cyclical nature of the oil business has changed and this cycle is like one other cycle



We forecast E&P capex growth of 8%, 10% and 10% 2018-20e

Summary of approaches for E&P capex*

Approach	2018e	2019e	2020e
Regression	12%	7%	3%
Consensus capex majors	0%	12%	4%
Company guidance	8%	na	na
Rystad	-1%	6%	13%
Comparison with 1980's	-1%	12%	2%
Average	4%	9%	6%
SB1 Markets forecast	8%	10%	10%

* Comments:



[•] Regression: Methodology: Regress historical E&P capex vs oil price change. R2 is maximized with t=0 weight of 45% and t-1 with weight of 55%. Pros: Theoretically reasonable. Cons: Based on historical relationship oil price vs. upstream E&P capex

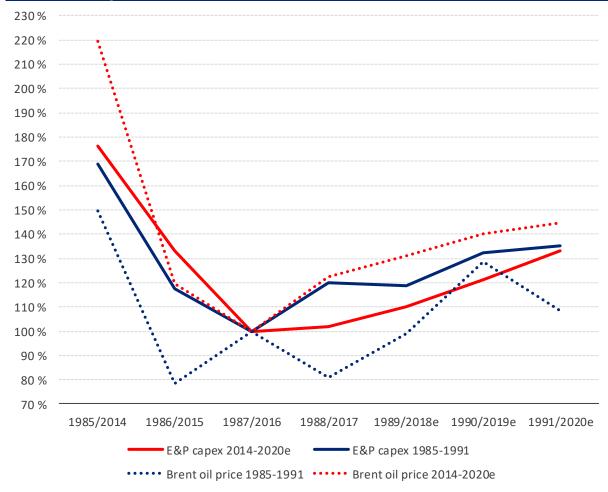
[•] Consensus capex majors: Methodology: Obtain consensus capex data for the largest listed oil companies globally. Pros: Captures trends that not necessarily are included in company guidance Cons: Includes downstream capex

[•] Company guidance: Methodology: Track company specific capex guidance. Pros: Possible to exclude downstream capex. Cons: Few data points for year t until mid/end Q1 in year t (typically around CMDs)

Rystad Energy: Methodology: Collect data for all field by field upstream capex. Pros: Takes into account up to date project specific plans. Cons: Relies on third party estimates

Our forecast implies a growth path similar to the late 1980s

E&P capex rebased to 100 (1987 and 2016, respectively)



Late 1980s comparable to current situation

- The situation in the oil market in the mid and late 1980 was similar to what we have seen from the 2014: OPEC flooded the market with oil and oil prices and E&P spending declined dramatically.
- After E&P capex reached its trough in the 1980s, spending increased dramatically and by 1991 E&P capex has increased by 35% compared to 1987. We do not rule out that the same may happen again.

We assume somewhat higher growth than our models tell us

- Analysts tend to miss the momentum of both downturns and upturns. Therefore, we assume somewhat higher growth in the period 2018-2020 than the theoretical models tell us by looking at what happened in the late 1980s.
- We also note that in particular for 2018e there is a great variation between what our approaches tell us. E.g. both preliminary indications from majors and Rystad's estimates indicate a decline of 1%, while the regression analyses based on the historical relation E&P capex vs oil price predicts 10% growth.



Summary

Oil market:

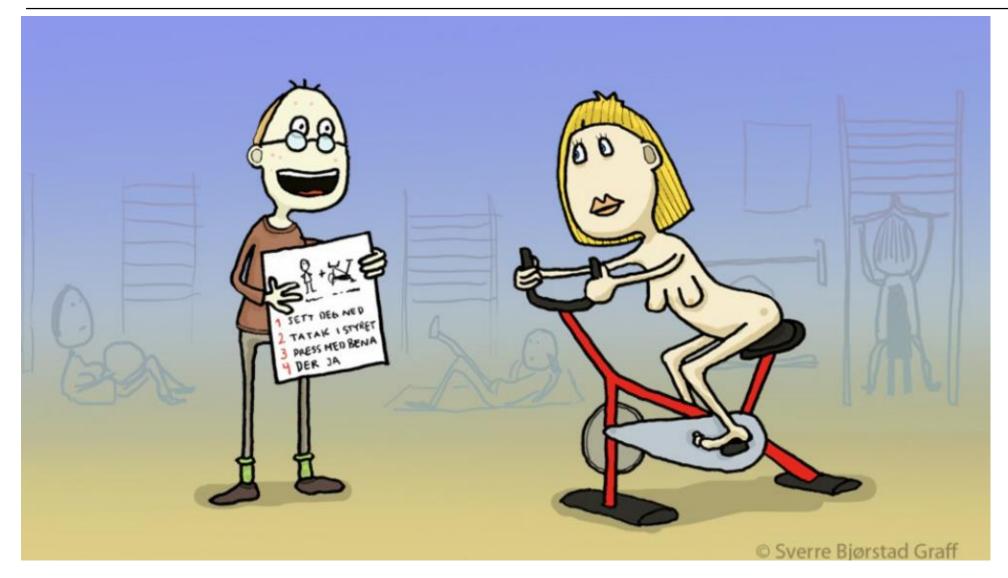
- Generally increased geopolitical risk, in particular Iran /Israel conflict and US/Iran conflict
- Storage levels below 5 year average, increasing concerns of a tight market
- Oil demand has been strong

The industry's cash flow:

- Close to all time high cash flow in 2018
- Improved cash flow = Increased spending



Nød lærer...





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Recommendation Percent
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